



Baby Basket (*Gay-yu*), Bud Lane, 2011

Lexical Acculturation in Siletz Dee-ni¹

by

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Lhan-t'i shu' 'aa-shi nu'-la.

Abstract.

Lexical acculturation (the creation of new words as a result of contact with other cultures) in the highly endangered Oregon Athabaskan² language of Siletz Dee-ni has been primarily influenced by contact with English since European arrival in the Pacific Northwest and California at the beginning of the 19th century. Indian removal from southwest Oregon to the Coast Reservation following the Rogue River War of 1850-1856 profoundly influenced the development of the Siletz Dee-ni language. Siletz Dee-ni exhibits a preference for basing new lexical entries on native linguistic resources (Campbell and Grondona 2011), though it exhibits both primary and secondary forms of lexical acculturation as described by Brown (1996). Whether Siletz Dee-ni speakers choose to adopt a loanword, extend an existing Athabaskan term, or create a morpheme- or nominal-based neologism for a new lexical item is consistent with naming patterns displayed by pre-contact words. Siletz Dee-ni speakers have made good use of the language's affixally polysynthetic morphology: for instance, creating the word *me'-naa-draa-'a'* 'telephone (lit. inside/into one speaks)', in the same spirit as the native word *me'-drvlh-t'es* 'cookhouse (lit. inside one cooks)', through a passivization of the verb and the use of the preposition *me'*. In articulating the process involved in lexical acculturation in Siletz Dee-ni, it is my goal to provide a resource to this speech community and support members' efforts to create new words in Siletz Dee-ni in ways that are both practical and culturally authentic.

² Alternately Athapaskan, Athabaskan, Athapascan

Chapter 1. Introduction & Methodology

- 1.1 Introduction
- 1.2 Corpus
- 1.3 Methodology

Chapter 2. Historical & Theoretical Background

- 2.1 History of Siletz Dee-ni
- 2.2 A Note on Distinction
- 2.3 Siletz Dee-ni, a Coastal Athabaskan Language
- 2.4 Lexical Acculturation

Chapter 3. Lexical Acculturation

- 3.1 Secondary Acculturation: Loanwords
 - 3.1.1 Consonant Shift Patterns
 - 3.1.2 Vowel Shift Patterns
- 3.2 Secondary Acculturation: Calques
- 3.3 Primary Acculturation: Semantic Extensions
- 3.4 Primary Acculturation: Neologisms
 - 3.4.1 Verbal Neologisms
 - 3.4.2 Nominal Neologisms

Chapter 4. Conclusion**Appendix A. Acculturated Lexical Items****Appendix B. Phonetic Analyses**

Chapter 1.

1.1 Introduction

The shortest way from Oregon’s population core of Willamette Valley cities to Siletz is to veer north off of Highway 20 at the Blodgett store, and head down old Logsden Road. Logsden was the main thoroughfare before there were highways in this part of western Oregon; this route through the Coast Range is so much shorter than the main road that you’ll arrive in Siletz ten minutes earlier than if you had gone further down 20 and turned north up the Siletz Valley Highway, though it winds so much that the 55 MPH speed limit feels extremely generous. But the best thing about taking Logsden Road is that you can interpret all of the signs in Siletz Dee-ni, the endangered, local Athabaskan language:



Naa-xe lha-tvn nee-san srwee-la' 'ee-naa-t'vs ('twenty-five turn', 25 MPH curve)



Mvsh-mvsh ('cow', open pasture warning)



Ya'-k'vn ('it is twisting', winding road)



N'ee-dee-na ('steep ground', steep grade)

(Images: Federal Highway Association MUTCD)

(There are far more this-and-that-speed curve signs than patience allows for mention here.) And then, finally, you will come across a sign that is actually written in Dee-ni, and you will have arrived at the edge of Siletz, Oregon:



Here, two hundred miles north of the southern Oregon river systems that are the traditional home of the Athabaskan-speaking peoples who eventually became a part of the Confederated Tribes of the Siletz Indians, there is a dance house where the prayers are still delivered in *Dee-ni Wee-ya*, ‘the people’s words’, and a community that still calls their baby baskets *gay-yu* even if individuals know no other words in this language once spoken by their ancestors. One of the remaining fluent speakers of Siletz Dee-ni is Alfred “Bud” Lane III, the 53-year-old Vice-Chair of the Tribal Council and Director of Cultural Programs, a Master Weaver whose baskets grace the halls of the Smithsonian Institution. Bud learned Dee-ni as an adult, meaning there are no native speakers. There are, however, children learning Dee-ni in the Siletz Valley Charter School beginning at the Head Start level and continuing through fifth grade, as well as a number of dedicated adult and young-adult community members attending Bud’s monthly language lessons in Siletz, Salem, Eugene, and Portland, and studying the language independently.

That Siletz Dee-ni, like its Rogue River Athabaskan relatives Galice and Chasta Costa, is not an extinct language is a testament to the will of community members to keep it alive; understanding the cultural and historical context that has brought it this far is crucial to an informed understanding of the state of this endangered language. The future of Siletz Dee-ni

depends on the cultural and historical events of the next twenty years, for if the language is to come back from the brink, it will need new speakers, young speakers, and an expanded lexicon. Siletz Dee-ni has adopted loanwords, but at a relatively low rate, preferring instead to create novel terms based on semantic equivalencies and a rich linguistic tradition of verbal nouns. But the small speaker pool and community concerns over the cultural authenticity of new lexical items have stifled the natural process of developing new words in Siletz Dee-ni, leaving no words for ‘computer’ or ‘motorcycle’, among the multitudes of items one might want to talk about in Dee-ni. What follows is a discussion of post-contact word generation in Siletz Dee-ni, as well as a historical perspective on language contact, variation, and decline among Southern Oregon Athabaskan communities.

Chapter 1 provides an overview of this study’s roots and methods. Chapter 2 provides an introduction to the Siletz Dee-ni language and a brief social history of the Confederated Tribes of the Siletz Indians, in particular the pre-contact cultural patterns of Athabaskan-speaking peoples in this region and the history of removal of their from southern Oregon. Section 2.4 provides an overview of lexical acculturation—both the forms it takes and the cultural context of its occurrence. Within Chapter 3, section 3.1 discusses the phonological shifts observed in the 30-some identified loanwords (mostly anglicisms) in Siletz Dee-ni. Section 3.2 describes the calques of Siletz Dee-ni, of which there are few. Section 3.3 addresses the semantic/referential extensions of Siletz words to cover European cultural artifacts. Section 3.4 treats the largest group of post-contact words, those developed using native linguistic resources (Campbell and Grondona 2011), which are entirely consistent in construction and content with the pre-contact vocabulary of Siletz Dee-ni. Chapter 4 concludes the work and reflects on the importance of lexical acculturation in endangered languages.

1.2 Corpus

The data serving as the basis for this analysis of linguistic acculturation in Siletz Dee-ni are drawn from *Nuu-Wee-ya': Athabaskan Language Dictionary* (NWALD; Lane 2006), the Siletz Dee-ni Talking Dictionary created by the Living Tongues Institute for Endangered Languages Research and Documentation (LTI) and the Confederated Tribes of the Siletz Indians (CTSI), and from personal interviews with Bud Lane. The recordings of anthropologist Joe Pierce's interviews with Amelia Brown (1962-1964) as part of the Oregon Indian Language Collection (OILC) supplemented this sample, and serve as a primary source for several claims about the phonology of Siletz Dee-ni. Full lists of all identified instances of lexical acculturation can be found in Appendix A.

1.3 Methodology

A group of approximately 175 Siletz Dee-ni words created in response to the introduction of new items and cultural patterns by contact with and colonization by European immigrants was identified from over 10,000 words in the *NWALD* using the list of terms identified by Salzmann (1954) and Brown (1996) as well as simple visual identification. These were reviewed by Bud Lane, and the verified subset of acculturated words appears in Appendix A. After identification, the words were grouped into five categories: loanwords, calques, semantic extensions, verb-based neologisms, and nominal-based neologisms.

The loanword shifts discussed in 3.1 were arrived at by comparing IPA transcriptions of the Siletz Dee-ni words with IPA transcriptions of the English words (both mine), tallying the individual changes observed, and then examining the list of observed changes for patterns. There are only 32 loanwords; many individual phonetic shifts occurred only once. Four or more instances of the same shift, then, was very significant. Not all of the mentioned changes were

represented in the corpus so often, however. I have included tables demonstrating the process and product of this analysis in the appendix (Tables 10 & 11 and 1, respectively). The computer program Praat (Boersma & Weenick 1992/2011) was used for phonetic analysis.

Instances of semantic extension were verified by searching for the Siletz Dee-ni term in the SDTD and comparing the various English glosses of the results. Calques and neologisms were mostly evident on visual inspection. The verbal neologisms, which constitute the largest category of acculturated lexical items, have been separated into tables based on the pattern the words follow, with Table 4 containing all of the verb-based neologisms that do not follow a pattern illustrated by tables 5-8. Table 5 contains verb-based neologisms that include the affix *me'/min'* 'in, inside', the most utilized positional affix in Siletz Dee-ni neologisms. Verb-based neologisms containing the complementizer/instrumental morpheme *mvlh* appear in Table 6. Neologisms using the personifier suffix *-ne* appear in Table 7. Table 8 illustrates the "Beaver Pattern", a delightful and perhaps useful pattern of animal and plant name construction that two neologisms follow. Section 2.4.1 discusses the semantic breakdown of these sub-groupings of verbal neologisms. All of the nominal-based neologisms appear together in Table 9. As discussed in 2.4.2, Table 9 (Nominal Neologisms) contains instances of loanwords being combined with native words to form new lexical items as well as combinations of only native linguistic material.

Chapter 2. Historical & Theoretical Background

2.1 History of Siletz Dee-ni

There are historical concentrations of Athabaskan speaking peoples in Alaska and the Yukon, the American Southwest, and along the Pacific coastline, in particular from southern Oregon down through central California. Because contemporary and recently extinct Athabaskan languages appear to have preserved a high number of linguistic features from Proto-Athabaskan, it is believed that Athabaskan speakers migrated to their traditional territories after speakers of other languages had settled there. Along the Pacific Coast, as well as in Alaska and the Yukon, Athabaskan speaking communities frequently lived along rivers; as A. L. Kroeber observed in 1925, “It is a remarkable fact that [Athabaskan speakers] approach the sea in an endless number of places, but actually held its shores over only three or four brief frontages [...] Not one of the ten Athabaskan groups [in California] is more than thirty miles from the boom of the surf” (qtd. in Jacobs 1937:59). In southern Oregon, one of the places where Athabaskan communities did hold a significant swath of coastline as a part of their territory was at the mouth of the Rogue River.

Athabaskan speaking communities once lined the rivers and creeks of southern Oregon and northern California. They referred to themselves as *dee-ni* or *dee-ne* or *dvn-‘ee*, or as *xvsh*, the term that would later be applied to qualify that an item was “Indian” as opposed to White:

- (1) *xvsh selh-yaa-we*, ‘Indian tobacco’
- (2) *selh-yu*, ‘tobacco’

(A. Brown 1962)

Outsiders divided and named them for their locations: the name *Tolowa* comes from the Yurok term for ‘downriver people’ (Bommelyn 2010); the term *Tututni* was applied to Athabaskan-speaking communities from a broad geographic area around the actual village of Tututin

(Wilkinson 2011). People from this village would have been identified to other Indigenous groups as *Tututin dee-ni*, ‘Tututin people,’ and the term was contracted by European and then American colonialists to create the modern term. Today, people who trace their heritage to this region describe it using the names of major historical villages and the contemporary river names: Joshua (*Yan’-shu’-‘an’*), Sixes, Smith River, Chetco, Galice, Tututin, etc. The languages of geographically spread villages diverged with time, but the communities maintained strong economic and social ties. It was standard practice for women to marry exogamously and live with their husbands’ families in their villages thereafter, providing a counter weight to the natural language divergence between villages relatively near one another, and no doubt supported bilingualism in villages relatively remote from one another (Lane 2011). To a significant degree, what constituted a “tribe” was an arbitrary distinction made by outsiders with little understanding of the social, economic, and political dynamics of the region; today, in addition to representing linguistic and cultural groups, tribes have been defined within Western legal frameworks, and their histories and contemporary status as sovereign entities have been shaped by these definitions. As Wilkinson notes, “it would be artificial to try to deny [...] the validity [of the term “tribe”] for some purposes, especially in modern times” (2011).

By the time European fur traders established posts in the Oregon territory south of the Columbia River, European pestilence had already decimated Native communities in the Northwest. Smallpox was the greatest scourge, although one epidemic of malaria during the 1830s was also particularly harsh; all combined, colonial plagues reduced almost all Pacific Northwest linguistic groups to less than 20% of their original size. Survivors burned their villages in an attempt to extinguish the pestilence. In virtually every domain, cultural life was violently disrupted:

During its worst years, the few surviving natives of the lower river could no longer bury their numerous dead in the usual manner. Corpses, denied canoe interment, piled up along the shores to fatten carrion eaters, and famished dogs wailed pitifully for their dead masters. Surviving natives dared not remove or care for the bodies as they normally so meticulously did. [...] For years skeletons of victims would bleach on gaunt and dreary shorelines like so many pieces of driftwood.

(Robert Boyd, qtd. in Wilkinson 2011:60)

Soon after, the destructive power of European microorganisms was overshadowed by the violence of their larger, sentient countrymen. In the history of this region, Athabaskan country sits right in the area of overlap between the fur trade of the Pacific Northwest and the gold fever that consumed California after 1849. While smallpox had been a physical affliction, the gold in the rivers of Shasta, Modoc, Hupa, Wintu, Miwok, and Nisenan country became a moral contagion, attracting and infecting the lowest opportunists and the highest officials of the western frontier. During the earlier portion of the Gold Rush, it was the Athabaskans around the Smith River who were most affected by a rapacious call for Indian “extermination.” When the Rogue River Valley and the southern Oregon coast experienced their own gold rush a year later, prospectors quickly moved north. From 1850 to 1856, the series of incidents, skirmishes, and outright military battles that constituted the Rogue River Indian War made it one of the deadliest Indian-American armed conflicts in history (Wilkinson 2011). The number of speakers of Oregon Athabaskan languages was greatly reduced even before the implementation of the reservation system and the advent of Indian boarding schools. In effect, the Oregon Indians who signed treaties with the U.S. federal government and the authorities of the Oregon territory during the 1850s were already survivors twice.

The Table Rock Treaty of 1853 established a small temporary reservation for the Athabaskans, Takelma, and Shasta engaged in the Rogue River War. Between 1855 and 1857,

southern Oregon Athabaskans took their own “Trail of Tears,” traveling two hundred miles—some by foot, guarded by soldiers; others by water, on American military vessels—up to the newly-established Coast Reservation, where they joined Chinookans, Molalas, Lower Columbia Athabaskans, and Klickitat, among others. Most of the tribes from the central and southern Willamette Valley were moved onto the nearby Grande Ronde Reservation (now the Confederated Tribes of the Grande Ronde); other families from the even more disease-decimated northern Willamette Valley were offered enrollment in the Coast Reservation, but not forcibly relocated (Wilkinson 2011:150). As they had done further east, U.S. territorial authorities uprooted local native populations from their traditional homelands and consolidated them in lands considered undesirable at the moment of their designation. Concentrated populations of ill-treated Indians, the government found, were less of a threat than diffuse populations living in familiar territories: a Native insurrection on or near a reservation would generate less fear among the white settler populations, who were reasonably more afraid of the unpredictable raids and small interpersonal conflicts that predominated when settlers built their farms and communities on Indian land. An insurrection on a reservation would be easier to contain.

Just a few years after the Coast Reservation was established, a group of noncompliant Tolowa from the newly created Smith River Rancheria were shipped up to the Coast Reservation to prevent potential revolts down south, adding Athabaskan speakers from the communities along the Smith River to the jumble of Northwest Indian tongues spoken in the Siletz Valley (Collins 1998). Homeward bound escapes, the frequent but erratic addition of new families from northern Oregon and southwest Washington, and the sometimes forcible, sometimes voluntary removal of Indian children to boarding schools across the country further continued to shape and destabilize the speech communities of the CTSI for a century. During that time, the United States

government continually reappropriated treaty land piece by piece, gradually eroding the original territory designated as the Coast Reservation. At the same time, Siletz children—like so many other American Indian children—spent much of their critical period in oppressive, English-only residential schools, perhaps as near as Chemawa (in the Willamette Valley), or perhaps as far as Carlisle, Pennsylvania (Wilkinson 2011). After extermination had run its course, the assimilation of American Indians into white³ American society became the official policy. In 1956, the United States Congress moved to assimilate American Indians once and for all by “terminating” them: all federal recognition for Indian tribes, lands, and cultural rights was eliminated. Termination was one further cutting blow to Tribes across the country, who found themselves deprived of (among other things) government recognition of their legitimate existence as political entities. But termination was an ill-conceived and ill-fated policy destined to be terminated itself, although many Tribes have yet to be federally reinstated. After over twenty years of persistent lobbying, the Confederated Tribes of the Siletz Indians regained their federally recognized status in 1977, the second Tribe in the United States to obtain such recognition.

³ To say ‘broader’, ‘mainstream’, or something to that effect in this circumstance would be to obscure a social reality through euphemism. See Moreton-Robinson’s (2004) discussion of “whitening race” for an in-depth discussion of marking ‘whiteness’ as necessary.

2.2 Siletz Dee-ni, Coastal Athabaskan Language

According to the Living Tongues Institute, “Siletz Dee-ni is an Oregon Athabaskan language of the Chetco-Tolowa type with words from Chasta Costa, Applegate, Galice, Rogue River, and other members of the Siletz Confederation” (Talking Dictionary Project 2011). Like other Athabaskan languages, it is polysynthetic, having a high morpheme-to-word ratio. Siletz Dee-ni nouns are often highly descriptive, as in:

- (3) *ghit-ts'ay-sraa-de'* [ʔit.t̪sɑi.ʂɑ:.deʔ]
ghitts'ay- sraade'
 hollowed⁴- shin
 ‘maidenhair fern’ (lit. ‘bluejay’s shin’)

The Siletz word for ‘maidenhair fern’ is both visually evocative and culturally significant: the name for this particular fern, whose distinctive dark thread serves as the black mark in Siletz basketry, recalls the story of how Bluejay came to have a hollow shin. As the phonetic transcription of (1) indicates, the Siletz Dee-ni orthography hyphenates between syllables—not morphemes—to be more legible for community members who are interested in reading or learning the language, but have no background in it. This orthography, developed in the 1990s by Loren Bommelyn, replaces a Unifon writing system (also developed by Bommelyn). Ease of use was a crucial consideration in its design; in addition to separating syllables with dashes, the current Siletz Dee-ni/Tolowa Dee-ni orthography was designed to be more or less phonetic⁵ and easy to type on any English keyboard (Bommelyn 2010). The apostrophes are intended to represent ejective consonants (in practice, many of these consonants are often simply aspirated) or glottal stops.

⁴ Also the name for the bird ‘blue jay’.

⁵ Contemporary Siletz Dee-ni and Tolowa Dee-ni language materials, such as the NWALD and LTI Talking Dictionary, are accompanied with a practical alphabet.

Consonants

	Bilabial	Alveolar	Post-Alveolar	Retroflex	Palatal	Dorsal	Labio-Dorsal	Glottal
Plosive	p b	t t' d				k k' g	k ^w g ^w k ^w ,	ʔ
Nasal	m n ^ʔ	n ɲ n ^ʔ						
Fricative		s	ʃ	ʂ		χ ɣ	(x ^w) ⁶ χ ^w ɣ ^w	h
Lat.Fricative		ɬ						
Affricate		ts̄ ts' tɬ̄	tʃ̄ tʃ' dʒ̄ ⁷	tʂ̄ tʂ'				
Approx.					j		w	
Lat.Approx.		l						

Figure 1. Consonants of Siletz Dee-ni.⁸

As with other Pacific Coast Athabaskan languages, Siletz Dee-ni has a large inventory of fricatives, mostly voiceless; alveolar, post-alveolar, and retroflex affricates; and one lateral affricate (Rice 2004). Siletz Dee-ni demonstrates the characteristic Athabaskan three-way laryngeal contrast between unaspirated, aspirated, and ejective stops and affricates. The unaspirated stops can be considered /b d g/ (McDonough & Wood 2007). The language has labio-dorsal versions of all five of its dorsal stops and fricatives; while its dorsal stops are velar, its dorsal fricatives are uvular.

Regarding /ɹ/

Loren Bommelyn once expressed to a class of Tolowa Dee-ni language learners that, in short, the language did not “have Rs”, the post-alveolar or retroflex approximants symbolized by the letter <r> in English (NWILI 2010). The orthography for Siletz and Tolowa Dee-ni includes the <r> symbol; the “Practical Alphabet” shows it combined with <d>, <t>, <s>, and <k>, but not alone: it is either preceded by one of these consonants, or is followed by <-sh> ([ʃ]) as in *taa-ghin-*

⁶ x^w and [χ^w] occur in the same environments, often as variant pronunciations of the same words; it is most likely that they are non-contrastive allophones.

⁷ In some speakers, as reported by Bud Lane; occurs in Galice Creek Athabaskan where [d] or [tʃ̄] are found in neighboring Athabaskan languages (Hojier 1966).

⁸ Based on personal analysis, Collins (1989) and Hargus (2010)

ler'sh [tɑ:ɛinleʃ].⁹ This lack of independence in <r> would suggest that it is not an independent phoneme of Siletz or Tolowa Dee-ni.

A Praat analysis of the fricatives orthographized as <s>, <sh>, and <sr>/<rsh>/<r'sh> shows all three to have different spectral frequencies and centers of gravity. The spectral slices derived from creating “superfricatives”—compilations of instances of /s/, /ʃ/, and /ʂ/—through Praat, along with their centers of gravity, can be found in Appendix B. The superfricative of <sr>/<rsh>/<r'sh>-orthographized fricatives, hypothesized to represent /ʂ/, has a center of gravity of approximately 3000 Hz, ≈ 400 Hz lower than the center of gravity of instances of /ʃ/. This, in combination with the strong r-coloring audible in the neighboring vowels, supports the notion that <sr>/<rsh>/<r'sh> represent a different traditional phoneme, the retroflex fricative /ʂ/. <tr> and <dr> correspond to the retroflex affricates $\widehat{tʂ}$ and $\widehat{tʂ}^h$ /¹⁰ respectively, affricates retained from proto-Athabaskan (Hargus 2010).

Speakers who read Siletz Dee-ni words before they have heard them and been trained in their articulation often pronounce the <r> that they read as the alveolar/retroflex approximant of English. Because of the strong rhotacizing influence retroflex consonants can have on neighboring vowels, it is no surprise to find that even language learners who have been given pronunciation guidance by a fluent speaker (or a speaker with excellent pronunciation)

⁹ There is one confounding exception to this generality: *kwaara* [k^wɛ:ɹɛ], “candlefish.” Candlefish are a variety of smelt (*Thaleichthys pacificus*), multiple species of which were harvested by Native peoples who would later become part of the CTSI. The Siletz Dee-ni word for “smelt” is *lhus* /ʎus/ or *lhvmsr* /ʎəmʃ/ (preferred). While the source of *kwaara* has not yet been identified, the absence of any other solitary rhotic consonants from Siletz Dee-ni would suggest that this word has a non-Athabaskan source language. Its source is not Chinook Wawa (where the term is *ooligan*, a word with which many residents of the Pacific Northwest will be familiar).

¹⁰ A fully consistent orthography would have <dr> correspond to the unaspirated affricate and <tr> correspond to the aspirated affricate $\widehat{tʂ}^h$. However, <dr> typically corresponds to the ejective affricate, and <tr'> or <dr'> may correspond to either the ejective or aspirated affricate.

sometimes insert the [ɹ] where it would be found in the orthography. The only word in Siletz Dee-ni that features a rhotic consonant that cannot be thought of as a variant pronunciation on an underlying phoneme is the loanword *kr'ii-k'i* [k'.ii:k^hi] which features an English-style retroflex or alveolar approximant. Bud Lane's pronunciation of this word can be seen in Figure 2.

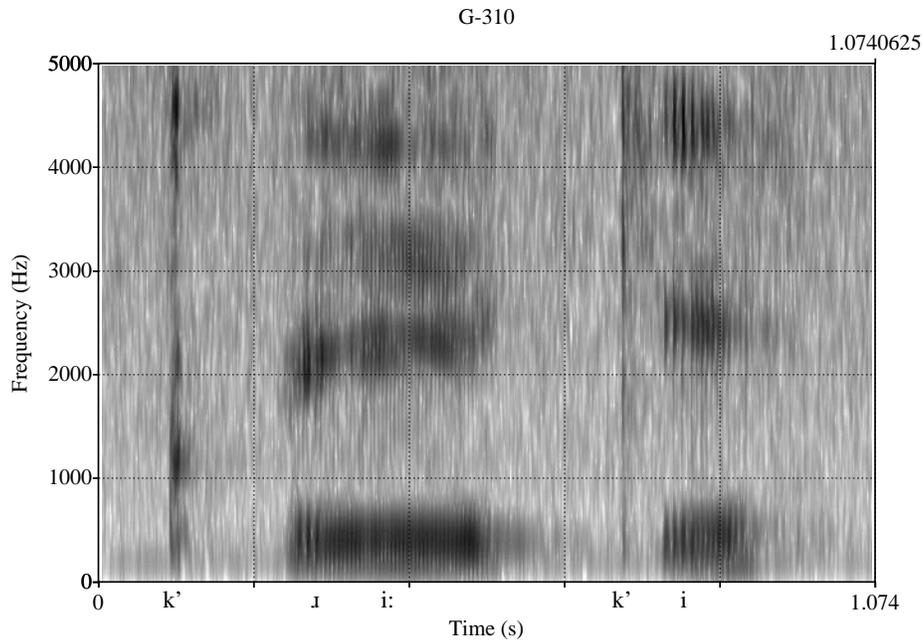


Figure 2. Spectrogram of *kr'ii-k'i* [k'.ii:k^hi] 'gravy' (Bud Lane 2006)

All of this suggests that Siletz Dee-ni has [ɹ] or [ɹ̥] only in foreign, acculturated lexical items, or as variant pronunciations of autochthonous lexical items caused by orthographic influence and speaker comfort with [ɹ]. (As in English, these alveolar and retroflex approximants are non-contrastive in Siletz Dee-ni.) Should the Siletz Dee-ni speech community grow over the next twenty years, and in particular should it grow to include L1 speakers raised bilingually in English and Athabaskan, one might be interested to see whether the use of rhotic consonants had proliferated to the point that they should be considered a full phoneme of the language.

Vowels

There are five phonemic oral vowels and two diphthongs in Siletz Dee-ni, /i e a u ə ɔɪ ɑɪ/, as well as four nasal vowel phonemes /ĩ ã õĩ ãĩ/. The first four oral vowels (/i e a u/) act as full vowels, and the schwa as a reduced vowel, as in other Athabaskan languages (Collins 1989). As in English, Siletz Dee-ni's one non-low back vowel is rounded, and all front vowels are unrounded. A plot of Amelia Brown's vowel formants, based on her elicitations with Joe Pierce (1962-1964) may be seen in Figure 3.

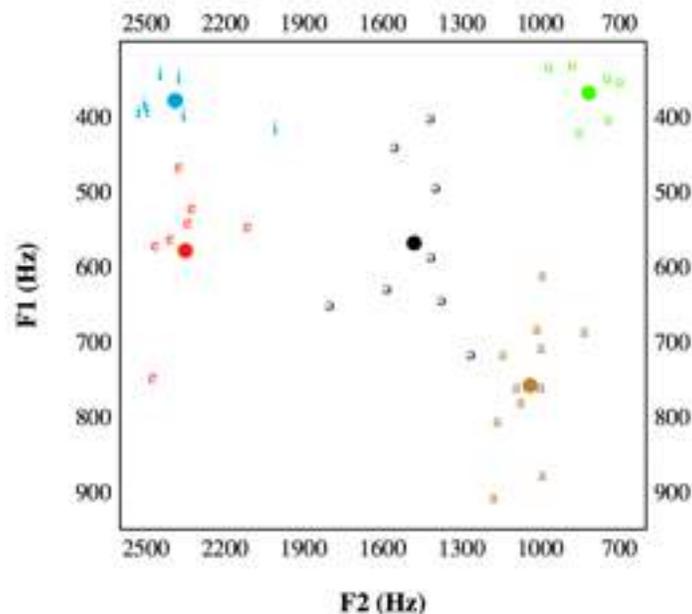


Figure 3. F2x F1 Vowel Plot of Tokens (i, e, ...) and Means (•) for Amelia Brown, Siletz Dee-ni Words

In addition to having nasal vowel phonemes, Siletz Dee-ni includes nasalized vowels as allophones of the oral vowels, the result of the regressive assimilation of the nasal feature by the vowel (Bommelyn 2010). The monophthong vowel segments lengthen in open syllables—represented in the orthography with the doubling of the vowel symbol. This contrast can be seen in Amelia Brown's (OILC 1962) pronunciation of *daa-svs-de chee-ne* 'sticks for roasting salmon

heads', in Figure 4. Long vowel segments are approximately twice the duration of regular vowel segments, and the reduced vowel typically has an even shorter duration.

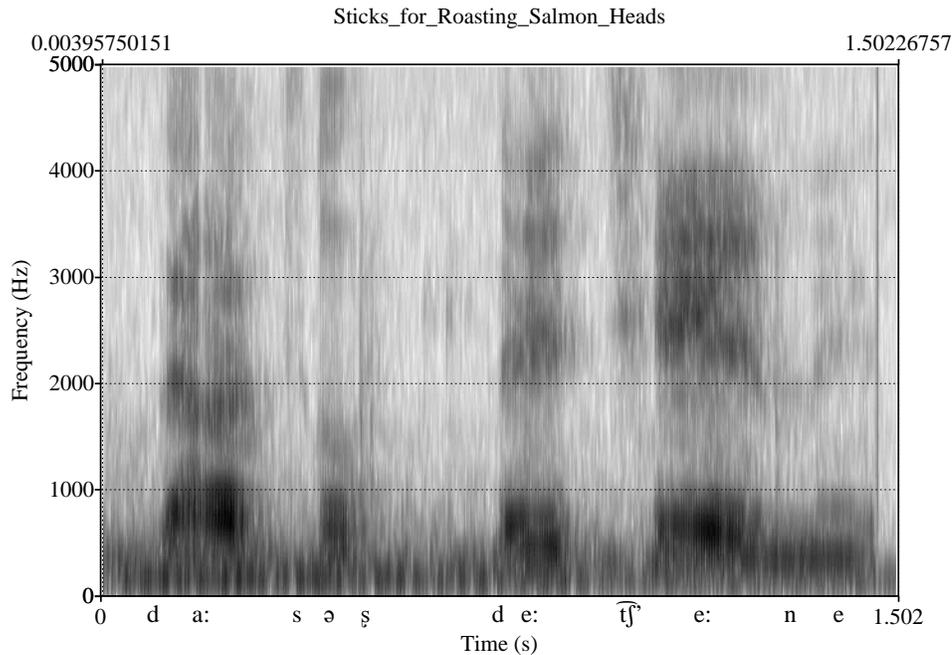


Figure 4. Spectrogram of *daa-svs-de chee-ne* [da:.səs.de: tʃ̃^he:.ne], Amelia Brown (OILC, 1962-1964)

Nasal vowel phonemes and nasalized oral vowels are not distinguished in the orthography. The vowels /i a/ may absorb a following nasal consonant (indicated in the orthography with the tilde following the vowel; examples 4 & 5), but /e u ə/ may not.

(4) *vsh-li~* [ʔəʃ.lĩ] 'I am'

(5) *naa~-k'vt* [nã:k'ət] 'gravel'

Bommelyn (2011) and Collins (1989) have proposed that nasalization occurs, particularly in the verbs of Oregon Athabaskan languages, as a result of absorption of the nasal by the vowel. This is not observed for [u] in Siletz Dee-ni. The non-low back vowel may follow or precede Siletz

Dee-ni's nasal segments [n m], but it may not be fully nasalized. Instead, where one finds *-uu~* [ū:] in some Oregon Athabaskan speakers from the California border region, one finds *-vm* [əm], as in *skvm* [skəmʔ], "raccoon". A thorough discussion of vowel nasalization, length, and allophony in Oregon Athabaskan languages can be found in Collins (1989).

Syntax & Classifier System

Siletz Dee-ni is an SOV language. It has a weak distinction between adjectives and verbs, and almost any adjective can serve as a verb:

- (6) *Ghii kaa~-sra sri'-lhxvn.*
Ghii kaa~-sra sri'lhxvn
 DEF.ART crow happy
 'The/that crow is happy.'

Because adjectives can fulfill the syntactic function of the verb, the stative verb *'ee-le* 'be' is primarily used in utterances where there are no other arguments in the sentence, as in a question response (7-9):

- (7) Chabayu: *Sh-tin'-nvmlh-ya.*
Sh- tin'-nvmlh-ya.
 1SG- exhausted
 'I am exhausted.'
- (8) Suntayu: *Daa-'ee-wvn nn-tin'-nvmlh-ya haa~? Dii-nin-tr'at haa~?*
Daa-'ee-wvn nn- tin'nvmlhya haa~ ? dii-nin-tr'at haa~ ?
 why-is-that 2SG- exhausted Q sick-2SG.PRS-sick Q
 'Why are you exhausted? Are you sick?'
- (9) Chabayu: *Ay~, 'vsh-li~.*
ay~ 'vsh- li~
 yes 1SG.PRS-'be'

Siletz Dee-ni verbs are composed of a stem and an ordered set of derivational/inflectional prefixes, some of which may be null. The 3rd-person singular present tense form of the verb is considered the uninflected form. Verbs are inflected for tense and aspect as well as person and

number. Because nouns are not inflected for plurality, the verb must provide the person number information for the subject if it has no quantifier:

- (10) *Dis-ne chis-chu tee-gha's-'i~'*
Disne chischu tee<gha>- 's- 'i~'
 man elk 'see'-3PL- PST -'see'
 '(the) men saw elk'

Only context of (10) will tell whether there was one or more elk. But if the verb in question were 'have', 'put', 'pass', or one of a few more related verbs, the verb would be inflected to indicate that the direct object was plural—or animate, if there was only one elk. Siletz and Tolowa Dee-ni share an object classification system, common to other Athabaskan languages (Cook 1993), marking an extremely limited number of 2- or 3-participant verbs ('put,' 'give,' 'have,' 'pass to another person', etc.) to indicate whether the direct object is animate, burning, long and slender, fabric-like or fluffy, plural/rope-like, flat, or edible¹¹. This obligatory indicator is suffixed to the verb, as in:

- (11) *Gay-yu shghaa~-lhti~*
gayyu sh- ghaa~ -lhti~
 baby 1SG- GOAL-pass-2SG.IMP- -'animate object'-OBJ.CLF
 'Pass me (the) baby.'
- (12) *Shghaa~-dash*
sh- -ghaa~- -dash
 1SG- GOAL-pass-2SG.IMP- -'lit object'
 'Pass me (the) burning thing.'

As (12) illustrates, these classifiers eliminate the need for an explicit direct object, creating a deictic situation where the speaker's target can only be known through context. The existence of a plural object classifier compensates for the ambiguity created by the fact that Siletz Dee-ni does not inflect nouns for plurality. Classifier suffixes may also appear in verbal nouns or on other verbs, as in *yun-nuii-nii~-lhti~* 'funeral(s), (lit. putting individuals yonder)' and *num'-nii-*

¹¹ Other Athabaskan languages have more or fewer categories, or more or fewer verbs to which the classifier system applies.

lhti~’, ‘I gave birth’. Some of these morphemes, however— *dash*, for example—are polysemous. In any position other than word-final, *dash* has no apparent connection to fire.

2.3 A Note on Distinction

It is not my aim to make a claim as to how Siletz Dee-ni “fits” among the Pacific Coast Athabaskan languages¹². The LTI’s Siletz Dee-ni Talking Dictionary (SDTD) is my primary source for information on the lexicon of this language. It is founded in Bud Lane’s knowledge of the language of his Ancestors. According to the CTSI,

This Dictionary is a collection of words derived from many works, beginning with the first known audio recordings of our Athabaskan Language, through the many different writing systems that have been used by our own People and others to record and document our words. Because all Languages are constantly growing and changing, this work is a comprehensive attempt to include the similarities and the differences of the known dialects of the Southwest Oregon / Northwestern California Athabaskan Language. (SDTD 2007-2011)

I have drawn on scholarship that attends to other specific Pacific Coast Athabaskan languages (see Collins 1989, Golla 1976, Landar 1977), in addition to Athabaskan languages in general, because doing so creates a more complete picture of the linguistic characteristics of a little-studied language. In fact, many of the older studies of now-extinct languages such as Chasta Costa and Galice were conducted on the Coast Reservation (the remains of which constitute the federally-recognized tribal lands of the CTSI) with individuals recognized as Elders in the CTSI genealogical registries. Furthermore, the pre-contact social and economic patterns of Athabaskan-speaking communities in southern Oregon and far northern California supports

¹² Siletz Dee-ni is not related to the extinct Salishan language Siletz (sometimes called Siletz-Tillamook) mentioned in Jacobs (1937) and other linguistics literature from the early 20th century. Speakers of this language were moved to both the Coast Reservation and the Tillamook Reservation, further north along the Oregon Coast. The Siletz River is part of the traditional territory of the Tillamook Indians.

considering literature concerned with specific, neighboring Athabaskan languages while investigating the question of lexical acculturation in Siletz Dee-ni. Contemporary Siletz Dee-ni is, in the strongest sense, the product of the unique historical circumstances that have affected—and, in many ways, shaped—its speech community. I follow Eira’s (2010) standards for distinguishing language from dialect: the (political) community recognized as the heritors of this cultural patrimony consider Siletz Dee-ni to be a language, distinct from other languages.

2.4 Lexical Acculturation

The lexicon of a living language is constantly changing: meanings, usages, and pronunciations shift, old words fall into archaism, and new words are created. When a speech community creates a new term for an item or concept introduced by a different cultural group, the creation of that term can be referred to as lexical acculturation.

The idea of ‘acculturation’ has been adapted into linguistics from anthropology. Cultures in contact constantly negotiate complex power dynamics: In European colonization, military technology gave colonialists an undeniable advantage. By the 1850s, disease had all but eliminated West Coast Indians’ numerical advantage in many areas. Indian communities, however, had a power that came from knowledge of the land and control of natural resources; Indians’ removal to reservations and then to Indian boarding schools served to reduce their access to these sources of power. Acculturation is not inherently destructive, nor inherently forcible. Within a given case of acculturative change, some aspects of cultural change may be coerced (e.g. an Indian child being beaten for speaking her native language), while others may be elected (e.g. an Indian family electing to buy and use a dishwasher). That said, American history alone holds a large number of cases of coercive acculturation.

While related, assimilation and acculturation are one in the same. In 1974, Teske & Nelson synthesized the contemporary literature on acculturation and assimilation to offer this comparison of the two: both acculturation and assimilation are dynamic processes that may affect groups or individuals. However, acculturation is at least marginally bidirectional, and does not require a change in values or in the group to which one self-identifies; critically, acculturation does not require an individual or group to be accepted as members of the out-group by the existing members of the out-group, while assimilation does require acceptance (365). For assimilation to occur, not only does one party have to espouse the identity of the other, the other must accept the first as “one of us.”

Typically, lexical acculturation research is focused on a unidirectional transfer of cultural items and concepts from a source language (and culture) to a target language (and culture). This focus is undoubtedly the product of the social reality surrounding the primary focus of the literature on the topic—namely, European (and subsequently white) cultural dominance in the Americas as the result of colonialism. The heyday of studies of lexical acculturation was the 1920s-‘50s (Brown 1996), as American linguists fervently documented American Indian languages expected to go extinct in a not-so-distant future as the result of Indian assimilation into American social, economic, and political patterns.

Brown (1994) divides new words created in response to these changes into two larger categories he refers to as primary acculturation and secondary acculturation. The line between the two categories is more distinct in some comparisons than in others—between loanwords and verbal neologisms, for example—but Brown’s intent in creating these categories is to demarcate whether the source language or the target language has the greater influence on the form and meaning of the term. Loanwords, a straight across adaptation of a source language term to fit

target language phonology, represent an unambiguous case of secondary acculturation. Calques typically arise when idiomatic expressions or other semantically complex words are at issue; they consist of translating all of the components of a given lexical item literally, creating a term built of native parts that are semantically coherent from the foreign (source language) epistemological standpoint. Semantic or referential extension occurs when an existing lexical item in the target language stretches its umbrella to cover something new. Neologisms, by far the broadest category of the four, employ native linguistic resources to create novel terms. This could be the creation of a verb-based descriptive label, as in the Siletz term *me'-naa-draa*- 'a' 'telephone' (lit. 'into it one speaks'), a nominal-based descriptive label (e.g. *pinhead*), an onomatopoeia, or a *Jabberwocky*-style use of morphophonology. These strategies need not be employed discretely: for example, Siletz Dee-ni combines *mvsh-mvsh* 'cow', a Chinook Wawa loanword (*mus-mus*), with its own word *svn* 'meat/flesh' to form *mvsh-mvsh svn*, 'beef'.

As with any cultural item, the longer an acculturated word is in use, the more natural it feels: in English, *kindergarten* is a loanword from German (also *Kindergarten*); *point-of-view* is a calque from French (*point-de-vue*); *tweet* is no longer just a sound that small birds make, but has been semantically extended to refer to the specific act of sending a message through the service Twitter; and *French bread* is a uniquely Anglophone expression for *baguette*.

Acculturated lexical items, and the objects and concepts they refer to, become incorporated into the target language and culture, and lose their "foreign" distinction as they become a regular part of the life of the speech community. If the culture of the source language speech community and the culture of the target language speech community do not entirely converge, the two communities may come to have different versions of a given acculturated item, just as *French bread* in the United States has little in common with *baguette* in France.

The Athabaskan language family is geographically diffuse, being one of the largest language families in North America, in terms of the sheer number of languages it contains as well as in terms of geographic expanse. The family is generally divided into Northwest, Pacific Coast, and Southern Athabaskan language sub-groupings based on the spread of languages across the western half of the continent. In interior Alaska and the Yukon, its members include Beaver, Gwich'in, and Tanacross; in the Southwestern United States, Navajo and Apache; and along the Pacific Coast, Cahto, Hupa, Tolowa Dee-ni, and Siletz Dee-ni. Athabaskan languages are typically resistant to adopting phonetic elements from other languages, European or Indigenous (Rice 2004). Though social-historical discussions of California Indian languages may pertain to Siletz Dee-ni (in particular, the history of the California Gold Rush; see Wilkinson 2011 and Hinton 1996), the influence of Spanish colonization was minimal in coastal, southern Oregon; Oregon Athabaskans were not bilingual in Spanish as a result of colonization, and the presence of Spanish speakers in the CTSI community is a contemporary phenomenon. Only *camote* 'sweet potato' has come into Siletz from Spanish (ultimately from the original Nahuatl *chamotil*).

French fur traders made occasional forays into Oregon Athabaskan country late in the era of fur trapping; by the time they reached coastal southern Oregon, Chinook Wawa (also known as "Chinook Jargon") was well established as a trade language and widely used by trappers. It is likely that most Siletz Dee-ni words of French origin came into the language through this creole. Salishan-based Chinook Wawa was spoken by many of the Indians from northern Oregon and southwestern Washington who also became members of the Coast Reservation, and continues to be spoken by some members of the CTSI community in and around Siletz today (Lane 2011). Chinook Wawa has had a significant impact on the lexicons of languages throughout the Pacific

Northwest; Brown's (1996) study of lexical acculturation and bilingualism in American Indian languages includes a survey of native terms also found in lingua francas, where he found that 7% of lexical items in the six Salishan languages surveyed were also present in the relevant lingua franca (almost exclusively Chinook Wawa). The contributions of French and Chinook Wawa are modest in comparison to the contributions of English, however. Far and away, English has been the language of colonization most relevant to Siletz Dee-ni speakers and the greatest source of acculturated lexical items in their language.

Chapter 3. Lexical Acculturation in Siletz Dee-ni

3.1 Secondary Acculturation: Loanwords

In terms of effort and complexity, loanwords are the least involved form of lexical acculturation. They are created almost automatically when a speaker of one language adopts a word from a different language to name an object or concept. This presupposes that the speaker's language contains no word for that particular item—or, at least, that the speaker does not know it. The loan becomes a word of the borrower's language by being shifted to fit the phonology of this language.

3.1.1 Consonant Shift Changes

Typically, loanwords are created in face-to-face interactions between speakers of different languages. How the source language word sounds to the individual(s) who create it as a loan in the target language is critical, and how it sounds is subject to a variety of factors: the dialect or personal speech eccentricities of the source language speaker, the hearing of the target language speaker, the presence or absence of a given phoneme from the target language, and even the surrounding environment can all impact how the sounds are interpreted and translated from one language to the other. Because of this, there is a certain degree of variability in how loanwords are articulated in the target language. The English word *hogs* may have come into Oregon Athabaskan languages early and diverged, or been adopted as the loanword *haa-k'vs* in one village and *hay-k'vs* in another. Yet others borrowed the Chinook Wawa word *gosho* 'pig' as *guu-shu* to indicate the same referent. All three terms have been preserved in Siletz Dee-ni, the result of the implementation of the reservation system and of the sharp decline in the usage of Athabaskan. Families may have retained or promoted their village's way of saying 'pig' after

moving to the Coast Reservation, however, in a stable linguistic environment, subsequent generations of young speakers would likely have arrived at a common term. The Coast Reservation Athabaskan language community was in no way stable, however, and multiple terms for acculturated items have remained in the modern Siletz Dee-ni lexicon.

The inconsistencies resulting from acculturating new lexical items into Siletz in a linguistically unstable environment has impacted how specific sounds from foreign words have been translated into Siletz Dee-ni, as well. For example, Siletz Dee-ni has [k k^h k^ʷ] and English has [k k^ʷ k^h], and both languages prefer to aspirate /k/ in word-initial position. In some cases, in English loanwords in Siletz Dee-ni, the English word-initial [k^h] may become the ejective [k^ʷ] (31) but this is not always the case (14). English [k] may become an ejective in Siletz when it is not aspirated (13), as well.

(13) *chii-k'vn* [tʃ^hi:k'ŋ] < *chicken* [tʃi.kŋ]

(14) *ken-di* [k^hɛ̃n.di] < *candy* [k^hæ̃n.di]

Despite this variability, there are trends to the consonant and vowel shifts that occur when words are borrowed into Siletz Dee-ni, regardless of whether the source language is English, Chinook Wawa, or Spanish.

The three-way laryngeal contrast Siletz Dee-ni and other Athabaskan languages (e.g. /d t^h t^ʷ/, where /d/ represents both the voiced and voiceless unaspirated alveolar stop) exhibit for alveolar and velar stops is not present in bilabial stops in Siletz Dee-ni: [tʃ^ha:paɪ.ju] and [tʃ^ha:baɪ.ju] are both acceptable pronunciations for *ch'aa-bay-yu*, which would be transcribed phonemically in the Athabaskanist tradition as /tʃ^habaiju/ (because the bilabial stop is not

aspirated). While English makes an aspiration contrast between /p/ and /b/ in certain positions, Siletz Dee-ni is not concerned with this aspect of the pronunciation. English /p/ becomes Siletz /b/ in five out of eight observed instances (examples 15-17 show one instance of /p/ preserved, and two of /p/ → /b/).

(15) *kaps* [k^haps] < *cops* [k^haps]

(16) *buu-si* [bu:si] < *pussy* [p^husi] ('cat')

(17) *shbvn-yu* [ʃbən^ʔ.ju] < *Spaniard* [spæn.jɪrd]

Table 10 in Appendix B groups and tallies these and other noted shifts. /b/ is always preserved when words are borrowed into Siletz Dee-ni, but /p/ is not the only consonant that becomes /b/ when the phonological shift is made. The consonants that exist in English but not in Siletz Dee-ni include [f v ð θ z ʒ ʒ ɲ ɲ ɹ]. The labiodental fricative [v] typically also converts to [b], as seen in (18) and (37).

(18) *tii-bi* [ti:.bi] < *TV* [ti:.vi:]

(19) *gaa-be* [ga:be] < Chinook Wawa *kaupi* [kapi] < French [kafe] 'coffee'

or < English *coffee* [ka:fi]

There are no unambiguous examples of [f ð θ], the other dental/labiodental fricatives, being loaned into Siletz Dee-ni; however, as (19) shows, *gaa-be* 'coffee' could have entered the language from Chinook Wawa, directly from French, or from English. Historical conditions suggest that all three possibilities are valid. In either of the latter two cases, the [f] is converted to [b]. In the former case, Chinook Wawa shifts that particular consonant from a fricative to a stop.

In any event, the shifts in (15-19) suggest that [p f v] may all converge to [b] in Siletz Dee-ni loanwords.

There are (unsurprisingly) quite a few examples of English-origin loanwords featuring [z] in word-final position. Because Siletz Dee-ni does not inflect its nouns to indicate plurality, both singular and the plural /z/-inflected form have been borrowed into Siletz from English. In the case of regular English plurals, Siletz Dee-ni has preserved the final alveolar fricative as /s/, /ʃ/, or /ʒ/ (examples 20-22):

(20) *bv-nee-nvsh*, [bəne:nəʃ] < *bananas* [bənænəz]

(21) *bii-nvs*, [bi:nəs] < *beans* [binz]

(22) *bii-nar'sh* [binaʃ] < *beans* [binz]

From the point of view of Siletz, the source language environments in which [s ʃ ʒ] occur in (20-22) are the same: [n]V₀__#. There is no apparent pattern as to whether [s], [ʃ], or [ʒ] replaces [z]; however, [s] replaces [z] five times in the data, as compared with twice for [ʃ] and once for [ʒ]. English source words that end in [s] convert faithfully to Siletz Dee-ni (15 and 36). While one instance does not make a pattern, it is worth noting that the rhotic influence of the retroflex [ʒ] on the preceding schwa makes *sutlh-yersh* and *soldiers* more acoustically similar. When the final syllable of the source word does not have a complex coda, as in *bananas*, Siletz Dee-ni preserves it; however, when there is a consonant cluster in the syllable coda that does not occur in Siletz, Siletz Dee-ni inserts schwa, the reduced vowel, to break up the cluster, as seen in (21) and (23-24) below:

(23) *haa-k'vs*, [hɑ:k'əs] < *hogs* [hɑgz]

(24) *sutlh-yersh*, [sutʰjəʂ] < *soldiers* [soʊdʒjɪɹz]

As discussed in section 2.3, Siletz Dee-ni does not include /ɹ/ as a native phoneme. In the Oregon Indian Language Collection recordings, Amelia Brown can clearly be heard replacing [ɹ] with [l] in English words where one would find the former (1962-1964)¹³. *Kr'ii-k'ii* 'gravy' is the only loanword that has retained the alveolar/retroflex approximant from English (25).

(25) *kr'ii-k'ii* [k'ii:kʰi] < *gravy* [gɹævi]

With this exception, Siletz Dee-ni loanwords support the notion that /ɹ/ is not a phoneme of the language by deleting it. As in *sutlh-yersh* (24), the retroflex fricative helps the Siletz loan approximate the English source word acoustically; in *shbvn-yu* (17) and *ch'aa* 'jar' (26), the [ɹ]-containing syllable coda is deleted entirely; and in *saa-k'vs* 'soccer', it is replaced with an alveolar fricative (27).

(26) *ch'aa* [tʰa:] < *jar* [dʒɑɹ]

(27) *saa-k'vs* [sa:k'əʂ] < *soccer* [sɑkɹ]

Siletz Dee-ni does include a lateral approximant in its consonant inventory, but it is never velarized. When English source words containing [ʀ] are borrowed into Siletz, it may be deleted (39), converted into the lateral fricative [ʎ] (33), or converted into the lateral approximant [l]. (24) *sutlh-yer'sh* presents an interesting case: within the consonant cluster [ʀdʒ] of the source word *soldier*, there is a lateral and an affricate. In the Siletz Dee-ni loanword, this cluster transforms into the lateral affricate [ʎʃ].

¹³ See JP88-12, Track 1

There are only two nasal stops in Siletz Dee-ni, [m n]. The syllabic [ŋ] of English transitions nicely into Siletz Dee-ni, which also features a syllabic [ŋ]. The other nasal segment of English, [ŋ], reliably becomes [n].

(28) *sdaa-k'vn* [sda:k'ŋ] < *stocking* /stakɪŋ/

In the case of *sdaa-k'vn* ‘stocking(s)’ (28), it is impossible to determine whether the source for the loanword was phonetically [stakɪŋ] or the “more casual” [stakŋ]. Amelia Brown prefers to pronounce <-ing> as [ŋ] when she speaks in English (OILC 1962-1964); whichever the ‘true’ source word, the result ([ɪŋ] or [ɪn] or [ŋ] → [ŋ]) would likely have been the same.

3.1.2 Vowel Shifts

As with the consonants, the shifting of vowels from English source words to Siletz Dee-ni loanwords is patterned, but not without inconsistencies. Siletz Dee-ni has no front vowels lower than /e/. To preserve acoustic similarity when creating loanwords in Siletz Dee-ni, there is a strong preference towards raising vowels instead of lowering them. Table 11 in Appendix B provides a complete listing of the vowel shifts observed in between the source- and loanwords.

Siletz Dee-ni has only one back vowel, [u]. [o], found in source words from both English and Chinook Wawa, consistently shifts upward to the Siletz back vowel (29, 30).

o → u

(29) *guu-shu'* [gu:ʃuʔ] < *cosho* [goʃo] (Chinook Wawa) < *cochon* [koʃɔ̃] ‘pig’

(French)

(30) *ch'aa-muu-de* [tʰa:mu:de] < *camote* [tʃamote] (Spanish) ‘sweet potato’

While the second <o> in *automobile* is not always pronounced as [o], it is at least phonemically /o/, and has also shifted according to the pattern above (39). [ʊ], as in *cookie*, also becomes [u] in Siletz Dee-ni (31).

ʊ → u

(31) *k'uu-k'i* [k'u:ki] < *cookie* [k^hʊki]

The mid-low front vowel [æ] found in English raises to [e] in Siletz Dee-ni—if the stress is on the [æ]-containing syllable in the source word, the [e] will be long and in an open syllable in Siletz Dee-ni (32 & 33).

æ → e

(32) *bv-nee-nvsh* [bəne:nəʃ] < *bananas* [bənænəz]

(33) *'ee-pvlh* [ʔe:pəʔ] < *apple* [æpəl]

The English diphthong [eɪ] is observed shifting upwards to the monophthong vowel segment [i] in the Siletz Dee-ni words 'Sunday' (34) and 'gravy' (25):

eɪ → i

(34) *Sant'i* [sãnti] < *Sunday* [səndeɪ]

Of all of the observed vowels found in the source words for Siletz Dee-ni loans, only [ɪ] splits the difference between raising and lowering. Four English loanwords containing [ɪ] were observed; in two cases, [ɪ] lowers to [e] (37 & 38), and in two cases, [ɪ] raises to [i] (35 & 36).

ɪ → i

(35) *ch'ii-kvn* [tʃ'i:kŋ] < *chicken* [tʃɪkŋ],

(36) *kish-mvs* [kiʃməs] < *Christmas* [kɹɪsməs]

ɪ → e

(37) *bv-nee-lv* [bəne:lə] < *vanilla* [vənɪlə]

(38) *'aa-le* [ʔa:le] < *olive* [əlɪv]

In both (37 & 38), the [e]-containing syllable is open. Where [ɪ] → [i], it is within a closed syllable. In (38), instead of changing to [b], the diffuse fricative [v] at the end of *olive* is deleted for the loanword *'aa-le*. More examples of this phenomenon could confirm whether phonologically the syllable coda is deleted before the vowel is determined, however, this is the only example of this particular shift.

Collins (1989:330) notes that schwa traditionally changes to the long [e] vowel, represented in the orthography as <ee>, in open syllables in Tolowa Dee-ni. If those open syllables are contracted in speech to the point that the vowel is “barely audible”, the vowel will remain schwa. There is only a minute number of pre-contact Siletz Dee-ni words that feature open syllables¹⁴ that end in [ə], and Siletz does not accept a long [ə]. American English, however, does allow [ə] in open syllables, and Siletz Dee-ni loanwords have preserved this feature (37, 39, 40).

(39) *'ak-'v-muu-t'i* [ʔakʔə.mu:.t'i] < *automobile* [aɹəmɔbit]

(40) *dv-mee-dvs* [də.me:.dəs] < *tomatoes* [tʰəmerəs]

¹⁴ The one example I have found is *dv-mv*, a fixed expression along the lines of ‘Is that right?’

In other environments, as well, where there is a schwa in the source word, Siletz Dee-ni is typically faithful in preserving it (37 & 40). As discussed above, the reduced vowel may also be epenthesized into consonant clusters (particularly at the ends of words) to break them apart.

3.2 Secondary Acculturation: Calques

Calques, or loan translations, are the result of the combination of the semantic elements of a term in the source language being reconstituted in the target language, whether or not that combination of elements is semantically coherent and culturally logical (“makes sense”) in the target language. A calque and a loanword for a single item may coexist in the target language, but one typically becomes the preferred term, while the other fades out of use. An example of this phenomenon in English would be the term *tofu*, found more commonly on Chinese restaurant menus and in the aisles of forward-thinking grocery stores twenty years ago as the loan translation *bean curd* (T’sou 1975:448). Today, both terms are still active, valid terms in English for the same foodstuff, but *tofu* is heavily preferred. While *bean curd* is the accurate translation of *tofu*, a native English speaker unfamiliar with *tofu* would likely not combine the referents of *bean* and *curd* into a vision of a soft, white block of coagulated soy milk.

Some Siletz Dee-ni words that are constructed similarly to English nominals come close to being calques, but the presence of another element, such as *min’* in (41) and (42), would disqualify them from being strict calques:

- (41) *gaa-se min’-na’-yvtlh-t’e*
gaase min’ na’<yv>tlht’e
 plate in <3SG.PRS>wash¹⁵
 ‘dishwasher’

¹⁵ ‘to wash hands, dishes, etc.’, as distinct from *xantlh-ghe’s*, ‘to wash (laundry) clothes’

- (42) *min'-na'-tr'vtlh-lhts'a*
min' na'tr' <v>tlh- -lhts'a
 in <3SG.PRS >put into -dry
 '(clothes) dryer'

Siletz Dee-ni features very few true calques, and unlike *bean curd* in English, those English words that have been translated into Siletz are consistent with the syntax and semantics of Dee-ni nouns. The following words in Siletz Dee-ni may be considered calques:

- (43) *lhauk-taa ch'vt-d'ersh*
lhauktaa ch' <vt>d'ersh
 funny <3SG.PRS>write
 'funny (humorous) book'
- (44) *nar'sh-xwvtlh-yee-dvn*
nar'sh- xw<v>tlhyee- -dvn
 INF <3SG>play a sport -time/place
 'sports season'
- (45) *dghvtlh-shvsh-ne*
dgh<v>tlhshvsh- ne
 <3SG>drink.PASS NMLZ
 'alcoholic/drun kard'
- (46) *taa-ghar'sh-na me'-daa-tr'vs-tin*
taaghar'shna me'- daa- tr-' vs- tin
 water on flat PASS- 3SG- lie
 'water bed'
- (47) *xwvn-tuu-'i'*
xwvn- -tuu'i'
 fire liquid/juice
 'firewater/whiskey/alcohol'

Only the last two items (46 and 47) are calques without question; the others may simply be the product of similarly constructed nominals. The last item on this list (47), the Siletz Dee-ni word *xwvn-tuu-'i'* 'firewater, whiskey' is certainly a calque, but whether this loan was translated

from another Indigenous language or from a European language is unknown. It is commonly believed that *firewater* is a loan translation based on an Algonquian term for alcohol. A combination of linguistic elements referring to ‘fire’ and ‘water’ (or some other kind of liquid, as in Siletz) is extremely common across Indigenous languages in North America, but whether the term spread through Indigenous channels or was calqued and subsequently reintroduced to other Indigenous groups by European traders is unknown.

The remaining terms in this group are so consistent with pre-contact Siletz Dee-ni nouns that it is fair to suggest that, while they are calques by definition, they are functionally instances of primary acculturation. It just so

happens that the English source words these terms refer to are constructed in a

Table 2. More or Less Tentative Calques in Siletz Dee-ni.

Siletz Dee-ni Term	Gloss	Literal Translation
dghvtlh-shvsh-ne	drunkard (alcoholic)	one who drank
lhauk-taa ch'vt-d'ersh	humour book	funny book
nar'sh-xwvtlh-yee-dvn	sports season	time to play a sport
taa-ghar'sh-na me' daa-tr'vs-tin	water bed	water bed
xwvn-tuu-'i'	fire water (alcohol)	fire liquid/juice

way that is consistent with the morphology, syntax, and semantics of Siletz Dee-ni noun phrases.

If the English word *dishwasher* were instead **disherator* or simply **washer*, it is probable that the Siletz Dee-ni word would still be *gaa-se min'-na'-yvtlh-t'e*, ‘dishes in it are being washed’.

It is true that the choice of a term for ‘alcoholic’ as ‘one who drank (alcohol)’ (45) is culturally constructed, and that the two are not one in the same. Other plausible descriptors for this character might be, ‘one who is perpetually intoxicated,’ or ‘one who stinks from consuming alcohol’. All three could possibly be valid ways for the Siletz Dee-ni term to be constructed—there is a native word for intoxication, and the dead are sometimes referred to as *chum-ne* ‘one who stinks’—however, the fact that *dghvtlh-shvsh-ne* addresses the action that causes the state of ALCOHOLISM parallels the way *mvn'-taa-naa-gha* ‘one who walks among houses (a bum)’ addresses the action that causes the state of VAGRANCY. There is an undeniable consistency in the

way Siletz Dee-ni terms concerning alcohol fit the English logic for the concept, but any individual term may not be a true calque.

In short, Siletz Dee-ni has a minute number of calques, though the fact that Siletz and English sometimes employ a similar strategy for creating nominals from verbs means that the two languages often have similar terms for the same object. The primary difference between Siletz and English in the employment of this strategy is Siletz Dee-ni's addition of a prepositional affix to a verbal morpheme-based noun (as in 41 & 42).

As an example of a nominal-based calque, a Siletz Dee-ni loan translation of the English hair color term *readhead(ed)* would be:

- (48) *si's *lhsrik*
 head red

What is observed instead is a reference to hair color instead of head color (49 & 50 below). In English, one can refer to the color of the head for blondes and redheads (but not for brunettes). Siletz Dee-ni does not support 'head'-based constructions for this concept, even though phonetically they would be extremely similar to (49) and (50).

- (49) *si' lhsrik*
 hair red
 'redhead/red-haired'

- (50) *si' lhtsuu*
 hair yellow
 'blonde'¹⁶

Siletz Dee-ni nouns are frequently highly descriptive and verb-based (41-45). Brown (1996) argues that the history and characteristics of the cultural group serving as the catalyst for

¹⁶ Glossed in the NWALD as 'towheaded' (archaic)

linguistic acculturation in Indigenous populations—whether they were agrarians or traders, settlers or transients—has more to do with the amount of primary or secondary acculturation seen in a language than any inherent feature of the language does. Athabaskan-speaking peoples have not been subject to the same colonial history as Indigenous peoples from Argentina, for example, and so their languages have experienced lexical acculturation differently. The complex & notorious verb morphology of Athabaskan languages provides Siletz Dee-ni with a wealth of strategies for creating new lexical items based on native linguistic resources through the modes of primary acculturation. Words created in the two modes discussed here—semantic extension and neologistic innovation—account for the majority of acculturated lexical items in Siletz Dee-ni.

3.3 Primary Acculturation: Semantic Extensions

Semantic or referential extensions refer to the application of an existing term to a novel but related object. It is typical for a single loanword to be extended to cover all of the source-language synonyms for the borrowed lexical item, and for related items, as well. In Siletz Dee-ni, for instance,

ak- 'v'-muu-t'i 'automobile/car' (39) also refers to 'trucks,' and how *sdaa-k'vn* 'stockings' (28) also refers to 'socks and other hosiery'. When the reference of existing native terms is extended to foreign cultural items, it is considered primary acculturation,

Table 3. Post-Contact Semantic Extensions in Siletz Dee-ni.

Siletz Dee-ni Term	Gloss	Original Meaning of SD Term
ch'aa-gee-lvt	candle	a light
ch'ee-sii-ne	maiden	adolescent girl
ch'ee-s'is	bonnet	hat/cap
ch'utlh-ts'as-ne	lion	mountain lion (cougar)
ch'utlh-ts'as-ne	panther	mountain lion (cougar)
cha'-may-yvthl-sri	doctor	Indian doctor (herbalist)
dan's-man's	ginger	wild Pacific ginger (<i>Asarum caudatum</i>)
dee-svk	dollar	whole thing
gaa-se	dishes	plate, open woven basket
gay-yu	cradle	baby basket ¹⁷
ghu'	tusk	tooth
gus	potato	camas
guu	rice	maggot
k'wee-shvt-naa-gha	lawyer	mediator ('walks in between')
k'wee-si dvlh-gha	flask	half value ('fifty cents' worth')
lhauk-taa-selh-yu	marijuana	funny tobacco
lin'-ch'e'	pet	dog
me'-ch'vs-'an'	tipsy	buzzed; "feeling good"
selh-yu	cigarettes	tobacco
srvtlh-pvlh	shuttle (weaving)	gill net needle
trvlh-xvs or chvtlh-xvs	matches	material
waa-de, xas-chi	carrot	bulb, wild carrot (Indian carrot)
waa-ghii~-an'-dvn	PM	evening
xaa-ghii~-li~'	fountain	water running upward
Xaa-waa-la'-chi	Christ	The Creator ('the high one')
xvm-srvn	lawn	grass
yvlh-t'es	baking	cooking

since all of the lexical material is derived from the native language. Extended native terms do not lose their original referents in this process; however, as with all language change, it is possible for the acculturated item to which the native term was applied to come to be known as the primary referent for that term.

While it was once believed that semantic extensions occurred individually and independent of other acculturative changes in a given language, Keith Basso's (1967) seminal study of Western Apache (a Southern Athabaskan language) terminology for car parts

¹⁷ A soft baby carrier with a seat and open front, typically woven from hazel sticks and spruce root, carried in the arms or on the back using a tumpline (a woven strap). See photograph on cover page.

demonstrated that semantic extensions are not inherently discrete occurrences: rather, the semantic content of a chosen extended lexical item affects how related terms are extended, with the result being the possibility of the extension of a whole set of native terms to cover a whole set of foreign terms that can be seen as corresponding. In Western Apache, for example, car parts are denoted by the terms for internal organs, with *inda* ‘eyes’ denoting *headlights*, and *ni* ‘forehead’ referring to “[the] area extending from top of windshield to bumper” (Basso 1967: 472).

It would be unfair and vague to generalize that loanwords and calques typically arise when their referents are “more foreign” than those which appear in lists of semantic extensions or neologisms; a car (*‘ak-‘v’-muu-t’i*, (38)) is not objectively less novel than a telephone (*me’-naa-draa-‘aa*) to a culture which previously had neither. But, within a given language, there are trends in what sort of item becomes a loanword or a semantic extension. An object named with semantic extensions must have some semantic equivalency with an existing object in the culture of the acculturating language community. In the 19th century, European and White American women carried their children in swaddle, but rested them in wooden cradles. Southern Oregon Athabaskan women carried and rested their babies in *gay-yu* ‘baby baskets’, stiff, open-fronted baby carriers typically made from hazel switches and spruce root (see cover page for example). Though *gay-yu* serve the containment function of both swaddle and a cradle, structurally, they are far more similar to European-style cradles, and so the term *gay-yu* was extended to cover ‘cradle’ (but not swaddle).¹⁸

The vast majority of European- and American-introduced professions (and other ‘kinds of people’) have been acculturated into Siletz Dee-ni through semantic extension and neologistic

¹⁸ Ironically, most contemporary ‘baby carriers’ or ‘baby backpacks’ are something of a cross between a *gay-yu* and swaddle, having the shape (and often the back-mounted position) of the former and the composition (fabric) of the other.

innovation. Once again, if a given professional or societal role that was extant in the Siletz Dee-ni speech community before the social upheavals of the mid 19th century had a European/American cultural equivalent, the equivalent was given the Siletz Dee-ni name. The term for a traditional healer or ‘Indian doctor’ (*cha’-may-yvtlh-sri*, ‘one who works with herbs’) was extended to cover ‘doctor’ or ‘physician’, but a neologism was created for ‘surgeon’ (*char’nsh-t’as-ne*, ‘one who opens a cut’). *K’wee-shvt-naa-gha* ‘he/she/it walks in between’, the traditional arbiters of disputes, lent their name to ‘lawyers’.

In Siletz Dee-ni, the majority of European-introduced foodstuffs have entered the language as loanwords (21 instances, including livestock). Root vegetables, however, were an important part of the diet of Indians in the Pacific Northwest and northern California before the arrival of Europeans, and so European-introduced root vegetables were given the Siletz Dee-ni names of existing foods (51 & 52):

(51) *gus* ‘potato’ < *gus* ‘camas’

(52) *xas-chi* ‘carrot’ < *xas-chi* ‘Indian carrot’¹⁹

Both (51 & 52) fall under the category of *waa-de* ‘root vegetables/bulbs’, an umbrella term that once included *gus*, *xas-chi*, and other edible native roots, and now also includes carrots, turnips, potatoes, radishes, etc. When an item presents speakers with a choice between adopting a loanword or creating a semantic extension—which is to say, the speech community has a potential semantic equivalent in their culture, but also knows source language term for the item—which mode of lexical acculturation ultimately “wins” the word will probably depend on the degree of acculturation the speech community has experienced. Camas, for instance, is a white root vegetable that is often boiled and served (perhaps alongside salmon or venison) as a starch: Dee-

¹⁹ A plant with an edible, white taproot; not Queen Anne’s Lace (*Daucus carota*), a noxious invasive species of European origin that grows rampantly throughout the Pacific Northwest. See Compton (1993).

ni meat-and-potatoes. But camas and potatoes are very different. Potato plants grow short and bushy, with broad, often fuzzy leaves; in the Northwest, camas is known for its brilliant purple or white flowers that top slender stalks surrounded by graceful, knee-high grass blades. The two plants are not related. While potatoes come in a variety of shapes, camas' root is consistently bulb-shaped (sometimes resembling a pearl onion when cooked). And the dry, slightly granular starchiness of a potato is a world apart from the fine-textured, paste-like, stick-to-the-roof-of-your-mouth starchiness of camas. Potatoes and camas are not interchangeable, and if families were regularly using both in cooking before *gus* had permanently entered the lexicon as the term for both, it is reasonable to suggest they would have created a separate term for 'potato' to differentiate the two roots.

To a degree, patterns of particular categories of words being acculturated in consistent ways hold across Native American languages (e.g., most European foodstuffs entering a target language as loanwords) (Salzmann 1954; Brown 1994). However, as Campbell and Grondona (2011) have shown for the Matacoan languages Nivaclé and Chorote, a given language that—due to the linguistic (and colonial) history of its geographic location—is expected to contain a high number of instances of secondary acculturation among its acculturated words may buck the trend: the social history of the individual speech community, and the degree of bilingualism within it, is the single most important consideration (Brown 1996). While an areal survey of languages provides important comparison points for languages that have experienced similar social histories, Brown cautions that “in general, genetically unrelated languages, including those spoken in the same geographic areas, strongly tend not to share terms for acculturated items if a lingua franca is not involved” (274).

3.4 Primary Acculturation: Neologisms

3.4.1 Verbal Neologisms

If loanwords are phonetic corruptions of words from another language, and calques are direct translations, and extensions are the application of an existing word to a new concept, neologisms can be thought of as the creation of truly “new” lexical items. In the early days of academic study of lexical acculturation, Salzmänn (1954) referred to these as “circumlocutory devices”: ‘ways of talking around something.’ Salzmänn was concerned primarily with the influence of Occidental cultures on American Indian peoples and their languages, which, collectively, are quite popularly known for having nominals that translate into descriptive

English phrases: Sitting

Bull (*Thátháŋka Íyotake*,

the famous Hunkpapa

Lakota Chief), Bright Path

(*Wa-Ho-Thuk*, Sac & Fox

Olympic Champion Jim

Thorpe), etc. These are no

more ways of ‘talking

around’ a concept than

dishwasher is a way of

talking around a common

American appliance.

Table 4. VP-based Siletz Dee-ni Neologisms (Plain)

Siletz Dee-ni Term	Gloss	Literal Translation
char'nsh-nii~-t'as	surgery	opening a cut
ch'vt-t'ersh	letter (epistle)	written
daa-ch'vstlh-na	supermarket	things set out
daa-ch'vstlh-na	store	things set out
det-dghvtlh-ya	lighthouse	door light comes
din-tr'at wee naa-dvtlh-nvsh	physical therapy	ill health--how one gets better, 'aches are worked on'
gaa-mvs naa-t'ee-sla	tires	wagon going around
lhauk-taa ch'vt-dersh	funny book	funny is-written
lhch'an-ghvt'-an'	unicorn	split pointing up
lhee-naa-ghaa-dvtlh-nvsh	labor union	out walking working
mer'sh-tee-lalh	bedroom	inside one sleeps
mvlh-naa-yvtlh-get	store owner	he/she/it sells
nar'sh-xwvn-yee-dvn	sport season	playing a sport time
shtvn-nee-xuu-naa-da	UFO	strange things flying around, 'strange beings'
srii~-ghee-naa-t'a	airplane	high it flies
ts'vt-chghvtlh-der'sh	checks	cash has been written
ts'vt-mestlh-lhchvm's	wallet	cash in fabric
xan'-trvlh-ghe's cha-wvsh	suds	fast was washed scum
xwe'-t'e naa-ghe'-det-stan'	sunglasses	sunlight eye closed door
yii-ghee-'vtlh-sri~'	Spirit, the Holy	'hollow trees'; DEF.ART up makes

Like other Athabaskan languages, Siletz Dee-ni is affixally polysynthetic, using the combination of a number of non-root-bound morphemes to express a concept that would be expressed by

several words in a less synthetic language. Many Siletz Dee-ni nouns are highly descriptive and action-oriented: as Lane (2011) and Bommelyn (2010) have articulated it, Oregon Athabaskan languages are concerned with the action, function, or shape of an object. There is, of course, a large number of nouns that cannot be completely disassembled; perhaps some of them were originally constructed from significant morphemes in proto-Athabaskan, but, over time, phonological shifts and semantic bleaching have obscured their origins. Certain patterns of word formation seen throughout the pre-contact lexicon of Siletz Dee-ni have become significant for neologistic innovation since the arrival of white traders and settlers. Tables collecting these neologisms are arranged throughout this section near the analyses of the patterns they represent, as well as gathered together in Appendix A (Tables 4-9).²⁰

The basic form a VP-based Siletz Dee-ni word takes is that of a verb conjugated for the 3rd person singular—sometimes in present tense, as in *lhauk-taa ch'vt-der'sh* ‘humor book’ (43) but also often in the passive (53).

- (53) *xan'-trvlh-ghes cha-wvsh*
xan'- <trv> lhghe's chawvsh
 fast 3SG.PASS.wash scum
 ‘suds’, lit. ‘scum is washed quickly’

As in *xan'-trvlh-gh'es cha-wvsh*, these words typically include more than a mere verb. A verbal noun may be combined with an existing NP to form a compound; adjectives and adverbs, practically verbs in themselves, may also be added. In an unusual example, *lhee-naa-gha-dvtlh-nvsh* ‘union’ is made up of one preposition and two conjugated verbs (54):

- (54) *lhee-naa-ghaa-dvtlh-nvsh*
lhee- naaghaa- dvtlhnvsh
 out walk.3SG.PRS work.3SG.PRS
 ‘labor union’ lit. ‘walking out (of) working’

²⁰ Some words in these tables may appear in other tables, as well—in particular, words that may or may not be calques.

The remainder of the identified VP-based post-contact neologisms can be seen in Table 4 (above).

The majority of post-contact neologisms in Siletz Dee-ni are verb phrase-based; among these verb phrases, nominalized and given fixed referents through usage, many employ positional affixes like *ghee* [ge:] ‘above’, *lhee* [ʔe:] ‘out’ or *k’wvt* [k^wʔt] ‘on (top)’. A particularly large number use either *me’* or *min’* ‘in/into/inside’,²¹ as in (55):

- (55) *wee-ya-me'-ch'ghvtlh-dersh*
weeya- me'- ch'<ghv>- tlh-dersh
 words in 3SG.PASS- write
 ‘words are written in it’ (‘dictionary’)

Me’/min’ is an extremely hardworking morpheme in Siletz Dee-ni; in addition to being

the word for the stomach, *me’* (the more common form) is found in native words throughout the language (56).

- (56) *me’-tat-na*
me’- tatna
 in- drink.3SG.PRS
 ‘cup’

Table 5 (at right) displays the neologisms employing this specific positional affix.

Table 5. *me’/min’* Neologisms

Siletz Dee-ni Term	Gloss	Literal Translation
<i>gaa-see min' na'-yvtlh-t'e</i>	dishwasher	plates inside are washed
<i>me'-'aa-wvtlh-ts'it-dvn</i>	school	inside to be knowing place
<i>me'-ch'e'-dran</i>	café	inside one eats
<i>me'-ch'ee-tr'vlh-tes</i>	kitchen	inside one cooks
<i>me'-daa-tr'vs-stin' k'westlh-xat</i>	quilt	bed spread out on a surface
<i>me'-naa-draa-'a</i>	telephone	into it one talks
<i>me'-naa-stelh</i>	two crust pie	(unknown)
<i>me'-natlh-srii-'aa-dvn</i>	theater	inside speaking place
<i>me'-nee-stelh</i>	one crust pie	(unknown)
<i>min'-na'-tr'vtlh-lhts'a</i>	dryer	inside it things are dried
<i>wee-ya-me'-ch'ghvtlh-dersh</i>	dictionary	words are written there
<i>srak-me'-sla</i>	bull	testicles inside

²¹ Also ‘stomach’

Where the action an object performs or facilitates is its most salient characteristic—tools, for instance—the verb describing the function of the item is appears in either of the typical forms and is often coupled with the instrumental morpheme *mvlh*²².

The *mvlh* pattern was well-established in Siletz Dee-ni before European tools and subsequent technologies became available (57 & 58 below).

- (57) *mvlh-watlh-k'vs*
mvlh- watlhk'vs
 INS- drill.3SG.PRS
 'stone awl'

- (58) *si'-mvlh-taa-tr'oy-n-k'wvt*
si'-mvlh-taatr'oy-n -k'wvt
 hair-INS-comb-3SG.PRS-on.top.of
 'comb'

Table 6. *Mvlh* Neologisms

Siletz Term	Gloss	Literal Translation
ch'vstlh-telh <i>mvlh</i> lhe'-drvt	vacuum cleaner	floor INSTR is cleaned
ghu' <i>mvlh</i> yaa-get	toothpick	tooth INSTR poking into
ghu' <i>mvlh</i> -na'-drvlh-de	toothbrush	tooth INSTR cleaning
mi~sr-tuu- <i>mvlh</i> -na'-drvtlh-de	handkerchief	nose liquid INSTR cleaning
<i>mvlh</i> yuu-yer'sh-nay-tvn	whistle	INSTR whistling
<i>mvlh</i> -ch'ee-dra~	fork	INSTR eating
<i>mvlh</i> -ghaa-man's	wheel	INSTR being driven
<i>mvlh</i> -mantlh-gvs	key	INSTR locking
<i>mvlh</i> -mestlh-ghvs	lock	INSTR being locked
<i>mvlh</i> -stvt'-bitlh	scissors	INSTR clipping
<i>mvlh</i> -yaa-gur'sh	razor	INSTR shaving

With the exception of *ch'vstlh-telh mvlh lhe'-drvt* 'vacuum cleaner'²³, all of the post-contact neologisms that follow this pattern are smaller than a breadbox (59 & 60). (See Table 6, *Mvlh* Neologisms, for a full list.)

- (59) *mi~sr-tuu-mvlh-na'-drvtlh-de*
mi~sr-tuu- mvlh- na'<drv>- tlh-de
 nose liquid INSTR 3SG.PASS- clean
 'handkerchief' lit. 'nose liquid was cleaned'

- (60) *mvlh-mantlh-gvs*
mvlh- mantlhgvs
 INSTR lock.3SG.PRS
 'key'

²² *Mvlh* may also be used as a preposition translatable as 'with'; an alternate translation for (57) would be 'with (it) one drills'

²³ In the case of *mvlh-naa-yvtlh-get* 'store owner (lit. he/she/it sells)' (Table 4), *mvlh* is a bound morpheme, part of the root verb 'sell.'

For animate characters—kinds of people, other animals, and supernatural beings—the most important source of names is the action these beings perform habitually. While in other Athabaskan languages the nominalizer— *-ne* in Siletz Dee-ni—is obligatory in this situation, it is optional in Siletz (61 and 62).

Table 7. Nominalized VP Neologisms

Siletz Dee-ni Term	Gloss	Literal Translation
ch'ee-shvsh-ne	drunkard	one who drinks
char'nsh-t'as-ne	surgeon	one who opens a cut
dghvtlh-der'sh-ne	author	one who wrote
dghvtlh-shvsh-ne	alcoholic	one who is drunk
dvtlh-srii-ne	athlete	one who is training
me'-xwvtlh-yan'-ne	teacher	one who educates ²⁴
yuu-nvlh-ts'it-ne	student	one who learns

- (61) *chaa-may-yvstlh-sri~*
chaamay-yvstlhsri~
 herbs- make3PL.PST
 ‘Indian doctor’, lit. ‘they made herbs’

- (62) *me'-draa-k'vsh-ne*
me'-draak'vsh *-ne*
 on- harm.3SG.PASS- NMLZ
 ‘one who does harm’

New professional forms and other pursuits introduced by American society that were without equivalents in pre-contact Athabaskan society were often named in this way: *char'nsh-t'as-ne* ‘surgeon’, *dghvtlh-der'sh-ne* ‘author, actor’, *ch'ee-shvsh-ne* ‘drunk’. The full list of *-ne* Neologisms is represented in Table 7, above.

Distinctive physical characteristics are another important consideration in the naming of animate beings in Siletz. As commonly seen in other affixally polysynthetic languages (Brown 1994; Basso 1967), body parts often serve as morphemes in these constructions. Many adjectivals in Siletz may function syntactically as verbs, such that *duu shu*’, literally ‘not good,’

²⁴ An interlinear gloss reveals a further meaning: me'- xwvtlh- yan'- ne
 in made south NMLZ
 ‘one who is made in the south’

What this refers to is not clear.

is syntactically equivalent to ‘It’s not good’. Within animal names, it is common to see a combination of body part + 2SG pronoun + adjectival, as seen in (63) and (64):

- (63) *chii-nn-telh*
chii-nn-telh
 tail-2SG-flat
 ‘beaver’, ‘your tail is flat’
- (64) *da’-nn-ts’as*
da’- nn -ts’as
 mouth-2SG-repeating
 ‘raven’, ‘your mouth is repeating’

Though there are only two instances of post-contact neologisms following this pattern (65 & 66), it is an intriguing way of constructing neologisms, both highly descriptive and consistent with the attentive priorities dictated by the language’s classifier system.

- (65) *da’-nn-telh*
da’- nn- telh
 mouth yours is-flat
 ‘alligator’, ‘your mouth is flat’
- (66) *tuu-nn-chwa*
tuu- nn- chwa
 juice yours is-big
 ‘watermelon’, ‘your juice is big’

Table 8. Native and Acculturated Words following the Beaver Pattern.
 Acculturated items are in bold.

Siletz Dee-ni Word	Gloss	Literal Translation
<i>chii-nn'telh</i>	beaver	tail yours is-flat
<i>da'-nn'telh</i>	alligator	mouth yours is-flat
<i>da'-nn-ts'as</i>	raven	mouth yours is-repeating
<i>duu-nn-chwa</i>	small	neg. you is-big
<i>sree-k'hee-nnli~'</i>	slug	slippery you is
<i>ts'ee-nn-telh</i>	turtle/tortoise	bone yours is-flat
<i>tu'-nn'chwa,</i>	watermelon	liquid/juice yours is-big
<i>tuu-'i'-nn'chwa</i>		

Above, Table 8 collects these neologisms together with preexisting nouns of the Beaver Pattern.

3.4.2 Nominal Neologisms

Neologistic innovations constructed from existing noun phrases are incredibly versatile. Items in this category may be constructed of existing words of every shape and constitution: NP-based neologisms may rely on native linguistic resources alone (67), or combine a loanword with a native word (68), and have the eintre lexicon of the language to call upon for source material.

Table 9. NP-based Siletz Dee-ni Neologisms.

Siletz Dee-ni Term	English Gloss	Literal Translation
'ee-ch'vtlh-ghee-ne'	petroleum	earth oil
bii-nvs-tvr'sh-wvlh	peas	beans round
ch'ee-svn-tu	sugar	venison juice
ch'ins-lu see	tombstone	Dead stone
ch'ee-taa-ghee-buu-sri	tiger	forest cat
ch'ee-svn-t'uu-mvlh-sti	cake	sugar-with-made
la'-tv-t-k'vsh	pistol	hand bow
lhauk-taa-selh-yu	marijuana	funny tobacco
lhin'-chu	horse	dog big
lhin'-chu ch'ee-svn ²⁵	stud	dog big male
lhin'-chu wat	mare	dog big female
lhtin-sri~'-natlh-ni	superman	very strong man
mvsh-mvsh lhn-tr'e	heifer	moose-moose wife
mvsh-mvsh, mush-mush	cow	moose-moose
saa-svs mvr'sh-tan'-ne	non-Indian food	white man food
si'-lh-ts'uu	blonde, towheaded	hair yellow
si'-lhtsrik	redheaded	hair red
svtlh-kwa	gum	rubber ²⁶
k'wee-nayt-tr'vsh	blouse	on chest
tetlh-saa-bee-li	tortilla	flat bread

(67) *ch'ins-lu see*
ch'ins-lu see
 Dead stone
 'tombstone'

(68) *mvsh-mvsh svn'*
mvsh-mvsh svn'
 cow meat
 'beef'

In (67), both *ch'ins-lu* and *see* are native words. They have been combined to refer to a new burial practice, standard for the local white settlers, that was promoted by the American government and notably by Christian churches in southern Oregon and at the Coast Reservation. *Mvsh-mvsh svn'*, by contrast, invokes a loanword and combines it with a native term to produce a

²⁵ *Chee-svn'* or *ch'ee-svn* is one one of the more polysemous two-syllable items in the Siletz Dee-ni language. Alone, it means *deer, male animal, male elk, deer meat, or spouse of a female animal*. It can also refer to *deer oil (ch'ee-svn' mvlh-ghee-ne')*, *stud* (as in a fertile male horse— *lhin'-chu ch'ee-svn*), *sugar (ch'ee-svn-tu)*, or *cake (ch'ee-svn-t'uu-mvlh-sti)*.

²⁶ From *svtlh-k'waa-k'ay- 'vn'-t'e*, glossed as 'rubbery texture'

neologism that is consistent with the words for other kinds of meat: *lhuk-svn* ‘salmon meat’, *ch’ee-svn* ‘venison’, etc.

Nominal neologisms, even more so than verbal neologisms, begin as simple noun phrases. They become discrete lexical items through transmission, as speakers tacitly agree to call an object by a given name. If these neologisms were truly “circumlocutory devices,” one would expect to see individual speakers choosing their own ways of ‘talking around’ concepts, and so the terms would vary both between speakers, and between the instances of a single speaker. Disagreement over the “true” term or the existence of multiple words for a novel item comes with the territory when something new presents itself to be named. Agreement on one or two correct ways of referring to the item may take a generation, but that is not to say the language does not have a word for the item during that time: it is only to say that the language is evolving, as all living languages continually do.

4. Conclusion.

4. *Hii-du' waa-te wee-ni tes-ya*

In the past two hundred and fifty years, the CTSI, their ancestors, and their language have come through massive losses of human life through disease, war, mistreatment and murder; their hold on their cultural patrimony has been challenged repeatedly by forced displacement, residential schools, and termination. Of the many languages once spoken on the Coast Reservation, this one has survived to the present. During this time, Siletz Dee-ni has added well over 150 words to its lexicon, but the language still lacks many words contemporary CTSI members would want to be able to express themselves fully in Dee-ni. *Xvsh wee-ya*, 'the people's words,' have shown their power to adapt to the new and radically different cultural forms and items that European trading and American westward expansion brought with them without assimilating the language to English. Moving forward, the toolkit of lexical acculturation strategies that native speakers knew how to employ instinctively can be used to help Dee-ni to continue to live and grow. Hopefully, these strategies will once again become second nature for future children.

In such a small speech community, how many participants are necessary to create a new word? One person can generate a word, but for it to become a stable part of the lexicon, there must be at least two people. When a speaker can use a word or phrase to refer to an item, concrete or abstract, and the audience accepts and uses that same word or phrase to refer to that same item, it can be a word. The entry of a new item into the permanent lexicon of a language is dependent upon the agreement of the speech community that a set of linguistically significant sounds refers to that item; in essence, it depends on the audience recognizing the authority of the speaker to name it so.

Lexical acculturation is bound to occur in situations of direct contact between different cultural groups (Teske & Nelson 1974). While often associated with contexts of coercive acculturation, where “traditional” cultural patterns are usually weakened and sometimes destroyed, lexical acculturation itself is an important adaptive process. Today, the extreme majority of speakers of American Indian languages are bilingual in their Indian language and an Indo-European language (English in most of the United States, Spanish in much of Central & South America, etc.). For a threatened or endangered language to continue to be vital when its speech community has become a cultural minority, the language must have words for the cultural items, concepts, and patterns of the dominant cultural group. Otherwise, codeswitching between the dominant and minority languages will be necessary; a bilingual community will be difficult to sustain if there are no words for commonly used acculturated items in the minority language. But expanding a lexicon is a natural process, and a speech community has all of the tools it needs to build its own new words. The adaptive flexibility of lexical acculturation is a characteristic of all living languages, and one of the key qualities that makes them resilient.

Appendix A. Acculturated Lexical Items.

Table 1. Identified Loanwords in Siletz Dee-ni.

Source language is English unless otherwise noted. Information on Chinook Wawa from Powell (1990), Lang (1995) and Lane (2011)

Siletz Dee-ni Word	Siletz Dee-ni IPA	Source Language IPA	Source Language Word
'aa-le	ʔa:le	alɪv	olive
'ak-'v-muu-t'i	ʔakʔəmu:t'i	arəmɔbɪt	automobile
'ee-bvsh-k'at	ʔebəʃk'at	eɪprɪkət, æprɪkət	apricot
'ee-pvlh	ʔe:pəl	æpəl	apple
bat-la	badla	batl̩, badl̩, barl̩	bottle
bii-ch'vs	bi:tʃʷəs	pʰitʃɪz	peaches
bii-nvs, bii-narsh	bi:nəs, binaʃ	binz	beans
bit-ts'a	bitʃsa	pʰitzʌ, pʰitsʌ, pʰitsʌ	pizza
buu-sri, buu-si	bu:ʃi, bu:si	pʰusi	puss(y) (from English, informal for 'cat') ²⁷
bv-nee-lv	bəne:lə	vənɪtə	vanilla
bv-nee-nvsh	bəne:nəʃ	bənæ:nəz	bananas
ch'iis	tʃi:s	tʃi:z	cheese
ch'aa-muu-de'	tʃ'a:mu:deʔ	tʃamote	camote (Spanish, 'sweet potato')
ch'ii-k'vn	tʃ'i:k'v̩n	tʃɪkɪn	chicken
chaa	tʃa: or dʒa:	dʒɑɪ	jar
dv-mee-dvs	dəme:dəs	tʰəmerəs, tʰəmeɪros	tomatoes
gaa-be	ga:be	kafi (CW) < kafe (F) or ka:fi (E)	kaupi (Chinook Wawa 'coffee' < French café or English coffee)
guu-shu'	gu:ʃuʔ	goʃo (CW) < kojɔ̃ (F)	gosho (Chinook Wawa 'pig' < French cochon)
haa-kvs, hay-kvs	ha:kəs, haɪkəs	həgz	hogs (pigs)
k'uu-k'i	k'u:ki	kʰʊki	cookie
kaps	kʰaps	kʰaps	cops (police)
ken-di	kʰɛn.di	kʰæ:n.di	candy
kish-mvs	kɪʃməs	kɪsməs	Christmas
kr'ii-k'ii	k'ri:kʰi	grɛvi	gravy
mush-mush	muʃmuʃ	musmus	mus-mus (Chinook Wawa, cow) ²⁸
saa-k'vs	sak'əs	sakɪ	soccer
San-t'i	sant'i	səndɪ	Sunday
sdaa-k'vn	sda:k'v̩n	stakɪn, stakɪn	stockings (socks) ²⁹
shbvn'-yu	ʃbən'ju	spænɪrd	Spaniard (Spanish speaker)
ship	ʃɪp	ʃi:p	sheep
sutlh-yer'sh	sutʃjəs	sɔtʃɪjɪz	soldiers
tii-bii	ti:bi	ti:vi:	TV (television)

²⁷ Also possibly from Chinook Wawa *puss-puss* [puspus], although shifting from the Chinook term to the Siletz term would reintroduce the [i] found in the English term, suggesting that this is the less likely origin.

²⁸ It is not clear whether the Siletz Dee-ni word *mush-mush* was imported from Chinook Wawa or whether it was an independent invention. The English word *moose* is derived from one of the many variations on [mus] found throughout North American Indian/First Nations languages.

²⁹ The immediate source of *sdaa-k'vn* may be Chinook Wawa *stocken* [stakɪn]—once again, one can only conjecture whether the similarity between the terms is the result of borrowing from one Indian language to another or the result of similar phonotactic restrictions resulting in similar borrowings of the English term. Regardless, the original source language is English.

Table 2. More or Less Tentative Calques in Siletz Dee-ni.

Siletz Dee-ni Term	Gloss	Literal meaning
dghvtlh-shvsh-ne	drunkard (alcoholic)	one who drank
lhauk-taa ch'vt-d'ersh	humour book	funny book
nar'sh-xwvtlh-yee-dvn	sports season	time to play a sport
taa-ghar'sh-na me' daa-tr'vs-tin	water bed	water bed
xwvn-tuu-'i'	fire water (alcohol)	fire liquid/juice

Table 3. Post-Contact Semantic Extensions in Siletz Dee-ni.

Siletz Dee-ni Term	Gloss	Original Meaning of SD Term
ch'aa-gee-lvt	candle	a light
ch'ee-sii-ne	maiden	adolescent girl
ch'ee-s'is	bonnet	hat/cap
ch'utlh-ts'as-ne	lion	mountain lion (cougar)
ch'utlh-ts'as-ne	panther	mountain lion (cougar)
cha'-may-yvtlh-sri	doctor	Indian doctor (herbalist)
dan's-man's	ginger	wild Pacific ginger (<i>Asarum caudatum</i>)
dee-svk	dollar	whole thing
gaa-se	dishes	plate, open woven basket
gay-yu	cradle	baby basket ³⁰
ghu'	tusk	tooth
gus	potato	camas
guu	rice	maggot
k'wee-shvt-naa-gha	lawyer	mediator ('walks in between')
k'wee-si dvlh-gha	flask	half value ('fifty cents' worth')
lhauk-taa-selh-yu	marijuana	funny tobacco
lin'-ch'e'	pet	dog
me'-ch'vs-'an'	tipsy	buzzed; "feeling good"
selh-yu	cigarettes	tobacco
srvtlh-pvlh	shuttle (weaving)	gill net needle
trvlh-xvs or chvtlh-xvs	matches	material
waa-de, xas-chi	carrot	bulb, wild carrot (Indian carrot)
waa-ghii~-an'-dvn	PM	evening
xaa-ghii~-li~'	fountain	water running upward
Xaa-waa-la'-chi	Christ	The Creator ('the high one')
xvm-srvn	lawn	grass
yvlh-t'es	baking	cooking

³⁰ A soft baby carrier with a seat and open front, typically woven from hazel sticks and spruce root, carried in the arms or on the back using a tumpline (a woven strap). See photograph on cover page.

Table 4. VP-based Siletz Dee-ni Neologisms (Plain)

Siletz Dee-ni Term	Gloss	Literal Translation (if available)
char'nsh-nii~-t'as	surgery	opening a cut
ch'vt-t'ersh	letter (epistle)	written
daa-ch'vstlh-na	supermarket	things set out
daa-ch'vstlh-na	store	things set out
det-dghvtlh-ya	lighthouse	door light comes
din-tr'at wee naa-dvtlh-nvsh	physical therapy	ill health--how one gets better, 'aches are worked on'
gaa-mvs naa-t'ee-sla	tires	wagon going around
lhauk-taa ch'vt-dersh	funny book	funny is-written
lhch'an-ghvt'-an'	unicorn	split pointing up
lhee-naa-ghaa-dvtlh-nvsh	labor union	out walking working
mer'sh-tee-lalh	bedroom	inside one sleeps
mvlh-naa-yvtlh-get	store owner	he/she/it sells
nar'sh-xwvn-yee-dvn	sport season	playing a sport time
shtvn-nee-xuu-naa-da	UFO	strange things flying around, 'strange beings'
srii~-ghee-naa-t'a	airplane	high it flies
ts'vt-chghvtlh-der'sh	checks	cash has been written
ts'vt-mestlh-lhchvm's	wallet	cash in fabric
xan'-trvlh-ghe's cha-wvsh	suds	fast was washed scum
xwe'-t'e naa-ghe'-det-stan'	sunglasses	sunlight eye closed door
yii-ghee-'vtlh-srii~'	Spirit, the Holy	'hollow trees'; DEF.ART up makes

Table 5. *me' /min'* Neologisms

Siletz Dee-ni Term	Gloss	Literal Translation
gaa-see min' na'-yvtlh-t'e	dishwasher	plates inside are washed
me'-'aa-wvtlh-ts'it-dvn	school	inside to be knowing place
me'-ch'e'-dran	café	inside one eats
me'-ch'ee-tr'vlh-tes	kitchen	inside one cooks
me'-daa-tr'vs-stin' k'westlh-xat	quilt	bed spread out on a surface
me'-naa-draa-'a	telephone	into it one talks
me'-naa-stelh	two crust pie	<i>(unknown)</i>
me'-natlh-srii-'aa-dvn	theater	inside speaking place
me'-nee-stelh	one crust pie	<i>(unknown)</i>
min'-na'-tr'vtlh-lhts'a	dryer	inside it things are dried
wee-ya-me'-ch'ghvtlh-dersh	dictionary	words are written there
srak-me'-sla	bull	testicles inside

Table 6. *Mvlh* Neologisms

Siletz Term	Gloss	Literal Translation
ch'vstlh-telh mvlh lhe'-drvt	vacuum cleaner	floor INSTR is cleaned
ghu' mvlh yaa-get	toothpick	tooth INSTR poking into
ghu' mvlh-na'-drvlh-de	toothbrush	tooth INSTR cleaning
mi~sr-tuu-mvlh-na'-drvtlh-de	handkerchief	nose liquid INSTR cleaning
mvlh yuu-yer'sh-nay-tvn	whistle	INSTR whistling
mvlh-ch'ee-dra~	fork	INSTR eating
mvlh-ghaa-man's	wheel	INSTR being driven
mvlh-mantlh-gvs	key	INSTR locking
mvlh-mestlh-ghvs	lock	INSTR being locked
mvlh-stvt'-bitlh	scissors	INSTR clipping
mvlh-yaa-gur'sh	razor	INSTR shaving

Table 7. Nominalized VP Neologisms

Siletz Dee-ni Term	Gloss	Literal Translation
ch'ee-shvsh-ne	drunkard	one who drinks
char'nsh-t'as-ne	surgeon	one who opens a cut
dghvtlh-der'sh-ne	author	one who wrote
dghvtlh-shvsh-ne	alcoholic	one who is drunk
dvtlh-srii-ne	athlete	one who is training
me'-xwvtlh-yan'-ne	teacher	one who educates ³¹
yuu-nvlh-ts'it-ne	student	one who learns

Table 8. Native and Acculturated Words following the Beaver Pattern.

Acculturated items are in bold.

Siletz Dee-ni Word	Gloss	Literal Translation
chii-nn'telh	beaver	tail yours is-flat
da'-nn'telh	alligator	mouth yours is-flat
da'-nn-ts'as	raven	mouth yours is-repeating
duu-nn-chwa	small	neg. you is-big
sree-k'hee-nnli~'	slug	slippery you is
ts'ee-nn-telh	turtle/tortoise	bone yours is-flat
tu'-nn'chwa,	watermelon	liquid/juice yours is-big
tuu-'i'-nn'chwa		

³¹ An interlinear gloss reveals a further meaning: me'- xwvtlh- yan'- ne
in made south NMLZ
'one who is made in the south'

Table 9. NP-based Siletz Dee-ni Neologisms.

Siletz Dee-ni Term	English Gloss	Literal Translation
'ee-ch'vtlh-ghee-ne'	petroleum	earth oil
bii-nvs-tvr'sh-wvlh	peas	beans round
ch'ee-svn-tu	sugar	venison juice
ch'ins-lu see	tombstone	Dead stone
ch'ee-taa-ghee-buu-sri	tiger	forest cat
ch'ee-svn-t'uu-mvlh-sti	cake	sugar-with-made
la'-tvt-k'vsh	pistol	hand bow
lhauk-taa-selh-yu	marijuana	funny tobacco
lhin'-chu	horse	dog big
lhin'-chu ch'ee-svn ³²	stud	dog big male
lhin'-chu wat	mare	dog big female
lhtin-sri~'-natlh-ni	superman	very strong man
mvsh-mvsh lhvn-tr'e	heifer	moose-moose wife
mvsh-mvsh, mush-mush	cow	moose-moose
saa-svs mvr'sh-tan'-ne	non-Indian food	white man food
si'-lhts'uu	blonde, towheaded	hair yellow
si'-lhrsik	redheaded	hair red
svtlh-kwa	gum	rubber ³³
k'wee-nayt-tr'vsh	blouse	on chest
tetlh-saa-bee-li	tortilla	flat bread

Appendix B. Phonetic Analyses.

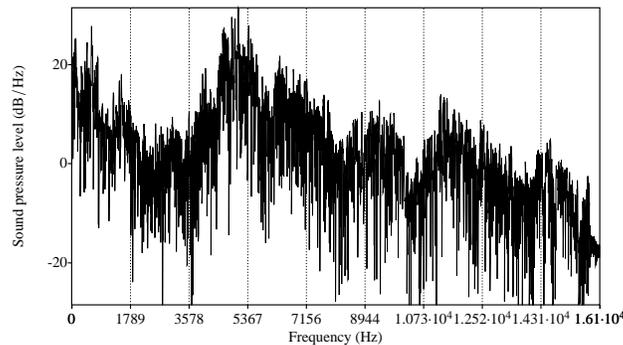


Figure 5. Spectral Slice of [s]. Center of Gravity ≈ 4400 Hz

³² *Chee-svn'* or *ch'ee-svn* is one one of the more polysemous two-syllable items in the Siletz Dee-ni language. Alone, it means *deer*, *male animal*, *male elk*, *deer meat*, or *spouse of a female animal*. It can also refer to *deer oil* (*ch'ee-svn' mvlh-ghee-ne'*), *stud* (as in a fertile male horse— *lhin'-chu ch'ee-svn*), *sugar* (*ch'ee-svn-tu*), or *cake* (*ch'ee-svn-t'uu-mvlh-sti*).

³³ From *svtlh-k'waa-k'ay- 'vn'-t'e*, glossed as 'rubbery texture'

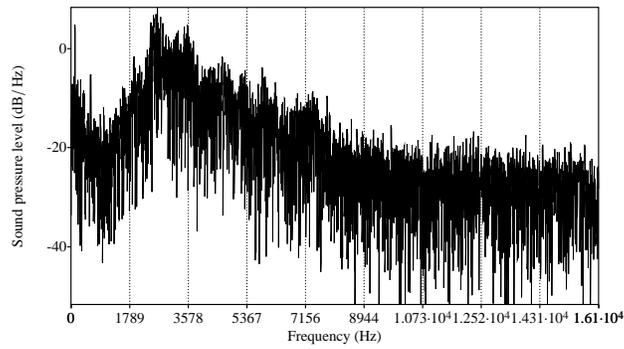


Figure 6. Spectral Slice of [ʃ]. Center of Gravity ≈ 3400 Hz

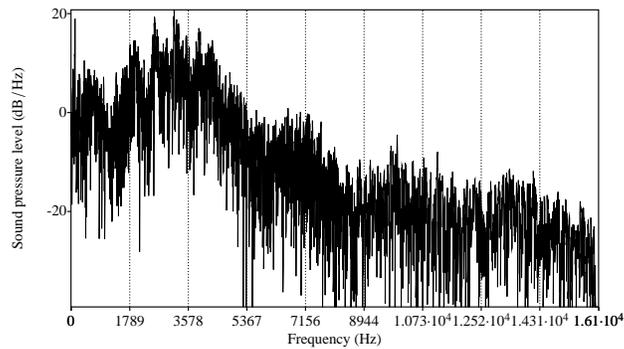


Figure 7. Spectral Slice of <sr> [ʂ]. Center of Gravity ≈ 3000 Hz

Table 10. Observed Consonant Shifts

Shift	Number of Instances	Example Loanwords
Elimination of [ʈ]	5	
ʈ → ʈ	1	'ee-pvlh
ʈ → l	2	bat-la, bv-nee-lv
ʈdʒ → tʃ	1	sutlh-yer'sh
ʈ# → ø#	1	'ak-'v-muu-t'i
Shifts among [LAB] [+CONS]	6	
V[v]# deletion	1	'aa-le
v → b	2	tii-bii, bv-nee-lv
p → b	2	bit-ts'a, bii-ch'vs
f → b	1	gaa-be

Elimination of [ɹ/ɻ]	6	
Deletion from sequence	2	‘ee-bvsh-k’at, kish-mvs
C[ɹ]V		
ɹ# → əs	1	saa-k’vs
ɹz# → əs#	1	sutlh-yer’sh
jɹd → ju	1	shbvn’-yu
Elimination as final C	1	ch’aa
[z] Devoicing/PoA changes	8	
z# → s#	5	bii-ch’vs, ch’iis, bii-nvs, haa-k’vs, hay-k’vs
z# → ʃ#	1	bv-nee-nvsh
z# → sʃ#	2	bii-narsh, sutlh-yer’sh
Affricate Devoicing	2	
d͡ʒ → t͡ʃ	1	ch’aa ³⁴
t͡d͡ʒ → t͡t͡ʃ	1	sutlh-yer’sh
Other observed changes among [+CONS] [-CONT] ³⁵		
k → k’	5	chii-k’vn, sdaa-k’vn, haa-k’vs, saa- k’vs, ‘ee-bvsh-k’at
g → k, k’	3	kr’ii-k’ii, haa-k’vs, hay-k’vs
t → d	2	ch’aa-muu-de, sdaa-k’vn
d → t’	1	San-t’i
r → d	2	dv-mee-dvs, bat-la
r → k	1	‘ak-‘v-muu-t’i
ɱ → ɱ̥	1	sdaa-k’vn
V[n.j]C → V[n̥.j]V	1	shbvn’-yu
Other Isolated Shifts		
v → k	1	kr’ii-k’ii
s → ʃ	1	shbvn’-yu

³⁴ Some families from Upper Rogue/Galice Creek communities may have retained the [d͡ʒ], which is included as an alternate pronunciation in Table 1.

³⁵ I am not marking a total for changes observed in this category because it is, essentially, a catch-all; it is provided for reference and transparency. The same is true of ‘Other Isolated Shifts’.

Table 11. Observed Vowel Shifts

Shift	Number of Instances	Example Loanwords
Vowel Raising	11	
æ → e	3	bv-nee-nvsh, 'ee-pvl
ɪ → i	2	ch'ii-kvn, kish-mvs
eɪ → i	2	kr'ii-k'ii, Sant'i
o → u	2	guu-shu', ch'aa-muu-de
ɔ → ə ³⁶	1	'ak-'v-muu-t'i
ʊ → u	1	k'uu-k'i
Vowel Lowering	4	
ɪ → e	2	bv-nee-lv, 'aa-le
ə → ɑ	2	bit-ts'a, Sant'i
Eng. Stressed Syll. → Siletz VV	11	dv-mee-dvs, sdaa-k'vn
#V → ?V	4	?ak?əmu:t'i, ?ebəʃk'at

Category totals for Tables 10 and 11 are marked in bold.

³⁶ Based on the English pronunciation *automobile* [ɑrəməbɪl]; some English speakers prefer [ə] to [ɔ].

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