

Learning from *Q^wi·q^wi·diččaq* ‘Makah’ story:
Collaborative analysis and emergent linguistic lessons

by

Erin Hashimoto

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I acknowledge and respect the Lək^wəŋən (Songhees and Esquimalt) Peoples on whose territory the university stands, and the Lək^wəŋən and WSÁNEĆ Peoples whose historical relationships with the land continue to this day.

Supervisory Committee

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Abstract

Archival and legacy materials have become important resources for many language revitalization and reclamation programs to support the reawakening of sleeping languages (baird 2013; Baldwin & Costa 2018; Lukaniec 2022) or to maintain relationships with past generations of speakers (Hill 2024). This thesis centers around one such legacy recording in Q^wi·q^wi·diččaq (Makah language) which shares a well-known Makah oral story, “Raven and Crow,” as told by first language speaker, Ruth Claplanhoo.

Working alongside Maria Hita·ʔa·ʔoʔ Pascua in her role with the Makah Language Program and Makah Cultural & Research Center, this research transforms the original story recording into accessible materials that can be adapted for current and future speakers, learners, and teachers while simultaneously addressing the limited availability of analyzed stories and texts in Makah. By developing a method for Collaborative Analytical Storywork (described in Chapter 2), Maria and I were able to create transcriptions, translations, morphological analyses, and time-aligned resources which respond to the variety of interests, challenges, and language-learning goals within the Makah language community (Chapter 1). In Chapter 3, I connect the conversations that emerged through my and Maria’s engagement with the “Raven and Crow” story to existing Wakashan literature and present the lessons about Q^wi·q^wi·diččaq that this story teaches us (or questions that it poses). Chapter 4 offers potential applications of this research in Makah language revitalization and suggests new topics and possibilities for future researchers.

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Abbreviations and Symbols

Glossing abbreviations

1	First person	INCEP	Inceptive
2	Second person	INCR	Velar Increment
3	Third person	INDEF	Indefinite
APPEN	Appended vowel	INDIC	Indicative
ASSER	Assertive	INFER	Inferential
ART	Article	INTENT	Intentive future
BFR	Buffer consonant (-q-)	ITER	Iterative
CAUS	Causative	MIR	Mirative
COND	Conditional	NFR	Needs Further Research
CONT	Continuative	PAST	Past
CONTENT	Content Interrogative	PERF	Perfective
DEM	Demonstrative	PINV	Passive-inverse
DIM	Diminutive	PL	Plural
DISTR	Distributive	POSS	Possessive
DUB	Dubitative	QUOT	Quotative
DUR	Durative	RED	Reduplicated
EMPH	Emphasis	ref.stem	Referential stem
EPEN	Epenthetic	REP	Repetitive
FUT	Future	RESP	Responsive
GOIMPER	'Go' Imperative	SG	Singular
GRAD	Graduative	SUBOR	Subordinate
HAB	Habitual	TEMP	Temporal specifier
IMPER	Imperative	VOC	Vocative

Makah speaker providing an example:

KH	Katie Hunter
HI	Hildred Ides
MR	Mabel Robertson
MP	Maria Pascua
NB	Nora Barker
RL	Ralph LaChester
RC	Ruth Claplanhoo
VJ	Viola Johnson

Morpholexical diacritics

- boundary between affix and base
- = boundary between clitic and host
- < > infix or epenthetic vowel
- V· long vowel (underlying or surface)
- V: underlying persistently long vowel
- V(·)>> emphatic lengthening
- ʔ =ʔ glottalizing suffix or clitic
- ˘ leniting suffix
- =° mutating clitic
- q- buffer consonant
- [L] indicates a long syllable (caused by affix-associated CV template)
- [R] reduplication (caused by affix-associated CV template)
- [S] shortening (caused by affix-associated CV template)
- [L + S] indicates lengthening of V₁ and shortening of V₂ (i.e. of the first and second syllable) of the word (caused by affix-associated CV template)

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This thesis would not be possible without the past contributions and continued work being carried out by the Q^wi·q^wi·diččaq speech community; thank you to Makah Elders, speakers, teachers, speaker-learners, and all those who have supported them. Many thanks to Maria Pascua, for your invaluable partnership and for being such an inspiring, humble teacher of Q^wi·q^wi·diččaq and leader for your language. I am in awe of all the work that you do and the care that you put into it. I'm so grateful to have done this work with you.

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Dedications

This thesis is dedicated to the generations of Qʷidiččaʔa·tš past, present, and future who have made this work possible and who guided and motivated every step of this process with the anticipation of what's still to come.

I also dedicate this thesis to my late grandma, Sally (Setsuko) Hashimoto. My memories of you teaching me words and songs in Japanese and the stories of your life that you shared with me are what make me believe so strongly in this work.

Chapter 1: Introduction and Background

This thesis research set out to transcribe, translate, gloss, and analyze a version of the Raven and Crow story in the Makah language as told by Ruth Claplanhoo and recorded by Melissa Peterson on behalf of the Makah Language Program in 1982. To accomplish this work and research, this thesis investigates two main questions: First, how can the archived recordings and documentation created by Elder speakers be transformed to invite present and future language speakers, learners, or teachers to engage with them and support community goals for language revitalization? And second, how can a collaborative research process improve research outcomes and provide insight into Elder speakers' language use to facilitate the emergence of topics that require further linguistic research or analysis? This research method, henceforth termed Collaborative Analytical Storywork¹, and the resultant analysis developed by me and Maria Hita·ʔa·ʔoʔ Pascua (Makah Cultural & Research Center's (MCRC) language specialist), seeks to provide a resource for Makah language teachers and learners or to serve as a departure point for the development of more specialized language lessons. In addition to these more applied, pedagogical uses, the research process also creates an opportunity for further questions about Q^wi·q^wi·diččaʔ to emerge where there are remaining uncertainties within the story analysis. By further researching topics that underlie these questions, this research also contributes to linguistic knowledge and description of Makah as spoken by a first-language speaker and to how this may relate to knowledge of other Southern Wakashan languages. Although the Makah language is the focus of this research, it is only one component of the Makah Tribe's heritage. This chapter therefore begins by providing the necessary context for the linguistic work that follows with overviews of the Q^widiččaʔa·tš (Makah people) (§1.1.1), their language, Q^wi·q^wi·diččaʔ (§1.1.2), its relation to other Wakashan languages and nations (§1.1.3), and existing Makah language materials and research (§1.1.4). Subsequent sections provide background specific to the current research

¹ Thank you to Dr. Ewa Czaykowska-Higgins for suggesting this descriptive and succinct term for the method developed as part of this thesis research.

project by positioning the people involved (§1.2), the research questions we address (§1.3), and a literature review of foundational topics that intersect to inform this thesis (§1.4). Chapter Two describes the methodologies and methods of this project and Chapter Three presents the glossing and analysis developed through this research approach. Chapter Four provides final reflections and conclusions.

1.1 The Makah Context

1.1.1 *Qʷidiččaʔa·tš* (Makah Tribe²)

The *Qʷidiččaʔa·tš* are located at the most north-westerly point of what is currently Washington state, U.S.A. Historically, there were five permanent Makah villages: *Biʔidʔa* (Bahaada), *Di·ya* (Neah Bay), *Waʔač* (Waatch), *Ću·yas* (Sooes), and *ʔUse·ʔit* (Ozette) (Peterson & Makah Cultural & Research Center [MCRC] 2015). Wessen (2019:4) describes the traditional land-based territories of the *Qʷidiččaʔa·tš* from Cape Flattery extending southward “beyond Cape Alava” and, traveling east, “at least as far as the Hoko River”. Also, to the northwest of the mainland off of Cape Flattery, there is Tatoosh Island. Wessen (2019:4) also highlights that “all Makah settlements were located on, or close to, marine beaches” in the 1800s, which reflects the importance of waters to Makah society (see also Reid 2015). Makah place names range from Cape Johnson on the Pacific coast to Lyre River along the strait to the east, and waterways extending north to the La Perouse Bank offshore from Ucluelet (Renker & Parker Pascua 1989). The Makahs have continued relationships using the many waterways in the region to stay connected with the *paaʔčiidʔatx* (Pacheedaht) and *diiitidʔaaʔtx* (Ditidaht) and other Nuu-chah-nulth nations along the west coast of “Vancouver Island” (see §1.1.2). The Makahs are also neighbored by the *nəxʷsʰááyə́m* (Klallam/S’Klallam) to the east and Quileute to the south, along with the *Chalá·at*: (Hoh), *Queets*, and *kʷínaył* (Quinault)

² *Makah* is the name most commonly used for this tribe in English and comes from the name used by the Klallam nation during the Treaty of 1855 (Goodman & Swan 2003). The word *maq’áh* (Coast Salish) is translated as ‘you never leave here without being full’ (Goodman & Swan 2003:308). The tribe’s name for themselves, *Qʷidiččaʔa·tš*, has a meaning of the ‘people of qʷidičča’ (Davidson 2002:349; Renker & Gunther 1990:429). This has been translated to mean “people who live at the cape” (McMillan 1999) or “people who live near the rocks and the seagulls” (Renker, n.d.). Both Makah and *Qʷidiččaʔa·tš* are used in the community today and will be used interchangeably within this thesis.

Peoples (Goodman & Swan 2003). The diversity, economies, and interrelationships in this region resulted, historically, in high degrees of bilingualism or even multilingualism with Chinook Wawa (Chinook Jargon) serving as a regional language of trade (Peterson & MCRC 2015).

European arrival in Makah territories took place in the 1770s; however, it was not until the 1850s that a prolonged European presence was established in the area (Goodman & Swan 2003; Tweedie 2002). As more Europeans arrived in the region to conduct trade, new diseases also came to Makah territories. Illnesses such as smallpox, tuberculosis, and whooping cough resulted in the loss of 50-66% of their national population and left unimaginable gaps in families as well as interfering with the regular transfer of songs, dances, and traditions (Iritani 1994; Peterson & MCRC 2015; Tweedie 2002). This dramatic shift in the number of Makahs and European traders and settlers in the region—exacerbated by the creation of the Washington territory by U.S. Congress in 1853—led to the Makahs’ entry into treaty negotiations (Goodman & Swan 2003). At the beginning of 1855, the Treaty of Neah Bay was negotiated by 42 Makah representatives from each of the Makah villages and the state Governor Isaac I. Stevens on behalf of the United States of America (Goodman & Swan 2003; Peterson & MCRC 2015). This document gained the Q^widiččaʔa-tš federal recognition as a tribe today and secured a number of important protected rights (Treaty of Neah Bay, 1855). Through negotiations, the Makahs ceded more than 300,000 acres of land, and in return, the United States assured protections of health, education, and welfare for the Makahs and that their inherent rights to fish, seal, and whale would be protected as well (Peterson & MCRC 2015).

Once the treaty was ratified, the U.S. government-imposed laws that sought to assimilate the Makahs. Some laws mandated children to attend colonial day or boarding schools (discussed further in §1.1.2) and other laws banned important social events, such as the potlatch, which was in effect from the late 1800s until 1934 (Walker 2018). However, Tweedie (2002) cites an Indian agent in 1882 and another in 1931 that were both facing resistance from the Makahs with regards to this assimilatory law. The Q^widiččaʔa-tš had, what Maria Pascua (2020:87) calls “the canoe advantage”. Because local Indian Agents

relied on hiring a Native canoe for water transport, the Makahs would travel to Tatoosh Island just off the coast of Cape Flattery so that they could continue hosting potlatches (Renker, n.d.). Pascua (2020:45) also shares that birthdays, anniversaries, or Christmas became popular ways to participate in gift-giving and culturally significant feasts to reaffirm ties without being seen as participating in potlatch.

In more recent history, the archaeological excavation of Ozette began in 1970 is often pointed to as a major contributor to the contemporary push towards more explicit action to revitalize and reclaim language and culture at Neah Bay (Bowe chop & Erikson 2005; Tweedie 2002). The way that the Ozette excavation was conducted was a key decision in a series of continuing actions within the community for Makahs to define their own narrative and reclaim their ancestral knowledge and identities. Over the course of this 11-year archeological project, thousands of Makah belongings were recovered (Renker & Arnold 1988). Shortly after the excavation had begun, the Makahs realized the need to maintain physical ownership and control of these artifacts while also being able to interpret histories attached to them from their own perspectives (Bowe chop & Erikson 2005). This meant that the Makahs needed a museum. After applying and advocating for funding, the Makah Cultural and Research Center (MCRC) officially opened in 1979. Makah-led institutions, like the MCRC and the Makah museum, have resulted in new physical spaces and domains to reclaim and preserve Qʷi·qʷi·dičča q (Makah language) and Makah ways of thinking. Specifically, Bowe chop & Erikson (2005:268) illustrate how decolonization of the MCRC's collection management system allows the museum to become a site that goes "beyond the preservation of artifacts to the preservation of a *living culture*" (emphasis original). Historical and ongoing community-guided action and decisions such as resistance to the potlatch ban, ownership and control over materials recovered from the Ozette excavation, and the development of the MCRC and their collections management system each highlight the Makahs' resistance to colonial attempts to disconnect the Makah people from their knowledge, culture, and language.

1.1.2 *Qʷi·qʷi·diččaŋ (Makah language)*

As alluded to in the previous section, another aspect of the assimilative policies implemented by the U.S. government was the use of education as a means to try to remove Makah children from their families, cultures, communities, and languages. Day school was first established in Di·ya in 1863, and during the same year the Neah Bay Indian Agency was also introduced (Goodman & Swan 2003). In response, families from Waʔač, Ču·yas, and ʔUse·ʔiŋ moved to Di·ya and Biʔidʔa where the government schools were located so that their children could go to school but still live with them (Pascua 2020:5). These institutions aimed, in tandem, to stop Makah traditions by first forbidding the use of Qʷi·qʷi·diččaŋ at school and then by also turning local schools into boarding schools in 1874 (Goodman & Swan 2003:34) so that children would be required to live away from their families. Subsequently, the U.S. government mandated that Makah children were sent even further away to Cushman in Tacoma and Tulalip or sometimes as far as Chemawa in Oregon (Pascua 2020:6). In response to this further removal of children from their families, Luke Bakištab (Markishtum) Sr. sold a portion of land within the reservation to Washington state so that a local public school could be built at Neah Bay in 1932 (Pascua 2020; Peterson & MCRC 2015). With the establishment of a public school, children were able to return and stay in Neah Bay to learn. Pascua (2020:65) emphasizes that Qʷi·qʷi·diččaŋ “did not disappear quickly or entirely during the Indian Boarding School period,” which is a testament to the efforts made by individual speakers, families, and the community at-large to reduce the impacts of assimilatory education.

Revitalization of Qʷi·qʷi·diččaŋ has been underway at Neah Bay for many decades with continuing work to expand the language program. Informal Makah language lessons were offered starting in the 1960s and the establishment of the Makah Language Program (MLP) in 1978 allowed for official language classes to become part of local schooling (Barrett 2007:5). The MLP was established as part of the MCRC with three stated goals:

1. To preserve the Makah language
2. To restore the Makah language to spoken fluency [and]
3. To educate [Makah] children and people as scholars, able to compete anywhere in today's world and yet maintain their Tribal heritage (MCRC, n.d.)

Nowadays, Makah is taught in elementary and secondary schools to a growing population of children.

There are currently 432 students (74 preschool, 181 elementary, and 177 secondary) involved in the language program (Pascua 2020:14). Although there are many young people learning Q^wi·q^wi·diččaq at schools, Pascua (2020:14) estimates there are 38 speaker-learners using Makah beyond the classroom to communicate. At schools in Neah Bay, Makah language courses are offered as a subject with a variable number of hours of instruction depending on the grade level with most classes meeting two to three times each week (Pascua 2020:15). As of 2022, Maria Pascua has also developed and begun teaching three introductory levels of post-secondary language courses (MAKAH 121, 122, 123) where she teaches Q^wi·q^wi·diččaq to students remotely over Zoom in association with Peninsula College (Peninsula College 2024). These classes are two hours long and held twice per week.

Pascua (2020:15) also indicates that there are approximately 10 adults who participate in evening language classes, contributing to a total of 16 active adult speakers which includes language teachers, previous MLP staff, and other adults. These programs and speaker-learners however, face unique challenges which Pascua (2020) describes primarily in terms of the MLP's capacity to also fully support adult learners' needs. She deconstructs this general challenge into more specific root causes as follows:

- 1.) Adult speakers working as teachers with existing skills in Q^wi·q^wi·diččaq have limited time to continue building their proficiency, develop curricula or new pedagogical resources, or practice speaking with others;
- 2.) There are not enough teachers to deliver adult classes in the evening on top of the normal demands of teaching the younger people at school during the days;

- 3.) The broader variety of language backgrounds, lifestyles, needs, and goals among adult learners pose challenges to scheduling, setting appropriate curricula, and designing language resources that cover the topics and attend of individual language goals; and
- 4.) Funding for adult programs is grant-based and therefore is not always consistently available (Pascua 2020:15-17).

Furthermore, in the past, more advanced adult language learning was done using the Master-Apprentice Program which had mother tongue Makah speakers teaching and practicing with learners but which is no longer possible. Though some resources have been created to address some of these challenges (e.g., Pascua 2020) and classes continue to be offered when possible, the goal of creating speakers from adult courses (Pascua 2020:18) has not yet been reached.

Another important part of the context when engaging in Makah language work is the proportion of enrolled Makah tribal members who live in the reservation community. Although there are 2,900 enrolled Makahs, only half of these community members are living in the Neah Bay area (Pascua 2020:14). This means that about 50% of the community who have Q^wi·q^wi·diččaq as their heritage language may not have the same level of physical access to the language programs and education offered on the reservation. This informs the importance of having new materials digitally accessible and intuitive for independent language learners of different ages, interests, and familiarity with their language.

In addition to their role in Makah language education, the MLP is also tasked with language research, planning, and documentation analysis. One of the MLP's first tasks completed toward these goals was the development of a standardized orthography in 1978. The orthography uses characters based in the International Phonetic Alphabet and North American Phonetic Alphabet and was collaboratively created and agreed upon with a core group of Makah Elder speakers (Pascua 2020:3). The standardization of Makah writing conventions to accurately portray the sounds of Q^wi·q^wi·diččaq facilitated the MLP's recording of word lists with L1 speakers between 1978–1979. The development of an

orthography and documentation of L1 speakers are both important aspects of corpus planning in the Makah context because they laid a foundation for a path to adapt the Makah language into written teaching materials and books to be shared in the community. For example, another version of “The Raven and the Crow” story was published in 1982 and presented as a coloring book that includes the telling of the story in English with select Makah vocabulary.

Written Makah is also used by the MCRC as part of their collection management system (mentioned briefly in §1.1.1). This system uses Q^wi-q^wi-diččaq to label artifacts in the MCRC collection and inspired the physical grouping of items that shared Makah roots and/or suffixes which enables a deeper analysis of meanings or ways to think or know in Q^wi-q^wi-diččaq, according to Bowe chop & Erikson (2005). They also offer a story from former collections manager, Jeffrey Mauger:

“...We noticed that a number of names are starting with [λa], and we physically collected [canoe paddles, wedges, and chisels] we had to physically break out of our own English thinking... We had to put them beside each other... [and ask], “what do these have in common?”

When this happened, the staff observed that all of these tools “shared a working surface that was perpendicular to the plane of action.” Linguistically, the staff’s observation validates Davidson (2002:425), which defines one meaning of this root form as referring to a “pole-like object in vertical position” but creates opportunities for people to make direct connections between objects and meaning-making in Q^wi-q^wi-diččaq.

1.1.3 *Wakashan language family*

The Makah language is part of the Wakashan language family (Figure 1). Most of these languages are spoken further up the west coast of so-called “Vancouver Island” and mainland of “British Columbia”, but Makah is the only Wakashan language spoken in territories that are now the U.S.A. The Wakashan language family includes seven languages and is subdivided into two main branches: Northern Wakashan

and Southern Wakashan. Northern Wakashan languages include Kwakwaka, 'Wuikala (Oowekyala), Xenaksialakala/Xa'islakala (Haisla), and Haiḡzaqvla (Heiltsuk). Southern Wakashan languages include Diiḡdiitidq, Nuučaaḡuḡ, and Qʷi·qʷi·diččaq.

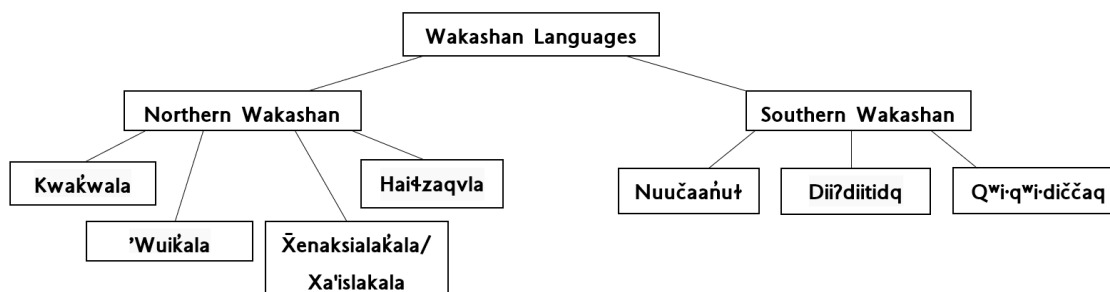


Figure 1: Wakashan language family, (based on Dunlop, Gessner, Herbert, and Parker 2018)

The paaḡčiidḡatx (Pacheedaht) and diitidḡaaḡtx (Ditidaht) are often considered some of the Makah Tribe’s closest relatives; they live across the Juan de Fuca Strait and speak diiḡdiitidq (Pascua 2020:12). Other Nuu-chah-nulth nations who speak Nuučaaḡuḡ are situated along the west coast of Vancouver Island. These nations are closely related to the Makahs and share many traditions, stories, cultural practices, and linguistic similarities (Coté 2010; Pascua 2020; Titian 2019). The introduction of the colonial border drawn between the Southern Wakashan nations in particular has negatively impacted their close relationships. For a discussion of the proposed interrelationships between these nations based on linguistic analysis, see Jacobsen (2007).

1.1.4 Previous Research

The earliest archival records of Qʷi·qʷi·diččaq are housed at the American Philosophical Society. Here, there is an extensive lexicon transcribed by Boas (n.d.) that consists of over 730 index cards of individual words. There is also a shorter list of irregular Makah plural forms, formatted by Morris Swadesh (ca. 1930s) and a copy of Swadesh’s field notes from one week spent in Di·ya during the summer of 1949. The notebook includes word lists, and two short Makah narratives: one about the character of Kweti told by Mollie Caplanaho (translated by Swadesh), and another about the Makah Tribal Council shared by Charlie

Swan. The information shared by Swan in Q^wi·q^wi·diččaq was partially transcribed by Swadesh and is accompanied by a 14-minute recording of his account from a wire recorder.

Other limited earlier work has been archived with different repositories in Washington state, such as the Washington State University Libraries' Manuscripts, Archives, and Special Collections (MASC), Western Washington University, Center for Pacific Northwest Studies, and the University of Washington Libraries, Special Collections. Among the materials held in these places, there are Makah songs shared by Alice Kalapa in 1954 (Northwest Ethnohistory collection, 1790–1999), various sound recordings from 1952 and 1972 (Melville Jacobs papers, 1918–1978), 1958 recordings with Jack LaChester, and excerpts of Makah Days dances, and songs shared by Helma Ward in 1972 (Peck Collection of Northwest Coast Indian Life, 1958-2000).

The California Language Archive (CLA) at the University of California, Berkeley also holds 34 audio recordings created during Dr. Elizabeth Colson's visit from 1942-1943 as well as a large collection of the legacy materials recorded by Dr. William H. Jacobsen. The collections related to Jacobsen's research include approximately 72 sound recordings (over 25 hours) as well as several notebooks which contain elicitations and, sometimes, corresponding transcriptions and translations for the audio materials. His fieldwork began in 1962 while on the faculty at the University of Washington (Jacobsen 1997b:573) and his latest archived elicitations date to October 1997.

Subsequent research and language work was contributed by Dr. Ann Renker. She initially came to Neah Bay under the employ of the MCRC in June 1980 to conduct a language survey (Renker 1987:29). She lived locally during that month and joined the MLP staff in the linguist role from 1982-1983 then went on to become the Director of the MLP until 1985 when she stepped away to write her dissertation (Renker 1987:4). After receiving her PhD, Renker returned to Neah Bay and worked in roles with the MCRC and later as the principal of Markishtum Middle School and Neah Bay High School (Ann Renker PhD, n.d.).

Dr. Matthew Davidson is another researcher who visited Neah Bay over 13 months from 1996 to 1997 and documented a vast record of Qʷi·qʷi·diččaʷ as part of his dissertation research (Davidson 2002:2). Cassettes and transcripts of elicitation work done between him and Helma Ward add up to about 15 hours of audio recordings and 38 pages of transcripts held at the University of Washington Libraries, Special Collections. Davidson’s dissertation (2002) remains the most comprehensive description of Makah grammar that has been written to date. However, due to the limitations around what was understood about Qʷi·qʷi·diččaʷ at the time, the dissertation was first developed as a grammatical sketch of Nuuchah-nulth based around the Sapir and Swadesh (1939; 1955) text collections. After writing the initial description of Nuuchah-nulth, the dissertation was expanded to include Qʷi·qʷi·diččaʷ examples, and where needed, further augmented to describe linguistic features specific to Makah.

The MCRC Archives have also aimed to retain copies of all materials and publications created by researchers in relation to their language. Furthermore, the MCRC Archives hold recordings created by the staff of the Makah Language Program who worked closely creating documentation of their Elder speakers from 1978–2002 (p.c. Pascua). Although an inventory of these materials is not digitally accessible to the public, there are many other stories, conversations, or resources that have been shared, recorded, and written by members of Makah tribe for the MLP and the Tribe’s own archives. Pascua’s (2020) Master’s project also reflects research and work creating a series of conversational dialogues in Makah designed to suit localized contexts (e.g., cheering on their children’s sports teams, potlatch, or visiting the local store, clinic, or beach). These dialogues have been published by the MCRC in a booklet with additional photos that can be shared in a physical format.

1.2 Positionality

Research and the researcher’s relation to it can inform a researcher’s questions, motivations, approach, and conclusions. Therefore, sharing a description of these personal foundations recognizes how a researcher’s experiences and learning may shape how we approach our work and helps to describe the

type of research that we may be best positioned to contribute to. In the following sections, I introduce Maria Pascua, without whom the current project would not be possible, and provide some information about my own background that informs my approach to this work. In this case, because of the nature of our research, I also take this space to first introduce Ruth Claplanhoo who shared the Raven and Crow story we engaged with.

1.2.1 Ruth Claplanhoo

Ruth Claplanhoo was born in 1902 and passed on in 2002 at 100 years old, living through many periods of significant change. Despite being forced into the boarding school system, Ruth was able to retain fluency in her first language, Makah, and continued speaking the language on regular occasions with her older sister, Isabell, who lived past 100 years of age as well. Helma Swan shares memories of Ruth as a singer (Goodman & Swan 2003:159) and Erikson (2003:535) passes along the accounts of Ruth and her sisters' basket-weaving in exchange for groceries from Washburn's store in Neah Bay. Ruth was a respected Makah Elder remembered for her knowledge and skills in basket weaving and speaking Makah. She contributed to the continuation of these aspects of Makah culture by teaching basket weaving in schools and sharing her linguistic and cultural knowledge with the MCRC and other researchers.

1.2.2 Maria Pascua

Maria Hita·ʔa·ʔoʔ Pascua locates herself in full in her own Master's project "Using Q^{wi}·q^{wi}·diččaq 'Makah' in our community: A dialogue approach for adult learners". Her self-location provides insight to her perspectives and experiences which I include here, briefly, in addition to my own introduction. Maria is from the Parker family and descends from Makah whalers whose ancestry comes from ʔUse·ʔit (Ozette) (Pascua 2020:2). She first learned Q^{wi}·q^{wi}·diččaq at school when she was younger and was fortunate to be able to learn the language more deeply with the support of her mentors: the late Rev. Hildred Ides, the late Irene Ward, and the late Helma Swan who spoke Makah as their mother tongue (Pascua 2020:vi).

Maria has been a part of the Makah Language Program since its inception in 1978 and team taught the language with an Elder speaker from 1980–1984 (Pascua 2020:3–4). She was later able to participate in the community’s Mentor-Apprentice Program through the 1990’s (Pascua 2020:4). Shortly thereafter, Maria began as an elementary teacher, but as the language program grew to include higher grades, these were the classes that she taught. She recently discontinued language teaching at Neah Bay High School and has since developed curricula for three introductory Makah language classes at Peninsula College. She teaches these post-secondary classes remotely twice a week.

Beyond her professional involvement in supporting language revitalization at Di·ya, Maria also brought Q^wi·q^wi·diččaq home and into her family life. Maria and her husband, Andrew, have five children who each grew up listening to Makah stories that provided them with an understanding of Makah culture (Pascua 2020:7). Their two youngest children were even raised in Makah language (Pascua 2020:8), giving Maria the opportunity to practice speaking and to continue learning. Maria’s younger sons achieved her level of proficiency at the time, and although English became the more commonly-used language as they grew up, they maintain a foundational understanding of the language today (Pascua 2020:8).

Maria is a driving force in the continued growth of the Makah language revitalization programs over the past decades and is recognized as a language specialist by the MCRC. She has been involved with a great deal of the linguistic research work conducted within the community in recent years (Renker 1987; Davidson 2002; Davidson & Werle 2010). She also completed her Master’s in Indigenous Language Revitalization at the University of Victoria in 2020 during which time she created a collection of Q^wi·q^wi·diččaq dialogues for adult learners that reflect activities in the community and Makah views and teachings. In our meetings, she talks about her visions for the development of new curricula and resources, and finding ways to share the work that she has done so that more people have the tools to make Q^wi·q^wi·diččaq a part of their lives. From my time working with Maria, she is a teacher and leader who embodies these roles through her patience, humility, and expertise in Makah language work which

includes a knowledge of Qʷi·qʷi·diččaq as well as an understanding of how language research will best serve the Makah Language Program.

1.2.3 *Erin Hashimoto*

I am a fourth generation Nikkei (Japanese Canadian) and English settler in “Canada”. I was raised in North Delta, B.C. on the stolen territories of Kwantlen, xʷməθkʷəyəm (Musqueam), Katzie, sčəwaθən məsteyəxʷ (Tsawwassen), and kʷikʷəłəm (Kwikwetlem) Peoples. Most of my post-secondary schooling took place in amiskwaciwâskahikan (Edmonton) on Treaty 6 territory. I began studying in the University of Alberta’s Department of Linguistics with the goal of supporting Indigenous language revitalization, so I also chose to complete my minor in the Faculty of Native Studies. During this time, I learned from a number of Métis, Cree, Dene, and Stoney Nakoda scholars and knowledge keepers with interdisciplinary specializations. Their perspectives allowed me to learn about law, relationality, politics, education, and literature all within the scope of my single undergraduate program and taught me the importance of not only engaging critically, but to also consider many types of thinking and knowing that can help us understand a single question or issue. Having these broad experiences of learning from multiple fields and teachers is something that I hope for all students interested in this type of research (see Demson 2022 for further exploration of what this may look like).

My first experience working with the Makah language and Maria Pascua was part of my undergraduate degree. Dr. Jorge Rosés Labrada originally identified the corresponding audio recordings and transcriptions at the California Language Archive and helped me to connect with Maria. With her support, I was able to conduct a short-term summer project under Dr. Rosés Labrada’s supervision, which enabled me to create a small corpus of time-aligned Makah (hi)stories shared by Ralph LaChester (Hashimoto & Rosés Labrada 2018). The transcription process made these stories digitally accessible to be searched, edited, and mobilized more easily as part of the local language program. This experience provided me with an opportunity to familiarize myself with the sounds of the language and some of

patterns and repeated words that appeared across the different stories. I am grateful to have the opportunity to continue working with these recorded stories and others alongside Maria to develop a deeper, shared understanding of Q^wi·q^wi·diččaq and Makah storytelling.

My approach to research is also greatly influenced by research assistantship work that I have been fortunate to be a part of. Early in my undergraduate program, I was invited to work as part of the Métis Kinscapes Project by Dr. Paul Gareau and Dr. Kisha Supernant to transcribe historical letters and census documents that allowed for reinterpretations of “Métis views on religion, Indigenous identity, history, and place using Lac Ste. Anne as a case study” and created opportunities for people today to retrace relational connections to “ancestors, places, and stories” (Métis Kinscapes Project 2024). This was my first introduction to the ways in which historical documents could have a place in contemporary community-led work in ways that differed from or even run counter to the documents’ original purpose. An assistantship in linguistics with Dr. Jorge Rosés Labrada also granted me the space to do more extensive reading on this topic as it relates to linguistics in preparation for the “Symposium on Historical-Comparative Linguistics for Language Revitalization”—a symposium co-organized by Dr. Rosés Labrada and Dr. Justin Spence in 2019. As a Master’s student, I have been involved with projects that incorporate archival or legacy materials toward the creation of dictionaries for Wendat (Dr. Megan Lukaniec) and nxaʔamxčín (Dr. Ewa Czaykowska -Higgins) and curricula for Wendat language teaching (Centre de Développement de la Formation et de la Main-d'oeuvre Huron-Wendat). Each of these projects have reinforced, for me, the many ways that these types of materials can be repurposed, renewed, and reintegrated in contemporary community research and broader community use.

1.3 Research Questions

This thesis investigates two main research questions: First, how can the archival documentation created by Elder speakers be presented and mobilized in ways that invite language speakers/teachers to engage with them with the goal of supporting revitalization? And second, how can a collaborative process of

transforming these legacy materials provide insight into Elder speakers' language use and facilitate the emergence of topics that require further linguistic research or analysis?

These questions came about through early conversations where the desire was expressed to better understand how first-language Makah speakers used and built meaning in Q^wi·q^wi·diččaq. Across the span of this project, Maria and I shared our appreciation for the work done by Elder speakers in contributing to the creation of recordings and our sense of responsibility for ensuring that the stories, culture, language, and values they shared were accessible. This sentiment was a key factor in the development of our first research question: how can the archival documentation created by Elder speakers be presented and mobilized in ways that invite language speakers/teachers to engage with them with the goal of supporting revitalization? We made the decision to focus on a single story because we wanted a final resource, created through this process, that could stand on its own as a comprehensible unit and serve as a departure point for language learners of varied experience, proficiency, interest, and learning environments. The possible ways in which we anticipate materials created through this study being mobilized are outlined in greater detail in Chapter 4. Motivated by the current challenges facing the MLP (summarized in §1.1.2), we wanted our work to reduce some of the barriers that teachers and learners are experiencing when trying to learn Makah by digitizing, time-aligning, and making available the storytelling audio with accompanying Makah and English texts. In other words, the results of our work will be broadly accessible and (re-)usable—inviting teachers or independent learners to engage with the story directly as a learning resource in itself, or for these story materials to be used as a starting point to create or expand other pedagogical materials that may be more specific or focussed on an aspect of the story's lessons.

Our second research question investigates how the collaborative research process facilitates the emergence of topics of interest and areas for further linguistic research while also addressing our goal of providing insight into Elder speakers' language use. This question reflects the importance of contemporary

Makah speakers' input and knowledge to share their own perspectives and add to the value of this work. This research process was designed to not only facilitate connections between recorded storytellers and future learners, but to also incorporate the voice and point of view of Maria as a Makah speaker. In this case, Maria adds her insight as someone who has a great deal of lived experience with revitalization, cultural and linguistic knowledge, and who has learned Makah as an additional language. By approaching our work through collaboration and a conversational approach to our meetings (Edōsdi 2018:7), both Maria and I were able to ask questions that arose from the storytelling and to propose answers, either from experience, other published resources, or by making connections between parts of the "Raven and Crow" story which highlight lessons of Makah linguistic use and structure.

1.4 Literature Review

The research questions addressed in this thesis are built around three key themes: community-based language research, storywork as pedagogy, and the mobilization of archival materials. As part of this review, I take these topics in turn to reflect on relevant literature as it relates to this study, what knowledge has been established in each of these areas, and how this thesis might contribute to or expand upon each of these themes.

1.4.1 Community-based language work and collaboration

One of the research goals of this work is to develop a process of collaborative research to transform legacy materials. In the pursuit of addressing this goal, this section situates the importance of this approach to research and defines "collaborative research" as it pertains to this project.

Literature addressing the topics of collaborative research or community-based language research (CBLR) has become much more prevalent in linguistics, particularly in relation to work being conducted with Indigenous Peoples (Dobrin & Berson 2011; Dwyer 2006; Leonard & Haynes 2010; Rice 2006, 2018; Sapién 2018; Yamada 2007). Descriptions of collaborative approaches to Indigenous language work and training are not new (McCarty et al 1997; Watahomigie & Yamamoto 1987), but this subject has expanded

and become more defined and nuanced through continued discussion. CBLR, in particular, is described by Czaykowska-Higgins (2009) with regards to what this approach entails and how it is situated among other models of research. Czaykowska-Higgins (2009:27) refers to the four research models she describes (i.e., linguist-focused, advocacy, empowering, and community-based research) as existing on a “continuum” differentiated for the way that each model defines the linguist-community relationship and the parties’ engagement in research.

At one end of this continuum is the linguist-focused research model which addresses goals, interests, and questions formulated by the researcher over concerns of the language community themselves while maintaining a boundary between the linguist and community to preserve an “objective” research process (Czaykowska-Higgins 2009:21). “Objectivity” in the context of language work can often be realized through what Hill (2002:120) refers to as the “hyperbolic valorization” of language over its everyday use and connection to those who speak it. Leonard & Haynes (2010:271) point out that although this approach does not necessarily exclude the needs, goals, or expertise of the community, the decision of whether or not to alter the project to attend to these preferences is ultimately at the researcher’s own discretion. Although this indicates the possibility for ethical research (Cameron et al. 2018), this model of research is most representative of the history of linguistic documentation and description in the U.S. and Canada which have “conceptual roots that go back to ‘salvage linguistics’” (De Korne 2021:65)—a largely transactional and extractive process built on colonial myths around “disappearing” Indigenous Peoples (Darnell 1990; Davis 2017).

In opposition to these historic norms in the field of linguistics, CBLR moves toward an approach to research that addresses concerns of social justice (Czaykowska-Higgins 2009; Leonard 2017; Rice 2018). Czaykowska-Higgins (2009:24) refers to CBLR as “research that is *on* a language, and that is conducted *for*, *with*, and *by* the language-speaking community within which the research takes place and which it affects” (emphasis original) and “involves a collaborative relationship.” To explain this further, this

definition describes research *on* an Indigenous language which attends to goals determined by the community (*for*), requires ongoing conversations and relationships (*with*), and includes community members as researchers and experts in their own right (*by*). This last point is a key distinction of CBLR which acknowledges that the linguist and their research partner(s) each have knowledge to contribute to the research process which enables researchers to learn from one another in ways that may be relevant to language, linguistics, culture, or appropriate social conduct in the community context (Czaykowska-Higgins 2009:25).

The CBLR model of research can be further contextualized amid two mainstream social and conceptual shifts that inform the need to reconsider approaches to linguistic work. The first of these is the increased visibility of Indigenous activism and social and political movements of the 1970s and 1980s in both Canada and the U.S. (Blair et al. 2003; National Indian Brotherhood 1972). The concerted efforts of Indigenous people across disciplines and approaches have carried forward and led to greater recognition of self-determination and Indigenous rights on national (Indian Self-Determination and Education Assistance Act of 1975 (Public Law 93-638); Indian Child Welfare Act of 1978 (Public Law 608); Native American Languages Act of 1990 (U.S. Senate, S.2167); Esther Martinez Native American Languages Preservation Act of 2006 (Congress.gov)) and international (United Nation’s Declaration on the Rights of Indigenous Peoples 2007 (UN General Assembly)) stages. The second mainstream change comes with the considerable boost in awareness of “endangered languages” that began in the late 20th century in the field of linguistics (Fishman 1991; Hale et al. 1992). The process of engaging in community-based documentation and revitalization has required linguists to continue evolving from objectified understandings of language (Hill 2002; Holton et al. 2022) to more critical reflections on the traditions and assumptions of linguistic academic training and linguists’ responsibilities to support language revitalization and reclamation (Dobrin & Berson 2011). CBLR is one response to these reflections which aims to foster language work that better orients itself to attend to community goals for language revitalization and

reclamation through the engagement of diverse skill sets, scholarly interests, and epistemologies (Daniels & Sterzuk 2022; Fitzgerald 2021; General 2019; McIvor 2020).

A collaborative CBLR approach to research also goes beyond suggesting a specific set of actions or practices, but also encapsulates underlying principles that support successful and respectful language work. In reference to linguistic fieldwork and based on principles proposed by Indigenous scholars (see below), Rice (2006:151) describes Responsibility, Respect, Relationships, and Reciprocity as characteristics of good language work. To practice these principles and ensure that they are each fully attended to, it is important that they are woven through the full span of the project, from identifying project participants, agreeing to undertake the research process, making plans for the research goals and process, and determining what will happen with the results, outcomes, or materials of the research project. By treating these “R” principles as foundations to a collaborative research relationships and process, a more holistic understanding of language, culture, and pedagogy can be developed through the key facets involved in a CBLR approach, and this is the way that “collaborative research” is interpreted for the purposes of this project.

1.4.2 Indigenous and Storywork methodologies

Kirkness & Barnhardt (1991) outline 4 R’s to orient dialogue between the university (extended here to academic researchers) and First Nations students and communities: Respect, Relevance, Reciprocity, and Responsibility. Wilson (2008) also highlights Relationality as being central to Indigenous epistemologies. Relating these underlying tenets to research, this process is based in:

- Respect for the community and community research partners as well as their Relationships to knowledge, culture, and language;
- Relevance of the research by recognizing and incorporating the community’s research needs, goals, and preferences;

- Reciprocity in determining research goals, questions, and methodologies so that all parties contribute skills and knowledge with one another while also sharing in benefits of the research and its process;
- Responsibility in reference to more general duties of the researcher to the community that they are working with, as well as personal responsibility within a collaborative workflow to share roles and tasks toward the completion of a larger project; and
- Relationships built on Respect and Reciprocity to ensure ongoing trust, sharing, and accountability between researcher(s) as well as to the community.

As is the case with the principles for ethical research laid out by Rice (2006), these values can be interpreted as situating interpersonal research relationships. They can also, however, be extended to other aspects of the relationships that create opportunities for research (e.g. the interpretation of documentary materials, the intentions of past generations who contributed to these materials, and how future generations may be impacted by this research).

The second research question of this thesis refers to the mobilization of legacy materials or archival materials to become sources of learning for the revitalization or reclamation of Q^wi-q^wi-diččaq. Having reviewed the nature of the relationships at the foundations of this research, I turn next to the contextualization of our decision to base this research around an audio recording of the Raven and Crow story. As discussed above, linguistics often frames language as “data” in the interest of decontextualizing it from the place and people it is connected to, to be objectified for expert interpretation and analysis (Bowern 2015; Davis 2017; Hill 2002; Holton et al. 2022; Leonard 2017). Scholars such as Kovach (2021) and Lukaniec (2022) note that the term ‘data’ is derived from ‘something given’ (Stevenson 2010; Rodriguez-Lonebear 2016) which, depending on context, can misrepresent the origins of linguistic materials. Rather, “indigenous experiences under colonial control suggest that data more often means ‘something taken’” (Rodriguez-Lonebear 2016:255) through extractive research practices such as salvage

linguistics. However, in circumstances where a speaker chooses to pass on knowledge, stories, or language for future generations, Kovach (2021:155-156) acknowledges that ‘data’ can be understood as a gift (i.e., ‘something given’) which exists as more than *objects* or *things*, but as living connections that are activated through engagement and exchange.

This articulation of stories or “data” as gifts, as well as “data as living connections” serve to illustrate the sentiments that underlie the decision to engage with Ruth Claplanhoo’s telling of a “Raven and Crow” story, recorded by the MCRC. As CBLR orients the approach and principles to our research process and relationships, storywork situates this story recording’s relationship (and Makah storytelling more generally) to this research process as part of Makah language revitalization, reclamation, and pedagogy. Archibald [Q’um Q’um Xiem] (2008:ix) defines storywork as the use of “First Nations stories and storytelling for educational purposes” and describes seven Stó:lō principles which, when considered and adapted, can allow a story to “become the teacher” through the relationships that it holds between the story itself, the storyteller, and the engaged listener. These principles are respect, responsibility, reciprocity, reverence, holism, interrelatedness, and synergy which are provided as a possible catalyst for other nations to examine what these pre-cursors may be in their own traditions (Archibald 2008:140). Kovach (2021:158) presents stories’ roles in society as “vessels for passing along teachings, medicines, and practices that can assist members of the collective. They promote social cohesion by entertaining and fostering good feeling.” By this definition, the role of story in language revitalization (especially taken as part of a broader cultural revitalization or reclamation) can be a traditional way to impart the values and knowledge of a People. Within the Makah context, Helma Swan (Ward) echoes this sentiment:

“My step-grandmother, Katy Anderson, was a *beautiful* storyteller, and she would sit up and tell stories sometimes. She was *our* storyteller. (...) Now I bet any of the kids would give anything to be able to understand Indian and listen to them, because sometimes there’s hardly any meaning to the stories when you have to bring them out in English. It’s hard. Sometimes the story loses all its meaning. (...) Some of those stories were really, really good. But then, as part of it, after I thought back about it—thought back on those years—there was always a moral to the story. More or less, they were telling us how to live our lives.”
(Goodman & Swan 2003:65-66)

The MCRC's recordings with Elder speakers in 1978–2002 include stories and have been used to create books in the past (e.g., *The Raven and The Crow: A Makah story coloring book* (MCRC 1982), *The Frogs that Learned to Say No* (Parker-Pascua 2012), and *Wi-y ʔačuł čibičibi· (Three Blind Mice): A Makah coloring book* (Ward 2020)). The decision to develop our research model for this study around a story was natural as a way to pass on lessons about ways of being or doing things through Q^{wi}-q^{wi}-diččaq.

1.4.3 Archives and legacy materials

Berez-Kroeker & Henke (2018) draw a through-line between collaborative research, documentation, and the role that archives and their materials are now understood to play in the greater landscape of language revitalization and reclamation. Although it is not uncommon for linguists to treat archives as the end point for documentation and other fieldwork (Babinski et al. 2022:3), there are many communities engaging archives and similar institutions to support their language learners and revitalization efforts (Dobrin & Holton 2013; Holton 2012; Spence 2018; Sapién & Hirata-Edds 2019; Carpenter et al. 2021). The use of archival and legacy materials for these purposes is not new with community training workshops first being offered in the mid-1990s (Pérez Báez et al. 2023) and many Nations reawakening their ancestral or heritage language(s) (see baird 2013; Baldwin & Costa 2018; Lukaniec 2018; Andreatta et al. 2023). In the case of Makah revitalization, because there are speakers and speaker-learners teaching the language, archival materials provide an opportunity to expand the language program and possibly address some of the currently identified challenges.

Literature regarding the role of archival materials and documentation has articulated both the possibilities and challenges of engaging with these documents as a resource to (re)connect with their ancestral language. Many of the ethical challenges to archival-based revitalization work come about through uncertainty around the conditions of their collection (Lukaniec 2022) or insufficient description surrounding the conditions or appropriateness of access (Macri & Sarmiento 2009; Innes 2010). Because this project works with materials created and held by the MCRC, these concerns are lessened as the

provenance of the story recording is known and the story selection process was done collaboratively. Maria suggested the “Raven and Crow” story as one that would be familiar to many Makahs and appropriate to be widely shared. Furthermore, the fact that MCRC staff were responsible for the recording of the story and possess the recording as part of the MCRC Archive collections bypasses possible concerns of ownership and access (Wilkins 1992; Seyfeddinipur et al. 2019). The results of this research will also be added to the MCRC Archive so that future work that builds or derives from this project remains under the control of the MCRC and their Board of Trustees.

The desire to maintain protected access to these materials exists in apparent tension with recent calls in the linguistics to produce reproducible research (Berez-Kroeker et al. 2018; Gawne & Berez-Kroeker 2018; Cabellero et al. 2019). Berez-Kroeker et al. (2018) explain that “though restricted data is citable (...), only unrestricted data can be re-used and cited, thereby furthering the scientific principles of reproducibility and transparency.” Reproducible research enables the reader to access the original data so that they may discern for themselves whether they agree with the analysis presented (Berez-Kroeker et al. 2018:4). Because this telling of the “Raven and Crow” story did not have transcriptions or translations available from the time of recording, there are higher degrees of uncertainty with regards to our analytical interpretations at various junctures in the storytelling. Although we have presented the information as faithfully as we can at this time, our research invites future contributions that may strengthen the accuracy of the transcriptions, translations, and/or analysis presented. This requires a high degree of transparency in our presentation of the story materials, and also requires any future researcher, including myself, to be permitted access to this story.

The question of the tensions between open access or universal knowledge with Indigenous self-determination and responsibilities to collective knowledge and data has been addressed through growing scholarship in Indigenous data sovereignty and governance (Bruhn 2014; Carroll et al. 2019; Kukutai & Taylor 2016; Rainie et al. 2017). To balance this preference for availability of the “Raven and Crow” story

resources while maintaining Makah ownership and control, our approach is informed by The First Nations Information Governance Centre's (FNIGC 2014) recommendations under OCAP (Ownership, Control, Access, and Possession) and CARE principles for Indigenous Data Governance (Collective Benefit, Authority to Control, Responsibility, and Ethics) (Carroll et al. 2020) which complement FAIR principles for scientific data management and stewardship (Findable, Accessible, Interoperable, and Reusable) (Wilkinson et al. 2016). Carroll et al. (2020:5) categorize OCAP and CARE principles as people-oriented principles with FAIR describing data-oriented principles which, when practiced together, can create materials or data that are useful and relevant and under Indigenous control, while also meeting the needs of knowledge creation or "discovery" and maintaining values in responsibility and continued future use. We attempt to strike this balance in our research by developing transcriptions, translations, and analyses that have been deemed appropriate to publish, while the original recording (created and held by the MCRC) remains available subject to the approval of a research application with the MCRC Archives and Trustees that meets their expectations for engagement in research. This caveat accounts for the Makahs' ownership of the story and highlights the importance of physical possession of language materials so that they are able to manage who is able to engage in research with them and what the conditions of that research may be.

The preference for increased access, digitization, and mobilization of these language resources has also given rise to significant advances to the structure and features of archives themselves (Christen 2011; Pérez Báez et al. 2023) and to further technologies that seek to facilitate and accelerate Indigenous language revitalization (Kuhn et al. 2020; Prud'hommeaux et al. 2021; Pérez Báez et al. 2023; Running Wolf 2023). The possible development of Indigenous-led solutions of automatic speech recognition (ASR), artificial intelligence (AI), and machine learning (ML) provide motivation to also consider the types of materials necessary to continue along these paths. For example, using time-aligned speech and transcriptions to train ASR (Prud'hommeaux et al. 2021:494) would expedite what have been historic

bottlenecks in the documentation to revitalization pipeline. This type of work is under way in partnership with the Makah Language Program using time-aligned Makah oral stories, transcriptions, and translations. Other technologies described in Kuhn et al. (2020) include a verb conjugator for two dialects of Kanyen'kéha (p. 5869), an Inuktut spell checker (p. 5871), and ReadAlong audiobooks which at the time of publication support 22 languages (p. 5874).

Chapter 2: Methodology and Methods

Up to this point, I have only discussed the work undertaken within this thesis in an introductory way or to illustrate the relationship between the background to this research and our research process. This chapter delves into greater details about the foundations of this research and outlines in detail the step-by-step process used from initial conversations to the review and writing stages. The first section of this chapter (§2.1) addresses the methodologies that describe the approach to the research process. These methodologies inform aspects of research such as ethics, relationship-building, methods, and objectives. The second section (§2.2) describes the context, planning, workflow of this study, as well as adjustments made during the research process, and general insights into the decisions that produced this thesis. This section is presented with subsections highlighting various steps or themes that emerged for more careful consideration during the research process.

2.1 Methodology

Linda Tuhiwai Smith (2012:144) cites Sandra Harding (1987) in her clarification that methodology “frames the questions being asked, determines the set of instruments and methods to be employed, and shapes the analyses.” As introduced through the literature review, there are methodological principles underlying this research which describe the ways that participants relate through this work (§1.4.1) and the ways that we as researchers connect to story and language (§1.4.2). Each of these aspects of my methodologies are described in further detail within this section with reference to this thesis research. I first describe the approach I take to orient me to community-based research and research relationships more generally (§2.1.1), and subsequently, I outline other methodologies that inform the specific story-based approach applied to address the more structural and functional linguistic questions that our research process raises (§2.1.2).

2.1.1 Methodologies of community-based research

The definition of collaborative research used within this thesis, established in §1.4.1 is based on Czaykowska-Higgins' (2009) description of community-based language research and the related contributions of others (Dobrin & Berson 2011; Dwyer 2006; Leonard & Haynes 2010; Rice 2006, 2018; Sapién 2018; Yamada 2007). These scholars not only identify steps in the research process that are likely to be involved in collaborative research, but also highlight the principles that inform such an approach. For example, Rice (2006) describes 4 R's of responsibility, respect, relationships, and reciprocity which build on similar principles of respect, relevance, reciprocity, and responsibility (Kirkness and Barnhardt 1991) and relationships (Wilson 2008) for interactions (or research) occurring between academics and Indigenous communities. Common aspects of collaborative research include community involvement in the forms of goal setting, planning, research participation, and mutual learning or sharing of expertise through the research process. The collaborative research model and the underlying principles that support its success ensure that this thesis project research takes into account the goals of the Makah Language Program and approaches their questions in a way that is deemed appropriate according to the staff at the MCRC involved in this project and their Board of Trustees. The partnership between Maria and myself, and by extension our knowledge, skills, and experiences that we call upon when engaging with the storywork involved in this project, also informs the methods that we use and our analyses. A methodology that recognizes Maria's and my relationships to this work and our perspectives enables us to learn and ask questions of one another that, in turn, influence our research process and the analyses presented within this thesis.

Another key methodological perspective underlying my thesis research is provided in Wilson (2007:194) which describes research as occurring through relationality which requires describing our relationships (i.e., the connections and ideas that shape us as researchers) and building our relationships as part of our work. There are also a number of key tenets in what Wilson (2007:195) terms "Indigenist"

research which outlines that this project should bring benefits to the Makah Tribe, reflect Makah ways of knowing and Makah understandings of Qʷi-qʷi-diččaḡ, and recognize that I have responsibility toward those that I am engaging in relationships with by conducting this research. Wilson (2007:195) also frames language and culture as “living processes” which naturally invites ongoing research and the (re)discovery of knowledge.

Similarly, Gaudry (2011) provides a general orientation to research involving Indigenous Peoples which he refers to as “insurgent research.” According to Gaudry (2011:117), the main principles of this approach are that research is action oriented, validates Indigenous worldviews, is geared toward community use, and cultivates a process and products whose validity and usefulness is primarily evaluated by the community. These two methodologies presented by Wilson (2007) and Gaudry (2011) share some similarities with CBLR, but Gaudry (2011) articulates in greater detail a possible interpretation of what Czaykowska-Higgins (2009:25) calls the “democratization of knowledge” wherein “Western, Eurocentric, or academic knowledge is [...] not privileged to the exclusion of” other types of knowledge; for example, “community knowledge, community ways of knowing, community ways of constructing knowledge, and community ways of disseminating knowledge.” Whereas this clarifies that Western knowledge is not understood as superior to Indigenous knowledges, Gaudry (2011:118) asserts that “Indigenous knowledges *are not* subjected to foreign standards of scrutiny, nor do they require justification from within a Western worldview” (emphasis original). This distinction establishes that the research presented through this thesis does not seek to bring into question the Makah, Ditidaht, or Nuuchah-nulth knowledges that may respond to the questions we raise through this process. Instead, this research acknowledges Indigenous epistemologies and what may be understood from what Maria has learned from Elders, stories, and her lived experience as a Makah woman. I understand this approach in the same way that Maria has explained listening to a storyteller—when the story comes to an end, the listener will say “yes, that’s how it was,” to validate that storyteller’s version of the story. In this same way,

the Makah knowledge that is shared as part of this research does not need to be further “justified” by Western approaches or epistemologies.

2.1.2 Methodologies of engaging with archived stories

Linda Tuhiwai Smith (2012:175) says that “research methodology is based on the skill of matching the problem with an 'appropriate' set of investigative strategies.” In the case of this thesis, our research questions developed initially from a desire to work toward the reclamation of knowledge related to an Elder Makah speakers’ language use and to address questions about aspects of Makah language that are difficult to teach or fully understand the use of. As we reflected in greater depth on how we may reach these goals, we determined that engaging with a story as a whole rather than searching for examples of specific linguistic features may better serve learners and teachers. This led us to the decision to engage with story as a site for better understanding an L1 Makah speaker’s ways of building meaning.

This decision led me to familiarize myself with a “storywork” approach and the principles that accompany it (see §1.4.2) and to approach this research recognizing the relationships between the story, Ruth Claplanhoo as the storyteller, and Maria and me in our roles as listeners of the story as well as researchers. As a qualitative research methodology, centering our work around this shared oral story, Maria and I work to interpret Ruth’s telling of the story and make meaning from what we are able to understand (Kovach 2021:25). This understanding is built from Maria’s transcriptions of the Makah story, her translations to English, and our combined work to provide a morphological analysis and gloss which reflect the internal structures of the Makah words. Engaging with the story in this way allows us to validate our interpretations (or not) and to consider alternative possibilities of what this story might tell us. This interpretive approach also informs our decision to indicate words or sections within the story that we are not currently able to decisively analyze as “[needing] further research (NFR)” while also presenting the possible analyses we discussed. As new understandings or perspectives are available to strengthen the analyses presented here, these can build upon what was currently possible.

This methodology seeks to not only develop and expand existing knowledge of Q^{wi}·q^{wi}·diččaq structure but also to incorporate contemporary speaker knowledge through Maria’s input. Through our conversational approach using the Collaborative Analytical Storywork model we develop (§2.2.2), Maria provides additional context to the story that connects place, language, and culture to teach other lessons inherent to this telling of the story. Furthermore, the engagement with the “Raven and Crow” story and the storywork methodology enable us to do the work of transforming an audio recording of an oral story in the MCRC Archives into various formats and representations of that story that will hopefully provide access to any member of the Makah Tribe who may be interested in listening to a familiar story in Makah.

2.2 Research methods: Collaborative Analytical Storywork

This section describes the workflow used in the development of the initial linguistic analysis between me and Maria to construct an understanding of how Ruth Claplanhoo spoke in a storytelling context. The plot of the story also provides information about different types of actions, interactions between characters, and common linguistic features that appear in stories told in Makah.

2.2.1 Project context and background

The idea for this collaborative research came about because of my earlier work time-aligning and digitizing four Makah stories during my undergraduate program at the University of Alberta. During my Master’s coursework, Maria and I crossed paths again by way of a virtual conference and I became aware of another project that Maria was involved with to develop ASR technology for Makah (see Running Wolf 2023). With the desire to continue building a relationship with Maria and to contribute to the Makah Language Program, I made plans to reach out to Maria about working together. To reconnect, I originally reached out to her by email to let her know that I was now studying at the University of Victoria and to get a sense of whether there would be an interest to use my thesis research as an opportunity to work together. With confirmation that there would be mutual interest in collaboration, we began discussing the possibilities and limitations we would need to consider in designing this research.

Conversations around “possibilities” included discussion of the skills we had or wanted to strengthen, the resources we would be able to access, and the ways the research could feed into learning Qʷi·qʷi·diččaq (see also Figure 3 of Leonard & Haynes 2010:274). General “limitations” discussed were the amount of time we would each be able to dedicate, the scope of what may be possible for a Master’s thesis, and what our knowledge and experiences would enable us to do given the currently available linguistic resources. In other words, how would our skills, knowledge, and circumstances intersect to respond to the questions that Maria and other teachers or learners have about the Makah language? At the time of this research, there are very few descriptive materials or lexicographical resources available for Qʷi·qʷi·diččaq. The Makah Language Program is in the process of developing a dictionary, but the main published resources are the appendices included in Davidson’s (2002) dissertation. These appendices include partial lists of Makah lexical suffixes and a vocabulary compiled from the preliminary Makah Dictionary, elicitation notes from Davidson (1996–98), Maria Pascua, Ann Renker, and Cora Buttram, and select publications by Jacobsen (Davidson, 2002:381). Additional insights also come from the two existing analysed texts (Davidson & Werle, 2010; Gill & Renker, 1992) and partial insights could be gleaned from the transcriptions and translations that had been digitized during my undergraduate project (Hashimoto & Rosés Labrada 2018).

With Maria’s input and through careful consideration of the circumstances surrounding Makah language work, we were able to identify a process that could offer new insights about Qʷi·qʷi·diččaq using a linguistic approach that would feed into the MLP’s work and research. When Maria and I began our conversations, we determined early on that this research would draw upon the collection of recorded oral stories that are held at the Makah Cultural & Research Center to ground the grammatical, linguistic research that we would undertake through the process of analyzing and glossing a story. This decision was motivated in part by wanting to select a story that is held by and recorded by the MCRC Archives which enables us to return our research and related materials to the MCRC Archive so that all documents

connected to this story are maintained by the MCRC as well. This way, the MCRC maintains ownership, control, and possession over their cultural resources.

Another aspect of this choice was motivated by a desire to learn from language and storytelling shared and recorded with by a fluent first-language Makah speaker. By analyzing Ruth's telling of this story, we contribute to a fuller image of how Makah Elders spoke, pronounced words in context, and constructed larger connected meanings across clauses and phrases. Cranmer (2015:153–155) shares that from her experience as an adult learner of Kwákwala, morphological analyses allowed her to notice and recognize various rules and alternations that occur where root and suffixes connect. Developing this type of research also aims to facilitate other future language work related to transcription, translation, dictionary building, etc.

Considering the matter of which story to select, this was largely informed by 1.) what would be appropriate for me to work with and 2.) what could be incorporated in a variety of classroom environments. There are few written Makah stories/narratives that have been analysed from a linguistic perspective (see Gill & Renker 1992; Davidson & Werle 2010) or even digitized with time-aligned audio and transcriptions and translations (Hashimoto & Rosés Labrada 2018). The "Raven and Crow" story shared by Ruth Claplanhoo (duration: 4m55s) was chosen because Maria said that versions of this story are familiar to most Makahs, making the characters and story itself more recognizable and welcoming to learners. There is also an existing "The Raven and the Crow" colouring book (1982) published by the MCRC which tells a similar version of this story, mostly in English with limited Qʷi-qʷi-diččaʷ, which could be offered in tandem as needed. In a learning context, this lessens the necessity for the student to follow the meaning of the story as closely, and instead allows the learner to focus on noticing patterns of the language that they are working toward understanding.

Once our research process had a general framework, we were able to receive approval from the University of Victoria's Ethics Review process as well as the MCRC's Board of Trustees. The Makah Cultural

& Research Center provides guidelines as to their expectations for any research involving the Makah Tribe including the submission of a research proposal to receive approval from the MCRC Board of Trustees if there is the possibility that materials gathered from the Makah Cultural & Research Center Archives would be incorporated in the project. The MCRC research agreement also provides preliminary discussion of research-relevant U.S. legislation and other important matters that researchers should be aware of before engaging with the MCRC and Makah Tribe. This further includes procedures for engaging with their staff, steps that are to be followed if their materials will be included in publications, and protocols around interviews. This agreement, in addition to university ethics, provided guidance for this research.

2.2.2 Project design

Building on our early conversations, we determined that our research would be grounded around Ruth Claplanhoo's "Raven and Crow" story recording. The final goal of this research was to generate a deeper knowledge of Q^wi-q^wi-diččaq and also create accessible materials to serve as a starting point for language learners of varied experience, proficiency, interest, and learning environments. These two points serve as anchors for our research process, representing our starting point for this research and the "endpoint" of the scope of this current project respectively, with our research process serving to connect these two points. This includes the transformation of the original audio recording to materials that Maria and I can engage with for linguistic analysis and research, and the development of final formats that reorient this work for language teachers and learners. By using our discussions of "possibilities" and "limitations", the design for this project came together fairly quickly in a way that would attend to what we each anticipated being able to contribute and hoped to gain.

Our planning conversations also concerned ongoing uncertainty around the COVID-19 pandemic. At the time of our planning, the border between Canada and the U.S. was closed to non-essential travel and the Makah reservation at Neah Bay remained closed to the public until the end of March 2022. This,

in combination with time/scheduling limitations we faced, significantly informed the final design for our remote workflow, illustrated below:

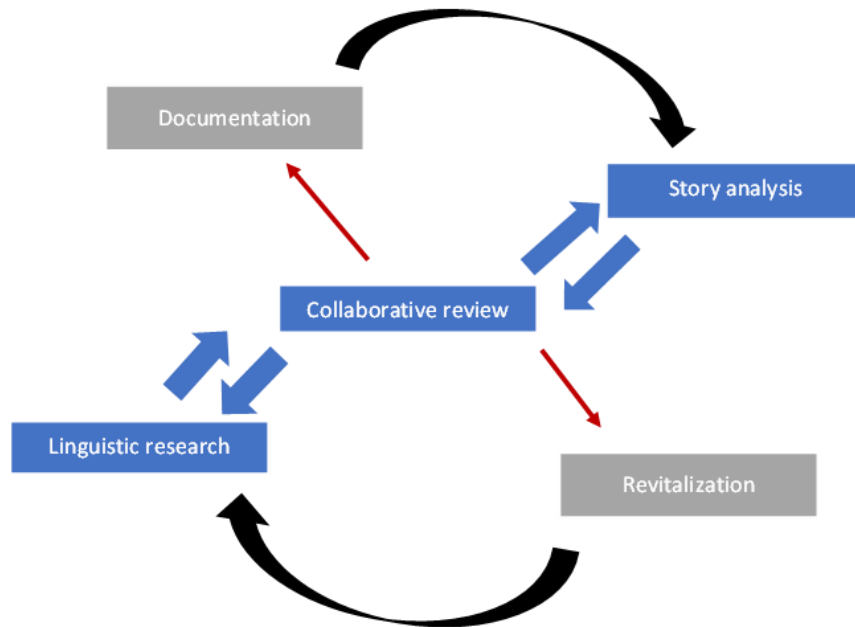


Figure 2: Model for Collaborative Analytical Storywork

This process illustrates the mobilization of documentation in the form of archival or legacy materials through a research process that transforms the original materials to be adapted for continued revitalization efforts. In our case, this transformation is directed by the focus of our project: story analysis, collaborative review, and linguistic research which become formatted in ways that invite flexibility to address diverse learner and future researcher needs.

With reference to Figure 2 above, the outer arching arrows indicate points at which the status of documentation and revitalization inform the direction of the project. For example, in the case of this thesis, the archival documentation available in the Makah context includes stories told by Elder speakers which guide our research methods and objectives leading into this study. Also, later in the research process, the status of revitalization work in the community and revitalization goals come to inform the breadth or depth of subsequent linguistic research on any topics revealed through the research process.

Turning to the research process itself (marked by the blue, internal text boxes), first, the recorded story feeds into the creation of an initial linguistic story analysis. For this thesis, the initial steps of story analysis (i.e. segmentation, transcription, and translation, and morphological analysis and glossing) were conducted as independent tasks by Maria and me respectively. To strengthen the results of our independent work, we introduced a collaborative review process. This “collaborative review” refers to the periods that Maria and I would meet over Zoom to have conversations about the preliminary analyses. Where questions arose through the story analysis process, additional linguistic research was also conducted independently by me. I worked to situate our story analysis and glosses amid existing linguistic literature and knowledge of Makah during the stage referred to as “linguistic research”. This research was based in existing linguistic literature to more carefully review or develop the analyses we were unsure of. This research was also subject to a feedback cycle (marked by the larger straight arrows) which allowed Maria to review and correct my interpretations or presentations of our work as needed. Through this process of literature-based review, I was able to understand how the various conversations that were raised by the “Raven and Crow” story contribute to what we know about Q^{wi}·q^{wi}·diččaq and how the language can be taught, or in some cases, invite new questions and discussions.

Lastly, Figure 2 illustrates the material outcomes of our research and collaborative review process (indicated by the thinner straight arrows) which feed back into Makah revitalization and documentation respectively. With regards to revitalization, the outcomes of this process are the digitized, time-aligned story, analyses, and linguistic research which can be incorporated into future Makah language research, teaching, or learning. These materials include the time-aligned ELAN representation of the story (.eaf) that we created, as well as simplified text-based presentations made to be more accessible to independent learners (.doc). In terms of documentation, our research process also includes recordings of our collaborative review meetings (see §2.2.4). These meeting recordings provide a higher degree of transparency regarding the development of our glosses and analyses so that, as more comes to be known

about Q^wi·q^wi·dičča^q, research may continue more easily with access to the conversations that Maria and I had.

This use of documentation, analysis, and speaker collaboration or feedback for revitalization extends the Chickasaw Collaboration Model (Fitzgerald & Hinson, 2013:59) which presents a cycle of training, documentation, analysis, and revitalization:

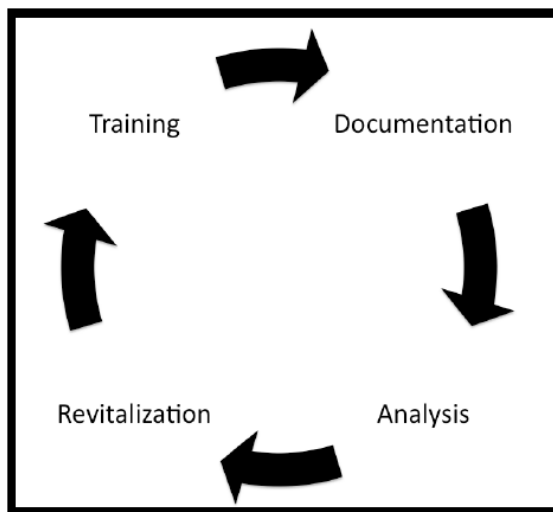


Figure 3: Fitzgerald and Hinson’s Chickasaw Collaboration Model, Fitzgerald and Hinson (2013:59)

Fitzgerald (2021: e3) describes documentation and revitalization as “two parts of a feedback loop” which when incorporated with training and analysis can improve both “documentary and revitalization products”. Linn (2014) also describes feedback systems between revitalization and archival documentation as experienced by the Osage Nation Language Program and the Shoshoni Language Project. In the Makah context, many documentary records were created with Elder speakers between the 1960s and 1990s by Jacobsen, the MCRC, and Davidson. However, transcriptions and translations of all audio recordings are not available or clearly co-indexed in all cases. Therefore, the current focus for the Makah Language Program is less oriented toward the development of new documentary materials (in the sense used in the Chickasaw context), but rather focuses more on the mobilization of legacy

documentation with the purpose of learning about L1 speakers' language use to carry these lessons forward for the MLP's future research, teaching, and learning.

2.2.3 Individual tasks

Community-based language research and "collaborative" work do not specify the mode of interaction, but rather the nature of the relationships involved in this work. While our approach to this research project relates directly to much of the existing literature on CBLR, a distinguishing feature of our project is that it took place remotely using Zoom. Some scholars have described their experiences of continuing aspects of language reclamation or revitalization remotely during the pandemic (McIvor et al. 2020; Daurio & Turin 2021; Rosenblum 2021; Wiley-Camacho et al. 2022), however, there is not a lot written about conducting remote community-engaged research.

Grzech & Shaca (2022) provide an example of conducting research to document Chibuleo Kichwa via Zoom, although not engaging with CBLR. Their paper highlights some of the same benefits Maria and I found through our remote research process as well and offers a succinct description of important factors when considering a remote project workflow (94–95). In addition to the more technical overlaps between our projects, Grzech and Shaca (2022:82) also emphasize the importance of trust and relationship-building, particularly where there is no previous foundation of having met in person. To this, I would suggest that the underlying values and requisites of CBLR, in my experience, attend to the challenges of a fully remote research process by centralizing the aspects of research that may otherwise cause barriers in a remote workflow. By placing a priority on creating "solid, respectful, reciprocal, and trusting" relationships (Czaykowska-Higgins 2009:40) and entering our interactions in a way that shares knowledge and fosters a genuine openness to community feedback and input, it may be more likely to develop the necessary relationship to nurture an environment of knowledge creation and good research.

As described above, the process of building a trusting relationship began, for Maria and me, through the collaborative project planning stage. Early in this process, we met a handful of times to define

our research goals, questions and the division of work, review research ethics, and confirm the schedule of our workflow. Over the course of these initial meetings, we were able to start getting to know one another, and although we had not met in person, we bonded through shared personal connections and acquaintances that helped to develop our comfort working together. This relationship was further supported by the MCRC's application process to engage with materials held in their archive. This process of articulating our project goals for the MCRC's Board of Trustees enabled me to understand expectations of Makah institutions to complete this research in a way that aligns with the broader tribal community as stakeholders in this published research.

Maria and I determined that we would each undertake a portion of the work needed to produce analyses of the story before meeting to review the results of this work together. This section describes the components of individual work that we each did to establish initial materials for this research. The telling of the "Raven and Crow" story (4m55s) that forms the basis of our work was recorded on January 18, 1982 by Ruth Claplanhoo (storyteller) and Melissa Peterson (interviewer) (Claplanhoo 1982). However, transcriptions and translations of the story were not documented at the time. Maria later developed a written presentation of this story organized into story lines with accompanying transcriptions and translations between September 2020 and November 2021 (Pascua, unpublished manuscript). This written presentation of the oral story recording entailed the initial organization of the story into segmented chunks or "story lines" with preliminary transcriptions and translations. Subsequently, I aligned Maria's work with the audio recorded by Ruth Claplanhoo and Melissa Parker and proposed morphological analyses of the transcribed and translated text. Although this workflow may not seem inherently collaborative, the choices we made together organized our work in a way that allowed us to balance other responsibilities in addition to this research by using a partially asynchronous workflow (see also Sapién 2018). This division of work also reflects an understanding of the skillsets that Maria and I

each have and how to use these skills to work in tandem toward the goals of this project and to create final materials that contribute to the MLP's revitalization work.

The decision to divide our work this way was motivated in part by the fact that Maria, as a speaker, has a better-developed ear to the sounds and rhythms of Q^wi·q^wi·diččaq for transcription and fluency that would make her much more equipped to translate the story. Maria notes that “transcription may be updated as needed as further research takes place”, indicating that there may be some degree of feedback or amendments proposed through the analysis process. Furthermore, where there was some uncertainty of the meaning of what was being said in the story, Maria was able to lean on her personal knowledge of other storytellers' versions of this story to develop initial translations.

Maria's transcriptions faithfully represent the way that Ruth Claplanhoo pronounces these words on the story recording. From the (hi)stories presented within the two other publications with analyzed Makah language (Davidson & Werle 2010; Gill & Renker 1992), it is unclear how these texts were developed and whether these processes may have influenced the written representations of these stories. In Gill & Renker (1992:196), it is noted that the story comes from Renker's past work and that Hildred Ides and John Thomas helped to review the analysis and translation, but not whether the story was originally told orally or by whom. Davidson & Werle (2010) contextualize the story they present as having been told originally by Ruth Claplanhoo, but not how the texts and analyses were developed. Notably, neither comment on the development of the transcriptions that the analyses reflect. Due to this uncertainty, it is difficult to know whether they were developed independently based on an oral telling of the story (as with our project), or in conjunction with the underlying analyses and morphophonological descriptions available at the time. If this information were available, it would clarify whether the transcriptions were created with the expectation that they align with more “standardized” underlying forms of documented morphemes. As work with Makah recordings held by the Makah Language Program and Makah Cultural and Research Center progresses, there may be differences in pronunciation that reflect dialect or accent

variation or simply variant pronunciation of select words which has future value in terms of validating variant word forms or pronunciations. This informs the decision to present a transcription that more closely reflects the way that Ruth spoke Makah.

There are also challenges in translating Makah to English, as explained by Renker & Gill (1986), which it is particularly important for language learners to be cognizant of. Renker & Gill (1986:36) advocate an approach to glossing that “describes the nature” of the morpheme rather than an English equivalent translation. For example, Renker & Gill (1986) discuss the stem **ʔuʔu-** which they describe as the ‘existential stem’ rather than using other translated glosses such as ‘to be (so and so)’ as in Jacobsen (1979a) or the later ‘so and so’ gloss adopted in Davidson (2002). Their reasoning for a more abstracted gloss (existential stem) is that it bypasses English connotations a learner may have connected to the use of ‘to be’ or ‘so and so’ (see §3.2 for further discussion). In a learning context, this helps to avoid students’ intuition to construct words based on the semantics of an English translation and to see how something like an existential stem appears to be used in Makah constructions.

For my part in the independent portion of our research workflow, I developed the time-aligned ELAN file of the story as well as preliminary interlinear glossing and analysis. This process not only provided Maria and me with a starting point for our conversations, but also enabled me as a linguistics student and someone with limited experience with Q^wi-q^wi-diččaḡ to learn more about the way that words and sentences come together to construct meaning. By doing the work myself and looking for the answers to my own questions first, I was able to more quickly notice and recall patterns because of the supporting reading and effort that this required on my part. Our decision to use ELAN (version 6.7) to present the time-aligned the “Raven and Crow” story was made together during our planning and took into consideration two key factors. First, practically, this software enables us to review my proposed analyses in a format where it is contextualized among the original transcriptions, translations, and any notes shared by Maria or generated through our research. This also preserves our ability to easily refer

back to Ruth Claplanhoo's voice to direct our understanding of the oral factors that may be contributing to meaning within the story (e.g., phonological differences or prosodic information). Additionally, the story recording includes minor commentary by a secondary person recording the story, Melissa Peterson. Maria has also provided additional notes and commentary that is helpful to capture as part of the document. ELAN has the additional flexibility to create additional "tiers" associated with each segment of text such as proposed linguistic analyses, feedback and commentary provided by Maria, and my own questions and notes during the analysis process.

A second benefit of using ELAN is that this is a software that Maria has expressed an interest in becoming more comfortable with for her own work. There was a training session offered for the MLP which introduced them to the program in 2021, and Maria hoped to gain more experience with these new skills and the software. By reviewing and working with these materials together, we had repeated opportunities to learn, and put into practice, the relevant functionalities of this software for projects such as this should the Makah Language Program's wish to implement a similar process in the future. I also put together and shared a document with Maria that outlines step-by-step use of ELAN for the creation of tier types, adding tiers, segmenting, and transcriptions with accompanying screenshots to navigate the steps to replicate time-alignment of transcriptions and translations to a recorded oral story. This document and a user guide for navigating ELAN files will also accompany our final materials shared with the MCRC Archives.

To develop a preliminary interlinear gloss and analysis, my approach began with a form-focused and semantically-driven approach based on the written Makah text and translations created by Maria. This meant first looking for formally similar listed Makah roots and lexical suffixes (Davidson 2002) with a meaning that could be part of the word or phrase I was looking to analyze. This was, in many instances, challenging because of frequent phonological changes that occur in Makah word-building. For example, morpheme-final consonants may undergo changes due to glottalizing (Davidson 2002:79), leniting (81), or

mutating effects (81). There are also processes such as umlaut, syncope, and reduction of adjacent vowels in Makah that can affect the quality, length, or presence of underlying vowel(s) in the pronounced word. The effects of these processes allow many opportunities for the underlying forms (as listed in Davidson 2002) to be obscured relative to the way that we hear and see these words and morphemes represented in the storytelling.

If I was not able to identify an initial analysis based on the more form-based search, I would attempt a more semantically-driven search based on salient lexical meanings within the translated sentence. The benefit of this approach was that it facilitated the recognition of both roots and lexical suffixes within the sentence. The obvious challenge of this method is that it relies on translations being identical; seemingly small connotative distinctions can result in an ineffective search. For example, the root **qi-** is translated as ‘shift position’ but is the base for the word **qiʔak^wačič** which is attested with the definition ‘break down (car)’. Ruth uses a similar word transcribed **qi·k^wa·ʔaʔaʔpi·tqey** which, in the sentence context, Maria translates as ‘wreck’. Although this is a valid interpretation of the word’s meaning, the difference in translation and long root vowel rendered in the story transcription made the beginning of this word particularly challenging to identify (see §3.21 for further discussion). Translating between Makah and English using a lexical index also requires thorough consideration regarding word class and inflection of the English entries. Davidson (2002:98) describes most (though not all) free roots as being inherently imperfective. Some entries list a bound root as well as a free wordform constructed with aspectual inflection. These differences lead to Makah roots being indexed with variably inflected forms of English headwords. A sample of such cases are included below:

- | | | |
|-----|--|---------------------|
| (1) | šiš- ‘pared, peeled; brushed off, swept clean’ | (Davidson 2002:445) |
| | tu·š- , tu·ššič ‘become afraid’ | (Davidson 2002:448) |
| | taq^w- , taq^wak^w ‘believing’ | (Davidson 2002:449) |
| | wa·t- , wa· ‘say’ | (Davidson 2002:454) |
| | weʔič ‘asleep, sleeping’ | (Davidson 2002:455) |

This diversity in glossing can invite further complexity when searching for particular entries using English translations.

In cases where both formal and semantic indicators did not clarify the composition of words in the story, segments of the story were reviewed alongside previously glossed Makah texts (Gill & Renker 1992; Davidson & Werle 2010) and the small, searchable corpus of four (hi)stories shared by Ralph LaChester (transcriptions by Dr. William H. Jacobsen, translations by Mabel Robertson). Although these four stories were not analyzed, they were translated on a word-by-word basis which can lend itself to greater transparency of the meanings of particular morphemes which may be otherwise undocumented.

Next steps involved glossing any clitics. These were generally easier to identify because the class of clitics is more limited (relative to more open classes of roots or lexical suffixes) and appear in a fixed order³ described by Davidson (2002:320) as follows:

(2) Organization of the clitic sequence in Makah

=DIM=TEMP=CAUS=POSS=PINV=TENSE=MOOD=PRO=HAB=3PL=RESP=again

This organization describes the relative position that Makah clitics are expected to occupy in words where they co-occur. Davidson (2002:320) specifies that most “pre- and post-modal clitics may co-occur with one another and with the mood and pronominal clitics or an article” though there are also rare or unattested clitic combinations. Where I was able to identify that a given word ended in a sequence of clitics, it allowed me to work from the end of the word using the template of the clitic string as a guide to develop an analysis of the word ending. This, in turn, narrowed the possible interpretations of word-medial morphemes. Once the root and clitic string were analyzed, we were able to determine that any remaining, unidentified segments would be suffixes that may have lexical or grammatical meanings. Oftentimes, these suffixes are also ordered, with the limited number of grammatical suffixes (e.g., aspect or causative) being ordered after any lexical suffixes.

³ Modal and pronominal clitic sets are more complex and, when co-occurring, may be glossed and presented as a single syncretic morpheme.

This stage of the research highlighted for me a key challenge of the storywork approach for research like this—which is also one of its key benefits—stories provide natural language use based around a narrative rather than a particular linguistic feature. This approach develops materials that can be much more easily adapted for language teaching and learning because it is holistic; the materials can be listened to or read as a whole, or can be used to highlight particular examples in the context of specific language lessons. However, for me, initially in this research practice, my limited applied experience with the Makah language and storytelling and the few glossed and analyzed story examples that were available for my reference intersected in a way that made it difficult to know where to start. Although Davidson (2002) provides a robust grammatical sketch of Nuuchahnulth and Makah, because my thesis is not centered around a particular grammatical feature of Qʷi·qʷi·diččaq that could be clearly identified from existing descriptions, I found it initially quite ambitious to complete a full interlinearization independently. As we continued working with the story, patterns emerged that made certain sections and groupings of morphemes easier to identify. However, there were still many questions remaining that I could only begin to approach in earnest through discussion and feedback with Maria. This led us into the next stage of our research: the collaborative review process.

2.2.4 Collaborative research meetings

The fact that this research project was developed over the course of a few discussions allowed both Maria and me to have input and develop trust as we moved into the glossing and analysis process (Leonard & Haynes 2010:288). Our research was designed with the knowledge that, in working with a recorded oral story, the process of producing an analysis with the currently available resources would foster conversations and questions about Qʷi·qʷi·diččaq for further research. However, to allow these questions to emerge and to engage with them together, Maria and I required an environment that allowed us to be spontaneous and forthright with each other about aspects of the storytelling that challenged our understanding. As well, it was important that we each felt comfortable sharing our best understanding of

developing knowledge that would feed into our gloss and analysis. Similar to what Yamada (2007:266) describes as the “middle ground” in talking about language, there was a “mutual need” for access in research, where we were each able to different backgrounds and experience can provide complementary perspectives on language, linguistics, or culture.

Once we had our preliminary transcriptions, translations and glosses, Maria and I met over Zoom to begin our collaborative review with the goal of strengthening and unifying our initial analyses. Using this time as a weekly feedback cycle, we were able to discuss new or different possible analyses during our meetings which improved my ability to do further research before returning an updated file to Maria. In some cases, this meant connecting the morphemes and meanings that Maria described to existing descriptions, and at other times, it meant finding evidence from attested descriptions that ran counter to the proposed analyses we had developed during our meetings to reevaluate those ideas. The collaborative review therefore relies on the development of a virtual workflow to facilitate conversations surrounding our storywork. In the context of this story-based approach, the use of Zoom in fact seems to simplify and provide many benefits to our workflow. In the following paragraphs, I describe the structure of our collaborative review meetings and feedback cycle, the ways that Zoom was integrated in this research, and other lessons that emerged from our meetings to shape the final versions of our work.

During the collaborative review process, Maria and I met once per week for approximately 1–1.5 hours at each session and had a total of 14 meetings to review and strengthen aspects of the transcriptions, translations, gloss and analysis presented in Chapter 3. Because Maria was also carrying out her regular responsibilities as a language teacher and language specialist with the MCRC, she asked that I allow her five working days to review our cumulative progress and feedback before our next meeting. To maximize Maria’s time and our time together, I aimed to review our conversations, conduct research to further investigate the possibilities we discussed, and synthesize the reasons that certain

analyses might be more or less likely in the evening after our meeting. I would then return an updated document containing the morphological story analysis via email to Maria before the next workday.

Each meeting began with some time to talk or catch up before we started the recording of our meeting (described further below). Our meeting recordings were created and saved to my computer only and saved to reflect the meeting date. We had initially planned to call with our video and audio on, we identified early that for the benefits of our internet connection, it was often better to use audio only once screen-sharing and recording were also taking place. When possible, Maria would leave her camera on. The collaborative review process would usually begin with me navigating to the point in the story we had last left off, or, if my additional research had revealed anything further about the points discussed the week prior, we would begin by revisiting those previous conversations. This gave Maria the opportunity to respond to any of the updated notes or ideas presented in the story analysis file as it was updated since our last collaborative review meeting. We carried on like this through the full story, sometimes circling back where necessary to re-evaluate our earlier work and conversations.

In instances where we were uncertain of the analysis, we would sometimes brainstorm multiple possibilities that might account for the construction of the word. This challenged our plans for a workflow based completely in ELAN. In cases where the internal structure of a word was unclear (i.e., our discussion of analyses created different morphological boundaries), ELAN did not easily allow for multiple possibilities to be held or presented at the same time. Furthermore, it was challenging to reflect additional commentary in relation to each proposed analysis that we were developing. The tiers and segmentation used for time-alignment of the transcriptions and audio in the ELAN document are useful to view the various representations of the story (i.e., transcription, translation, morphological analysis, and audio) (see Figure 4 below), but in cases where the analysis is uncertain the user's ability to display multiple possibilities in relation to a single word is limited. Particularly during the drafting stages of this research, this was a considerable challenge.

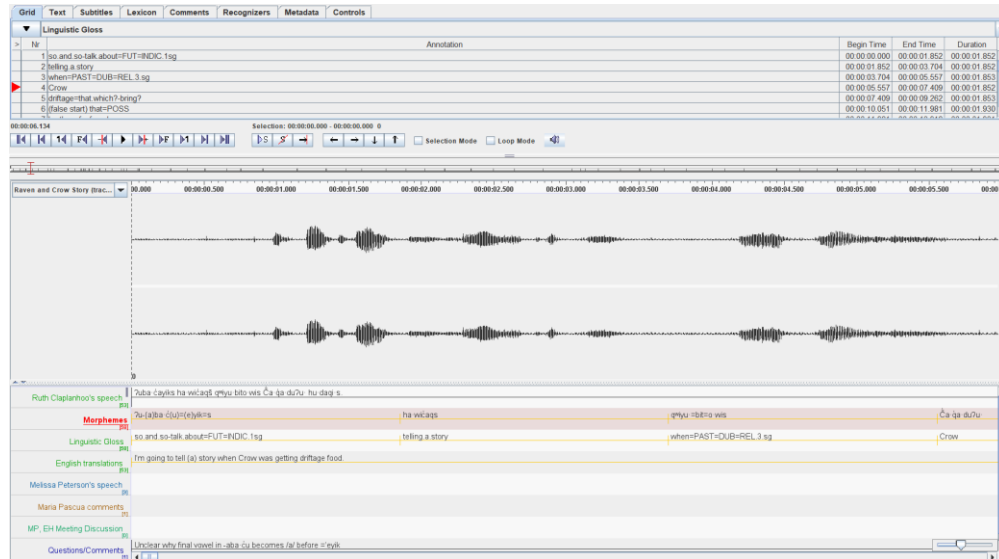


Figure 4: Representation of the time-aligned Raven and Crow story in ELAN

Furthermore, only the Interlinearization Mode in ELAN provides the flexibility to “zoom” in on the written representations of the story by adjusting the font size within the program (see Figure 5).

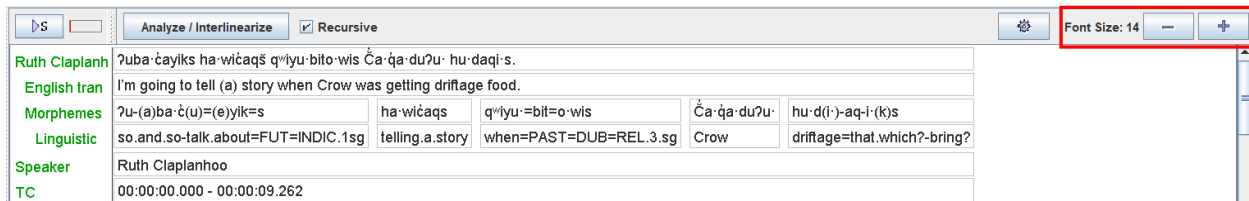


Figure 5: Interlinearization Mode view in ELAN

With this work taking place virtually over Zoom, it was important that the size and scale of the information we were reviewing was easily adaptable during our meetings to ensure that Maria could see and follow along with the materials on my screen.

For these reasons, a Word format was also developed to share weekly updated version of our work via email and to organize notes and comments that are connected to various analytic levels of the story. For example, comments can be linked to a word, proposed morpheme, unidentified sequence, or a single character as shown in Figure 6:

du+du--a-č [L]-xi-wa+='aλ hu-daqi-t, ʔu-ʔu-duxʷaλ ká-šću hu-di-qey
 du+du--a-č [L]-xi-wa+='aλ hu-di-aq-i-t
 [R]- song-at.the.margin.along.the.water-using=TEMP driftage.food-much-3pl?
 ʔu-ʔu-duxʷ='aλ ká-šću hu-di=qey(u)
 looking_for=TEMP hair.seal driftage.food=COND.3sg
 She was singing while going after hair seal driftage.

wikałwa-d x̣eʔi-yaχ ʔa-de-čʔaλ ʔuqʔot ʔi-ʔi-xʷʔiq ká-šću.
 wik='aλ=wa-d x̣eʔi-yaχ ʔa-d(a) e-č(iλ)='aλ ʔuqʔot ʔi-ʔi-xʷ =iq ká-šću
 not=TEMP=QUOT.3sg even? in.fact-??-PERF=TEMP find big=ART hair.seal
 It was said she didn't even in fact perceive the big hair seal.
 Davidson (2002: 460) x̣eʔiλcey means 'even', and this looks different.

Figure 6: Representation of story analysis draft in Word format

These comments can also overlap to reflect different possible analyses or be responded to, making a longer comment thread that reflects the development of our thinking or to complete a thread with the reasons we found that made that path unlikely. In cases where we had multiple plausible theories regarding a word's analysis, Word also allowed us to display different possibilities in the same cell of the interlinear glossing table. Furthermore, colour-coding and the ability to cite other resources below the story line as copied text or screenshots became important when I wanted to pull in external perspectives to review specific questions with Maria. Functionally, Word also makes it easier to adjust aspects of the typeface to improve readability (see examples (3) and (4) below) for virtual meetings, and allowed us to adjust the size and zoom into particular lines of the story so that the presented story was legible via screen-sharing.

Nonetheless, ELAN was still an integral component to our review process where we wanted to refer to the spoken story. Using the Makah and English texts that were aligned to the original story, we could easily navigate to the relevant audio to listen back to Ruth's telling of the story. Depending on what we were trying to discern, we would review the story in either ELAN or Praat with the audio shared over Zoom. If we were wanting to listen to a full line or section of the story, this was generally done in ELAN. ELAN was useful in these instances to replay and loop the selection for review as needed or adjust to a slower playback speed (usually 70-80%) for sections of rapid speech. In other cases where our goals were to discern a specific speech sound, Praat provided additional support through spectrograms. These

allowed us to visualize and measure aspects of the waveforms to discern details of pronunciations (e.g., vowel duration, manner of articulation, etc.).

Zoom was another software that was necessary to the circumstances and design of our research. Zoom allowed us to collaborate remotely in an effective way and document our work process. The use of Zoom provided many benefits to our research through its ability for screen- and audio-sharing, recording, and chat messaging. In order for the meetings to run smoothly, I would share my screen over Zoom with the following materials open: the current version of the analyzed text in the Word-based format, the ELAN file with the time-aligned text and translations, relevant papers or materials that might inform our discussions (e.g. Davidson 2002; Davidson & Werle 2010; Gill & Renker 1992; *inter alia*). Zoom's screen- and audio-sharing allowed me to present and lead discussion about our story analysis in a way that ensured Maria and I were looking at and referring to the same points in the story. Screen-sharing also ensured that, as changes were made to our document based on Maria's feedback and our conversations, I was accurately capturing her ideas and information. The accuracy of our work was additionally supported with the use of Zoom's chat function which enabled Maria to easily send me corrective spellings of Makah words and examples if she saw that my notes were inaccurate. Furthermore, screen-sharing exponentially increased the value of meeting recordings. Because the screen is captured on these recordings in addition to our voices, these videos of our meetings reflect not only our discussions about the story analysis but show the page or line as it existed and evolved during the course of research.

Related to meeting recordings, Zoom includes various options for audio settings that may be helpful for a variety of linguistic research. These settings allow users to adjust to the focus of linguistic research and the environments of meeting participants⁴. Depending on the options selected, background noises may be suppressed, the speaker's voice can be differentiated from surrounding voices/noises, or in studio-like conditions, an "original sound" option can bypass Zoom's default noise suppression to capture

⁴ Thank you to Dr. Carlos Nash for his guidance and recommendations for recording using Zoom at CoLang 2022.

background noise that may be intentional for the recording (e.g., music for song recording). During this research, Maria and I both had access to relatively quiet meeting spaces and chose to use headphones, so Zoom's regular noise suppression sufficed to record our meetings. Also, the content of our meetings was conversational and for communicative purposes as opposed to the creation of Makah language documentation or other materials that might contribute to phonetic or prosodic work which would require higher quality, cleaner audio detail (cf. Grzech and Shaca 2022). For this project, general Zoom settings met our needs and produced clear recordings. The decision to record these meetings was to create a transparent record of all the possible analytic interpretations we considered during the course of this study, particularly for instances where we were not able to identify a single analysis that seemed to align with the word used in the story, as we understood it.

The purposes of our meeting recordings were twofold: 1.) to aide during the research process and 2.) to create documentation of our process should this work be revisited or expanded on in future. First, during the research process, these recordings provided me with a resource to return to, to make sure I had fully taken on board all the information that Maria shared. This aspect of our workflow also enabled me to remain an active participant during our meetings, knowing that all the information Maria was sharing was being documented without my having to take thorough notes while also participating in the conversation. Second, after this research process is complete, these files will be archived with the MCRC Archives to document the process and discussions. The main motivations for archiving these recordings are to document this process, to encourage the continued relationship between archival materials and the contemporary Makah Language Program, and to ensure transparency for the benefits of continued research development. This research design presents one possible way to develop a feedback system between historical recordings (which can provide new understandings for Makah language teaching and learning) and revitalization (which, through continued practice, feeds into the ability to further engage with recorded materials, such as stories or traditions shared by Elder speakers).

Our meetings also included instances where Maria shared context regarding different versions of the “Raven and Crow” story, how things are/were in Neah Bay, or how speaker background and experience may situate aspects of our interpretations of the story. Despite potential interest in these points shared by Maria, some of these comments were not related to the words or lines that ended up being highlighted within the scope of this thesis. This information may nonetheless be relevant and of interest toward future cultural or linguistic work. For this reason, maintaining these recordings allows a more complete insight to this research process and leaves a clear trace of the work that went in to developing our theories based on the resources available to us at this point in time. As more knowledge is developed, our conversations may be revisited and re-evaluated.

Through this process, Maria also shared more general feedback around the presentation of the Makah transcriptions accompanying the story. Although I found the Makah keyboard (LanguageGeek 2024) very user-friendly and easy to adapt to, once working with longer lines of text, I noticed there were some challenges to having everything “work” as it should to present the Makah orthography clearly. Much in the same ways described by Schillo & Turin (2022), the Makah keyboard functions best with a select few typefaces. Some common typefaces, such as Arial or Times New Roman, often cause the diacritic marking glottalization above a wedged letter (i.e., č̣) to be hidden or only partially visible in digital formats, and other typefaces can present diacritics in altogether different positions relative to the character they are modifying (e.g., Garamond shifts diacritics to the right, see (3) below). For Makah, Maria recommended that Calibri (Light), Andika and Aboriginal Sans Serif (LanguageGeek 2013) typefaces work best so that all characters and diacritics remain visible on the line of text and appear in the correct position. In some cases, even Calibri is challenged to clearly represent Makah characters. For example, this telling of the “Raven and Crow” begins with the following line, shown in a selection of the fonts mentioned above (3a-d):

(3)

- a. **ʔuba·ćayiks ha·wićaqš qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daq̣i·s.** (Garamond)
- b. **ʔuba·ćayiks ha·wićaqš qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daq̣i·s.** (Arial)
- c. ʔuba·ćayiks ha·wićaqš qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daq̣i·s. (Calibri Light)
- d. **ʔuba·ćayiks ha·wićaqš qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daq̣i·s.** (Aboriginal Sans)

These examples illustrate that in the context of this story, especially when ‘crow’ is capitalized to refer to the mother crow character, the č of Ča·q̣a·duʔu ‘crow’ is visible to varying degrees. For this story, the selection of typeface was an important consideration to ensure that the digital working copies of this story remained legible for Maria and me and that the final materials accurately represent the Makah written text. This project presents Makah in Aboriginal Sans which allows the most accurate view of the Makah characters used in this Raven and Crow story in digital formats. Because Maria and I worked virtually and intend for these materials to be shared and engaged with as a digital resource, the more compressed diacritics work well to ensure everything remains visible regardless of character height. For printed resources, other typefaces such as Calibri, Arial, and Times New Roman may also be viable options for written Makah if the document spacing allows for the more expanded nature of these typefaces when diacritics are stacked above the letter.

Maria also shared that “for reading fluency in Makah, there is often a double-space between words [so that the] reader can tell more easily where words start and stop” and that “where a sentence ends with a raised dot, it might make more sense to leave a space before the period so that the raised dot doesn’t look like a colon” (p.c., November 30, 2022). She also suggested that, for some fonts, the readability of Makah can be improved in Word by editing the font to use expanded character spacing (0.5 pt) so that Makah words look less crowded. For example:

(4)

- a. ʔuba·ćayiks ha·wićaqš qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daq̣i·s. (normal spacing)
- b. ʔuba·ćayiks ha·wićaqš qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daq̣i·s. (expanded 0.5pt)

This was a change that I noticed, as someone new to reading Makah, helped me significantly to more easily distinguish and read unfamiliar words. Notably, the spacing between characters made it much easier for me to notice the raised dot (·) which shows which vowels have a lengthened pronunciation.

2.2.5 *Revisions*

Once Maria and I had completed a full collaborative review of the story, we were able to address many of the questions that arose during my original independent story analysis. There were, however, still sequences or words that we had not been able to clearly identify, or cases where we had proposed more than one possibility that may account for the construction of a word. To try to address some of the remaining uncertainties, I began an independent research process to further understand and contextualize our analyses.

Once Maria and I had spent the time together reviewing our initial analyses together, I felt more able to engage meaningfully with the literature about Makah and other Wakashan languages. Having participated in the collaborative review process, I found that I had new and more specific questions about Qʷi-qʷi·diččaʷ phonology, morphology, and syntax than I had known to ask during our first meetings. By working within a singular and contextualized language environment (i.e., this Raven and Crow story) and with the support of the existing literature and Maria, the collaborative review process enabled me to better understand Makah grammar and make stronger connections between the story itself and the more abstracted or complex linguistic descriptions of the Makah language. Although this project draws upon limited resources, our project design enabled me to more adeptly navigate, apply, and reflect critically upon available literature and the questions raised through this storywork after having discussed the possibilities with Maria.

One key approach that was encouraged by Maria even as we went through the story analysis was a comparative method looking at what may be known in relation to Ditidaht or Nuu-chah-nulth. Cross-linguistic comparative research can supplement or provide new perspectives regarding phenomena or

the lexicon with information that is available from within the language family. This is a common approach particularly where there is also an interest in archival or legacy materials and where speaker involvement in revitalization may be limited by interest, availability, comfort, or fluency in the language. For example, Baird (2013) describes learning Algonquian linguistics as she set out to reclaim Wampanoag, Lukaniec (2022:322) refers to reclamation-driven reconstruction of Wendat for their language program, and the Kurna dictionary describes part of the process in its creation as looking at “related languages to see if they have the same word” to provide indications of pronunciation where Kurna materials were not conclusive (Amery et al. 2023:2). There is a tradition of comparative linguistic work among Southern Wakashan languages in particular (Davidson 2002; Davis & Wojdak 2007; Fortescue 2007; Haas 1969; 1972; Jacobsen 1969; 1979b; Werle 2010) as well as cross-linguistic references to shared cultural or language heritage (Gill & Renker 1985; Thomas & Hess 1981; Touchie 2005).

At the beginning of this process, there was some hesitancy to involve more comparative works. Maria suggested it might be best to first review materials that describe Makah specifically to avoid misinterpreting or conflating descriptions for each language. However, through the collaborative research phase of this process and as my familiarity with Q^wi-q^wi-diččaq was strengthened with Maria’s guidance, it turned out that a comparative method was often useful, and in some cases, the only way to address topics that had been raised through our conversations. Expanding our research in this way invited reference to other stories that had been glossed and analyzed such as Sapir’s (1924) presentation of a Nuu-chah-nulth story, and Swadesh & Swadesh (1933) and Touchie’s (1976, 1977) work presenting Ditidaht texts. Additional literature that describes comparative and historical knowledge about Southern Wakashan languages was also referenced to validate and address specific discussions related to this story.

The “linguistic research” stage of this process was originally conceived of with the goal of applying a linguistic perspective to respond to a few larger questions or points of interest that may have emerged from the story analysis. However, at this point in time and the revitalization process, the story

analysis instead revealed many specific questions or uncertainties (as alluded to above) which did not necessarily relate to broader shared themes. Although it may have been possible to identify general similarities, we found that our remaining questions surrounding the story analyses were best approached individually to be helpful in the scope of this storywork. Therefore, this process instead became an opportunity to present our analyses with contextualization relative to existing descriptions (i.e., address whether our proposed analyses interrogate, expand upon, or support existing theories of Makah or other Southern Wakashan languages). This stage of research also served to more fully articulate the reasons for any uncertainties concerning the possibilities we presented and to delineate how assumptions surrounding one analysis over another may inform the broader meaning of the word within the sentence or story. Following our project design, I conducted this research first independently, and then, similar to the initial glosses and analyses, Maria reviewed and provided feedback on the way that I had understood and framed our story analyses in relation to grammatical descriptions. This stage of the research process informs the analysis chapter of this thesis (Chapter 3).

2.2.6 Process after thesis publication

Following the analytical aspects of this research process, there are further steps required to complete this work as delineated in our research model (Figure 2). Our research process developed two main outcomes: 1) the recordings of our meetings as documentation of this process and our glosses and analyses, and 2) the time-aligned transcribed, translated, and glossed telling of the “Raven and Crow” story that will feed into current and future revitalization work. Final versions of these documents will be completed and sent to the MCRC Archives upon review and incorporation of feedback related to this thesis. This ensures that I will be able to incorporate all feedback from Maria and the MCRC Board of Trustees regarding the analyses and discussions presented in this thesis before submitting our work to the MCRC Archive.

The meeting recordings were initially saved to my computer, and shared immediately after our meetings with Maria using Google Drive which is the platform used by the MCRC when sharing large files.

Meetings were saved using naming conventions that relate these records to the story involved with this project and the date (YYYYMMDD) of our meeting. Maria's and my names are reflected on-screen in the recordings themselves. We also implemented a review process for these recordings to allow Maria to review and adjust anything that she shared prior to their archival with the MCRC Archives. To request, track, and ensure the completion of any necessary changes, I created a shared spreadsheet in the same folder on Google Drive to track requests. These requests will be logged with reference to the video they would apply to, the time range within that video that requires editing, the nature of the edit, and a column to track when each change is complete. Examples of the types of edits that might be requested would include:

- removal of sections of the video that Maria decides should not be included in the final version or be available to a general audience;
- edits to sections of the video to correct or contextualize information that was shared; or,
- addition to the original video by inserting additional video (or text) to supplement or clarify something discussed in the original recording.

This workflow will have Maria submit requests for changes as she is able to review the videos for appropriateness and I will enact the changes using Microsoft ClipChamp, a free video editing software that has the ability to perform each of the functions necessary to make the corrections outlined above.

The story transcriptions, translations, glosses, and analyses developed through this research process will also go on to be integrated in new ways through the revitalization programs in place through the MLP. In relation to MLP objectives and current teaching challenges outlined in §1.1.2, there are a variety of ways that this story and these different materials may be engaged with. To support these different goals, our work will be presented in a few different formats to allow learners and teachers to use and adapt the materials that came from our research process for their own language learning wants and needs. As already described, this story will be presented in ELAN which shows transcriptions, translations, glosses, and additional notes across various tiers which are time-aligned to the original story audio, with

the option to hide tiers (see Figure 4). This version is anticipated to be most used by language researchers and teachers who are comfortable navigating ELAN. The final version will include tiers for:

- transcriptions of the storyteller Ruth Claplanhoo's speech;
- transcriptions of interjections made by the listener and recorder, Melissa Peterson;
- Makah morphemes;
- morphological glosses;
- English translations;
- supplemental notes from Maria;
- comments or discussions from collaborative research meetings; and
- remaining questions

The benefit of this format is that users can easily refer back to the original oral story recording directly while also following along with written forms. There are also functions to search within ELAN and export the material to other create formats (e.g., the interlinear gloss in text format, text wordlist, etc.) depending on how people want to adapt the story analysis in the future.

For most people who would not be familiar with ELAN, there are also documents that include line-by-line interlinear glosses created in Word, similar to the version Maria and I used during the collaborative review stage of our remote research or to the version presented in this thesis. In Word, there is no simple solution to embed the audio recording in alignment with the written version and analyses, but, by noting the time range for each story line, there is at least a straight-forward way for the reader to re-align the Word document with the original recording. Using Word documents, we are also able to easily share the written versions that this research developed for this story for varying audiences. For example, versions will be created to include the same information as the ELAN tiers, but other versions can show just the transcriptions and translations, or transcriptions with morphological segmentation, or transcriptions only. These pre-formatted different versions of the written story materials allow anyone in the speech community to determine the best way for them to engage with this story toward their own learning objectives.

Another format that will be used to present the transcriptions and translations in alignment with Ruth's telling of this story is a video format. This presentation allows for users to listen to the original story and read along in Makah or English. Using the video format facilitates the sharing of a story like this for people interested in having exposure to Qʷi·qʷi·diččaq through listening and/or reading this story together without needing to engage with ELAN. The complexity of segmented morphemes and glosses do not suit this format well however, in particular because a video is poorly equipped to replay a segment of audio or pause automatically before the next line of the story. This may be the case for classroom contexts where a teacher wants to share this story with a large group of students, or in a home environment where an adult may not yet feel comfortable telling a story in Makah themselves but wants to share Makah storytelling with their family. An alternative to the video format that would address similar interests and circumstances is the open-source software, ReadAlong Studio (<https://readalong-studio.mothertongues.org/>) which uses individually uploaded audio and transcriptions to create digital "audiobooks". This software creates a book format where lines or sections of the story transcriptions can be separated across pages (with the option to add translations) and the book is "read" by matching and playing the segment of audio that corresponds to the transcribed text. Images can also be added to make this more of a traditional story book. ReadAlong Studio has the added benefits of highlighting the exact word being spoken on the screen, allowing the reader to click an individual word to hear it repeated, and to adjust playback speed to learn pronunciation (National Research Council Canada 2023). At the discretion of the MCRC and Makah tribal members, this story recording may be appropriate to use with this software, but for now, the creation of a video format provides some of the same uses.

Similar to the meeting recordings, final versions of the materials generated through our research process will be held by the MCRC Archives. Because the original story was documented by the MCRC, this decision reflects the desire to maintain the MCRC's ownership, control, and possession over the materials that were created with them. Beyond archiving, our plans also aim to mobilize and invite engagement

with Ruth’s telling of this story. There will be some people who may be interested in engaging with this story who interact more regularly with the MCRC and the MCRC Archives, for example, formal language teachers. The final versions of our research can be used in a classroom setting or adapted and borrowed from to develop a lesson plan. However, we also wanted to develop materials that invite other people within the speech community with an interest in learning Qʷi-qʷi-diččaʷ to access and listen to the story. In conversation with the MCRC archivist, Keely Parker, we determined that sharing these materials digitally could be done using the Makah Tribe’s intranet system that allows tribal members from anywhere to access materials using their password which remain protected from the general public. This solution similarly accommodates our goal of keeping this story under a greater degree of MCRC control while also supporting community-wide digital access and mobilization of the materials created through this research as language learning resources.

2.2.7 Summary of methods

This chapter has detailed the considerations that inform and the steps that make up the Collaborative Analytical Storywork method which supports this research. A summary of the different tasks, contributors, a description of key motivations or decisions that drive each step, and the technologies involved is outlined below in Table 1 with a more schematized version included in Appendix B:

Task	Contributor	Description	Technologies
Recording selection	Maria Pascua Erin Hashimoto Megan Lukaniec (Supervisor)	<ul style="list-style-type: none"> • Discussion of: <ul style="list-style-type: none"> - What is appropriate for classroom use, independent study, and inclusion in thesis publication? - What recording best suits linguistic analysis and fit the scope of the current project? 	Zoom
Transcription/translation	Maria Pascua	<ul style="list-style-type: none"> • Maria’s familiarity with the story and knowledge of Qʷi-qʷi-diččaʷ help to develop preliminary transcriptions/translations. • As part of her transcription, Maria segments the story into 53 lines which informs the time-alignment of the story. 	Word
Time-alignment	Erin Hashimoto	<ul style="list-style-type: none"> • Erin time-aligns Maria’s transcriptions and translations to the story recording using the segments created by Maria. 	ELAN
Preliminary morphological	Erin Hashimoto	<ul style="list-style-type: none"> • Building from Maria’s transcriptions and 	Word

analysis		translations, Erin uses her linguistic training to research and interpret existing linguistic descriptions related to Qʷi·qʷi·diččaq to develop initial morphological analyses.	
Collaborative review of morphological analysis	Maria Pascua Erin Hashimoto	<ul style="list-style-type: none"> The preliminary analyses guide Zoom meetings between Maria and Erin to review, complete, or revise analyses. A Word format of the story analysis is used for these meetings. Word offers easier viewing via Zoom screensharing, the ability to tie notes to a character, morph, word, etc. and more robust formatting options to use during drafting. Updated versions of the Word file were sent via email following weekly meeting. ELAN and Praat are referenced during meetings as needed to verify transcriptions or translations. ELAN can control playback speed and Praat generates spectrograms. 	Word Email Zoom ELAN Praat
Documentation of Zoom meetings	Maria Pascua Erin Hashimoto	<ul style="list-style-type: none"> Collaborative review meetings between Maria and Erin are recorded to document discussions in full for future researchers. Meeting recordings are saved to Google Drive for Maria’s review and a Google Sheet is used to track requested and completed edits to these recordings. 	Zoom Google Drive Sheets ClipChamp
Revisions and supplementary linguistic research	Erin Hashimoto	<ul style="list-style-type: none"> Following the collaborative analytical review, Erin conducts additional literature-based research to supplement the knowledge developed during the collaborative meetings and to try to clarify remaining questions. 	Word
Review of final analysis and linguistic research	Maria Pascua Erin Hashimoto	<ul style="list-style-type: none"> Maria reviews the analytical information presented in this thesis to check that it is consistent with her knowledge and experience speaking Qʷi·qʷi·diččaq. Maria and Erin discuss feedback on Zoom and over email. 	Word Email Zoom
Archival and distribution	Keely Parker (<i>MCRC archivist</i>) Erin Hashimoto	<ul style="list-style-type: none"> The various formats created from this thesis (ELAN, Word, video) are finalized with the revisions suggested during the review of the linguistic research. Final files will be shared with Keely Parker (MCRC Archivist) using email or Google Drive (depending on file size). 	Email/Drive ELAN Word ClipChamp <i>Optional: ReadAlong</i>

Table 1: Steps of Collaborative Analytical Storywork

This method highlights the value of community-based language research and its underlying principles in the development a collaborative linguistic project. By using collaborative methods that allow all parties to contribute from the planning of the project to the research itself, relevant and attainable

projects can be created that attend to the goals and interests of all those involved. In the circumstances of this thesis work, the Collaborative Analytical Storywork method came about as a set of intuitive strategies allowing me and Maria to combine our perspectives and personal resources (of knowledge, time, and technological skills) to make a concerted effort to develop a morphological story analysis. By developing this analysis, we are able to help contribute new perspectives and resources to the Makah Language Program to while also enabling me to learn more about Q^wi-q^wi·diččaq from Maria—a privilege which has undoubtedly improved the quality of this thesis and my understanding of the realities of Makah language work today. Although different communities and researchers may be faced with unique circumstances and hold knowledge or skills that are particular to them, the broader lessons relating to the value of collaborative, community-engaged work and reciprocal research design inherent to the Collaborative Analytical Storywork method and the workflow of this research model itself can be adapted and transferrable to other communities' projects or communities in similar circumstances.

Chapter 3: Story analysis, discussion, and reflections

This chapter includes a curated selection of discussions and points of interest that emerged through my and Maria’s research process. As we worked with the “Raven and Crow” story, we allowed transcriptions, translations, and analyses to inform one another and be adjusted each as needed. In the current context of Makah language work, the resources to undertake this type of research are relatively limited. This research relies primarily on existing linguistic descriptions of Makah by Davidson (2002) and Jacobsen (1971, 1973, 1997a, *inter alia*), analyses of example sentences (Davidson 2002; Jacobsen 1973; 1986), short text analyses (Davidson & Werle 2010; Gill & Renker 1992), other transcribed and translated (hi)stories (Hashimoto & Rosés Labrada 2018), as well as Maria’s personal knowledge and documentation of Q^wi-q^wi-diččaq. Where it is helpful, I also refer to comparative Southern Wakashan research (e.g., Fortescue 2007; Jacobsen 1979b; Werle 2010) and descriptions of closely related languages such as Nuu-chah-nulth and Ditidaht (Inman 2019; Nakayama 2001; Touchie 1976; 1977; Werle 2007).

Among Wakashan language researchers, even in descriptions that pertain to a single language, there are sometimes distinct glossing conventions due to differences in opinions regarding the best way to describe a morpheme or its function(s). Furthermore, because this thesis includes cross-linguistic examples and analyses, the decision was made to copy all analyses over exactly as they were originally written⁵. The glossing conventions used in the body of this thesis are often adopted from Davidson (2002) as the most comprehensive description of Makah available to date. Where glossing choices have been made in this thesis that differ from what Davidson (2002) establishes, the decisions informing those choices are described (e.g., discussion of ʔu- in §3.2). With regards to the orthographic choices made in this thesis, Q^wi-q^wi-diččaq is written using the orthography used by the Makah Tribe and Makah Language

⁵ The decision to copy other analyses into this thesis as they were originally written sometimes introduces glossing abbreviations that differ from the abbreviations established for my thesis (ix). The abbreviations that are unique to other works are listed here:

CONT. *unknown*; IMM. Immediacy clitic; IND. Indicative; LOC. Locative; MOM. Momentaneous; NOM. *unknown, likely an abbreviation of nominalizing formative or nominalizer*

Program today. The main change in the contemporary writing system is that the uvular fricative is written as **ǰ** (wedge) compared to past works presented by Jacobsen and Davidson which use **ɣ** (underdot). Where **ɣ** appears in any transcribed examples from these authors, the transcriptions are adapted to reflect today's writing system. An exception to this is made for information referenced from Fortescue's (2007) comparative dictionary. In this case, because the transcriptions are being used to represent proto-forms as well as modern cognates for all Wakashan or Southern Wakashan language, the decision is made to retain the orthographic conventions used by Fortescue. This decision also facilitates the cross-linguistic comparison of forms. All examples from other languages are presented as they were originally written.

Before beginning with the story analysis itself, this section introduces first the formatting conventions used to present the analytical storywork and, second, the decisions regarding the presentation and organization of Maria's and my conversations in relation to Ruth's telling of the story. This thesis uses the convention of bolding Makah rather than the more traditional italicization of non-English words because the story is told originally in Makah. Therefore, the Makah text is given visual primacy within the body of this thesis and in the presentation of the story lines by highlighting Makah in unitalicized, bold text. English translations of the story are presented on the following line in italics for the story or, for linguistic examples, in plain font with single quotations.

For interlinear glossing and analysis, following the Makah transcription and English translation, next there are two lines presenting the Makah morphological segmentation (described further below) in plain, unitalicized text, and finally, the morpheme-by-morpheme English glosses presented in italics. At this point in time, it was judged to be useful to present each line of the story with two lines analyzing the morphemic structure of each Makah word, so that each line shows the following:

Line A: Unmodified Makah transcription
<i>Line B: English free translation</i>
Line C: Makah morphemes presented with surface correspondences
Line D: Makah morphemes presented as underlying forms
<i>Line E: Morphemic glossing in English</i>

Table 2 Conventions for line presentation of the “Raven and Crow” story

In application, an example of this format appears as follows:

ʔuba·ćayiks ha·wićaqš...

I'm going to tell (a) story...

ʔu–ba·ć=ayik=s	ha·wićaqš
ʔu–aba:ću='eyik=s	ha·wićaqš
<i>ref.stem–talk.about=FUT=INDIC.1SG</i>	<i>telling.a.story</i>

Lines C and D of the above interlinear gloss both show the morphemic structure of each Makah word but Line C presents morphemic segmentation that more closely aligns with the surface representation of the morpheme as it appears in the word was used while Line D reflects underlying structures. We decided to reflect both surface and underlying morphemic structures because it addressed a few goals for this project. First, we recognize that not all speakers wanting to develop understanding of Makah word-building may be interested in relating an underlying representations of the word form to the surface level words. Second, there may be speakers interested in understanding the underlying morphemes and how these word parts connect in Makah, but for whom an intermediate step between the transcribed word and underlying morphemic analysis supports their ability to observe the phonological or morphological changes that occur between these levels of analysis. Particularly in the case of Makah where there are so many underlying features that can change vowel quality, vowel length, or a preceding consonant, we wanted to ensure that learners were equipped with not only the described underlying form to look up other information about a given morpheme, but also an understanding of how it had been analyzed as a part of the whole word from the story context. Third, Maria mentioned through the course of our meetings that the draft dictionary being collated by the Makah Language Program will include different

pronunciations to reflect variation among Makah speakers. Because this project engages with possible variation in Makah accents or dialects (though more research is needed to understand the patterns and possible factors of speaker variations in Q^wi·q^wi·diččaq), by creating one line that illustrates the pronounced form of a morpheme and another that presents the underlying, “standardized” morpheme, this project lays the groundwork for a larger-scale corpus-based inquiry into dialectal variation in the future.

Turning to the decisions that have been made regarding the organization of the conversations and research that was carried out through this process, it was important that our discussions remained directly connected to the parts of the story that they developed from. This means that the sections of this chapter are organized not by shared linguistic themes, but according to the story itself and the story lines that give context to the question(s) being raised or the topic(s) discussed. Ruth’s telling of the story is presented line-by-line along with the interlinear glosses developed as part of this research. For each line that prompted conversation between Maria and I, these discussions are interwoven throughout the telling of the story. For example, the first line of the story provides an example of alternations related to the future clitic, =’eyik. Based on the information about changes to the form of the future clitic that Maria shared with me, I conducted additional research, presented in §3.1. At the end of this section, a new page begins with the following line of the story.

In some cases, there may be multiple lines of the story presented before another section and topic are introduced. This organization mirrors the process between me and Maria during our collaborative review meetings. Some lines of the story inspired larger questions that benefitted from further research, drawing from external sources and cross-linguistic materials to address our uncertainties. In other cases, Maria shares further linguistic or cultural knowledge to help to reframe or contextualize what may have been happening in the story. These comments, larger discussions, and research findings are presented as the numbered sections of this chapter. In cases where these comments

were shorter or the question remains relatively unanswered within the scope of the current thesis, these ideas are summarized and captured as footnotes related to the story lines or interlinear glossing itself. Naturally, there are also lines that were straight-forward to analyze and gloss, so within this chapter, these lines are presented with interlinear glosses, but do not have additional commentary connected to them. These lines are included to maintain the flow and context of the story rather than presenting the lines that we refer to directly in isolation or decontextualized from Ruth Claplanhoo's original telling of the Raven and Crow story.

In this same spirit, this chapter opens with a presentation of the full story told through Maria's transcriptions and translations of the original story recording (Pascua, unpublished manuscript). The story is first presented this way with the goal of providing the reader with the necessary context and understanding of the story narrative. Lines are numbered **L1**, **L2**, etc. to facilitate referencing to past lines or examples in the story throughout this thesis chapter. The full story analysis is presented uninterrupted in Appendix A ("Raven and Crow' story") and is also recommended reading before continuing to read this chapter. The decision to include the story analysis in the appendix was made to distinguish the work that was produced collaboratively through this thesis research as independent from the body of this thesis which I have written independently. In this way, I am better able to recognize the collaborative nature of the analytical storywork and appropriately attribute our collaborative work to Maria as well as the MCRC whose institutional work and support makes this work possible.

Because our conversations emerged naturally from our questions related to the story, there is also a variety of linguistic topics engaged with through this research including phonological (§3.1, §3.13, §3.20), morphological (§3.5, §3.6, §3.11, §3.13), sociolinguistic (§3.4, §3.6), and historical-comparative (§3.3, §3.8, §3.14, §3.18) perspectives. The breadth of these topics necessitates that I assume some basic knowledge of Wakashan or Makah linguistics in my writing. I have endeavoured to provide details within these sections of where further information on these many topics may be sought out, but it is

unfortunately beyond the scope of this written thesis to reproduce or summarize the existing linguistic descriptions of the many aspects of Makah grammar that this thesis engages with. There are also portions of this story analysis that Maria and I were not able to confidently resolve at this time. Although I present the proposed solutions that we discussed (as well as any challenges in assuming these solutions to be true), we remain open to future research or insight from other scholars that may clarify these analyses further. Where there was uncertainty or doubt around which of our proposed analyses may be correct, the abbreviation NFR (needs further research) is used within this thesis to denote cases to be returned to as the Makah Language Program continues their work.

“Raven and Crow by Ruth Claplanhoo: Transcriptions and translations”
(Pascua, unpublished manuscript)

- L1** ʔuba·cayiks ha·wićaqš mi qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daqis.
I'm going to tell (a) story when Crow was getting driftage food.
- L2** (ʔuḥ...) ʔuḥu·ʔak ḥačupsiqs...
She has a brother...
- L3** How do you say raven...
- L4** in Makah?
- L5** λu·kšū·d.
Raven.
- L6** ʔuḥo·ʔak ḥačupsiqs λu·kšū·d.
She has a brother Raven.
- L7** ʔakya·ḥu·t kʷakʔowačiq ča·q̣adaʔu·
She has a lot of small crows.
- L8** ʔakyi·q hakʔuḥʷ
Many (were) hungry.
- L9** hišū· hu·daqis·seyiks.” wa·ʔal.
“Okay. I will carry along driftage food,” she says.
- L10** wa·ʔaλwa·d ʔabe·ʔiqsʔuq Ča·q̣a·daʔu·
So it was said (by) the mother Crow.
- L11** qaʔawaca·ʔaλ du·čḥi·wataλwa·d. λi·beyis.
“Get the pack basket.” It was said Crow sang while she walked the beach. Crow sang at the same time.
- L12** du·čḥi·wataλ Ča·q̣a·daʔu· .
Crow sang at the same time.
- L13** ye·ʔi·wa ye·ʔi·wa ha· ye·ʔi·wa
(song syllables)
- L14** ʔuʔu·duḥs ka·kašćuqačakt
I'm looking for hair seal on the water.
- L15** That's seal... and she was singing.
- L16** dudu·čḥi·wataλ hu·daqit, ʔu·ʔu·duḥʷaλ ka·šću· hu·di·qey
She was singing while going after hair seal driftage.
- L17** wiķaλwa·d ḥeʔi·yaḥ ʔa·de·čʔaλ ʔuqʔoʔ ʔi·ʔi·ḥʷʔiq ka·šću.
It was said she didn't even in fact perceive the big hair seal.
- L18** λadiwʔaλ. hitaci·da·λ
Then she stopped. She put it in the container (her pack basket).

- L19** **ʔada·wa tič·š wi·kał ʃa·yasit ɫu·kšu·d.**
As much as saying this (he) must have not been far behind (her), Raven.
- L20** **q̄i>>taqł ɫu·kšu·d**
Liar Raven (or could say, Raven is a liar)
- L21** **“hišu· . ɫadiwił. ɫadiwił. yuyubaɫalc ʃwoy,” yaqwa·ʔałit.**
“Okay. Stop. Stop. You are incorrect” he said to her.
- L22** **“kupu·diksi·cuɫ,” wa·ʔał ɫu·kšu·d**
“I’m pointing at what you are carrying along,” said Raven
- L23** **ta·qwa·kšʔelaɫ Ča·q̄a·daʔu· ɫadi·wʔał**
(something about him straightening the basket Crow was carrying the hair seal in OR Crow believing him?). She stopped.
- L24** **ʔatqey hi·ta·suputʔołɫ(?) ka·ščuʔu·**
Even as (while) he put the hair seal on the ground
- L25** **ʔuči·da·puł ʔiʔi·ɫw (či) tídi·čuk**
(He) leaves (a) big rock in (the basket)
- L26** **waʔšʔał, waʔšʔał.**
She went home, went on home.
- L27** **“šu·, šu· ... ʔukya·ts ɫu· ɫuqwaqsqey,” wa·ʔał Ča·q̄a·daʔu·**
“Okay. Okay. Give that platter (to me),” said Crow.
- L28** **ʔuɫwti·da·kɫučaʔa·š ɫuqwaqs qade...**
(RC interjects about the type of platter) “Maybe had that one platter made of ummm...
- L29** **ʔatkse·q tida·... I forgot how to say cedar.**
the wood, that one. I forgot how to say ‘cedar’
- L30** **ʔatkse·ʔ**
It’s wood.
- L31** **ʔadi·sa· (hi....) hitaqsub ka·čuʔu·(ʔi)q**
“So much (you folks) OR (exactly so) need to be above the hair seal”
- L32** **kaɫšʔał ʔudu·ł tídi·čuk qi·kwa·ʔaʔałpi·tqey...**
It broke because of (the) rock as it must have wrecked it...
- L33** **“ha·>>>>,” wa·ʔał Ča·q̄a·daʔuwq.**
“Ohhhhh,” said Crow,
- L34** **“ha·>>>>! ʔuɫo·ʔałɫwa·tsi·škub ʔuse·ʔit**
“Oh! I hear that it is said exactly (of him).”
- L35** **q̄itaqiliq ɫu·kšu·d”**
“The liar Raven” or “Raven the liar”
- L36** **“hišu· waha·ʔałčʔič haʔu·kwe·ʔisałčʔič deʔiyu·ɫ, de·ʔiyu·ɫsa· haʔuk.”**
“Okay. Go little ones, you all are going to eat, sharing food, you folks are sharing food to eat.”

- L37 **wa·ʔaʎ Ča·q̇a·daʔu·**
said Crow.
- L38 **wa·ha·ʔalaʔ ti· kʷakʷaʔowičiq**
So these little ones went.
- L39 **ya·ʔa·dʔats siqi·da·kaʎ ʎu·kṣ̌u·d**
Here he was (?) Raven cooking
- L40 **“de·ʔiyuχʷasid haʔuk,” weʔitid ʔabe·ʔiqsu·c... wa·ʔalaʔ**
"We are (going to?) eat all the food," his mother said to him (one of the crow children... they said it).
- L41 **“hi·ṣ̌u·ʔi·s siqeya·ṗič.**
(MP: It appears Raven said this part) “Okay well you go along, you folks cook it.
- L42 **hu·ʔukʷaʎči· hitacaqabasicsa· ʔada·wq.”**
Go on (and) dance, you folks go around the fire.”
- L43 **dačsa·p... dačsa·bičiqχaʎsa· siqeya·ʎ**
Causing to look up... (you folks look up?) while its cooking
- L44 **Hey! huʔačʔaʎ kʷakʷaʔawačiq.**
Hey! The little ones started dancing.
- L45 **dačsa·ṗit**
He looked at him.
- L46 **wikalaʔ čuša· qʷa·du·ʎχaʎqeyu·ʔ qʷa·**
They were not aware (they were being tricked) because of how they were being like that.
- L47 **ʔatqey ʔa·di·daχal ʔaʎ (or ʔat?) hu·ʔuk kʷakʷaʔawačiq**
Even though only just but the little ones danced.
- L48 **haʔukʷaʎ, haʔukʷaʎ ʎu·kṣ̌u·d**
Raven ate, he ate.
- L49 **ṗusšʔalaʔ hu·ʔa·q kʷakʷaʔawačiq hiyo·ʔaʎ**
The many little dancers got tired. It was done.
- L50 **ya·ʔisi·ʔaʎ χaša·bis χeʔiksčʔaʎ**
Here now are bones. He (Raven) ate it all up.
- L51 **wiktakšʔalaʔ haʔuk kʷakʷaʔawačiq.**
The little ones did not eat before going.
- L52 **waʔšʔaʎ.**
(They) went home.
- L53 **That's the end of the story. Yeah. That's the only one I- only other one I know.**

L1 ʔuba·ćayiks ha·wićaqš mi qʷiyu·bito·wis Ča·qa·duʔu· hu·daqis.

I'm going to tell (a) story when Crow was getting driftage food.

ʔu–ba·ć=ayik=s	ha·wićaqš	mi
ʔu–aba:ću ⁶ =ʔeyik=s	ha·wićaqš	mi
<i>ref.stem–talk.about=FUT=INDIC.1SG</i>	<i>telling.a.story</i>	<i>um (filled pause)</i>
qʷiyu·=bit=o·wis=°i	Ča·qa·duʔu·	hu·da·q-i·s
qʷiyu=(b)it=o·wis=°i	Ča·qa·duʔu:	hu·da·q-i:s
<i>when=PAST=DUB=INDIC.3SG⁷</i>	<i>Crow</i>	<i>driftage–BFR–carry.along</i>

3.1 Line 1: Surface forms of the future clitic

This section presents research and additional questions that have arose related to phonological changes that occur with the future clitic, =ʔeyik. Ruth Claplanhoo’s telling of the Raven and Crow story begins with ʔuba·ćayiks which, Maria highlighted to me, demonstrates an instance where the future clitic =ʔeyik becomes pronounced as ayik where it follows a short vowel (p.c., January 25, 2024). Maria shared that this alternation is a regular change specific to the future clitic that differs from general patterns for vocalic change in Qʷi·qʷi·diččaq (see Davidson 2002:83–90 and §3.2.3.1 of Davidson 2002 for Nuuchahnulth). To further demonstrate the uniqueness of the phonological changes that occur in relation to the future clitic, Maria provided further examples of another apparently related surface form, i·yik, which she recognizes as also carrying future meaning, but seemingly with a more forceful intention. Based on the information Maria shared, I conducted further research into the future clitic in Makah, =ʔeyik. This section presents my findings which include an outline of the described circumstances conditioning the processes that cause the future clitic (=ʔeyik) to surface as ayik, my questions regarding the ways that the future

⁶ Vowel length can be notated by the raised dot (·) in surface forms and underlyingly for “variable-length vowels” which can become short in the third syllable or later (Jacobsen 1979c:145). However, the colon (:) is used in underlying forms only to mark “persistently long vowels” which will retain their vowel length regardless of environment.

⁷ The ending of qʷiyu·bito·wis is analyzed as the Dubitative formative clitic and Indicative. The analysis of the indicative is motivated by our assumption that o·wis must be the dubitative formative, =(o:)wis, which Davidson (2002:267) describes as “[preceding] at least the (...) Indicative or Relative” in Makah. Davidson (2002:267) adds that this modal formative expresses “the possibility that an event might occur” and includes Makah examples which translate words including this clitic with ‘might’ in English (268–9). When asked about why =(o:)wis may be used to introduce this story, Maria surmised that it may have to do with the genre of the story which is more of a supernatural, teaching story rather than a history, for example (p.c., May 27, 2024).

clitic surfaces following a long vowel or perfective suffix, and provides discussion around a possible “forceful” interpretation of the future clitic in particular circumstances.

Jacobsen (1979a:30) describes three phonological effects occurring specifically at the boundary of the word and the future clitic =’eyik:

1. Glottalization of the preceding consonants that can be glottalized (e.g., p t k c č kʷ ʃ q qʷ)
2. Added ʔ following a long vowel
3. Deletion of the glottal following a short vowel; that vowel and the /e/ of =’eyik contracts to /a/

There is no change when =’eyik is preceded by /t s ʃ x ʃ/. ʔuba·ćayiks, used in this line of the story, demonstrates the third phonological effect associated specifically with the future clitic where a short vowel contracts with the vowel of =’eyik.

There are only a few other publicly available examples of =’eyik surfacing as a·yik as illustrated in this telling of the Raven and Crow story. These other examples are found in Dialogue 7 and 10 of Pascua (2020) and a history shared by Ralph LaChester (Makah Elicitation with Ralph LaChester: Texts, Notebook 1 1965):

- (5) ʔa·di·daʃayiks ǰi·qšiš.
 ʔa·di·daʃi=’eyik=s ǰi·qšiš
 just=FUT=INDIC.1SG cheer
 ‘I’ll just cheer.’ MP, Pascua 2020:100
- (6) yukyu·sǰadayiks.
 yu+k-yu·s-ǰadi [R]⁸=’eyik=s
 RED+INCR-??-making.sound=FUT=INDIC.1SG
 ‘I’ll deny it.’ MP, Pascua 2020:113
- (7) yaqayikqayuwiʔ ti·kaʔa ʃasa·da·laʔ
 yaqa=’eyik=qeyu=at ti·kaʔa: ʃa-sa·-diʃ=’aʃ=°at
 one.who=FUT=COND.3SG=3PL DEM stick.like.object.stands-precisely-PERF=TEMP=3PL
 ‘So it happened they put a pole up on the beach.’ RL, ‘The Last Makah War’
 (Makah Elicitation with Ralph LaChester: Texts, Notebook 1 1965:18)

⁸ The [R] notation indicates that the suffix -ǰadi ‘making sound’ has what is termed an affix-associated template—in this case, producing word-initial CV reduplication. Footnotes are included throughout this thesis to clarify the uses of the different notations indicating affix-associated template. See Davidson 2002 §3.3.1 for more details.

From these examples it is unclear whether Jacobsen's (1979a) descriptions of phonological changes listed above prove to apply consistently. Unexpectedly, in example (7) above, the preceding morpheme seems to have an underlying long vowel followed by **=eyik**. According to the second rule described by Jacobsen (1979a), this long vowel should be retained and cause a glottal stop to be inserted (i.e., **yaqa·ʔeyikqayuwit**⁹). With so few examples, it is not possible to fully confirm the rules proposed by Jacobsen (1979a) or to determine whether there may be some degree of speaker accent or preference involved in this alternation as well, but as other examples are identified, this pattern may become clearer.

The rest of my research in this topic was prompted by the "forceful" future form that Maria introduced me to, I investigated words in available materials that surface with **i·yik** indicating futurity. Maria explained her sense of this form during one of our meetings as follows:

"One other thing with this and I've heard this most as a threat almost like *I will do this to you* **=i·yik**. So it comes from a story... It's another story where the little Wren is threatening the Elk whose stomping on all the little animals because they're too noisy for him and she's singing, but he doesn't want her to sing anymore. And he's grumpy, she's happy, and he keeps threatening her like, *I'm going to step on you* **yači·ʔi·yiksi·cuḥ**¹⁰ *I'm going to step on you*. And she says **tapḥa·ʔaqḥiḥtadiḥi·yiksi·cuḥ** something like that like, *I'm going to fly up your nose then!* and she ends up laying him out because he keeps sneezing. He can't get her out of his nose. And there's a teaching in it about not being a bully is what it comes down to because someone smaller than you might put you in your place and it will surprise you! (...) So that **=i·yik** came out and some of us didn't know that, when we did a Mentor-Apprentice Program here too for a while and there might be better way to translate **=i·yik**, but I've heard it more in a threatening way. 'I will definitely do this to you,' so it's more forceful is what I'd say. And it is the future, you haven't done it yet, but you're giving them a warning '*I'm going to do this,*' you know. Yeah, so that might be just good little notes for realizing the types of future."

(p.c., Jan. 25, 2023)

Through searching for examples of the **i·yik** sequence, I noticed that this pronunciation seems to surface where the future clitic **=eyik** directly follows a perfective suffix. However, existing descriptions and examples provided by Davidson (2002), Jacobsen (1971; 1979a) and Renker (1987) illustrate that there are

⁹ This transcription also unexpectedly suggests that the /e/ of the Conditional clitic (**=qey**) is pronounced as [a] here.

¹⁰ We are unsure of the spelling of this word. This is our best guess, but Maria was unsure whether the **c** of **yac-** would be glottalized and what suffix would cause **i·yik** to follow a glottal stop based on the other examples cited below.

at least two possible outcomes where the -PERF=FUT sequence occurs. I propose that there might be two factors which inform the pronunciation of a -PERF=FUT sequence. First, a morphophonological factor that is dependent on the allomorph of the perfective (-**šiλ**, -**čiλ**, -**diλ**, etc.) that is selected by the base. Second, a possible semantic factor that incorporates the “threatening” meaning that Maria has mentioned, giving rise to the form **i:yik**. Phonologically, these options are represented by two distinct series of phonological changes that apply to a -PERF=FUT sequence.

The first series of phonological effects create the **i:yik** form that Maria has described as carrying a more “threatening” semantic force. The following examples and analyses found in Davidson (2002) further demonstrate these effects where a perfective suffix is immediately followed by the future clitic.

- (8) **kabatap xadʔawičiq hididuχši·yikitqa takya·yuʔu·c**
kabat=’ap xadʔakʷ=°ič=°iq hida-iduχ-šiλ=’eyik=’it=qa:
 known=CAUS woman=DIM=ART empty.root-look.for-PERF=FUT=PINV=SUBOR.3SG
takya·yu=’u:c
 eldest.brother=POSS.3SG
 ‘The girl knew that she would be sought by her brother.’ (Davidson 2002:158)
- (9) **λaxʷacχidi·yiks**
λaxʷa-cχi-diλ=’eyik=s
 ten-married.to-PERF=FUT=INDIC.1SG
 ‘I will marry ten!’ (Davidson 2002:191)
- (10) **ʔapχa·ʔaqλiʔtadi·yiksi·cuχ**
ʔapχ-a-’aqλ-’iʔta-diλ=’eyik=si:cuχ
 fly-EPEN-inside-in.nose-PERF=FUT=INDIC.1SG/2SG
 ‘I will fly up your nose (said Wren).’ (Davidson 2002:267)

I understand the series of phonological changes affecting this underlying -PERF=FUT sequence as the regular deletion of **λ** from a perfective suffix before a glottalizing clitic and the vocalic “contraction” outlined as the third phonological effect observed by Jacobsen (1979a:30) above. This full series of effects is outlined below, in (11):

- (11) ...-š*ī*λ=**eyik** underlying form (-PERF=FUT)
 ...-š*i*=**eyik** final λ deletion from a perfective suffix preceding a glottalizing clitic
 ...-š*ieyik* deletion of the glottal following a short vowel (Jacobsen 1979a:30)
 ...-š*i*:**yik** underlying /i/ and /e/ of **eyik** contract to i:

Notably, the examples found in Davidson (2002) seem to indicate that the *i* of **i·yik** is persistently long (i.e., underlying **i:yik**)¹¹, presenting with a long vowel even in or after the third syllable of the word. It may be argued that the examples above (8–10) may have, as Maria phrased, more “forceful” or purposeful interpretations, however it is difficult to demonstrate this fully with so few examples and contexts available for consideration. Furthermore, it seems that what can be said is that, a “forceful” interpretation is perhaps tied specifically to this **i:yik** pronunciation rather than a combination of the perfective and future clitic which, as Jacobsen (1979a:30) highlights can alternatively undergo a series of phonological processes that give rise to the surface form **šʔeyik** instead.

The second series of phonological changes producing the **šʔeyik** form of the -PERF=FUT was also highlighted to me by Maria using ‘writing’ **čatš*ī*λ**, as an example in (12) below. Similar examples are provided by Jacobsen (1971) and Renker (1987):

- (12) **čatšʔeyiks**
čat-š*ī*λ=eyik**=s**
 write-PERF=FUT=INDIC.1SG
 ‘I will write, paint, draw.’ (MP, p.c., Jan. 25, 2023)
- (13) **dačšʔeyiks**
dač-š*ī*λ=eyik**=s**
 see-PERF=FUT=INDIC.1SG
 ‘I’m going to go see.’
 (Jacobsen 1979a:30, *analysis added*)
- (14) **watšʔeyikid**
wat-š*ī*λ=eyik**=id**
 go.home-PERF=FUT=INDIC.1PL
 ‘We’re going home.’ (Jacobsen 1979a:30, *analysis added*)

¹¹ The colon (:) is used in underlying forms only to mark “persistently long vowels” which will retain their vowel length regardless of environment. This differs from the contraction of a short vowel and the **e** of the future clitic proposed by Jacobsen (1979a:30) which changes to variably long **a·** in **a·yik**.

- (15) **ʔupšʔeyiks**
ʔup-šiʔ-eyik-s
 point-MOM-definite future-1SG
 ‘I will point (definitely)¹².’ (Renker 1987:107)

In these cases, Jacobsen (1979a:30) outlines a separate series of phonological changes which he establishes separately from the three phonological effects provided at the beginning of this section.

Jacobsen (1979a:30) states that, following the perfective suffix **-šiʔ**¹³, the steps of the phonological changes are:

- | | | |
|------|----------------------|--|
| (16) | ...-šiʔ=ʔeyik | underlying form (-PERF=FUT) |
| | ...-ši=ʔeyik | final ʔ deletion from a perfective suffix preceding a glottalizing clitic |
| | ...-šiʔeyik | add ʔ where the glottalizing clitic follows a vowel |
| | ...-šʔeyik | reduction of V ₁ ʔV ₂ sequence |

Interestingly, unlike with examples (8)–(10) which undergo changes similar to the future clitic-specific rules listed by Jacobsen (1979a) (i.e., deletion of the glottal following a short vowel and contraction of two short vowels into a variably lengthened vowel), these changes are more akin to general Makah phonological rules including the loss of final /ʔ/ of the perfective suffix before a glottalizing clitic, the insertion of a glottal stop after a vowel from a glottalizing suffix or clitic, and syncope where two short vowels are interceded by only a glottal stop (see Davidson 2002:80–81).

From the few currently available examples, the grammaticality of both these series of phonological changes affecting the -PERF=FUT sequence raises questions of what causes or distinguishes these two possible pronunciations when the perfective suffix and future clitic are directly adjacent. Jacobsen’s (1979a:30) description that **-šiʔ=ʔeyik** will surface as **šʔeyik** may be interpreted as limiting his claims regarding these phonological changes to the **-šiʔ** allomorph of the perfective only. However, there

¹² The “(definitely)” specified by Renker (1987) is used in her notations to contrast the “indefinite future” suffix, **-ʔe-ʔis**, as opposed to contributing any additional forcefulness to the translation.

¹³ All identified examples of **ʔeyik** surfacing specifically follow the **-šiʔ** allomorph, which mirrors the specification provided in Jacobsen’s (1979a:30) description of the -PERF=FUT sequence. Example (8) provides a counterexample where **-šiʔ** appears in the word **hididuxši-yikitqa** ‘she would be sought by him’ with the form that Maria connects with “forcefulness”.

is an example provided by Davidson (2002:158) which shows that the perfective allomorph **-šił** is equally able result in the series of phonological changes which result in the surface form, **ši-yik**, which would seem to establish that this difference is not determined solely by the perfective allomorph. From the examples presented here, there is still the question in the case of **-šił** what causes both **ši-yik** and **šʔeyik** to be possible. This may be a difference in meaning as suggested by Maria (i.e. that **ši-yik** is more of a warning or threat), reflective of the speech of different generations or speaker dialects, or conditioning of the phonological process by some other aspect of word-building. Of the available examples, there are clear structural differences between the words that surface with **ši-yik** compared to **šʔeyik**. Of the words that use **ši-yik**, all the word bases include lexical suffixes, and the perfective suffix is the fourth or later syllable. All examples that surface as **šʔeyik** attach directly to a monosyllabic root (specifically with CVC root structure in the available examples). Other -PERF=FUT words could help to clarify whether this alternation may reflect something about the speaker who uses the word (e.g. generation, dialect), the word's internal structure, or intention of the word in its context (i.e. threat, warning, forcefulness). Additionally, regarding other allomorphs of the perfective, Maria shares that she has heard **čiłeyik**, **kʷiłeyik**, and **diłeyik** (from **-čił**, **kʷił**, or **-dił** respectively) rather than forms that undergo similar phonological processes described for the underlying sequence of **-šił=eyik** becoming **šʔeyik** (p.c., May 20, 2024).

In conclusion, further research is needed to verify Jacobsen's description of the phonological changes that occur where **=eyik** follows a vowel. Jacobsen (1979a:30) specifies that **a-yik** will only surface where the future clitic is added to a word ending with an underlying short vowel. Where **=eyik** follows a long vowel, Jacobsen predicts that a glottal stop will be inserted between the long vowel of the word base and the initial /e/ of the future clitic. However, as illustrated by the proposed analysis of **yaqayikqayuwit** where **=eyik** immediately follows the root **yaqa** 'one who; that which', it may be possible for **=eyik** to surface as **a-yik** even when following an underlying long vowel. Additional consideration of the **ši-yik** and **šʔeyik** distinction and research into the phonological changes possible for other allomorphs of the

perfective suffix (e.g., **-čič**, **-kʷič**, **-dič**) will also help to clarify how the perfective combines with the future clitic when they are used next to one another. Furthermore, Maria's experience hearing forms such as **čičeyik**, **kʷičeyik**, and **dičeyik** creates the possibility that existing descriptive rules which state that **č** is deleted from a perfective suffix preceding a glottalizing clitic may need to be further specified or expanded to accurately describe these processes for different perfective allomorphs in combination with the future clitic, **=eyik**.

L2 (ʔuχ...) ʔuχu·ʔak χačupsi·qs...

She has a brother...

(ʔuχ...)	ʔuχ-u·=ʔak	χačupsi·qs
	ʔuχ-u·=ʔak ^w	χačupsi·qs(u)
<i>false start</i>	<i>ref.stem-APPEN=POSS</i>	<i>brother.of.a.female</i>

3.2 Line 2: Note on the terminology describing ʔu-/ʔuχu·

During our conversations about this story, Maria highlighted that she was familiar with many different name for the root ʔu-/ʔuχu· and expressed an interest in understanding why this was the case. This section discusses the different terminology that has been used over time and by different linguists.

Davidson (2002:453) presents the root ʔu-/ʔuχu· with ʔu- serving as the “combining root” which will surface in words where suffixes are a part of the word-building. The free root form, ʔuχu·, is used as a word on its own and as a host to clitics. This root is one of the small number of roots in Makah that is not understood to have lexical value of its own, but is a common root to construct meaning in context. This section describes linguistic understandings of this root’s functionality and describes what might motivate the changes in terminology that Maria has commented on in relation to ʔu-.

In existing Southern Wakashan literature, there are two main ways that ʔu-/ʔuχu· and its cognates are described. The first refers to this as an “empty” root, “x”, or “expletive” (Davidson & Werle 2010; Inman 2019; Swadesh & Swadesh 1933; Wojdak 2004) and the second terms this root as a referential, pronominal or deictic root (Davidson 2002; Jacobsen 1979c; 1997a; Nakayama 2001; Renker 1987; Sapir & Swadesh 1939; Stonham 2007; Thomas & Hess 1981; Touchie 1976). The reference to this root as “empty” or “expletive” indicates its lack of lexical value and its function in serving as a word’s base to which lexical suffixes can be added to create meaning. By contrast, terming this root the “referential” or “pronominal” draws attention to its function encoding a relationship between the meaning of the ʔu- word’s lexical suffixes and/or clitics and an antecedent. Some descriptions even suggest that this root may be referred to more specifically. For example, Thomas & Hess (1981:12) call this the anaphoric root in

Ditidaht while Fortescue (2007:153) notes that in Makah and Nuu-chah-nulth, **ʔu-** and **ʔuħ** are described as “[especially] cataphoric”¹⁴. However, for the purposes of this analysis, a more immediate concern was how this root should be glossed and translated.

When it comes to glosses and translations, the root **ʔu-/ʔuħu·** is represented by a very wide array of words and terms. The translations vary in the degree of standardization and abstraction they provide in the understanding of this root. At one end of this spectrum are the highly standardized and abstracted glosses such as “∅” (Wojdak 2004) or “x” (Davidson & Werle 2010; Inman 2019) which closely reflect the general discussion of this root as an “expletive” and “empty root” respectively by these linguists. At the other end of this spectrum are the translations (and translation-based glosses) which reflect the English pronominal that suits the context of each use (e.g. Sapir & Swadesh 1939; Swadesh and Swadesh 1933; Touchie 1976). For example, depending on its context within the narrative, **ʔu-** will be glossed as “she”, “it”, “they” or “that (one)”. Somewhere in the middle ground of these two presentations are the glosses and translations that use a standardized translated approach. This may mean glossing this root as the “referential stem” which is more abstracted (Jacobsen 1997a; 2000; Renker 1987) or “so and so” or “such and such” (Davidson 2002; Jacobsen 1979a; Sapir 1924; Swadesh & Swadesh 1933), which is perhaps more concrete. It also bears noting that the grammatical discussion of **ʔu-/ʔuħu·** root as “empty” does not equate to a view that it does not have a pronominal function. For example, Swadesh & Swadesh (1933:202) call this root “empty” while acknowledging its function as “[serving] to hold the place of the word, phrase, or clause which completes the meaning of the suffix” and use “so and so” as well as pronouns such as “he” or “it” to indicate its use in context.

¹⁴ The terms “anaphoric” and “cataphoric” refer to the position of the **ʔu-** word relative to its antecedent (i.e., the entity it refers to). This entity will either be specified after the use of the **ʔu-** root word (cataphoric) or earlier so that the **ʔu-** root refers back to an entity that has already been established (anaphoric). One possible explanation for why the use of **ʔu-** is described in both ways is that, cross-linguistically, the ordering of this root relative to the entity it refers to may differ. Another possible explanation is that these language-specific descriptions focus on a distinct function of **ʔu-** that may inform the organization of information in discourse.

In the current work, we use the term “referential stem” (glossed ref.stem) to clearly differentiate this from another semantically “empty” root, **hita-/hida-** (see §3.15). Maria created naturalized translations to English, so, for example, this line is translated as ‘She has a brother.’ This allows the story to be more easily understood and followed by people who speak English as a first language while also demonstrating that this is the same root used across varied contexts. This decision is motivated by a few main factors. First, this solution strikes a nice balance between abstraction and broadly explaining for learners how this root is used without using linguistic jargon (e.g. deictic, expletive, pronominal). Second, if there were to be future research into the use of **ʔu-**, **ʔuχu·**, it is beneficial to have a standardized glossing convention to more quickly identify instances of this roots use. Last, this is the term that Maria used during our meetings and in her language work.

L3 How do you say raven...

L4 in Makah?

L5 **λu·kšu·d.**

Raven.

λu·kšu·d

λu·kšu·d(a)

Raven

3.3 Line 5: Analysis of “raven”

While many publications only show a word-level translation of **λu·kšu·d(a)** ‘raven’ (e.g., Davidson 2002; Gill & Renker 1992), Maria shared that ‘raven’ does indeed have internal structure that can be analyzed. She mentioned learning that **λuk-** meant something about ‘wide girth,’ referring to raven’s belly. Jacobsen’s 1964 elicitation with Ralph LaChester demonstrates this meaning in his fieldnotes, with an added note that raven (transcribed **λuqʷšu·d**) is a “heavy eater” (Makah Elicitation with Ralph LaChester 1964–1966:42). However, in reviewing the glossary list in Davidson (2002), Maria and I were not able to find other Makah words that ended with the same apparent suffix, **-šu·d(a)**. Through our conversations, Maria presented the idea that the **-š** could signify something happening ‘repeatedly’ (possibly referring to an iterative suffix which Davidson (2002:240) describes as entailing CV reduplication of the root) and that **-u·d(a)** was another suffix.

Looking to Ditidaht for another perspective on this second syllable, Ditidaht’s First Voices site (First Voices 2024), lists three forms **λuukšiid** ‘raven’, **λukšaʔ** ‘Raven’, and **λukša** ‘Raven’. **λuukšiid** is a clear cognate with the Makah word, with the only difference being the vowel quality in the second syllable suffix. This form, **-i:da**, reminds Maria of something that Davidson (2002:19) terms a “formative suffix” and she further remarked that “the accent [in Ditidaht] compared to Makah, sometimes you hear Makah with more rounding,” which may account for the pronunciation difference (p.c., January 25, 2023). A

“semantically empty formative suffix” is used with a root to construct an independent wordform which Davidson (2002:176) describes as a “composite root”. The suffix that Maria suggests, **-i:da**, is one that occurs with other roots as well. Maria highlighted that there were other examples in Makah of this suffix such as, **ʔakwati:d(a)** ‘bald eagle’, **bačasi:d(a)** ‘flea’, **qačati:d(a)** ‘lice eggs, nits’ and **qiči:d(a)** meaning ‘louse’. In reviewing these other instances of this formative suffix in Q^wi-q^wi-diččaḡ, it is notable that these other examples maintain the **i** shared with Ditidaht, however there are no examples with an **u** in the root which may factor into this difference in pronunciation if the vowel quality of the **-u·da** form is being influenced by the **u** of **ʔu·k**.

Further cross-linguistic examples of this analysis are found in Fortescue (2007) and Thomas and Hess (1981). Fortescue (2007:243) lists an entry for the Proto-Nootkan entry ‘raven’ (Table 3).

Proto-Nootkan (PN)	*ʔu:k^wš^u:na ‘raven’ [cf. Proto-Wakashan *ʔu:g^w - ‘supernatural power’ if not *ʔuk^w - ‘wide’ (as suggested by Hess for D), also -i(:)na ‘nominal formative’]
Makah (M):	ʔukšutq , ʔuukš^uud(a) ‘raven’
Ditidaht (D):	ʔuukšⁱiid ‘raven’ [Werle, who also has ʔukš^a as name of Raven in myths; acc. Hess contains a suffix -šⁱ·d ‘tendency towards’ (L)]
Nuuchahnulth (N):	[for quʔišin ‘raven’ see PW *ǵ^wa:χ^w - ‘raven’]

Table 3: Reconstructed Proto-Nootkan form of ‘raven’ and cognates

The entry, PN ***ʔu:k^wš^u:na** ‘raven’ further verifies the interpretation of the first syllable ‘wide’ and also includes mention of the **-i(:)na** ‘nominal formative.’

However, in the case of the Ditidaht word, Fortescue references Hess’s description of a suffix **-šⁱ·d** [L] meaning ‘tendency towards’. Despite the various suggestions thus far that **ʔu·kš^u·d(a)** may be constructed with the formative suffix **-i:da**, this alternative should also be considered. Fortescue’s note is likely sourced from Thomas & Hess (1981:50) which describes the word as being constructed from **ʔuk^w(i·t)** referring to ‘wide girth’ and the second syllable is **-šⁱ·d** [L] translated as ‘tendency toward’, contextualized by sharing that “Raven is a notorious glutton in the Old Stories” which aligns with Makah speakers’ understanding of the word for ‘raven.’ Hypothesizing the presence of the suffix **-šⁱ·d** [L]

'tendency toward' would also address some of the challenges in assuming that the second syllable of 'raven' is a formative suffix. First, it accounts for the **š** as a part of the suffix sequence. Second, having a separate suffix helps to reconcile the difference in vowel quality in Makah compared to the Ditidaht suffix. Davidson (2002) does not list an apparent cognate for **-ši·d [L]**, so it is possible that this suffix does have a cognate, **-šu·d(a) [L]** in Q^{wi}·q^{wi}·diččaq that is, as of yet, not documented in lexicographic materials. Third, this analysis addresses the lengthening of the first syllable. Both the combining form of 'raven' (**λukšut-q-**) and in the root **λuk-** 'wide' have a short /u/ (Davidson 2002:427), which suggests that the cause of the long initial vowel in **λu·kšu·d(a)** may arise from lengthening associated with the suffix.

L6 ʔuχo·ʔak χačupsi·qs λu·kšu·d.

She has a brother Raven.

ʔuχo·=ʔak	χačupsi·qs	λu·kšu·d
ʔuχ·u·=ʔak ^w	χačupsi·qs(u)	λu·kšu·d(a)
<i>ref.stem-APPEN=POSS</i>	<i>brother.of.a.female</i>	<i>Raven</i>

3.4 Line 6: [u], [o] variation and other conversations around Makah accent/dialect

In this line, we see a different pronunciation of a word from Line 2, ʔuχu·ʔak, with vowel lowering in the second syllable to ʔuχo·ʔak. While Davidson (2002:13) describes /e/ and /o/ as phonemically marginal in Makah with few words interpreted as having these sounds in their underlying forms, ʔuχo·ʔak presents an example of [o] as allophonic variation of [u] (Davidson 2002:14). Maria suggested that:

“Sometimes there’s a speaker differentiation and some people say **hiyo·** and some people say **hiyu·**. Even in Matt [Davidson]’s glossary of his dissertation, he might have it as **hiyu·**. So o’s and u’s depending on the Makah speaker, some people prefer one over the other. For example, some people might say **bako·was** ‘store’, some people might say **baku·was**. And it’s just accent difference.”

(p.c., January 18, 2023)

Literature regarding dialectal variation is established for Nuuchahnulth which is spoken across a more widespread geographic area and by fourteen distinct nations (Nuuchahnulth Tribal Council 2024). However, this subject has not been raised with regards to possible variation across Makah speakers. Maria hypothesizes that this variation may be attributed to dialect or accent difference across the five Makah villages and/or familial influence where marriage between tribes normalized different accents in Q^wi·q^wi·diččaḡ.

As we see in this story, there is sometimes variation in pronunciation even by the same speaker, suggesting that the variation may be relatively free. Maria also highlights in connection to the next line of the story (Line 7) that for the remainder of this story, Ruth Claplanhoo pronounces ‘crow’ with a third [a] (i.e. ča·qadaḡu· instead of the “expected” ča·qaduḡu· which Maria has heard other speakers use). Maria notes that there are two documented pronunciations of the free root meaning ‘hair seal’—kaščuḡu and kaščuḡ—both of which are present in this telling of this Raven and Crow story and recognizes a similar

pattern with ‘dolphin’, pronounced as either **čí·t̥kuʔ** and **čí·t̥kuʔu**. Notably, both of these words share the same ending (discussed further in §3.8).

In order to better understand this variation, future work transcribing, translating, and analyzing recorded audio and texts would be needed to notice patterns related to which speakers use this variation and in which linguistic environments it tends to be used. Broader research in this area would help to determine whether there are certain roots or words that have this flexibility to appear as one form or the other, or if there are phonological or prosodic criteria that determine when this type of variation occurs. This research could help to recover knowledge about Makah village dialects and support dictionary work to discern whether variable pronunciations are dialect-specific or due to other factors. For now, the Makah Language Program includes all attested forms in their work and draft dictionary materials to ensure that all speakers’ variety of Makah are represented and validated.

L7 ʔakya·x̣u·t kʷakʔowaćiq ča·qadaʔu·

She has a lot of small crows.

ʔakya-aʃu·t	kʷa+kʔow=°ič=°iq	ča·qadaʔu·
ʔaya-aʃu·(t) (+velar incr.) ¹⁵	RED+kʷaʔakʷ=°ič=°iq	ča·qaduʔu:
<i>many-in.front</i>	<i>PL+small=DIM=ART</i>	<i>crow</i>

3.5 Line 7: Allomorphic distribution of the diminutive clitic

Makah has two allomorphs of the diminutive clitic (=°ič, =°išč¹⁶), and while Davidson (2002:300) describes the distribution of the two Nuu-chah-nulth diminutive allomorphs¹⁷, the conditions determining the distribution of the Makah diminutive allomorphs remain undescribed. In this telling of the story, we see the =°ič form of the diminutive clitic appear in **kʷakʔowaćiq** ‘the little ones’. In our discussions, Maria provided some insight on this matter where the article, =°iq, is added after the diminutive. She says that “when you add the =°iq—when you add it to that kind of consonant cluster—you have to get rid of /š/, **kʷakʷʔawaćiq**. Yeah, sometimes rules change when you have a cluster at the end, when you’re adding =°iq” (p.c., Jan. 11, 2023). This explanation seems to point to some phonological restriction where additional segments following the diminutive cause the loss of /š/, resulting in the =°ič diminutive allomorph.

Because **kʷakʔowaćiq** ‘the little ones’ is the only word in this story where the diminutive clitic appears, it is difficult to further describe any regular alternation between the Makah diminutive allomorphs. Davidson (2002:301) includes an example that shows the word **kʷaʔawišč** ‘little’ in an example from Irene Ward, demonstrating that this root appears with =°išč when the diminutive is added word-finally. Including this example, Davidson (2002) provides ten total instances of this clitic’s use in Qʷi·qʷi·diččaʔ, with nine surfacing as =°ič. Eight of these nine examples using =°ič are followed by at least

¹⁵ Jacobsen (2000) describes the “velar increment” in Makah. Jacobsen (2000) and Fortescue (2007) describe this as a change in Makah where /k/ is inserted when a short vowel in the first syllable is followed by /w/ or /y/, and then, another vowel. So, for example, the root ʔaya- frequently becomes ʔakya-.

¹⁶ The diminutive =°išč, =°ič is one of four mutating clitics in Makah. Mutating clitics often demonstrate either glottalizing or leniting effects with some other effects that are unique to these four clitics. Of relevance to **kʷakʔowaćiq**, is the mutating effect which changes kʷ to w. See Davidson (2002:81–82) for full description.

¹⁷ In Nuu-chah-nulth, the diminutive clitic is regularly =ʔis or =ʔic before a glottalizing clitic (Davidson 2002:300).

one other clitic including the temporal clitic =**ał**, the article clitic =**iq**, and the third person singular quotative clitic =**wa:da**. (The remaining one that these nine examples of =**ič**, is discussed further in the next paragraph.) This general pattern of =**išč** occurring word-finally and =**ič** appearing word-medially is also reflected in Jacobsen’s transcriptions at various points in the texts presented in his archived notebooks:

- (17) **ča?awičiq**
 ‘little creek’ (RL, How the Makah got Neah Bay)
 (Makah Elicitation with Ralph LaChester: Texts, Notebook 1 1965:23)
- (18) **?akyiq kʷakʷ?awišč**
 ‘Many little ones...’ (*translation naturalized*) (RL, Autobiographical Sketch)
 (Makah Elicitation with Ralph LaChester: Texts, Notebook 1 1965:76)
- (19) **?uba·cu?e·?iss qidi·ł ?iš xad?awišč.**
 ‘I’m going to talk about dog and girl.’ (NB, Dog Children)
 (Makah Elicitation with Nora Barker: Texts 1971–1978:1)
- (20) **?uda·kitwa·d xad?awičiq ?i·?i·xʷ qidi·ł.**
 ‘The girl had a big dog.’ (NB, Dog Children)
 (Makah Elicitation with Nora Barker: Texts 1971–1978:1)
- (21) **ya·tawa·d łaxʷ?ok. qilxi·qilišč. du·b ta·xukʷbadaš. qidi·ličiqat.**
 ‘There she had ten little puppies. All male. Puppies’ (NB, Dog Children)
 (Makah Elicitation with Nora Barker: Texts 1971–1978:5)

The one known counter-example to the proposed allomorphic distribution appears in Davidson’s dissertation where the =**ič** allomorph appears word-finally in the word for ‘girl’ transcribed as, **xad?awič** (Davidson 2002:346). Example (19) provides evidence of ‘girl’ also attested as **xad?awišč** where the word-final use of the diminutive does indeed surface with the =**išč** diminutive allomorph. In her review of these findings, Maria thought that **xad?awič** may be an example of fast speech or, if this was transcribed from a recording, perhaps an instance where the **š** sound become difficult to perceive where it appears before **č**, suggesting that this wordform should be typically transcribed as **xad?awišč** (p.c., May 25, 2024). Based on her feedback, it seems that the rule of =**išč** occurring word-finally and =**ič** surfacing when other clitics

are added to the word is true across these few attested examples. This hypothesis would benefit from further examples of diminutive use to determine whether there are other factors that determine the distribution of =°išč and =°ič.

L8 ʔakya-i-q hakʔuʃw

Many (were) hungry.

ʔakya-i-q	haku-'iʃw
ʔaya-i-qw (+velar incr.)	haku-'i:ʃ(a)
<i>many-many.score</i>	<i>hunger-suffer.from</i>

L9 “hišu· hu·daq-i-seyiks.” waʔal.

“Okay. I will carry along driftage food,” she says.

hišu·	hu·da-q-i-s=eyik=s	wa·=ʔal=°i
hišu·	hu·da-q-i-s=ʔeyik=s	wa·=ʔaʃ=°i
<i>Okay</i>	<i>driftage.food-BFR-bring.along=FUT=INDIC.1SG</i>	<i>say=TEMP=INDIC.3SG</i>

3.6 Line 9: hu·daq-i-s ‘carry along’ or ‘carrying’ suffix

Through our meeting conversations, we glossed **-i-s** in **hu·daq-i-s** (first spoken in Line 1) as a variant pronunciation of the lexical suffix **-i:ks** ‘bringing or carrying...along’ (Davidson 2002:361; Fortescue 2007:414); however, at this time, there is no described allomorph of this suffix in Makah that would explain this alternate pronunciation. To determine whether the **-i-s** pronunciation may indicate a pattern of allomorphy rather than an irregular pronunciation or an entirely different suffix, I use a comparative approach looking at other Southern Wakashan uses of this lexical suffix.

Davidson (2002:361) lists a single allomorph in his entry of this lexical suffix in Nuu-chah-nulth, **-i:cs.**¹⁸ ‘bringing or carrying...along’¹⁹:

(22)	ʔapi· <u>csuʃ</u>	
	ʔap-i:cs-uʃ	
	carry.on.shoulders-carry-PERF	
	‘carry on shoulders’	(Davidson 2002:242)

¹⁸ The period at the end of **-i:cs.** denotes, according to Davidson’s (2002:xv) notation, “a final segment that resists the effects of glottalizing or leniting suffixes and instead requires insertion of glottal stop.”

¹⁹ Following Davidson (2002:96), the ellipses in glosses or translations of lexical suffixes “indicate the relation of the meaning of the suffix to that of the base, that is, where the meaning of the base ‘fits’ in the meaning of the suffix.”

- (23) **ću·ćki·csʔaʔ ta·tʰeʔisukʔi ʔa·kʷa·ʔʔi...**
ću·ćk-i:cs=ʔaʔ taʔa-<t> [L]=ʔis=uk=ʔi· ʔa·kʷa·ʔʔi·
 all-carry=TEMP child-<PL>=DIM=POSS=ART girl=ART
 ‘The girl took along both her little children.’ (NT 72.1) (Davidson 2002:301)

However, within the body of Davidson’s (2002:49) dissertation, he also transcribes a very similar suffix ‘carrying’ **-i:s** which also appears in Nuuchahnulth examples provided in Davidson (2002):

- (24) **yaqʔa·qʔi·k hini·swaʔsuʔ ʔacsa·kumʔi**
yaqʷ=ʔa:qʔ=(y)i:k hina-i:s-waʔsu(t) ʔacsa·kum=ʔi·
 one.who=INTENT=INDEF=2SG empty.root-carry-move.out.PERF potlatch.handle=ART
 ‘whichever of you brings the potlatch handle out (of the crowd)’ (NA 57.35)
 (Davidson 2002:143)

- (25) **hini·smisʔaʔeʔic ni·ʔit ʔaʔe·t**
hin-i:s-mi-s=ʔaʔ=(m)a=ʔic ni·ʔ-(ć)it [L] ʔaʔit
 empty.root-carry-move.about.beach=TEMP=INDIC=2SG 1PL-do.to chief.VOC
 ‘You are taking us along the beach, O Chief.’ (NA 77..29) (Davidson 2002:150)

- (26) **ʔapi·srʔinʔaʔat**
ʔap-i:s-rʔinʔ=ʔaʔ=ʔat
 carry.on.shoulders-carry-PL=TEMP=PINV
 ‘They were carried on (people’s) shoulders.’ (NA 11.5) (Davidson 2002:206)

These lexical suffixes are glossed in the same way and appear to be used at least similarly (if not in exactly the same way). These points can suggest that this alternation is evidence of allomorphic alternation as opposed to two independent, but related suffixes. However, from these few examples, there is overlap between the use of **-i:cs** and **-i:s** which both appear to be used when attached directly to the root **ʔap-** ‘carrying, packing on the shoulder’. This may indicate that the selection of **-i:s** or **-i:cs** is more a matter of speaker preference; or alternatively, that though these suffixes are formally very similar, they may be distinct lexical suffixes. Sapir (1924:93) favours the latter option, describing one suffix **-is/ -i:s** meaning ‘to take along, carry’ in comparison to a “related” form meaning ‘to carry’ **-i:tss**²⁰ (following consonants) or **tss** (accompanied by lengthening of the preceding vowel).

²⁰ Sapir (1924) uses ‘ts’ in lieu of what is currently represented orthographically as ‘c’ in Nuuchahnulth.

To provide a historical-comparative perspective on this suffix or these suffixes, I refer to Fortescue’s (2007:414) entry for the Proto-Wakashan lexical suffix ***-(i:)ks** ‘in or by hand’. Looking at the contemporary Southern Wakashan reflexes of this form, Fortescue lists a single form for Makah and Ditidaht, **-i:ks** ‘carry along’. For Ditidaht, this matches the suffix **-i·ks** described by Swadesh & Swadesh (1933:206), Touchie (1976:42)²¹, and Thomas & Hess (1981:201). For Nuuchahnulth, Fortescue (2007) lists three forms with a common translation (**-i:cs**, **-i:s**, and **-isa-** ‘carry along’). This presentation illustrates that these Nuuchahnulth forms have all descended from a common Proto-Wakashan form. Given this shared ancestry and retained similarity in form and meaning, it is tempting to describe these lexical suffixes as allomorphs of one another. However, with the insight provided by the Nuuchahnulth examples (22–26) above, both **-i:cs** and **-i:s** can be added to the root **ʔap-** ‘carrying, packing on the shoulder’ which suggests that any alternation between these forms is not phonologically or lexically-conditioned.

Returning to the case of Makah, my initial assumption was that **hu·daqis** included an underlying **-i:ks** suffix, which in rapid speech, surfaced with the loss of the velar stop /k/. Once Maria and I discussed this together though, she was able to provide further language context and examples that helped us to reach the conclusion that **-i:s** meaning ‘bring/carry along’ also occurs in Qʷi·qʷi·diččaḡ. Although this is better attested and documented for Nuuchahnulth, Maria highlights compelling examples and in fact illuminates examples that already appear amongst Davidson’s lexicon entries but without analyses. The insight that Maria shares clarifies that these words demonstrate the use of the **-i:s** suffix in Makah:

I was thinking **hidi·ks** like ‘carrying’ or ‘bringing’, but you can say **-i:s** for ‘carrying or bringing something along’ (...) Like towing **baḡi·s**, so **baḡ-** has to do with towing. There’s a way to say chase **šaxʷ-** and then **šaxʷi·s** is ‘chasing’. So not just ‘carrying along’, but ‘going along’, ‘chasing along’.
(p.c., January 25, 2023)

²¹ In the list of suffixes at the end of the story, Touchie (1976:42) lists this suffix as **-i·kis** ‘take with, carry’, but both examples of this suffix in use in the story show the lexical suffix surface as **-i·ks**.

Davidson (2002:444) lists ‘chasing (along)’ **šax^wi·s** in the appendix of his dissertation which supports that the **-i:s** pronunciation of ‘bring, carry along’ is attested in Makah. Although there is no morphological analysis presented for this Makah word, the translation matches the Nuuchahnulth word **casi·cs** ‘chase sth along’ which Davidson (2002:352) does analyze as **cas·i·cs** (chase·bring.along) confirming that this suffix is **-i·cs** ‘bring, carry along’. Furthermore, under the entry for **bał-** and **bałšił** ‘tie’, there are two entries glossed as ‘towing’ (1) **bałi·ks**, and (2) **bałi·s** (387). Having both forms of **-i:ks**, **-i:s** ‘bringing/carrying along...’ occurring with **bał-** raises similar questions to those described above in the case of **ʔap-** ‘carrying, packing on the shoulder’ for Nuuchahnulth. Based on the fact that there is evidence that either form can be used with **bał-**, this suggests that the lexical suffixes **-i:ks** and **-i:s** are also not phonologically or lexically determined in Makah. It is possible this is instead a matter of speaker accent or variation in Q^wi·q^wi·diččaq that would require a broader survey of where different pronunciations appear and if there is a pattern among the speakers that use them.

3.7 *Line 9: hu·daqi·s* ‘buffer -q-?’

The remaining morpheme in this line of the story that we had difficulty identifying is between the root, **hu·di-**, and lexical suffix we analyze as **-i·s** ‘bringing/carrying along’ (discussed in §3.6). In the surface pronunciation, this sequence appears to be **-aq**, though the two adjacent underlying /i:/ vowels could theoretically affect or obscure other underlying vowels associated with the morpheme in question, so this may not represent the morpheme in full. This section will outline the four ideas that came up through my and Maria’s conversations, a presentation of the ways in which the existing literature supports or challenges these possibilities, and an evaluation of each potential analysis to determine which may be more or less likely.

One idea proposed was that this could be a suffix. Maria gave the example that “**-a:q(a)** means ‘many of something’ so like **hu·t** ‘dance’ and **hu·ta·q** ‘a lot of people are dancing’. And so, it looks like **-aq** with a hidden /a/, but it lengthens [the word base], although **hu·t** already has a /u:/” (p.c., January 25,

2023). Davidson (2002:207) describes a morpheme in Makah **-a·qa** or **-ʼa·qa** ‘severally ...-ing’ which is possibly also associated with a lengthening template [L]²². Davidson (2002:207) also specifies that this suffix attaches only to a small number of verb roots denoting actions, giving examples such as **du-** ‘sing’, **ha-wa-** ‘eat’, and **hu-t** ‘dance’ for Makah. The challenge in assuming that this **-a·qa** or **-ʼa·qa** is the morpheme that we see in **hu·daqi·s** in the story is that the root (which we are more certain of), **hu·di-** meaning ‘driftage food’, would not seem likely to take this plural suffix based on Davidson’s description of its function and environments where it occurs.

An alternative idea was that **-aq** could be a suffix that Maria translated as ‘much’ or ‘many’ (p.c., January 25, 2023). The most similar suffix described in Davidson (2002:204) is a Nuuchah-nulth restrictive degree suffix **-(q)aq, -aqaq [often S + S]**²³ ‘very, big’ which increases the physical size of the referent of a nominal base or increases the degree of an adjectival word base. However, the Makah counterpart to this suffix is given as **-(k)ʔit**. From Maria’s experience with Makah, it seems possible that the morpheme **-(q)aq/-aqaq** exists in Makah as well and has perhaps not yet been listed within published materials.

Another consideration that Maria shared in terms of the larger linguistic context of this story is that other Makah Elders speak with what Maria refers to as “a low or heavy /k/” (p.c., November 2, 2022). If this is something that may be true for Ruth, this word might also be interpreted as **hu·daki·s**. In this case, Maria suggested that this **ak** could be the possessive clitic. Some of the challenges with this possibility are that first, it would presume that a clitic precedes the lexical suffix **-i:s** ‘bringing/carrying along’ (which goes against the described principles of word structure), and second, that the **=ʔak^w** allomorph of the possessive clitic which is selected after vowels in Makah, in the case of this word, would not be expected to delete the underlying final long vowel of the root, **hu·di-** ‘driftage food’, or to drop the clitic-initial glottal stop.

²² [L] and [S] denote affix-associated templates in Makah, indicating Lengthening or Shortening of the vowel in the word-initial syllable(s) respectively.

²³ [L] and [S] notations can also be combined and applied to the vowels of the first two syllables of the word, for example [S + S], as shown in this line which marks the shortening of the first and second vowels.

This point leads into a lingering uncertainty that spans many of these possible interpretations of **aq**. Davidson (2002:37) describes that where there is a sequence of vowels “not involving the first root vowel,” the quality of the surface vowel would be determined according to the hierarchy **u > i > a**, meaning that in a sequence of **a + i** (or vice versa), the surface vowel would be **i**. Furthermore, given that the root **hu·di·** ends in a variably long vowel, we would also anticipate that this would cause the resulting vowel to also be long, based on the hierarchy **long > short** (Davidson 2002:38). In other words, if the second morpheme **aq** were connected directly to **hu·di·**, the phonological patterns described above would result in the word being pronounced as **hu·di·qi·s** with the **i·** of the root determining the quality and length where **i· + a** are adjacent in the underlying word-structure. Based on these expected phonological effects, it seems unexpected that the short **a** in a morpheme **aq** would surface where it appears to be adjacent to the root **hu·di·** which ends in **i·**.

A final possibility that arose through additional research is that this form is appearing with a buffer **-q-**. The buffer **-q-** is framed by Davidson (2002:174) as an added segment that surfaces in some combining forms of a free root to avoid “fusion” at the boundary of a root vowel and a suffix “through vowel contraction or other phonological processes.” Combining roots differ from the form of the free root that is used independently, and they often appear as “reduced forms with shortened vowels, truncation of final segments, loss of formative suffixes and sometimes other changes relative to free forms” (Davidson 2002:173). To provide an example, Makah has the free root **pikuʔu:** ‘basket’ which has the combining form **piku-q-**. We see this combining form appear in a word such as **pi·kuqʷi·t** ‘basket weaving’ which is constructed with the root **piku-q-** and suffix **-(kʷ):t [L + S]** ‘make’. In Davidson’s (2002:433) glossary entry for this root, these two forms are listed: **piku-q-**, **pikuʔu:** Currently, Davidson (2002:412) lists one form of this word for Makah in the appendices, **hu·di·**. However, in Nuu-chah-nulth, there are two forms included. One is an exact cognate of the Makah free root (**hu·ni·**) and the other is a combining form of this free root

which instead has a short vowel in the second syllable and notation indicating the addition of a “buffer q”,
hu·ńi-q-.

Since combining roots can formally differ from the free roots that they are related to, this leaves some question as to the exact form of a combining ‘driftage food’ root in Q^wi·q^wi·diččaq. From the information currently available, we may hypothesize that this combining form would be **hu·di-q-** with the shortened root-final vowel which is similar to the Nuu-chah-nulth, or as we hear in this story, possibly **hu·da-q-**, with the second vowel of the combining root form being **a**. The possibility of this kind of alternation between the free form of the root and the combining form is exemplified by the root ‘not see’ which appears as **čá·di·** when used independently and **čá·da-q-** in its combining form (Davidson 2002:398). Maria shares that there are other tellings of this story shared by different speakers, so “there may be a comparison (...) when we’re able to transcribe more of the audio that we have. And then, that other person might not use **hu·daq̄i·s**. So, finding it again is something to keep an eye out for” (p.c., May 3, 2023). If future research can confirm that there is a combining form of the root for ‘driftage food’ that appears with a buffer **-q-**consonant (either **hu·di-q-** or **hu·da-q-**), this would be something to be included in future Makah lexicographic work.

L10 wa·ʔaλwa·d ʔabe·ʔiqsʔuq Ča·qa·daʔu·

So it was said (by) the mother Crow.

wa·=ʔaλ=wa·d	ʔabe·ʔiqsu=°iq	ča·qa·daʔu·
wa·=ʔaλ=wa:d(a)	ʔabe·ʔiqs(u)=°iq	ča·qa·duʔu:
say=TEMP=QUOT.3SG	mother=ART	Crow

3.8 Line 10: Analysis of “crow”

This section explores the internal structure of ča·qa·duʔu· ‘crow’. As with ‘raven’ (see §3.3), Maria expresses that there is an internal structure to the word ča·qa·duʔu· ‘crow’ that is otherwise not described in analyses or glossed translations of this word. By developing hypotheses of historical morphemes which may no longer be productive in Makah, we aim to better understand possible morphological connections with other words that reflect formal similarity to the ending of ča·qa·duʔu· ‘crow’ and to eventually provide insight to Makah conventions for naming things or word-building.

To begin, it can be noted that this line of story introduces a different pronunciation of ‘crow’ (ča·qa·daʔu·) compared to Line 1 of this story which is pronounced and transcribed in the same way that this root has been documented (ča·qa·duʔu·). This seemingly less common pronunciation is what we hear more frequently in the rest of this telling of the “Raven and Crow” story. There is also another variation of this free root transcribed by Jacobsen as ča·qa·d ‘crow’ in a written version of a story told by Mabel Robertson (Makah Elicitation with Mable Robertson, Nora Barker: Texts 1964–1976:9) (see example (44) in §3.17). Each of these variations, represent a speaker’s use and knowledge of Makah, and are therefore each transcribed and represented as they are spoken.

Maria shared that she seems to remember a linguist surmising that the word čaqa·duʔu· ‘crow’ may be historically related to čaʔakʷ ‘water’ (p.c., November 30, 2022). This linguist may have been Jacobsen, who under an entry for ‘crow’ (transcribed čaqa·dʔu) in his fieldnotes created with Ralph LaChester, noted that the “name refers to him making water in myth” (Makah Elicitation with Ralph

LaChester 1964–1966:42). Thomas & Hess (1981:50) describe this same connection saying that the Ditidaht word for crow comes from Makah and literally means something like “drinker of water.”

Fortescue (2007:53) lists ***k'a:(qan)-** ‘crow’ as the Proto-Wakashan reconstruction with cognates in all seven Wakashan languages.

Proto-Wakashan (PW)	*k'a:(qan)- ‘crow’
Makah (M):	č'aq'at-q-, čaaq'aaduuʔu: ²⁴ ‘crow’
Ditidaht (D):	č'aaqaaʔd ‘crow’ [Hess; [Jacobsen] has č'aaq'aad , which implies borrowing from M]
Nuuchahnulth (N):	k'aaʔin ‘crow’ [onomatopoeic, therefore preserved k' acc. [Swadesh & Swadesh 1933]]
Kwakwaka (K):	k'a-, k'ana ‘crow’ [and kaxlaǵa ; for ǵaaχ ‘cry of crow or raven’ see PW *ǵʷa:χʷ]
Oowekyala (Oo):	k'aaqa ‘crow’
Heiltsuk (H):	k'áqa
Haisla (Ha):	k'aaχ, k'aaqa ‘crow’ [and k'axla- ‘clamour like crow’]

Table 4: Proto-Wakashan form of ‘crow’ and cognates

However, Fortescue’s (2007:165) entry for ‘water’, ***č'a(ʔakʷ)** is only reconstructed to a Proto-Nootkan form, indicating that not all Wakashan languages share a common historical form referring to ‘water’ related to ***k'a:(qan)-** ‘crow’. Southern Wakashan languages share a common proto-form for ‘water’ that is formally similar to the beginning of the word meaning ‘crow’ in Qʷi-qʷi-diččaq and Ditidaht, but not in Nuuchahnulth (compare Tables 4 and 5). Furthermore, the contemporary and historical forms for ‘water’ in Northern Wakashan languages (shown in Table 6) differ significantly from the Proto-Wakashan word for ‘crow’.

²⁴ It is unclear why Fortescue (2007:53) transcribes the free root for ‘crow’ as **čaaq'aaduuʔu:** when Davidson (2002:399) lists this as **ča-qa-duʔu:** indicating that the penultimate vowel is short.

M:	č'a(ʔakʷ) 'water' [č'aʔaq'atu 'waterfall', č'eʔiiks 'drink' (cf. PW -i(:)ks 'eat')]	Fortescue 2007:165
D:	č'aʔak 'water' [Werle; Haas & Swadesh have č'aʔawaa 'always get water']	Fortescue 2007:165
N:	č'a(ʔak) 'water'	Fortescue 2007:165

Table 5: Forms of 'water' cognates in Southern Wakashan languages

K:	wap 'water'	Rosenblum 2015:75
H:	wáp, wárŋ, wárŋp 'fresh water'	Heiltsuk Language & Culture Mobilization Partnership:2024
Ha:	wap, wáp, wáp, wáp 'water'	Haisla Nation:2021

Table 6: Forms of 'water' cognates in Northern Wakashan languages

Despite not appearing historically related according to this research, there is fair evidence of a meaning-based connection between the meanings of 'crow' and 'water' in contemporary Makah and Ditidaht. This connection can be drawn on to support learners in remembering these words to teach about Crow's significance through a story-engaged teaching method that allows learners to move beyond learning wordforms to learning about Makah connections inherent in Q^wi·q^wi·diččaŋ (e.g., Bastiens 2004:121).

Next, considering that the ending of **ča·qa·duʔu**, the sequence **uʔu:**, only appears in the Makah descendent of ***k'a:(qan)-**, there was a questions as to whether this ending could be analyzed as a separate suffixing morpheme specific to Makah. Maria highlighted **ǰalawuʔu:** '(Dungeness) crab' and **ka·ščuʔu:** 'hair seal' as other examples that may have a shared ending with the word for 'crow' (p.c., November 30, 2022). To examine this question more fully, I searched for all words appearing in Davidson (2002:381–463) with an **uʔu:** ending and identified the following entries:

English translation	Combining root	Free root	NCN roots	Davidson (2002)
night	ʔatxi-	ʔatxi-yuʔu:	ʔath- ʔath-	p. 385
dolphin		ci·tkuʔu:	ci·tk-uŋ	p. 394
crow	čaqat-q-	ča·qa·duʔu:		p. 399
scapegoat		čiči·buʔu:	čičmu-q^w- čičmu-	p. 400
belongings of the dead (items thrown away)		čiši·yuʔu:		p. 400
overturned stump with tangled roots	diŋ-	diŋi·čuʔu:	niŋ- niŋuk	p. 404

float (fish gear)		ku·yuʔu:		p. 417
hair seal	kašču-q-	ka·ščuʔu:	ka·ščua(-q-)	p. 419
small trinket basket	piku-q-	pikuʔu:	pikaʔu· pikuʔu·	p. 433
flounder		qalatačuʔu:	ʔanalca(-q-)	p. 439
small turban snail, black periwinkle snail		siduʔu:		p. 443
Dungeness crab	ʒalawi-q-	ʒalawuʔu:		p. 459
herring eggs	ʒicbu-q-	ʒi·cbuʔu:	si·hṛmu-q- si·hṛmu·	p. 460

Table 7: Free roots ending in **uʔu:** from Davidson (2002) Appendix B

This research could be supported by determining whether any of the roots that only have a free root form listed currently also have a combining form that is not yet captured in the available Makah language resources and by broadening the comparative research to reconstruct additional proto-forms. Referring to Fortescue (2007), there are currently two cases where other words ending in **uʔu:** have been reconstructed: ‘flounder’ and ‘night’.

PN	*q’alaʔ(č’uʔu:) ‘flounder’ [borrowed into Quileute as q’alaʔč’uʔ]
M:	q’alaʔč’uʔu: ‘flounder’
D:	--
N:	ʒanaʔc’a(q-) ‘flounder’ [Ston. has ʒanaʔc’a]

Table 8: Proto-Nootkan form of ‘flounder’ and cognates (Fortescue 2007:212)

PN	*ʔatxi: or *ʔatxiy(i) ‘night’ [contains ‘durative’ -i: acc. Sap.; cf. perhaps PN *-xi(:) ‘durative’]
M:	ʔatxi(yuʔu:) ‘night’
D:	ʔatxiy ‘night’
N:	ʔathii ‘night’

Table 9: Proto-Nootkan form of ‘night’ and cognates (Fortescue 2007:254)

As in Table 4, the **uʔu:** ending is unique to the Makah reflex of these words; however Fortescue (2007) presents the endings of these words in parentheses that include the preceding consonant. It seems possible that in both cases, these could alternatively be interpreted as (C)(**uʔu:**) with the consonant surfacing separate of the ending being considered in the current section. For example, Fortescue’s analysis reconstructs a Proto-Nootkan form of ***q’alata(č’uʔu:)** ‘flounder’ with **č’uʔu:** reconstructed to the

Proto-Nootkan form, despite ending instead in **č'a(q-)** in Nuu-chah-nulth. Based on this information, it is unclear what motivates the reconstruction of **uʔu:** for Proto-Nootkan. Looking at the example of 'night' as well, the inclusion of **y** as part of the parenthesized ending **yuʔu:** seems that it could certainly be framed as **ʔatxi·(y)(uʔu:)** where **y** may be analyzed as a word-final segment in **ʔatxi·y** or as the phonologically required onset to the penultimate syllable in as **ʔatxi·yuʔu:**.

More research is necessary to clarify the remaining questions around these cognate sets and to propose what function or meaning, if any, **uʔu:** may contribute among such a diverse list of words. With the information available at this time, it may be hypothesized that this is another instance of a lexically empty formative suffix (like **-i:da** discussed in §3.3). Davidson (2002:179) states that "most formative suffixes are used with noun roots," which based on the translations provided for the words identified in Table 7, seems to be the case here. The full historical analysis of **ča·qa·duʔu:** remains to be verified as further information becomes available and other connections can be drawn between these examples.

L11 qaʔawaca-ʔaʕ du-č̣xi-waʔaʕwa-d ʕi-beyis

“Get the pack basket.” It was said Crow sang while she walked the beach. Crow sang at the same time.

qaʔawac-a-ʔaʕ=ʔ	du-č̣-x̣-i-waʔ=aʕ=wa-d
qaʔawac-a-ʔaʕ=ʔi	du-č̣ [L]-(x̣)x̣-i-wiʕ-[IterL]=ʔaʕ=wa:d(a)
pack.basket-NFR ²⁵ =TEMP=IMPER.2SG	song-asking.for-while-INCEP-ITER=TEMP=QUOT.3SG
ʕi-bey-is	
ʕi-baʔ-ʔis	
walking-moving.about-on.beach	

3.9 Line 11: du-č̣xi-waʔaʕwa-d suffix analysis and cultural notes

The morphological analysis presented above for **du-č̣xi-waʔaʕwa-d** represents our best efforts at this time to understand the internal construction of this word. Our discussion of Line 11 centered largely around the possible analyses for this word, and the implications of each analysis that we developed for our broader understanding of the Makah word-building and what this word conveys in the context of the story. This section outlines the many different paths we considered while developing the morphological analysis for **du-č̣xi-waʔaʕwa-d** and the supplementary research that leads to the final presentation included in Line 11 of the story analysis above.

Maria originally translated the words **du-č̣xi-waʔaʕwa-d ʕi-beyis** as “It was said Crow sang while she walked the beach. Crow sang at the same time.” I present these words together because although the

²⁵ For **qaʔawaca-ʔaʕ**, there is also a question of why there is an **a** following the root **qaʔawac**. Our analysis and translation do not ascribe any meaning to **a** at this time; however, it seems unlikely to be phonologically motivated given that the **c** of **qaʔawac** can be glottalized by the temporal marker as Davidson (2002) exemplifies below:

qaʔawačalši ti·	
qaʔawac=ʔaʕ=ʔi=ši:	ti·
burden.basket=TEMP=INDIC.3sg=RESP	DEM
‘This is a burden basket.’ (Ruth Claplanhoo, ANA)	(Davidson 2002:330)

Given the environment in this word, we would expect **a** must be (part of) a suffix. This could be a lexical suffix such as -a- ‘go out to sea (perf.)’ a more grammatical suffix. Maria proposed that this could also be the causative suffix. In Makah, the **p** of the causative deletes before a glottalizing clitic, such as the temporal marker, =ʔaʕ in this word. However, Maria was unsure why the causative would appear in this context. **a** also has formal similarities to the continuative, **-(y)a**, though Davidson (2002:98) points out that in the case of free roots, such as **qaʔawac**, this root is inherently imperfective and would therefore not appear with an imperfective marker (i.e., the durative or continuative).

analysis of **ǎi·beyis** was clear, the translation to English suggests a connection between the main action described by **du·čǎi·wataǎwa·d** and **ǎi·beyis** which situates that action in space and relative to secondary action of ‘walking around’. Based on this translation, we made some assumptions about what certain parts of **du·čǎi·wataǎwa·d** mean. First, the word begins with a combining form of the root ‘song’, **du-**. Next, we surmised that the word-internal **ǎ** would be the suffix **-(ǎ)ǎ** which is described by Davidson (2002) as a peripheral suffix meaning ‘while; at the same time’ and by Inman (2019:138) as a predicate linker, combining “multiple predicates into a single clause.” Finally, the ending sequence, **ǎwa·d**, represents a sequence of the temporal and quotative clitics, providing us with a preliminary analysis shown in (27):

- (27) **du·čǎi·wataǎwa·d ǎi·beyis**
du-č-ǎ-i-wat=aǎ=wa:da **ǎi-bat-’is**
 song-??-while-??=TEMP=QUOT.3SG walking-moving.about-on.beach
 ‘It was said Crow sang while she walked the beach. Crow sang at the same time.’

This analysis leaves questions regarding the underlined sections in (27) which include the length of the word-initial vowel, the following **č**, and the sequence **i-wat**. Because of these various gaps in our initial analysis, we continued discussing the meaning of this word.

Based on the assumption that the root of this word is **du-**, and knowing that this root has a short vowel, an adjacent short or long vowel and/or an associated template ([L]) on a later suffix would result in the lengthening of the root vowel. From the pronunciation, this would not be expected to be a glottalizing suffix because a glottalizing suffix would give rise to a glottal stop in the surface form due to the root **du-** ending in a vowel. The /č/ in this case could be part of a vowel-initial suffix, or the beginning of a separate suffix following a some suffix **-a(·)**, **-i(·)**, or **-u(·)**. Of the Makah suffixes listed in the list of lexical suffixes provided in Davidson (2002), there are two suffixes that suit these requirements: **-a-** ‘go out to sea (perf.)’ (368) and **-a·č [L]** ‘at the margin along the water’ (374). Maria agreed that in the context of the story, **-a·č [L]** ‘at the margin along the water’ may make sense because that would be where the mother Crow would be looking for the driftage food. Another possibility that relies on lengthening by way of an associated template is **-č [L]** ‘asking for’ (365) which could refer to the purpose of the song.

Pursuing this suggestion that this suffix may be **-č [L]** ‘asking for’, Maria validates that **du·č** could refer to the type or purpose of the song. During our meetings, she shared insight that:

“We used to gather eggs and so, gathering seafood, I know there were certain things done to prepare for it. And certain songs for certain occasions. So, there’s like gathering songs, like if you’re gathering something. This might be something like that. I know of one. It’s in a lullaby, but it’s talking about gathering periwinkles. But maybe using this type of song and then it says **łi·beyis** ‘while walking the beach’, maybe it’s associated?”
(p.c., February 1, 2023)

During the same meeting, she also adds that “maybe this is a song particular to the mother Crow that she sang... maybe singing her song that she used for getting seafood” because “songs can be used for good luck or thinking positive about whatever [one is] endeavoring [to do]” (p.c., February 1, 2023). If the suffix **-č [L]** ‘asking for’ is in fact describing the song in this way (i.e., that it is an “asking for song”), these ideas may inform the reading of Line 16, in particular, where “**dudu·čxi·watał huda·qi·t, ʔu·ʔu·dułwał ka·šču· hudiqey**” might mean that Crow is singing a song asking for driftage food (see §3.12 for further discussion).

Turning to the other unidentified segment **i·wat** in **du·čxi·watałwa·d**, Maria suggested that **-wat** might have something to do with ‘saying’ (**-wa·** ‘say...’) or **-(w)ał [L]** ‘find something’ (p.c., November 2, 2022). Considering possibly similar forms in related languages, there is a Ditidaht story, The Whaler, shared and analyzed by Touchie (1976:17), which presents a word **ʔuʔawatkw** ‘looked after’ which is presented as including a suffix **-awat** ‘tending’. However, none of these suffixes seem to quite match the form of the word or meaning as we understand it in the story.

We also reframed our question to exclude our original analysis of **ł** as the suffix **-(ł)ł** ‘at the same time’. By instead reconsidering this as a part of a subsequent suffix, we considered **-łi·wat** as a whole.

This raised the possibility that this might be the suffix **-łwa:t [L+S]** ‘using’²⁶. Maria shared that:

“using a song can be a thing. Because there’s so many kinds of songs, so say someone chooses to use a certain potlatch song, and maybe that family owns several, it’s called

²⁶ Davidson (2002:360) lists this suffix as being lengthening and shortening ([L+S]) in contrast to Jacobsen (1997a:2) which includes it as a lengthening suffix (i.e., [L]).

tupa·t—their family’s privilege to sing that song. So maybe her song was a hair seal-getting song, maybe it was a lucky song and so she used that song... But that would only be if **-xi·waʔ** is the way [Ruth] pronounces **-xawa·ʔ**.”

(p.c., January 25, 2023)

With reference to this proposed variation, Maria adds that she’s unsure of “why a speaker’s choice would be [one or the other]... if they’re total synonyms, or there might be a little difference of when you use either of them” (p.c., January 25, 2023). Jacobsen (1997a:2) describes that the suffix is regularly **-xwa:ʔ** and **-xuwa:ʔ** after CV- suggesting the alternation of these forms are phonologically conditioned. Davidson (2002) includes additional examples that show this suffix with slight variation:

- | | | | |
|------|---|--|--|
| (28) | ʔu·xuwa·ʔ ʔupku·yaksic čaqa·
ʔu·xwa:ʔ [L+S]=’i
so.and.so-use=IMPER.2SG
‘Use your beak pushing it!’ | ʔupk-u·-yakʷ=sic
peck-EPEN-thing.for=POSS.2SG | čaq-(y)a·
push-CONT
(HI, Qweti and Raven)
(Davidson 2002:234) |
| (29) | hidaʔwa·ʔ
use | | (Davidson 2002:411) |
| (30) | ʔu·xawa·ʔ
use | | (Davidson 2002:453) |

Furthermore, example (30) above, demonstrates that there may be additional variations in pronunciation than those described by Jacobsen (1997a). Unfortunately, these examples do not clarify in the case of **du·čxi·wataʔwa·d** why the suffix would surface with the form **xi·wa:ʔ**.

In an effort to account for the sequence **xi·wa·ʔ** in full, Maria suggests that the suffix **-či** “at, in...” (Davidson 2002:360) could be a part of this word. Formally, this may help to explain the selection of an allomorph of **-xwa:ʔ** with an additional vowel and creates a possible influence on the quality of said vowel as **i**, similar to the example **ʔu·xuwa·ʔ** in (28) above. This does however still leave the question of why the **i** surfaces after the **x** rather than in its underlying position (i.e., **du·čxiwa·ʔaʔwa·d**). In sum, our discussions led to some combination of the following analyses:

- | | | |
|------|--|---|
| (31) | du·čxi·wataʔwa·d ʔi·beyis
du·či·xwaʔ [L+S]=’aʔ=wa:da
song-at-use=TEMP=QUOT.3SG | ʔi·bat-’is
walking-moving.about-on.beach |
|------|--|---|

- (32) **du·č̣xi·watałwa·d ʔi·beyis**
du-a-č [L]-č̣wata [L + S]='ał=wa:da **ʔi--bat-'is**
 song-at.margin.along.water-use=TEMP=QUOT.3SG walking-moving.about-on.beach
- (33) **du·č̣xi·watałwa·d ʔi·beyis**
du-a-č [L]-č̣-i-wata='ał=wa:da **ʔi--bat-'is**
 song-at.margin.along.water-while-NFR=TEMP=QUOT.3SG walking-moving.about-on.beach

I noted that upon review of the options we had identified, we had not considered a combination that would address the sequence **-i-wata** on its own.

The beginning of this sequence is similar to the perfective inceptive allomorph **-i:wiał**, possibly in combination with an imperfective marker that Davidson (2002:242–245) calls Iterative II. When this iterative aspect is added, Davidson (2002:244) describes its formation in the limited Makah attestations as “changing the final /ł/ of the perfective suffix to /t/,” in particular, in the context of derived word bases. This can also occur following the perfective inceptive (e.g., **-i:wiał**) in Nuu-chah-nulth according to Davidson (2002:242), so it may be a matter that further information is needed to validate whether **-i:wiał** could become **-i:wit** in Makah to mark the iterative aspect. Although this analysis leaves a small question related to quality of the second vowel within the inceptive marker (i.e., that it would be **-i:wit** surfacing as **du·č̣xi-witałwa·d**, not **-i:wata**, as it has been transcribed), it would provide the following analysis:

- (34) **du·č̣xi·watałwa·d ʔi·beyis**
du-č [L]-(č̣)č̣-i:wiał-[IterL]='ał=wa:da **ʔi--bat-'is**
 song-asking.for-while-INCEP-ITER=TEMP=QUOT.3SG walking-moving.about-on.beach

This analysis most closely accounts for the transcription of Ruth’s storytelling in that it is the only analysis we have developed that reveals a source for the **i·**. Ultimately, further research and instances of the Iterative II use in Makah are needed to confirm whether this is a suitable gloss.

L12 du·č·x̄·i·waʔaʔa Ča·q̄a·daʔu· .

Crow sang at the same time.

du·č·x̄·i·waʔaʔa=ʔaʔa
du·č [L]-(x̄)·i·wiʔa-[lterL]=ʔaʔa
song-asking.for-while-INCEP-ITER=TEMP

Ča·q̄a·daʔu·
Ča·q̄a·duʔu:
Crow

L13 ye·ʔi·wa ye·ʔi·wa ha· ye·ʔi·wa

(song syllables)

3.10 Line 13: Story songs and other tellings of this story

In §3.9, the nature of this song was outlined as possibly a gathering song or song bringing good luck to Crow as she searched for driftage food. During our discussions, Maria shared further insight to Makah story songs saying that “most of the stories [she’s] heard, the storyteller will have little songs that were in the story” and that these are important. Even just looking at this single story, we learned that different storytellers may know different songs. For example, Maria was familiar with other versions of this story where the storyteller sang a song in which the little crows are told by Raven to dance around the fire (around Line 45 of this story).

“Crow comes up in a pile of bullwhip kelp. And sometimes something live is stuck in the kelp, and so she thought this bunch of kelp was [a] hair seal. And so she came up and clubbed the kelp, but then she went “Oh, you’re not what I want” and she kicked the kelp and then she sings her song again (*ye·ʔi·wa*) and you sing that song about three times in between the findings [of the kelp, bullhead, and hair seal]. Then she gets to another one and there’s a little bullhead that washed up on the beach, *hu·di·*, but she wants something bigger—she wants a hair seal. But she sees it move and she thinks it’s a hair seal, but when she gets close, she goes “you’re not a *kaščuʔu*, *wiksubasi·cuʔ* I don’t want you” and so she walks around him, maybe she might have kicked him back into the water. And then by the third finding, it is a hair seal.”

(p.c., May 30, 2023)

We discussed the possibility of comparing different versions of this story in the future to perhaps incorporate knowledge, songs, and lessons from many Makah storytellers who shared different versions of this story. Maria suggested that recorded stories could even be brought together to present different

versions of the story with a preface to credit each Elder's work and contribution to the continuance of the Makah language.

L14 ʔu+ʔu--duḥs ka·kaščuqačakt

I'm looking for hair seal on the water.

ʔu+ʔu--duḥs

RED+ʔu-iduḥs

DISTR+ref.stem-look.for=INDIC.1SG

ka·kašču-q-ačakt

RED+kašču-q-ačakt

DISTR+hair.seal-BFR-on.the.sea

3.11 Line 14: Makah reduplication and plurality

As illustrated in both words in this line of the story, reduplication is one of the few instances in Makah that adds morphology to a word without suffixation. Reduplication can reflect a few different functions (e.g., repetitive or iterative aspect, plurality²⁷) and sometimes surfaces without a function at all but is instead due to the associated template of another suffix (see footnote 8). In this story, we have seen reduplication marking noun pluralization earlier in Line 3 when **kʷakʔowačiq** ‘the little ones’ are introduced; however, this line (L14) required some further literature-based review to analyze and reflect on the function of reduplication.

Davidson (2002:205–212) presents at least eleven plural constructions in Makah, of which six can involve reduplication in some way. As we discussed the different reduplicated words in this story, Maria shared her knowledge of some of these other reduplicating plurals and the different types of plurality that can be encoded in Makah:

“Plurals are interesting in Makah. You can have **taḥuk** for ‘man’ and some people say **taḥa·ḥuk** ‘men’, some people say **tata·ḥuk** and insert **-t-** and it all means ‘men’. So does **la·ḥukbadaḥ** but that means more like ‘a group of men right here’ clustered together where the other, [**tata·ḥuk**, is] more distributive. (...) In Nuu-chah-nulth, **quʔas** means ‘person, Native (person)’, but for Makahs, that means ‘husky person’. We know that word, so I’ve heard people say **ququʔasatḥ** like ‘a village, there’s people there’ and it can also mean ‘a tribe’. I’ve heard people go like this **quqʔasatḥ** ‘tribe’ like what we call tribal journeys that’s **quqʔasatḥ ḷi·ḥpadač** so that’s like ‘tribe paddling around.’”

(p.c., May 30, 2023)

²⁷ In his discussion of plurality in Nuu-chah-nulth, Inman (2021:111–112) defines plurality in reference to nominal pluralization (marked on the noun or predicate), pluractionality (e.g., repetitive, iterative, habitual aspect), event continuity or progression, or transitive events related to multiple objects (e.g., ‘I painted the boats’ can have the interpretation of an extended event across several objects or multiple individuated events connected to each object).

Maria highlights that different pluralizing constructions encode certain types of plurality (e.g., collective or distributive) and she also illustrates that only particular plural constructions are eligible to be used with a given root. However, Davidson (2002:210) indicates that “it is unclear what principles, if any, govern the association of plural templates with bases”. Inman (2021) also remarks on the complexities of roots’ plural selection which is unique not only across Southern Wakashan languages (128), but even across dialects in Nuu-chah-nulth (126). Whether plural constructions may also be a site of dialectal difference in Makah is a question for future research.

Maria and I first analyzed **ʔuʔu·duḵs** as beginning with pluralizing CV reduplication because other than word-initial reduplication, the remainder of the word appears transparently analyzed with the suffix **-iduḵ** ‘seeking, looking for...’ and the first person singular indicative pronominal clitic, **=s**. However, according to similar analyses in Davidson (2002), this may be a case of vowel assimilation rather than reduplication. Davidson (2002:120) provides an example that combines this same referential root **ʔu-** with the **-iduḵ** lexical suffix shown in example (35):

- | | | | |
|------|--|---|---------------------|
| (35) | ʔuʔuduḵsa-t yakya·daqyu·ʔiq
ʔu-iduḵ=s=a:t
so.and.so-look.for=INDIC.1SG=3PL
‘I am looking for the kids.’ | ya·daq-yu: [R+L]=°iq
child-PL=ART | (Davidson 2002:120) |
|------|--|---|---------------------|

The source of the second glottal stop appears to be unanalyzed in example (35) though. Given that the verbalizing suffix **-iduḵ** ‘seeking, looking for...’ does not cause affix-associated reduplication ([R]) or produce a glottalizing effect at the morphemic boundary where this suffix attaches to the root, there is nothing inherent to the suffix to give rise to the second /ʔ/. For the word **ʔuʔu·duḵsa-t**, it seems that an analysis with CV reduplication is necessary because where the first vowel of the root is concerned, Davidson (2002:37–38) specifies that the vowel quality of this root, **ʔu-**, when combined with the lexical suffix **-iduḵ** would remain **u**, and surface as **ʔuduḵ**. This CV reduplication analysis also seems supported by an example in Ditidaht which does not have a second glottal stop:

(36) **ʔudɣa·ʔ**
ʔu-i-duɣ-ʔa·ʔ
it-look for-then
'looking for'

(Touchie 1976:7)

Based on this example in Ditidaht, if we anticipate that the equivalent sequence of **ʔu-iduɣ** in Makah would surface similarly as **ʔuduɣ**, the word **ʔuʔu-duɣs** used in Line 14 of the “Raven and Crow” story appears to be constructed with CV-reduplication only.

Looking specifically at meaning marked solely by reduplication, Davidson (2002:210) specifies that plurals constructed through reduplication alone “indicate simple plurality [on nouns], while reduplication of both nouns with locative suffixes and other word classes tends to indicate distributive.” Jacobsen (1997a:16) also specifies that the distributive “indicates actions or states spread out in space [which] may include actions performed at different locations by a single individual, which inevitably also entail repetition in time”. Notably, Jacobsen (1997a:16) describes this application of CV reduplication under the broader category of “aspectual marking” (12) and says it is distinct from plural reduplication which is described subsequently in his paper as implying “merely number, without any spatial implications” (18).

Although Davidson (2002) glosses all instances of reduplication in the same way as pluralization (PL), our story analysis reflects what seem to be two differentiated uses of CV reduplication in its glossing. Where the CV reduplication indicates the “simple plurality” (Davidson 2002:210) of a nominal base, this is glossed as plural (PL). To provide contrast, in cases where reduplication is used in relation to a noun base with locative suffix(es) or other word classes (Davidson 2002:210), reduplication is glossed as distributive (DISTR). Because of the apparent semantic and syntactic distinctions of use, this represents more clearly for learners the uses of CV reduplication.

In the case of this line, we see that the first word of this line, **ʔuʔu-duɣs**, acts as a verb and the second, **ka·kaščuqačakt**, has a typically nominal root, but is followed by a locative lexical suffix. Both of these word bases suggest, according to the differences outlined in Davidson (2002) and Jacobsen (1997a), that these constructions, take on a distributive meaning when CV reduplication is used. Adding to the

context that may inform how this story is told, Maria told me about seals on the water and that “sometimes there will be a carcass coming in on the water, already floating, coming in with the tide. When the seal is dead, it blows up and floats, so the Crow might have been looking out over the water to see if anything was coming in” (p.c., Nov. 2, 2022). Considering the definition provided by Jacobsen (1997a) and Davidson (2002), Ruth Claplanhoo tells us that, over space and time, Crow was looking out on the water for hair seal.

L15 That's seal... and she was singing.

L16 dudu-č̣xi-waṭaḷ²⁸ hu-daqi-t, ʔu-ʔu-duḫ^waḷ ka-ṣ̌ču hu-di-qey

She was singing while going after hair seal driftage.

du+du-č̣-ḫ-i-waṭ=aḷ		hu-daqi-t
RED+du-č̣ [L]-(ḫ)ḫ-i:wiḷ-[IterL]=aḷ		
<i>DISTR+ song-asking.for-while-INCEP-ITER=TEMP</i>		<i>driftage.food-NFR</i>
ʔu-ʔu-duḫ ^w =aḷ	ka-ṣ̌ču.	hu-di=qey
RED+ʔu--iduḫ ^w =aḷ	ka-ṣ̌ču.	hu-di=qey(u)
<i>DISTR+ref.stem-look.for=TEMP</i>	<i>hair.seal</i>	<i>driftage.food=COND.3SG</i>

3.12 Line 16: Possible analyses for hudaqi-t

This section describes five possible analyses for the ending of **hu-daqi-t**. Following review of my research, Maria favours the analysis that the ending of this word may be a Makah suffix **-(:)daqi-t** which we propose as a cognate of Nuu-chah-nulth **-háqi-t** ‘finding... (perf.)’ (Davidson 2002:363), but all possibilities and their implications for our understanding of Makah grammar are included here for the benefit of future conversation regarding this analysis. Maria and I undertook this analysis with the base assumption that this is another word being introduced in this story that is constructed with the root **hu-di** ‘driftage food’ (possibly **hudi-q-/ hu-da-q-**, see discussion in §3.7). Because of this word’s formal similarity to **hu-daqi-s**, we initially considered solutions that presume that the root, would be analyzed in the same way as in Line 1 or Line 9, **huda-q-** ‘driftage food’:

²⁸ In Makah, reduplication can also be associated with two aspect markers. The first is the repetitive, constructed by adding the suffix **-(y)a** and repetitive reduplication **[RepR]** which is full reduplication and lengthening of monosyllabic CVC root. For CV roots, there is full reduplication of the root and a **ḷ** is inserted in the coda position of the reduplicative syllable. Jacobsen (1997a:14) describes the repetitive as “highly productive” implying “steady and frequent repetition of an action”. The other aspect marker is the iterative, **-ṣ̌** (or **-č̣** following a vowel) **[IterR]**, which marks more sporadically repeated action than the repetitive (Davidson 2002:240). **[IterR]** which, similar to **[RepR]**, refers to full reduplication of a CVC root with insertion of **ḷ** in the coda position of the reduplicative syllable if the reduplicant is a CV root. Although the suffix form of the iterative (i.e., **-č̣**) aligns more closely with what Ruth is saying in the story, because the root is analyzed as **du-** ‘song’, we would anticipate the insertion of a **/ḷ/** between the reduplicative syllable and root to create **duḷdu-č̣-**. Furthermore, seeing as we have already heard other instances of very similar word forms in In Lines 11 and 12, we surmise that the **č̣** here is associated with another morpheme than the iterative. This suggests that what we see here is CV reduplication, discussed in §3.11.

L1 ʔuba·ćayiks ha·wićaqš mi qʷiyu·bito·wis Ča·q̣a·duʔu· hu·daq̣i·s.

I'm going to tell (a) story when Crow was getting driftage food.

ʔu-ba·ć=ayik=s	ha·wićaqš	mi
ʔu-aba:ću='eyik=s	ha·wićaqš	mi
<i>ref.stem-talk.about=FUT=INDIC.1SG</i>	<i>telling.a.story</i>	<i>um (filled pause)</i>
qʷiyu·=bit=o·wis=°i	Ča·q̣a·duʔu·	hu·da-q-i·s
qʷiyu=(b)it=o·wis=°i	Ča·q̣a·duʔu:	hu·da-q-i:s
<i>when=PAST=DUB=INDIC.3SG</i>	<i>Crow</i>	<i>driftage-BFR-carry.along</i>

L9 “hišu· hu·daq̣i·seyiks.” wa·ʔal.

“Okay. I will carry along much driftage food,” she says.

hišu·	hu·da-q-i·s='eyik=s	wa·='al=°i
hišu·	hu·da-q-i:s='eyik=s	wa·='aλ=°i
<i>Okay</i>	<i>driftage.food-BFR-bring.along=FUT=INDIC.1SG</i>	<i>say=TEMP=INDIC.3SG</i>

The first possible account for the ending **-i·t̚** in the word **hu·daq̣i·t̚** was suggested by Maria who drew a connection to a clitic, **=i·t̚**, which is an allomorph of the third person plural, **=°at̚** (p.c., February 1, 2023). Davidson (2002:316) lists these allomorphs as **=°at̚**, **=at̚**, **=a:t̚**, **=i:t̚**, and **=t̚** and provides the following example with the allomorph **=i:t̚**.

- (37) ʔa·ya·čaquq̣taqa·ti·t̚
 ʔačaq-<a·y> [L]-(q)uq̣ta=(q)a:t̚=i:t̚
 who-<PL>-have.as.name=CONTENT.3SG=3PL
 ‘What are their names?’ (KH) (Davidson 2002:286)

Jacobsen (1973:5) refers to this allomorph of the third person plural (**=i:t̚**) as the informational interrogative subjective plural. He defines the informational interrogative further as a clitic involved in asking “wh-questions” which are used with interrogative stems (14). This is reflected in the example (38) provided in Davidson (2002) as well with the root **ʔa·čaq-** ‘who’. From the perspective of word-building, this raises questions regarding the likelihood of **-q-** representing a buffer consonant. If **=i:t̚** was the form of the third person plural clitic, the base **hu·di·** would not allow a buffer consonant where only a clitic follows. Davidson (2002:xv) defines the buffer consonant specifically as being “inserted between certain

(generally vowel-final) bases and certain suffixes” indicating, along with available analyzed examples, that a buffer would not appear between the root and directly adjacent enclitic.

As for other suggestions to analyze this ending, Maria and I brainstormed alternatives that might partially match the ending of this word but where some segments of it may be susceptible to loss in speech or may not appear in this particular construction.

1.) **=(k^w)i:t** (sometimes [L + S]²⁹) ‘make’: Following a consonant, this suffix would surface as **=i:t**. Maria added that “[she doesn’t] know why it say ‘making driftage food’, but that’s one place you hear **i:t**” (p.c., February 22, 2023).

2.) **=i:tk** ‘they always’: Maria provided alternative examples that she has heard, **=si:k** ‘I always’ or **=du:k** ‘we always’ (p.c., February 1, 2023). These examples are constructed with pronominal indicative clitics (e.g., **=si:**, **=du:**) followed by the habitual clitic (**=a:k**). In terms of clitic order, the =3PL marker follows the habitual (Davidson 2002:320):

=DIM=TEMP=CAUS=POSS=PINV=TENSE=MOOD=PRO=HAB=3PL=RESP=again

However, Jacobsen (1973:16) describes a process of metathesis that causes the sequence =HAB=3PL sequence, **=a:k=t**, to surface as **=a:tk**. The change of the habitual vowel **a:** remains unexplained in this analysis.

3.) **-’ilita** ‘at the point, end, at the nose’: This suffix appears in the word **hidi:ttiq** in a previously time-aligned story (Hashimoto & Rosés Labrada 2018) told by Ralph LaChester. With a word-final /a/ that drops, this leaves **-i:tt**. It is possible that this word ends with a soft /t/ that is not detectable on the recording, but that may serve to specify the location or path of Crow singing her driftage food song.

²⁹ [L] and [S] denote affix-associated templates in Makah, indicating lengthening or shortening of word-initial syllable(s) respectively. These notations can be combined and applied to the first two syllables of the word, for example [L + S] which marks the lengthening of the first vowel and shortening of the second vowel.

Another possibility is that the **-q-** in this word has a different source than the analysis given in other words that begin with the sequence **hudaq** in this story, such as **hu·daq̣i·s** (see Line 1 and Line 9). One suggestion is that there is a cognate Makah suffix to the Nuu-chah-nulth suffix **-háq̣i·ṭ** ‘finding... (perf.)’ (Davidson 2002:363). If this were the case, a Makah cognate could be expected to appear as **– (:)daq̣i·ṭ** which, if following the root ‘driftage food’ would construct something like **hu·di·daq̣i·ṭ** or, assuming a the presence of a combining form, **hu·da·q̣-** (see §3.7), **hu·daq̣daq̣i·ṭ**. Particularly with the proposed underlying form **hu·daq̣daq̣i·ṭ** there is the possibility of haplology whereby the one of the **-daq̣-** sequences is deleted in natural speech, producing **hu·daq̣i·ṭ**. In the context of this story, as Crow walks along the margin of the water using her song, this **hu·daq̣i·ṭ** may further describe Crow’s song as a “driftage food-finding” song.

L17 wikałwa-d xeʔi·yaǰ ʔa·de·čʔaǰ³⁰ ʔuqʔoʔ ʔi·ʔi·ǰʷʔiq ka·šću.

It was said she didn't even in fact perceive the big hair seal.

wik='aǰ=wa·d	xeʔi·yaǰ	ʔa·d-e·č='aǰ	ʔuqʔoʔ
wik='aǰ=wa:d(a)	xeʔi·yaǰ	ʔa·di-eyačičǰ='aǰ	ʔuqʔoʔ
<i>not=TEMP=QUOT.3SG</i>	<i>NFR</i>	<i>in.fact-INCEP?=TEMP</i>	<i>find</i>
ʔi·ʔi·ǰʷ='iq	ka·šću		
ʔi·ʔi·ǰʷa='iq	ka·šću·		
<i>big=ART</i>	<i>hair.seal</i>		

3.13 Line 17: Discussion of xeʔi·yaǰ analysis

This section describes two possible analyses of **xeʔi·yaǰ**. In developing one analysis of this word, Maria first noted that **xeʔi·yaǰ** has some formal similarities to **xeʔiǰcey** ‘even so, including, and even’ which she reflected in her translation of this line. During our meetings, Maria proposed:

“...[Ruth] was 102 [years old], so there’s maybe other ways to use **xeʔiǰcey**, **xeʔi·yaǰ**... We don’t have [**xeʔiǰcey**] broken down... And **-iǰ** we know³¹... ‘starting to be’ and what does **-cey** mean? It’s not broken down... And **xe-** would somehow be the root... Or, if you look at **ǰa-** ‘complete, full’...”
(p.c., Feb. 22, 2023)

Fortescue (2007:120) also makes the connection between **xeʔiǰcey** ‘even’ and **ǰa-** ‘complete, full’, in his historical comparative work, including the word **xeʔiǰcey** ‘even, including’ under the entry for Proto-Wakashan stem ***ǰa(:)-** ‘very or too’. However, there is no existing resource that provides a complete analysis of the internal structure of **xeʔiǰcey** to help verify or understand how the Makah root **ǰa-** ‘sufficient, complete, entirely’ (Davidson 2002:458) constructs the meaning of ‘even’ and whether that might help us to understand **xeʔi·yaǰ**.

³⁰ We analyzed the root of **ʔa·de·čʔaǰ** as **ʔa·di** meaning ‘in fact, really’ or possibly **ʔada**, **ʔadi-**, **ʔadu-**, translated in Davidson (2002:383) as ‘only, thus much, as much as’. Maria voiced however that this seems less likely given the context. The second morpheme is possibly the perfective (inceptive) marker **-eyačičǰ** which undergoes regular /ǰ/ deletion before the temporal marker, =**'aǰ** (Jacobsen 1979a:20). Possibly, in rapid speech **eyač** may be perceived (and/or produced) as **-e·č** with a lengthened /e/.

³¹ Assuming the **iǰ** sequence in **xeʔiǰcey** to be a perfective marker entails that the subsequent sequence **cey** would be a clitic according to the relative ordering of lexical suffixes, aspect suffixes, and clitics. There is no known clitic that fits this analysis. Alternatively, Davidson (2002) describes three glottalizing lexical suffixes which may better suit the analysis of the word-medial sequence **iǰ** in **xeʔiǰcey**: **-iǰ [L]** ‘get...(perf.)’ (222), **-i:ǰ** ‘lose... (perf.)’ (361) and **-iǰ [L]** ‘go for, get, invite... (perf.)’ (186). The semantics of these in constructing a word meaning ‘even’ are unclear.

Syntactically, there are further indicators as to this word’s construction. Immediately preceding **ǰeʔi·yaǰ** is a word beginning with the complement-taking root **wik-**, meaning the following word is often its complement. The oral telling of the story seems to suggest this as well with **ǰeʔi·yaǰ** quickly following **wikaǰwa·d** before a relatively longer pause in this line of the story before continuing with the story. As the complement to **wikaǰwa·d**, we expect that **ǰeʔi·yaǰ** will be a bare absolute complement (i.e., unmarked for mood) (Davidson 2002:155).

In trying to determine how **ǰeʔi·yaǰ** may be further analyzed, Maria and I began by assuming that the root is **ǰa-** ‘sufficient, complete, entirely’ and from there, considered the phonological changes that could result in the word used in this story. If **ǰa-** is followed by a glottal stop, glottalizing suffix/clitic, or mutating clitic, this root would result in changes to the root vowel and cause a glottal stop to surface. This is a regular phonological rule for raising in Makah where an underlying sequence **-aʔi-** changes to **-eʔi-**, as in **ǰeʔi·ksčiǰ** ‘eat up all the food’ which would be analyzed as **xa-’i·ks-čiǰ** (full-consume-PERF) (Maria Pascua p.c., Feb. 22, 2023).

The verbalizing suffix **-’eyaǰ [L]** ‘pursuing, trying to get...’³², for example, suits some of these criteria. However, the documented form of this suffix does not condition raising of the root vowel in **ǰa-** and the affix-associated template [L] does not fit with the short first syllable of **ǰeʔi·yaǰ** which would be lengthened:

- (38) **wikaǰwa·d ǰa·ʔeyaǰ**
wik=’aǰ=wa:da ǰa-’eyaǰ [L]
no=TEMP=QUOT.3SG sufficient-trying.to.get

This analysis also poses semantic questions regarding its use within the context of the story as it seems to suggest that Crow was not trying hard enough in her search for driftage food.

An alternative analysis would construct a wordbase with the form **ǰeʔit-**, **ǰeʔiš-**, or **ǰeʔis-** followed either by a leniting suffix which could change the final consonant of the base to **-y** (Davidson 2002:81) or

³² This is **-’i:ǰ** in Nuu-chah-nulth, so perhaps **-i·yaǰ** could be another valid pronunciation that is closer to the Nuu-chah-nulth form of the suffix.

by a glottalizing suffix which could case the final consonant of the base to become **-:y-**³³ (Davidson 2002:79). To first analyze a base like this, we could again, assume that the beginning is the root **ǰa-**, followed by a suffix such as **-’it** ‘in the house’ or **-’is** ‘on the beach’. Formally, if this base, **ǰeʔit-** or **ǰeʔis-** respectively, were then followed by a suffix such as **-’aǰs** ‘in a vessel’, the resulting word would be anticipated to surface as **ǰeʔi:yaǰs**. This does not match exactly to what we hear on the recording but provides another view of how this word may be constructed.

3.14 *Line 17: Word-medial q in ʔuqʔot*

Davidson (2002) includes **ʔuqʔot** under the **ʔu-** root entry (453), however, there is no analysis of the internal structure of this word. Notably, the **-ʔot** ending is similar to many other words that are analyzed with the suffix **-uʔat** ‘perceive (perf.)’ which undergoes syncope of a $V_1ʔV_2$ sequence (see Davidson’s (2002) examples 152, 287d, 467 *inter alia*). In the case of this **uʔat** sequence, the rounding of the first vowel (**u**) conditions the rounding of the second vowel, **a**, before the sequence reduces, leaving the surface form **-ʔot**. For the word **ʔuqʔot** however, there is no clear account for the word-medial **q**. This section relies on historical comparative research to attempt to explain this unidentified segment **q** and reveals the possibility that this may in fact be a different suffix than the **-uʔat** ‘perceive (perf.)’ suffix we assumed it would be.

We originally considered that this word-medial **q** would be another example of the semantically empty “buffer consonant” **-q-** (see §3.7); however, for other combining roots that occur with the buffer **-q-**, there is a clear notation in the glossary entry for that root (i.e., **root-q-**). For **ʔu-**, **ʔuǰu-** (Davidson 2002:453), there is no documented combining form **ʔu-q-** and furthermore, other subentries listed in connection to the **ʔu-**, **ʔuǰu-** root that begin with **ʔuq** seem to have a suffix accounting for the appearance of **q** within the word. This suggests that **qʔot** may be a suffix other than **-uʔat** ‘perceive (perf.)’. In the

³³ This indicates lengthening of the preceding vowel and changing the original consonant to **y**

absence of an existing described suffix that suits the form and meaning heard in this story, this section seeks to identify how the ending of this word may be analyzed.

At this time, the only apparent example of this proposed Makah suffix **-qʔot** seems to be the word form in this story, **ʔuqʔot**. Through the course of our discussion, Maria proposes that:

“-ʔot might be more like that with perception (...) The **ʔu-** referential stem and then **-qʔot** can be like ‘come upon’ or ‘find’. I don’t know if it’s like ‘discover’? You see or find something or someone. So that other one, **ʔuʔot**, that’s ‘perceive’ that might be different than just **-qʔot**. That might be more like ‘find’ **ʔuqʔot**... I think perceive... you can perceive something by hearing it or seeing it or feeling it. I don’t know if there’s a difference with just like... finding with your eyes? That might be a fine difference between **-qʔot** and **ʔuʔot**.”

(p.c., May 30, 2023)

This suggestion implies the existence of an alternative word, **ʔuʔot** (though not included in Davidson 2002) which may be subtly distinct from the word in this story, **ʔuqʔot**. This surmised difference in meaning where **ʔuʔot** refers more directly to perception (based on the suffix **-uʔat**) compared to **ʔuqʔot** which Maria proposes to be translated as ‘find, come upon, discover’ which suggests starting to perceive something (possibly incidentally).

However, this still requires further explanation of the **q** in the word we hear in this story and how it contributes to the slightly different meaning Maria senses. Because there is no suffix form described in this way in existing Makah literature, I looked to comparative information for a suffix related to **-uʔat** ‘perceive (perf.)’ with the additional **q** that we hear in **ʔuqʔot**. Fortescue (2007:429) lists a Proto-Wakashan entry ***(u)ʔat** ‘perceive’ with proposed reflexes in Makah of **-ʔat** ‘aware of’ and **-uʔat** ‘perceive (perf.)’. For the cognate form in Ditidaht, the same form is listed as **-uʔat** ‘see’, as well as another form reportedly documented by Haas and Swadesh as **-(q)u·ʔt** ‘see, hear’ which Touchie (1976:44) also identifies as **-(q)o(·)t** ‘see’ as in **ʔuqo·t** ‘to see it’. Fortescue (2007:429) suggests this Ditidaht suffix **-(q)u·ʔt** may be influenced by Proto-Nootkan ***-qu:t** ‘face’ “as in [Makah] **ʔuqʔot** ‘see, find’ with [Proto-Wakashan] root **ʔu(:)-**” though it is unclear how the glottal stop **ʔ** is being introduced within the modern reflexes in Qʷi·qʷi·diččaq and Ditidaht if this suffix does indeed come from ***-qu:t** ‘face’.

Focusing on the listed Ditidaht suffixes identified by Haas and Swadesh (Swadesh & Swadesh 1933), as well as Touchie (1976), there is an attested suffix ‘see’ which has been classed as perhaps a variant form of ***(u)ʔat** ‘perceive’. Based on the word in this story, **ʔuqʔot**, it seems that the Makah suffix takes the form **-qʔot** which has surface-level differences from the Ditidaht **-(q)u·ʔt**. In the case of **-uʔat**, in Makah, the suffix is interpreted as undergoing syncope of the VʔV sequence with partial assimilation of the second vowel to the first before the first vowel is dropped (Davidson 2002:87). If we expect an underlying suffix **-quʔat**, these processes would still take place in Makah, providing a suffix **-qʔot**. For the same underlying Ditidaht form, Werle (2007:94) indicates other different phonological processes that would occur such as Medial Absence which limits the surfacing of short vowels to only so many as to eliminate unfooted syllables (Werle 2007:94). This process gives rise to a different surface form, **-qu·ʔt**, on a monosyllabic root, such as **ʔu-** where there is no further suffixation (see also **dačʔot**, Werle 2007:92 compared to Makah **dačʔot** (Davidson 2002:402)).

Based on Fortescue’s (2007:429) proposal of a historical influence from the Proto-Nootkan ***-qu:t** ‘face’, we can consider that, though the result of a historical influence, **q** may be synchronically unanalyzable even if there is a slight semantic difference. Further research and examples would help to inform lexicographic work and whether **-uʔat** ‘perceive (perf.)’ and **-quʔat** ‘see’ should be considered two unique suffixes in Makah, or a single suffix **-(q)uʔat**.

L18 λ adiwʔa λ . hita \acute{c} i-da λ

Then she stopped. She put it in the container (her pack basket).

λ ad-iw='a λ

λ ad(a·)-i:wi λ '=a λ

stay.still-INCEP=TEMP

hita- \acute{c} i·-d=a λ

hita- \acute{c} u·-di λ '=a λ

*empty.root-in.container*³⁴-PERF=TEMP

3.15 *Line 18: Note on the terminology describing hita-/hida-*

This line shows the first instance within the telling of this story of the “empty root” **hita-**. As with **ʔu-**, Maria was familiar with this root being termed the “empty root” (Davidson 2002; Davidson & Werle 2010; Jacobsen 1997a; Sapir 1924; Swadesh & Swadesh 1933) and sometimes a “locative” root (Thomas & Hess 1981; Touchie 1976, 1977). This latter term for the root is indicative of the fact that **hita-/hida-** occurs only with what Davidson (2002) terms verbalizing, path-orientation, and locative lexical suffixes (Davidson 2002:171). Because of these restrictions, words with this root often describe a place or spatial relation (see Thomas & Hess 1981:58 for an outline of three functional domains of this root). These functions also inform Rose (1981) and Nakayama’s (2001) glosses for this root as ‘there (MOM)’ and ‘get there,’ respectively in Nuuchahnulth. Davidson (2002:172) notes that the allomorphs are generally distributed with **hita-** surfacing with consonant-initial, glottalizing, or leniting suffixes (as is the case in this word in the story) while **hida-** occurs with vowel-initial suffixes. He also adds that exceptions to this pattern are not uncommon.

As part of this project, Maria and I discussed the best way to gloss this morpheme. As mentioned above, the term “empty root” has been used predominantly in the literature, particularly in Q^wi-q^wi-dičča^q glosses and analyses. This convention in Southern Wakashan language work seemingly begins with Edward Sapir who trained Morris Swadesh and Mary Haas [Swadesh], the latter of whom went on to train William Jacobsen. This lineage accounts in part for the use of this convention but referring to **hita-/hida-**

³⁴ Maria remarks that there is an interesting rule with this suffix. Though underlying **- \acute{c} u·**, it can instead surface as **\acute{c} i·**. Further research is needed to explain this alternation.

as an “empty root” has the benefit of abstracting the meaning of the root in a way that represents the fact that this root essentially functions as a wordbase for (often locational) lexical suffixes within the same wordform. This creates a distinction from **ʔu-** which is termed, in this project, the “referential stem” because in addition to acting as a root for lexical suffixes, **ʔu-** also has a pronominal function (see §3.2).

Calling **hita-** and **hida-** the “locative” also achieves this abstraction in a way that translated glosses such as “there” Rose (1981) or “get there” Nakayama (2001) cannot. In particular, when using glosses across a whole story, the advantage of more abstracted terminology is that it does not attempt to create equivalencies between a grammatical Makah root to English which will have inherent semantic meaning. For learning, English translations may also create further confusion about the “meaning” and uses of this root.

Calling this the “locative” root is potentially useful, particularly for the purposes of highlighting the pattern of this root’s locative function for language learners. An awareness of this trend may help learners to more easily recognize and contextualize what a word beginning with the **hita-/hida-** root may communicate. However, there are also apparent exceptions to this pattern, for example:

(39)	hitac̣ʔida	‘mate, spouse, wife’	
	hitaḳtaba	‘name’	
	hitasiṭa	‘did, do, accomplish, do as intended’	
	hiteʔi·ʔ	‘defeated, lost a game or competition’	
	hi-dasubač	‘ritual, ritual training’	(Davidson 2002:409–10)

I say “apparent” because although some of the examples above may be analyzed and shown to adhere to the general pattern of having a literal locative meaning, the way that they are lexicalized and translated to English can obscure these meanings. In these cases, it would be good to consider whether learners are attempting to learn full words without an understanding of the way that the words are being built, and based on the age and experience of the learners, whether these types of apparent “exceptions” to the “locative” nature of the **hita-/hida-** root make it more difficult for learners to understand. For example, with the word **hitac̣ʔida**, the gloss would be presented as:

- (40) **hitac̣ʰida**
hita-c̣ʰi-ida
LOCATIVE-married.to-FORMATIVE
'mate, spouse, wife'

For creating glossed materials, the “empty root” label used in this project ensures that even in word constructions that may not fit the general pattern of use (i.e. non-locative words), this **hita-/hida-** root can be presented in the same way across its uses (as the “empty root”) without being unclear in cases where the meaning may be more idiomatic.

L19 ʔada·wa³⁵ tičá·š wíkał ǰa·yasit λu·kšú·d.

As much as saying this (he) must have not been far behind (her), Raven.

ʔada·-wa	ti=čá·š	wik='ał	ǰa·yas=it
ʔada·-wa·	ti·=čá·š	wik='ał	ǰa·yas='it
<i>only-say...</i>	<i>this-INFER.3SG</i>	<i>not=TEMP</i>	<i>far.behind=PINV</i>
λu·kšú·d			
λu·kšú·d(a)			
<i>Raven</i>			

3.16 Line 19: Inferential clitics

There are Makah forms that are close to what we hear in the word **tičá·š** but based on current descriptions we have not been able to develop an analysis that works completely to account for the context of this story. To begin, Maria remarked that there was some formal similarity between the ending of **tičáš** and part of the Inferential clitic in Makah, **=ǰa:…š**, which infixes Set 2a pronouns³⁶ (denoted by the ellipses) to express the subject of the inferred statement (Davidson 2002:260). For example:

- (41) **kíkiłatqá·taǰǰa·łs**
kíłat-q-a:taǰ [R]=ǰa:łš
 fur.seal-BFR-try.to.get=INFER.3PL
 ‘I guess they’re after fur seal.’ (Davidson 2002:191)
- (42) **weǰičáłǰa·š**
weǰič='ał=ǰa:š
 sleep=TEMP=INFER.3SG
 ‘I guess he/she/it is [sleeping].’ (Davidson 2002:275, gloss amended)

Jacobsen (1986:19) says that this suffix “indicates a probability inferred from unspecified evidence.” This can be evidence of a current state/action or of a past state/action which takes the special form **=ǰučáǰa:…š** (see Line 25).

³⁵ This word is originally transcribed as **ʔada·wa** as shown in the Makah transcription. On the underlying analysis line however, this is written as **ʔada·-wa:d(a)** reflecting the standardized third person singular quotative. In the context of this telling of the story, the following word, **ti·čáš**, when pronounced in rapid succession as it was here, may cause the final d of the word before to be less pronounced. Maria also proposes this could be the interjection **ʔa·dwa** ‘isn’t that right, really?, seriously?’. With these words being difficult to analyze, there is a lack of context to clarify the best possible option(s). Maria also wondered whether **ʔada·wati·čá·š** may have been one word.

³⁶ Pronominal “sets” refer to the form of the pronominal clitic which marks or co-occurs with specific moods, primarily classed as Indicative (Set 1) or non-Indicative (Set 2) by Jacobsen (1973). See Davidson (2002:257–258) for a full description of pronominal clitics (Set 1, Set 2a, 2b, 2c) and the interactions between Makah pronominal clitics and mood clitics.

Two similar clitics which are more formally similar to the ending of **ti·čá·š** are described by Davidson (2002:266) as the Nuuchahnulth “Inferential I” **=čá·š** clitic and the Nuuchahnulth “Inferential II” **=čá·ʔaš** (both conjugated for the third person singular). Jacobsen (1986:19) notes a relatedness between these Nuuchahnulth clitics and the Makah Inferential clitic discussed above, **=xa:...š**. Although the Nuuchahnulth Inferential I clitic is the clitic that we hear in **ti·čá·š**, we are uncertain why the Nuuchahnulth Inferential would be used rather than the equivalent Makah clitic, which would construct the word as **ti·xa·š**. This uncertainty is further compounded by Ruth’s later use of the Makah Inferential Past (**=xučáʔa:...š**) in telling this story (see Line 25). If we pursue the possibility that the ending of **ti·čá·š** is **=čá·š**, the Nuuchahnulth Inferential, Maria suggests that the form of the word indicates that the base of this word is the Makah demonstrative particle, **ti·**. This interpretation is supported, at least semantically, by the translations provided by Mabel Robertson of Ralph “Luggy” LaChester’s story shared in Jacobsen’s 1965 fieldnotes (Makah Elicitation with Ralph LaChester: Texts, Notebook 1 1965). There are two instances of this word being appearing in a story (transcribed by Jacobsen variably as **ti·čá·š** (40) and **ti·čá·š** (45)) translated in both instances as ‘must have been’, suggesting some inferred knowledge.

L20 ǰi>>taqǻ ǻu·kǻu·d

Liar Raven (or could say, Raven is a liar)

ǰi>>taqǻ	ǻu·kǻu·d
ǰi>>taqǻ	ǻu·kǻu·d(a)
<i>liar.EMPH</i>	<i>Raven</i>

L21 hiǻu· . ǻadiwiǻ. ǻadiwiǻ. yuyubaǻalc ǻʷoy,” yaqʷa·ʔaǻit.

“Okay. Stop. Stop. You are incorrect” He said to her.

hiǻu. ³⁷	ǻad-iwiǻ=’	ǻad-iwiǻ=’	yuyubaǻ=al=°c ³⁸
hiǻu·	ǻad(a·)-i:wiǻ=’i	ǻad(a·)-i:wiǻ=’i	yuyubaǻ=’aǻ=°ic
<i>okay</i>	<i>stay.still-INCEP=IMPER.2SG</i>	<i>stay.still-INCEP=IMPER.2SG</i>	<i>wrong=TEMP=INDIC.2SG</i>
	ǻʷoy	yaqʷa·=’aǻ=’it	
	ǻʷoy	yaqʷa·=’aǻ=’it	
	<i>NFR</i> ³⁹	<i>one.who=TEMP=PINV</i>	

L22 “kupu·diksi·cuǻ,” wa·ʔaǻ ǻu·kǻu·d

“I’m pointing at what you are carrying along,” said Raven

kup-<u.>-d-iks=si·cuǻ ⁴⁰	wa·=’aǻ	ǻu·kǻu·d
kup-<u.>-d-i:ks=si·cuǻ	wa·=’aǻ	ǻu·kǻu·d(a)
<i>point-EPEN-NFR-carry.along?=INDIC.1SG/2SG</i>	<i>say=TEMP</i>	<i>Raven</i>

³⁷ See §3.22 for a further discussion of the uses of this particle.

³⁸ When saying, “you are incorrect,” Maria adds the context that Raven is saying that her basket is lopsided in an effort to make her stop. He is offering to fix her pack basket so that he can steal the driftage food she found.

³⁹ Maria suggests this could be something like ʔuy ‘or’ though it is unclear how this suits the context. Davidson & Werle (2010:143) also gloss a word **huʔiy** ‘go back’ analyzed as **hu-ʔiya** (again-get.to.be.at) in another story shared by Ruth Claplanhoo.

⁴⁰ We were not able to determine what was causing **d** to surface in **kupu·diksi·cuǻ**. There are two suffixes, **-di·** ‘come, arrive (perf.)’ and **-di** ‘on water’, but neither of these made sense given the context. We have tentatively assumed the sequence **iks** to be the lexical suffix, **-i:ks** ‘bring or carry along’, though it is unclear why the persistently long vowel **i:** would seem to be shortened. With future research, it may be determined that the interpretation of this word or its morphological boundaries differ from what we propose.

L23 **ta·q^wakšʔelaḥ** Ča·qa·daʔu· λadi·wʔaḷ

(something about him straightening the basket Crow was carrying the hair seal in OR Crow believing him?). She stopped.

ta·q ^w -ak-š-ʔel=aḥ	Ča·qa·daʔu·	λad-i·w='aḷ
ta·q ^w -ak ^w -šiḷ='aḷ='aḥ	Ča·qa·duʔu:	λad(a·)-i:wiḷ='aḷ
<i>believing-DUR-PERF=TEMP=sympathy</i>	<i>Crow</i>	<i>stay.still-INCEP=TEMP</i>
<i>(straight?-??-PERF=TEMP=sympathy)</i>		

3.17 Line 23: Analysis of **ta·q^wakšʔelaḥ**

In other versions of the story, Maria was familiar with the story including something about the “[Raven saying] that the basket is uneven or going to fall so that Crow lets him ‘straighten it out.’” This knowledge informed the preliminary translation and analysis of this word, where we believed **ta·q^wakšʔelaḥ** was constructed with the root **taq-** ‘straight.’ However, there are three roots in Makah that Maria highlights as likely having some historical connection: **taq-** ‘straight’, **taqu-** ‘honest; truthful’, and **ta·q^w-** ‘believing’. Fortescue (2007:109) also illustrates the connection between these roots with the added detail that ***t'a(:)q-** or ***t'aʔχ-** ‘straight’ have been traced to a Proto-Wakashan form shared by Northern and Southern Wakashan languages, whereas the roots pertaining to being ‘honest’ or ‘believing’ are more recent—only identified to a Proto-Nootkan ancestor (Fortescue 2007:227)—and presumably derived from the meaning of ***t'a(:)q-** (or ***t'aʔχ-**) ‘straight’. Although the first word of Line 23 was certainly built on one of these roots, in the context of this story, we initially had some uncertainty regarding which of these roots was being used here.

Eventually, the glide following the uvular stop convinced us of the likelihood of this being **ta·q^w-** ‘believing’. Furthermore, the form **taq^wak^w** is attested and translated as ‘believing’ (Davidson 2002:449) which allows us to clearly account for the following syllable as well. In our discussion, Maria suggests this **ak^w**⁴¹ is the durative, literally translating to something like “being in a state of ‘straight-up-ness’” or, more naturally translated, something like “being in a state of believing” (p.c., November 16, 2022).

⁴¹ The labialization of the durative **-ak^w** is neutralized in **ta·q^wakšʔelaḥ** because it is followed immediately by **š**, a consonant that prevents labialization (see §3.2.2 of Davidson 2002).

Turning to the latter half of this word, we have made some preliminary assumptions about this analysis that left us unsure of the word’s ending. First, consonant *ʃ*, followed by the sequence *-ʔel-* appeared, to us, to be a perfective suffix (*-šil*) preceding the temporal specifier (*=’aλ*)⁴². Moving to the end of the word, our analysis thus far (i.e., that *-ʔel-* is underlyingly *=’aλ*) requires that the next clitic is a mutating clitic to incite the change from *λ* to *l*. From what we see, this suggests a clitic *=°aχ*, though no such clitic is known. From a story shared by Mabel Robertson with William Jacobsen in 1964, there is a word that seems to show a similar morpheme which Jacobsen notes as *=aχ* indicative of “sympathy for [the character]”:

- (43) *λi·ʔakšʔaλwa·daχ*
λi·ʔak^w-šil=[’]aλ=wa:d(a)=aχ
walking-PERF=TEMP=QUOT.3SG=sympathy
’she started walking’
(MR, Story about Crow and Raven Getting a Hair Seal)
(Makah Elicitation with Mable Robertson, Nora Barker: Texts, 1964–1976:7, *analysis added*)

There may be another example of this “sympathy” marker in this same story, however there is unfortunately no added note by Jacobsen to confirm this same interpretation. This example though, supports the likelihood that this clitic may in fact be a mutating clitic *=°aχ*, based on the same mutating effect on the preceding temporal specifier *=’aλ* to *ʔal* that we see in the word used by Ruth in this story:

- (44) *q̣iʔatšʔalaχ ča·q̣a·d.*
q̣iʔat-šil=[’]aλ=[°]aχ *ča·q̣a·d*
crying-PERF=TEMP=sympathy crow
’she cried, crow’
(MR, Story about Crow and Raven Getting a Hair Seal)
(Makah Elicitation with Mable Robertson, Nora Barker: Texts, 1964–1976:9, *analysis added*)

This leaves us with the following analysis of the word used in Ruth Claplanhoo’s “Raven and Crow” story:

- (45) *ta·q^wak-š=ʔel=aχ*
ta·q^wak-šil=[’]aλ=[°]aχ
believing-PERF=TEMP=sympathy

⁴² When adjacent, Jacobsen (1979a:20) describes that the perfective undergoes deletion of the */λ/* which is lost before glottalizing clitics, producing a *ʔ* in the surface form. The *i* of the perfective is then subsequently lost preceding the glottal stop, producing forms such as *-šʔaλ*, *-čʔaλ*, *-k^wʔaλ*, etc.

Assuming that our analysis thus far is at least partially correct, we further note that Davidson (2002:246) describes the addition of a perfective suffix on an imperfective base as “resulting in an inchoative/ingressive meaning” which would lead to a translation along the lines of “starting to believe (him), Crow stopped”. Further research is needed to verify whether this interpretation of this word and line translation are correct or to construct an alternate analysis.

L24 ʔatqey hi·ta·suputʔoʔǎǎ(?) ka·šćuʔu·

Even as (while) he put the hair seal on the ground

ʔat=qey	hi·ta·'as-up-ut=ʔoʔǎǎ ⁴³	ka·šćuʔu·
ʔat=qey(u)	hita·'as-u:p-ut='aǎǎ	ka·šćuʔu·
though=COND.3SG	NFR	hair.seal
	empty.root-on.ground-CAUS.PERF-??=TEMP=at.same.time	

L25 ʔu·ci·da·puǎ ʔiʔi·ǎǎ (ci) ʔidi·čuk

(He) leaves (a) big rock in (the basket)

ʔu·ci·da·p='uǎ ⁴⁴	ʔiʔi·ǎǎ	(ci)	ʔidi·čuk
ʔu·cu·da·p='aǎ	ʔiʔi·ǎǎ(a)		ʔidi·čuk
ref.stem-in.container-leave=TEMP	big	false start	rock

L26 waʔšʔaǎ, waʔšʔaǎ.

She went home, went on home.

waʔ-š='aǎ	waʔ-š='aǎ
waʔ-šiǎ ⁴⁵ 'aǎ	waʔ-šiǎ='aǎ
go.home-PERF=TEMP	go.home-PERF=TEMP

⁴³ One (perhaps remote) possibility is that the final ǎ in hi·ta·suputʔoʔǎǎ is a subordinate clitic. Assuming ʔoʔǎ is the temporal clitic, this makes more sense with consideration for the ordering of the clitic string in Qʷi·qʷi·diččaq. Originally, this idea was rejected because ǎ associated with first and second person subordinate markers. However, Davidson and Werle (2010:149) also analyze a story shared by Ruth Claplanhoo and include a footnote where they describe =ǎ as an anomalous form of the subordinate. In the story presented in their paper, there is more supporting evidence to confirm the role of the =ǎ as the subordinate, but it does provide some basis for this possibility.

⁴⁴ During our meetings, Maria and I were unable to identify the meaning of da·p. However, my research revealed that Davidson (2002) lists several words that include a suffix that appears to be da·p or da:p including badida:p 'leave behind, abandon' (387) and čakwu·si·da·p 'to leave sb home alone' (393). Although there is no suffix -da:p 'leave' listed in Appendix A of Davidson (2002), Maria agrees that this means something like '(He) leaves (a) big rock in (the basket)' which is amended in our final translation.

⁴⁵ What Davidson (2002) terms the perfective is elsewhere called the momentaneous (Jacobsen 1969; Renker 1987). Davidson (2002:227) presents 12 perfective allomorphs in Nuu-chah-nulth, two inceptive perfectives, and causative perfective counterparts for each. In Makah, he describes similar allomorphy with at least six forms (-šiǎ, -čiǎ, -kʷiǎ, -iǎ, -diǎ, -paǎ) attested in his dissertation and three inceptive perfectives (-'ačiǎ, -eyačiǎ, -i:wiǎ) which each have a causative perfective equivalent. Descriptions of allomorphic distribution in Nuu-chah-nulth dialects point to the segment preceding the perfective suffix as selecting the appropriate allomorph (Inman 2019; Kim 2003; Nakayama 2001; Rose 1981). Further research is needed to describe these alternations in full, but Maria indicates this would be an area she would like to be better understood.

L27 “šũ·, šũ· ... ʔukya·ts ʃũ· ʃũqʷaqsqey,” wa·ʔaʃ Ča·q̣a·daʔu·

"Okay. Okay. Give that platter (to me)," said Crow.

šũ·	šũ·	ʔu·k·ya·=’it=s	ʃũ·
šũ·	šũ·	ʔu·k·iya·=’it=’is	ʃũ·
<i>okay</i>	<i>okay</i>	<i>ref.stem-INCR-give=PINV=IMPER.2SG/1SG</i> ⁴⁶	<i>that</i>
ʃũqʷaqs=qey ⁴⁷	wa·=’aʃ	Ča·q̣a·daʔu·	
ʃũqʷaqs=qey(u)	wa·=’aʃ	Ča·q̣a·duʔu:	
<i>platter=COND.3SG</i>	<i>say=TEMP</i>	<i>Crow</i>	

L28 ʔuʃʷti·da·kʃũčaʔa·š ʃũqʷaqs qade·de·...

(RC interjects about the type of platter) “Maybe had that one platter made of ummm...

ʔu·ʃʷti·da·=k=ʃũčaʔa·š	ʃũqʷaqs	qade·...
ʔu·ʃti·da·=ak=ʃũčaʔa·š	ʃũqʷaqs	qade·(de·) ⁴⁸ ...
<i>ref.stem-made.of=POSS=PAST.INFER.3SG</i>	<i>platter</i>	<i>umm (filled pause)</i>

3.18 Line 28: ‘Wide’ roots

In our earlier research into the construction of the word for **ʃũ·kʃũ·da** ‘raven’ (§3.3), Maria pointed out that the root **ʃũkʷ-** meant ‘wide’. Although the full word for ‘raven’ is identified as only going back to a Proto-Nootkan form, Fortescue (2007:134) illustrates that the root **ʃũkʷ-** is a Proto-Wakashan root. Again, when we reached this line, Maria indicated a connection between **ʃũqʷaqs** ‘platter’ and the root meaning ‘wide’. Despite formal similarities, the literature indicates that there are two roots meaning ‘wide’ in Makah: the Proto-Wakashan root **ʃũkʷ-**described earlier in §3.3 which is related to ‘raven’, and a Proto-Nootkan root, **ʃũqʷ-** (Fortescue 2007:251). This distinction is also reflected in Davidson’s (2002) index of Makah roots and words where there is a first entry listed as **ʃũk-**, **ʃũkʃiʃ** ‘widen’ **ʃũkʷakʷ ʃũkʷi·t** ‘wide’

⁴⁶ This analysis constitutes our best guess at this time for the analysis of this word. However, we do not have an explanation for why glottalization of the passive inverse, =’it, would not give rise to a glottal stop following the long vowel of -iya: ‘give’. Based on described phonological rules, we would anticipate this analysis to result in the surface form **ʔukya·ʔit̚is**.

⁴⁷ Davidson (2002:279) illustrates that the conditional enclitic appearing in a referring phrase can replace a typical article clitic (i.e., =’iq) as an indefinite or non-specific article, referring to hair seal driftage food more generally as the target of Crow’s looking.

⁴⁸ Maria notes that **qade·de·** can also be said as **qa·dey**, but this is just speaker variation.

(427) and a second entry **ʕuq-**, **ʕuqu-** ‘wide’ which includes **ʕuq^waqs** ‘platter’ as a sub-entry (432).

Fortescue (2007:251) further analyzes the remainder of the word in this line of the story, **ʕuq^waqs**, as being constructed with the Proto-Wakashan suffix ***-ʔa(:)qs** (or ***-ʔa(:)χs**) ‘in vessel’ (Fortescue 2007:400).

The described difference between these roots currently seems to be limited to their form. Additional research into the distribution of these roots would be beneficial to determine if there are further differences between **ʕuk^w-** and **ʕuq^w-**⁴⁹. For example, is one root used more productively? Are there semantic or functional differences that can be discerned? Do they select different types of lexical suffixes? Answers to these questions would be helpful for the purpose of developing lexical innovations for new contexts/ideas and even for general word-building if it turns out that there are limitations around the use of one or the other.

Maria also adds a brief cultural note about the word **ʕuq^waqs** as referring moreso to “older, serving kinds of dishes.” She says that “[Makahs] didn’t have words for ‘dishes’ until after European contact, and we called dishes **kiʕu-k** which has to do with being breakable because it was mostly china” (p.c., November 30, 2022)

⁴⁹ There is another root **ʔaq** ‘wide, big, large’ (Davidson 2002:384) in Makah which may also be included in future work to understand how this root co-exists with or differs from the semantics of **ʕuk^w-** ‘widen’ and **ʕuq^w-** ‘wide’.

L29 ʔatkse·q tida... I forgot how to say cedar.

the wood, that one. I forgot how to say ‘cedar’

ʔatkse·=q	tida·
ʔatkseʔi:=°iq	tida·
wood=ART	that.one

L30 ʔatkse·ʔ⁵⁰

It’s wood.

ʔatkse·ʔ
 ʔatkse·ʔi:
 wood

L31 ʔadi·sa· (hi...) hitaqsub ka·č̣uʔu·(ʔi)q

“So much (you folks) OR (exactly so) need to be above the hair seal”

ʔadi·-sa·	(hi...) hita-q-sub	ka·č̣uʔu·=°iq
ʔadi·-sa·	(hi...) hita-qi·-sub(a)	ka·šč̣uʔu·=°iq
this.much-precisely	empty.root-on.top-need	hair.seal=ART

3.19 Line 31: Analysis of hitaqsub

The word **hitaqsub** was originally translated as ‘need to be above’. Based on the context within the story and Maria’s knowledge of what happens, she describes this as Crow tipping the hair seal out of the basket before the rock comes out and breaks the platter in the next line of the story (p.c., January 18, 2023). She also highlighted the word **hitaqi** ‘up above (on s.th), upstairs’ (Davidson 2002:410). Based on this analysis of **hitaq** constructed with the root **hita-** and suffix **-qi·** ‘on top, on the head’ (Davidson 2002:377), the ending of the word was analyzed with the suffix **-sub(a)** ‘lacking, needing...’. However, with this analysis, it is unclear why the **i** of **-qi·** would not surface between these two suffixes.

⁵⁰ Maria remarks here that she has heard ‘wood’ pronounced more like **ʔatkese·ʔi·**, in her experience, which aligns with what Davidson (2002:387) has notated as the free form **ʔatkese·ʔi·**. She draws a connection between this pronunciation and the different variants of words like **kašč̣uʔu** and **kašč̣uʔ** ‘hair seal’ or **či·ṭkuʔ** and **či·ṭkuʔu** ‘dolphin’ where the final long vowel is pronounced by some speakers and other speakers’ end the word with the glottal stop.

In an attempt to determine why this *i* would not appear or if there were an analysis that more closely accounted for the word Ruth uses, I searched further in Davidson’s (2002) dissertation. This search revealed a number of Makah words listed within the root glossary (see Appendix B of Davidson 2002) which share in the same **aqsub(a)** sequence that we see in **hitaqsub**, including:

English translation	Wordform	Q ^w i·q ^w i·diččaq root	Davidson (2002)
‘bridle’	baq^waqsuba	baq^w- ‘tie, fasten’	p. 388
‘weave along the rim of a basket’	čitk^waqsuba	čitk^w- ‘twist, turn over’	p. 395
‘beard, mustache, whiskers’	hapaqsuba	hap- ‘hair, fur’	p. 407
‘outer lip’	tič^waqsuba	tič^w- ‘cloth spread out covering’	p. 424
‘mast’	łaqsuba	ła- ‘pole-like object in vertical position’	p. 425
‘lipstick’	łiłi·daqsuba	łiłi- ‘turn red’	p. 431
‘tooth pick’	qu·qu·sk^widu·ksta·qsuba	qu·s- ‘poke with a sharpened pole’	p. 437
‘napkin’	tiʔaqsuba	ti- ‘wipe’	p. 447
‘lower jaw’	waʔaqsuba	n/a	p. 454

Table 10: Makah words ending in **aqsub(a)**

The endings of these words all bear a similarity to what is currently described as the Nuu-chah-nulth cognate of the Makah suffix, **-aqsił** ‘at the mouth, opening’ (Davidson 2002:371). The Nuu-chah-nulth cognate of **-aqsił**, **-(ʔ)aqsu(t)**, is also listed alongside what appears to be another related Nuu-chah-nulth suffix, **-(ʔ)aksu(t)** ‘at the mouth, lip’. The list of words above appears to suggest that **-(ʔ)aqsu(t)** is also a lexical suffix in Makah.

This interpretation of the **aqsuba** sequence requires further analysis of the end of **hitaqsub** (and these other words). The likeliest analysis posits that these words end in **-(u)ba** ‘thing, being’ (Davidson 2002:202). As with many of the other example words provided in Table 10, this final suffix suggests that the resulting word may have a more idiomatic meaning than ‘thing at the mouth/opening’, but in the context of this story line (L31), may be referring to something about the position of the “hair seal” as Crow goes to pour it out onto the platter and realizes she has a

rock. Additional work and examples of this word form would be useful to confirm this gloss and translation.

Based on Maria's experience with this story, she felt that our original analysis with the meaning that "something needs to be above" was most likely. She shares additional context that this may have to do with the way that things were stored in longhouses (above in the rafters) when Crow asks for the platter, or holding the basket with the hair seal above the platter before pouring out its contents.

L32 **kaḥšʔaḷ ʔuduḷ ṭidi-čuk qi-kʷa-ʔaṭaḷpi-tqey...**

It broke because of (the) rock as it must have wrecked it...

kaḥ-š=aḷ	ʔuduḷ	ṭidi-čuk	qi-kʷa-ʔaṭ=aḷ=pi-t=qey
kaḥ-šiḷ=aḷ	ʔuduḷ	ṭidi-čuk	qi-(ʔa)kʷa-č-ʔaṭ=aḷ=pi:t=qey(u)
<i>fall-PERF=TEMP</i>	<i>because.of</i>	<i>rock</i>	<i>shift.position-apart-NFR=TEMP=INFER=COND.3SG</i>

3.20 *Line 32: Suffix notation and surface forms of -(ʔa)kʷa-č- ‘apart, in pieces’*

I originally had difficulty analyzing **qi-kʷa-ʔaṭaḷpi-tqey**, but Maria set us on the right path by describing similar words that she had documented in the past (e.g., **qiʔakʷaʔaṭ** ‘wrecking something’ or **qiʔekʷačiḷ** ‘something comes apart’) (p.c., December 7, 2022). Maria had also connected these words to a word listed by Davidson (2002:436) under the root entry **qi-** ‘shift position’, **qiʔakʷačiḷ**, which is translated as ‘break down (car)’. However, upon looking into this suffix **-(ʔa)kʷa-č-** ‘apart, dispersed, in pieces; used up, destroyed, spent (of money); attacked; completely...’ (Davidson 2002:369), our analysis is not yet able to account for the fact that the suffix-final **č** does not surface and what meaning is added by the sequence **ʔaṭ**.

The notation used by Davidson to present this suffix **-(ʔa)kʷa-č-**, ending with **-č-** presented with hyphens on either side, is not explicitly defined. From what I can glean, the first hyphen in this notation seems to suggest a historical boundary between **č** and the rest of the suffix. Fortescue (2007:456) supports this idea by proposing that **č** “may be by back formation from the momentaneous [i.e. perfective] form.” The second hyphen, at the end of **-(ʔa)kʷa-č-**, likely designates that this suffix requires another suffix to follow it according to a similarly presented lexical suffix, **-kʷis-t-** ‘move away (perf.)’ (Davidson 2002:369). In the case of **-kʷis-t-**, Davidson (2002:199) specifies that this additional required suffix must be a locative lexical suffix. However, the examples provided with **-(ʔa)kʷa-č-** seem to indicate that the necessity of an additional suffix can be satisfied even with an aspectual suffix such as the perfective **-iḷ** added creating a grammatical word (e.g., **qiʔakʷačiḷ** ‘break down (car)’ (Davidson 2002:436)).

In the telling of this story, **qi·k^wa·ʔaʔaʎpi·tqey** includes at least one other lexical suffix, which has the surface form of **ʔaʔ**, affixed after **-(ʔa)k^wa-č-**. The view of **ʔaʔ** as necessarily a lexical suffix is informed by the fact that it is followed by **aʎ** which we assume to be the temporal specifier clitic marking the beginning of the clitic string in this word. Maria’s initial suggestion was that this looked like **-(.ʔ)a·ʔ** ‘on a fabric-like surface; ... fabric, blanket, etc.’ though she was unsure whether this would work in this context “in reference to the platter [which] wouldn’t be something soft like material (it would be hard)” (p.c., December 7, 2022). She also suggested **-ʔaʔ** ‘aware of...’ as another possibility. However, given Maria’s original example **qiʔak^waʔaʔ** ‘wrecking something’ which includes the same suffix, it is difficult to imagine how either of these suffixes contribute to the meaning of **qiʔak^waʔaʔ** beyond the context of this story. The question of what this suffix is remains to be answered by future research.

As we tried to identify the **ʔaʔ** suffix, we also noted and discussed the absence of the suffix-final **č** from **-(ʔa)k^wa-č-** in **qi·k^wa·ʔaʔaʎpi·tqey**. The loss of the suffix-final **č** may occur in the same way that it does with **-k^wis-t-** ‘move away (perf.)’ which is presented using the same hyphen notation around the final suffix-final consonant. Davidson (2002:197) illustrates an alternation between **-k^wis** (where the following suffix begins with a consonant) and **-k^wist** (where it is followed by a glottalizing, vowel-initial suffix). In the case of **qi·k^wa·ʔaʔaʎpi·tqey** where the **č** does not appear, if the suffix following **-(ʔa)k^wa-č-** begins with the glottal stop **ʔ**, this may lead to the deletion of **č**.

One possible challenge to analyzing this as a simple alternation based on the initial segment of the following suffix is the non-glottalizing, vowel-initial causative suffix **-a:ya:p**, where it seems that the **č** of **-(ʔa)k^wa-č-** would be retained. Maria references a line from an Elder’s telling of “Goldilocks and the Three Bears” where she “gets on the chair, and she breaks a little Bear’s chair,” **qiʔek^wa·ya:p** (p.c., February 15, 2023). Jacobsen’s 1962 fieldnotes also document an example below (46) shared by Viola Johnson which appears to show **-(ʔa)k^wa-č-** becoming **-ʔak^waya:p** when followed by the causative (transcription original on first line, analysis added):

- (46) **qiʔáq^waya·b tibé·tyawiq⁵¹**
qi-(ʔa)k^wa-č-a:ya:p=°i **ti-bat-‘it-yak^w=°iq**
 shift-apart-CAUS=INDIC.3SG wipe-moving.about-in.house-thing.for=ART
 ‘she broke the mop’ (VJ)
 (Makah Elicitation with Viola Johnson 1962–4 February 1964:41, *analysis added*)

Davidson (2002) provides what appears to be a related example which glosses **-k^wa:ya:p** within the following word as a single portmanteau morpheme ‘in pieces (causative perfective)’:

- (47) **hi-sk^wa·ya·ʔaʕs pičup**
his-k^wa:ya:p-[L]=‘aʕs **pičup**
 chop-in.pieces.CAUS.PERF-GRAD=TEMP=INDIC.1SG inner.cedar.bark
 ‘I am pounding up cedar bark.’ (Davidson 2002:110)

This is presumably underlyingly **-(ʔa)k^wa:ya:p** with loss of **ʔa** following a consonant, as this is what we see attested in the case of **-(ʔa)k^wa-č-**. We see this likely confirmed by **k^waʔak^wa·ya·p** listed as a subentry under the root **k^wa-** ‘break in two’ (analysis added):

- (48) **k^waʔak^wa·ya·p**
k^wa-(ʔa)k^wa:ya:p
 break.in.two-in.pieces.CAUS.PERF
 ‘break in pieces.’ (Davidson 2002:421)

Returning to the proposal made by Fortescue (2007) that **č** may be a backformation of the perfective, these examples may point to the loss of **č** before the causative perfective **-a:ya:p** being separate of any phonological conditioning that informs its presence or deletion. If this **č** carries some (historic) sense of the perfective, perhaps it makes sense that a causative perfective form of this suffix (proposed by Davidson as **-(ʔa)k^wa:ya:p**) cannot co-occur with a perfective **č**.

Other examples that may otherwise inform what factors condition the presence of **č** are presented in Davidson (2002). There are a few words that seem to illustrate environments that give rise to the **č** of **-(ʔa)k^wa-č-** ‘apart, dispersed, etc...’:

- (49) **ʕi·ʔak^wačič**
 ‘people leaving a gathering, dispersing’ (Davidson 2002:429)

⁵¹ This transcription is copied exactly from Jacobsen’s fieldnotes. Acute accents over the second vowel of each word are indicators of primary stress.

- (50) **butqk^wačyu·**
 ‘fish cut in short pieces for cooking’ (Davidson 2002:390)
- (51) **káacqk^wačyu·**
 ‘torn up, ragged clothes, fabric’ (Davidson 2002:419)
- (52) **qáškk^wačyu**
 ‘broken in pieces’ (Davidson 2002:439)

Aside from (49) which presents **-(ʔa)k^wa-č-** with the perfective **-ił⁵²**, all these examples appear to show **-(ʔa)k^wa-č-** followed by some suffix, **-yu(·)**⁵³. This may also be some other suffix **-čyu(·)**, but I was not able to identify a suffix that confirmed either of these possible analyses⁵⁴.

To summarize, at this time, the only examples where the underlying suffix described as **-(ʔa)k^wa-č-** ‘apart, dispersed, in pieces; used up, destroyed, spent (of money); attacked; completely...’ surfaces with the suffix-final **č** are in words where this suffix is followed immediately by the perfective suffix **-ił** or an apparent suffix, **-yu·**. However, the **č** is deleted when it precedes the causative perfective **-a:ya:p** and the unidentified suffix used in this story, **-ʔat**. Further research is needed to clarify which environments cause the **č** of **-(ʔa)k^wa-č-** to be deleted or pronounced because this does not seem as straight-forward as the alternation Davidson (2002:197) describes for **-k^wis-t-** ‘move away (perf.)’. There are also questions remaining surrounding the alternation of a perfective suffix **-ił** and causative-perfective **-a:ya:p** which both seem to be proposed as occurring both non-glottalizing and vowel-initial, so we would anticipate the **č** of **-(ʔa)k^wa-č-** to behave the same in both constructions, if the **č** is not .

⁵² This proposal also assumes an alternation between the **-ił** perfective suffix and **-a:ya:p** causative perfective which is not typical. Normally, the causative form of **-ił** is **-u:p** and **-a:ya:p** is the causative form of **-eyačičił** (or **-‘a:ya:p?** from **-‘ačičił**, though this may be minimally attested) (Davidson 2002:227–8).

⁵³ Assuming the word-final **u** in all of these examples must be pronounced (avoiding a surface coda **čy**), this suffix would expectedly underlyingly end in at least a variably long vowel **u·**.

⁵⁴ Makah suffixes that bare some formal similarity to these proposed suffixes are **-yu** ‘at...time’ (Davidson 2002:186) and a plural suffix **-yu [R +L]** in Makah (**-yu· [R +L or L]** in Nuu-chah-nulth) (Davidson 2002:207). Sapir and Swadesh (1939:324) previously translated this plural as ‘severally ...-ing’ when attached to bound verb roots or a few noun roots in Makah (Davidson 2002:207).

3.21 Line 32: Analysis of *qi·kʷa·ʔaʔaʔpi·tqey* and discussion of the *pi:t* evidential

Our analysis views the end of the clitic string in *qi·kʷa·ʔaʔaʔpi·tqey* as the evidential *=pi:t* followed by the Conditional mood clitic *=qey(u)*. However, existing descriptions tell us that the evidential modal formative *=pi:t* occurs only followed by the Indicative and in main clauses (Jacobsen 1986:11; Davidson 2002:267). Jacobsen (1986:12) outlines *=pi:t* as a marker which “indicates an inference from physical evidence” either based on a “result of the inferred action” or “intentions for future actions.” For example (interlinear analysis added):

- (53) **haʔuʔkaʔpi·dic**
haʔuk=ʔaʔ=pi:t=°ic
 eating=TEMP=INFER=INDIC.2SG
 ‘I see you ate.’ (Jacobsen 1986:12, *analysis added*)
- (54) **diqʔiʔeʔispi·d**
diq·ʔiʔ·eʔis=pi:t=°i
 sew-PERF-going.to=INFER=INDIC.3SG
 ‘It looks like he’s going to sew.’ (Jacobsen 1986:12, *analysis added*)

However, there is also an apparent instance shared that illustrates *=pi:t* preceding the Subordinate mood clitic in a story shared by Nora Barker with Dr. William Jacobsen. In her recounting of a “Dog Children” story (Makah Elicitation with Nora Barker: Texts 1971–1978:3) Nora says (transcription original, emphasis added):

ʔaʔa·ta·ʔitʔuʔaʔa·ʔ qʷa·ca·daʔiwis ʔu·baʔa·ʔʔuʔaʔa·ʔ.
 The father must have asked her what was wrong with her she must have told him
ʔuʔʷu·qʷa ʔidi·liq. ʔi·cuxʷadiwi·ʔ. qaʔsa·ʔaʔpi·tqa·ʔ.
 That it was the dog. It turned into a human. They must have killed [the dog].

Looking more closely at the word *qaʔsa·ʔaʔpi·tqa·ʔ* and its translation, I propose the following analysis shown below in example (55):

- (55) **qaʔsa·ʔaʔpi·tqa·ʔ**
qaʔ·sa:p=ʔaʔ=pi:t=qa:=°aʔ
 die-CAUS.PERF=TEMP=INFER=SUBOR.3sg=3PL
 ‘they must have killed [the dog]’ (NB, Dog Children)
 (Makah Elicitation with Nora Barker: Texts 1971–1978:3, *analysis added*)

At this time, it is unclear whether our analysis of **=pi:t** preceding the Conditional could be grammatical, but this excerpt provides further support for the possibility that **=pi:t** may be used in environments that differ from what has been described. Davidson (2002:276–280) illustrates six functions of the Conditional mood which may also inform a future interpretation of this word. These functions are:

- a.) protasis (condition of ‘if’ clause) of a conditional sentence
- b.) counterfactuality
- c.) habitual action or situation
- d.) complement of certain predicates, especially irrealis complements
- e.) optative (in conjunction with the Habitual **=a:k**)
- f.) indefinite or non-specific article in a referring phrase, replacing the regular article clitic (**=°iq**)

As it is currently understood, it is difficult to reconcile that an action may be inferred from physical evidence while also being the conjugated, in particular, with the Conditional mood. Our current analysis of this word’s construction to include the **=pi:t** evidential informs our translation of this line the Raven and Crow story ‘as it must have,’ so this interpretation would need to be amended if this word is determined to be constructed otherwise.

An alternative analysis that avoids the appearance of the **=pi:t** evidential before the Conditional involves the causative and passive inverse (**=’ap=’it**). This analysis still has flaws as we would anticipate the causative to glottalize the consonant of the temporal to **ʔ**, drop the causative **p** before a glottalizing clitic, and syncope the resultant **aʔi** sequence (Davidson 2002:293–4). We would therefore expect this to be **qi·kʷa·taʔʔitqey**. However, there is an example in Line 41 that also seems to demonstrate a retained **p** before a glottalizing imperative enclitic; perhaps from influence of Nuu-chah-nulth which retains this **p**.

L33 “ha·>>>>”⁵⁵, wa·ʔaʕ Ča·q̣a·daʔuwq,

“Ohhhhh,” said Crow,

ha·>>>> wa·=ʔaʕ
 ha·>>>> wa·=ʔaʕ
 oh.EMPH say=TEMP

Ča·q̣a·daʔu=°iq
 Ča·q̣a·daʔu:=°iq
 CROW=ART

L34 “ha·>>>>! ʔuʕo·ʔaʕʕwa·tsi·škub ʔuse·ʔit

“Oh! I hear that it is said exactly (of him).”

ha·>>>> ʔuʕo·=ʔaʕ=ʕ=wa·tsi·=škub
 ha·>>>> ʔuʕo·u·=ʔaʕ=ʕ=wa·tsi:=°a:škub
 oh.EMPH ref.stem-APPEN=TEMP=NFR=QUOT.1SG=MIR.3SG

ʔu-se·=ʔit
 ʔu-sa·=ʔit
 ref.stem-exactly=PINV

L35 q̣itaqiliq⁵⁶ ʕu·kšu·d

“The liar Raven” or “Raven the liar”

q̣itaqil=°iq ʕu·kšu·d(a)
 q̣itaqʕ=°iq ʕu·kšu·d(a)
 liar.said.of.male=ART Raven

⁵⁵ Maria originally translated **ha·>>>>** as ‘interesting’ where there may be an element of surprise or realization on the part of the speaker. However, in our discussions, she also brought up the possibility of an element of negativity or disapproval depending on the storyteller’s tone of voice (p.c., Dec. 7, 2022). In this story, we made the decision to change the translation to an emphatic ‘ohhh’ that reflects that Crow here is realizing something about Raven based on the other circumstances around her. In the context of this story, the nuances of this translation are also informed by the “realizational” nature of the mirative (MIR) in Line 34.

⁵⁶ Originally, this word was transcribed as **q̣itaqili·k**, and Maria and I analyzed the ending **i·k** as the habitual (HAB). During our conversation, Maria listed various habitual forms (e.g. **=si·k** ‘I always’, **=du·k** ‘we always’, **i·tk** ‘they always’, etc.) (p.c., Feb. 2, 2023). Davidson (2002:318) describes this a single clitic **=a:k**, in Makah, but the ordering of Makah clitics includes ...=MOOD=PRO=HAB... which invites phonological interaction between these clitics, explaining Maria’s intuition that these are habitual forms conjugated to particular persons. **=i·k** represents the third person singular indicative (**=°i**) followed by the habitual (**=a:k**).

L36 “hišu· waha·ʔaλčʔič⁵⁷ haʔukʷe·ʔisaλčʔič deʔiyu·x̣, de·ʔiyu·x̣sa· haʔuk.”

“Okay. Go little ones, you all are going to eat, sharing food, you folks are sharing food to eat.”

hišu·	waha·=ʔaλ=č=ʔič	haʔukʷ·ʔe·ʔis=ʔaλ=č=ʔič	
hišu·	waha·=ʔaλ=či=ʔič	haʔuk·ʔe·ʔis=ʔaλ=či=ʔič	
okay	go=TEMP=GOIMPER=IMPER.2PL	eat-going.to=TEMP=GOIMPER=IMPER.2PL	
	deʔiyu·x̣	deʔiyu·x̣=sa·	haʔuk
	deʔiyu·x̣	deʔiyu·x̣=sa:	haʔuk
	share.food.with	share.food.with=2PL	to.eat

3.22 Line 36: The particle hišu·

This section explores the nuances of the uses and meanings of the particle **hišu·**, translated here as ‘okay’.

hišu· also appears in Line 9 and 21 of this story and is related to the interjection **šu·** (Line 27) which can also have a meaning of ‘okay’ as well as ‘goodbye’ (Davidson 2002:445). **hišu·** may be classified as a discourse particle and does not appear in the body of Davidson’s (2002) dissertation or within its glossary (381–463). These gaps in the descriptions of this particle raise questions as to its possible translations to English and the contexts in which it can be used.

With regards to English translations, we have some information from other stories that have demonstrated and translated this particle in those other contexts. **hišu·** is translated as “come on!” (27, 42) and “let’s” (31) by Mabel Robertson in (hi)stories shared by Ralph LaChester with Dr. William Jacobsen (Makah Elicitation with Ralph LaChester: Texts, Notebook 1 1965). The First Voices (2024) Ditidaht dictionary includes additional possible translations, listing **hišu·** as an interjection that can mean “okay, goodbye, next, that’s all”. Fortescue (2007:165) lists an entry for a Proto-Nootkan form:

⁵⁷ **waha-** is not listed as a root by Davidson (2002). There is an entry **waha-kʷ** ‘go (PERF)’. We might expect this to surface as **waha·kaλčʔič** with this analysis, but at this time, this was our best supposition for this word’s construction.

PN	*ču(:) or *šu(:) ‘go on then’ [cf. PN *ku(:) ‘here you are’]
M:	šuu ‘OK, goodbye’ [šuuʔuk ‘come here!’, šaašuu ‘altogether now!; and note huuxʔad(i) ‘call, invite’ (infl. by huχʷ- ‘holler’ under PW *hixʷu- ‘how!?’)]
D:	šu ‘very well’ [pl. šuč; and Touchie has hišu ‘all right’; JT has šukʷaaʔad ‘invite to potlatch’ (compare N čučuukʷaʔin below)]
N:	ču(u) ‘let’s go, goodbye, very well!’ [and čukʷaa ‘come!’ (cf. PW *gʷa:(s) ‘come here!’ and/or *ga: ‘this or here’) – [Stonham] also has čučuukʷaʔin ‘extend invitations’ (cf. PW *-qʷa(:)- ‘make sound of’)]

Table 11: Proto-Nootkan form of **su·** and cognates (Fortescue 2007:165)

Fortescue’s entries provide other possible translations such as ‘come here’ and ‘altogether now!’, though the corresponding Makah forms are derived in different ways based on the root, **šu·**. These meanings bear some similarity to the translations provided by Mabel Robertson for **hišu·** described above. Also of note, Fortescue’s (2007) proposed cognates in Makah, Ditidaht, and Nuu-chah-nulth only reconstruct **šu·** (or **ču(u)** in Nuu-chah-nulth) of what appears here in the story as a disyllabic particle, **hišu·**. Elsewhere, Fortescue (2007:42) identifies a Proto-Wakashan root **hi(:)-** ‘that (empty root)’ which also contributes to the construction of the “empty” roots **hita-/hida-/hina-** in Wakashan languages today (see §3.16). If, historically, **hi-** was an “empty” root in its own right which could have combined with **šu·**, this may account for the two particle forms used today in Makah. Touchie (1976:34) also lists these particles in the same line of her glossary for Ditidaht, so these may be two forms of a single particle translated as ‘alright’. In summary, the particle **hišu·** (and perhaps also **šu·** given their shared etymology) has been rendered in English as ‘okay, goodbye, next, that’s all, very well, come on!, let’s!, go on then’ in its various contexts. If **hišu·** and **šu·** can be understood as a single particle, further research may help to determine whether they are used interchangeably or if there are factors that determine which form would be used. Developing a fuller picture of these particles’ uses and possible differentiations between **šu·** from **hišu·** in Makah will rely on further examples and research.

L37 wa·ʔaλ Ča·q̇a·daʔu·

said Crow.

wa·=ʔaλ	Ča·q̇a·daʔu·
wa·=ʔaλ	Ča·q̇a·duʔu:
say=TEMP	Crow

L38 wa·ha·ʔalaʔ ti· kʷakʷaʔowičiq

So these little ones went.

wa·ha·=ʔal=°aʔ	ti·	kʷa+kʷaʔow=ič=°iq
wa·ha·=ʔaλ=°aʔ	ti·	RED+kʷaʔakʷ=°ič=°iq
go=TEMP=3pl	these	PL+small=DIM=ART

L39 ya·ʔa·dʔats siqi·da·kaλ λu·kšu·d

Here he was (?) Raven cooking

ya·ʔa·dats	siqi·da·k=ʔaλ	λu·kšu·d
	siqi·da·kʷ=ʔaλ	λu·kšu·d(a)
NFR ⁵⁸	cooking.something=TEMP	Raven

⁵⁸ Gill & Renker (1992:198) transcribe a similar form **ya·ʔaʔa·d** which they analyze as follows:

“ya·ʔaʔa·d kʷatsac,”	wa·ʔaλ yaqcχidʔiq.		
ya·ʔa·ʔi·t·°i	kʷat-sac	wa·=ʔaλ	yaq-cχ-id-°iq
LOC.-EPEN-CONT.-3SG.IND.	oil-container	say-IMM.	ref.-mate-NOM.-ART

“‘Here is the oil dish,” said the wife [of Bear].’

Unfortunately, this publication does not provide a key to specify the function of “cont.” which underlies the surface form **ʔad**. I was unable to identify a similarly described suffix in Davidson (2002) that aligns with a suffix **-ʔi·t**. There is also a sequence in a story told by Ralph LaChester (transcribed by William Jacobsen; translated by Mabel Robertson) that I analyze as follows based on the translation provided:

ʔuʔa·da·tqeyuwit	λiλixsʔat.
ʔu·ʔa·da·t=qeyu=°it	λiλixsʔat.
ref.stem -finding?=COND.3SG=3PL(/3SG)	red.backs (chitons)

‘They would find big red chitons.’ (RL, Two Men Return from South)

(Makah Elicitation with Ralph LaChester: Texts, Notebook 1 1965:47, *analysis added*)

There is no existing description of a lexical suffix that would surface as **ʔa·da·t**, but based on the translation of this part of the story, it seems this would pertain to ‘finding’. If the **-ʔa·da·t** suffix in **ʔuʔa·da·tqeyuwit** is related to the **-ʔa·dʔat** of **yaʔʔadʔats**, this may have a similar meaning related to ‘finding’.

L40 “de-ʔiyuχ^wasid haʔuk,” weʔitid ʔabe-ʔiqsu-c... waʔalat

"We are (going to?) eat all the food," his mother said to him (one of the crow children... they said it).

de-ʔiyuχ ^w -as=id	haʔuk	we-ʔit=it=°	ʔabe-ʔiqs-u-c
de-ʔiyuχ-ʔe-ʔis=id	haʔuk	wa-ʔit=(b)it=°i	ʔabe-ʔiqs(u)-ʔu:c
<i>share.food.with-going.to</i> ⁵⁹ =INDIC.1PL	<i>eat</i>	<i>say=PINV=PAST=INDIC.3SG</i>	<i>mother=POSS.3SG</i>
wa-ʔal=°aʔ			
wa-ʔaλ=°aʔ			
<i>say=TEMP=3PL</i>			

L41 hi-šu-ʔis siqeya-ʔič⁶⁰.

(MP: It appears Raven said this part) “Okay well you go along, you folks cook it.

hi-šu-ʔis	siq-eya-p=ʔič
hi-šu-ʔis	siq-a:ya:p=ʔič
<i>NFR</i>	<i>cook-CAUS.PERF=IMPER.2PL</i>

3.23 Line 41: Forceful -ʔis

As discussed in §3.22, there are a few possible interpretations of the particle **hišu**. In the example provided by Line 41 of the story, there appears to be a suffix or enclitic added as well. Davidson (2002:324) does not address particles expressly but does describe their “limited capacity” for taking lexical suffixes or clitics, making this an interesting point for further discussion.

During our conversation, Maria mentioned that she has heard **ʔis** in the past as almost a command “and it’s more forceful(...) when you say **ʔis**” (p.c., December 14, 2022). She added “I don’t know if that’s plural, but I’ve written **ʔis** and **ʔis-k** that ‘you do it’” (p.c., December 14, 2022). She also

⁵⁹ Maria questioned whether **-as-** in **de-ʔiyuχ^wasid** may be **-eʔis** ‘going to’ in rapid speech. See §3.24 for further discussion of this topic.

⁶⁰ In other documented examples of the causative (perfective suffix or) clitic followed by a glottalizing enclitic, the final /p/ is dropped (see also §3.24). For example, Davidson (2002:293) analyzes:

čaqšʔaλʔudi-cuχ
čaq-šiλ=°aλ=ʔap=ʔidi:cuχ
 push-PERF=TEMP=CAUS=IMPER.2SG/1PL
 ‘Let’s push it! (said to one person)’

The retention of this /p/ suggests this may be a lexical suffix rather than the causative perfective aspect suffix or influence from Nuu-chah-nulth where the /p/ of the causative perfective is retained.

provides example words (56–58) that she has noted and heard **ʔi·s** in before as well as a Makah expression that is used when “someone [is] looking for something and it’s right in front of them, so they say ‘you’re looking for it with your eyes closed!’ (see (58)).

(56) **waʔaʔi·s** ʔu·
‘You can say that again!’

(57) **wikaʔi·s**
‘Well, don’t then!’

(58) **tapta·ʔaʔi·s!**
‘Close your eyes! Go do it!’

Based on Maria’s description, I began looking for a described morpheme in Makah that may suit the “forceful **-ʔis**” that she had pointed out. The possibilities that I was able to identify to try to make sense of this word-final morpheme were the Assertive and Imperative mood clitics which both bear some formal similarity to what we hear in the story and the function shared by Maria.

The Assertive (so termed by Davidson⁶¹), an apparently “conversational mood”, has been more thoroughly attested in Nuu-chah-nulth conversation and is documented as **=ʔi·š**⁶² which appears with Set 1 and Set 2 pronouns (Davidson 2002:265, 290–91)⁶³. Of the forms (**ʔi·s** and **ʔi·sk**) shared by Maria, two forms of the Nuu-chah-nulth Assertive clitics listed by Davidson (2002:266) bear possible similarity: **=ʔi·š** for the third person singular and **=ʔick** for the second person plural. Although only partially attested in Makah, Davidson (2002:292) proposes the Assertive as a clitic **=iš** seemingly added following Indicative clitics (Set 1 pronominal clitics) with a meaning of “emphatic assertion”. Of the forms attested, Davidson (2002) provides the first person singular (**=siš**), first person plural (**=diš**), and third person singular (**=iš**).

⁶¹ This refers to what Rose (1981) and Nakayama (1997) call the “indicative” in Kyoquot and Ahousaht dialects of Nuu-chah-nulth respectively.

⁶² The hyphen in this clitic form denotes a “probable [boundary] between etymologically distinct modal formatives” (Davidson 2002:265).

⁶³ Pronominal “sets” refer to the form of the pronominal clitic which marks or co-occurs with specific moods, primarily classed as Indicative (Set 1) or non-Indicative (Set 2) by Jacobsen (1973). See Davidson (2002:257–258) for a full description of pronominal clitics (Set 1, Set 2a, 2b, 2c) and the interactions between Makah pronominal clitics and mood clitics.

pause preceding **hi·ṣ̌u·ʔis** (compared to a .63s pause after it), which was the part of what suggests the original segmentation of this section of the story.

Considering the Imperative next, in Makah, the most formally similar imperative is the second person singular subject to first person singular non-subject, **=ʔis**. In Nuuchahnulth, this same IMPER.2SG/1SG clitic is **=ʔis** is even closer to what we hear in this story. However, we did not expect an interjection to appear with a second person singular subject (and first person singular non-subject)—particularly, where the following word uses the second person plural subject imperative, **=ʔič**. Based on current descriptions of **hi·ṣ̌u·** and the assertive, neither of these options seem clear analyses, but this may be a matter that could be helped by having a larger body of examples to reflect on or further research into these aspects of the Makah language.

Following our review of this research based in the existing descriptions of Makah, Maria believes the **ʔi·s** heard in this story as part of **hi·ṣ̌u·ʔis** be something different. She remembers hearing something like this as part of her Mentor-Apprentice learning, but further research may be needed to find additional examples of this morpheme.

L42 hu·t-uk^w=’aλ=či· hitacaqabasicsa· ʔada·wq.”

Go on (and) dance, you folks go around the fire.”

hu·t-uk^w=’aλ=či·

hu·t-uk=’aλ=či.⁶⁴

dance-DUR=TEMP=GOLMPER.2SG

hita-caqab-as=icsa·

hita-caqap(t) [L]⁶⁵-’as=’ica.⁶⁶

empty.rt-going.around-on.ground=INDIC.2PL

ʔada·w=q

ʔada·k^w=’iq

fire=ART

L43 dačsa·p... dačsa·bićiqǰaλsa· siqeya·λ

Causing to look up... (you folks look up?) while its cooking

dač·sa·p...

dač·sa:p

look-CAUS.PERF

dačsa·bićiqǰaλsa·

NFR

siq·ey⁶⁷=’a·λ

siq·a:ya:p=’aλ

cooking-CAUS.PERF=TEMP

3.24 Line 43: Analysis of dačsa·bićiqǰaλsa· and questions concerning natural speech

Published examples and texts often provide transcriptions that directly reflect underlying morphological analyses or where alternations are accounted for by described phonological processes. Although this is helpful to clarify patterns and develop a linguistic understanding of the language and how it works in a theoretical or written format, this approach raises its own questions in terms of what is possible in spoken

⁶⁴ Davidson (2002:294) describes two imperative moods in Makah: the simple imperative and directional imperative (i.e. ‘go and ...!’) with the latter being constructed using the =či clitic (=GOLMPER) followed by the appropriate simple imperative clitic (e.g. Line 36). In this instance, there is no apparent simple imperative clitic. If we compare this to the Nuu-chah-nulth imperative clitics presented, there is a second person singular ‘Go’ imperative =či, which seems more akin to the transcribed ending of the first word in Line 42 of the story.

⁶⁵ It is unclear to me from what is known of regular phonological changes and morphophonemic effects in Makah why the suffix -caqap(t) [L] ‘go around, circle’ followed by a glottalizing suffix surfaces as -caqab-. Davidson (2002:66) describes final /t/ deletion for certain restrictive locative suffixes, but this is not expected to apply to -caqap(t) [L] which is a path-orientation suffix. Our analysis is supported by other attested words such as du·picaqabiλ ‘go around all over’ (Davidson 2002:405) and ša·ćiyacaqabiλ ‘circle around sth continually’ (Davidson 2002:444) which end with the -’iλ perfective.

⁶⁶ This ending is transcribed as icsa·, which seems to be a combination of two second person plural pronominal clitics: the Set I =’ica: and Set II =sa:. While Set I pronominals can appear in isolation as an Indicative, the Set II second person plural in isolation signals a subject-marked absolute (i.e. the mood is previously established in the narrative). Following the Imperative mood of the prior word, this seems more likely to be a subject-marked absolute using =sa:.

⁶⁷ In our conversations, we investigated a few different possibilities to explain the -ey- sequence. We considered a future marker, but in co-occurrence with the temporal, this would need to be the future suffix -’e·ʔis ‘going to’ which is less likely to surface as ey. There is also the -eyaćiλ inceptive or its causative form, -a:ya:p. Followed by =’aλ, each of these would undergo deletion of final segments, iλ or p respectively, with either eyaćaλ or aya·ʔaλ anticipated to surface. We were unsure whether siqaya·ʔaλ in rapid speech may reduce to siqeya·λ.

variation—particularly in a language revitalization context. During our process working with this story, we found ourselves sometimes asking whether particular sequences or positions within a word may invite deletion or reduction when Makah is spoken naturally or quickly. For example, Maria says that for ‘thank you,’ she has heard “ʔušu-yakšʔalic or ʔušu-yakšʔalc where the last vowel sometimes gets clipped in natural speech” (p.c., December 7, 2022) which led us to consider whether such reductions may also be happening in this story.

In Line 43 of this story, we were unsure of how rapid speech may be affecting **dačsa·bićiqǰaλsa·** and **siqeya·λ**. We also had discussion as to whether **dačsa·bićiqǰaλsa·** may be two words produced in rapid succession. Our best guess for the analysis of this word was:

- (60) **dačsabićiqǰaλsa·**
dač-sa:p-°ićiq-ǰ=ʔaλ=sa·
 look-CAUS.PERF-??-while=TEMP=2PL
 ‘causing you folks to look up’

Because this word follows **dačsa·p**, we initially assumed that the beginning of **dačsa·bićiqǰaλsa·** would similarly start with the root **dač-** ‘see’ and the causative perfective, **-sa:p**. In this case, to account for a change from **p** to **b**, **-sa:p** would need to be followed by a mutating clitic. Looking at the following sequence, we proposed this could be the second person singular indicative **=°ic**. However, that then appears to be followed by the article **=°iq**, which would not be grammatical. This led to the idea that what we have interpreted as the indicative **=°ic** may be the end of a first word, followed by the beginning of a second word.

Given that **c** has a pronunciation [ts], it is possible that this proposed second word could start with the root **siq-** ‘cooking’ which begins with a similar sound to the end of the preceding word (i.e., /c/) and accounts for the sequence **iq**. In this case, the second word could be interpreted as:

- (61) **siqǰaλsa·**
siq-ǰ=ʔaλ=sa:
 cooking-while=TEMP=2PL
 ‘while you all are cooking’

However, this leads to a situation where, similar to the last line (or two), the first part of the line refers to a second person singular followed immediately by reference to a second person plural. Maria is familiar with versions of this story where one of the little crows notices something while Raven tries to distract them, but we are unsure whether that may be what is happening in this telling of the story.

If we return to considering this as a single word like it was originally transcribed, we must reframe the word-medial sequences to be lexical suffixes. Although the root, **dač-** ‘see’, remains clear, the following morpheme may be the lexical suffix **-(k)sab** ‘in the way; screened by’ for example, describing the small crows’ not seeing Raven cooking as they dance. Without having examples of this suffix in use, I am not sure that it can be applied in a way that describes the manner of ‘seeing’ (i.e. being blocked), but there is an entry listed by Davidson (2002:402), **dašsa-wi-**, which refers to something being ‘clear (as glass, an opening), see through opening’. This is constructed with another path orientation suffix, **-(k)swi-** ‘go through (perf.); extending through (impf. and perf.)’ (Davidson 2002:370). Subsequently, **-ičíq** could be a morpheme describing the location being blocked (e.g. **-čaqi [L]** ‘at the head’ or a Makah cognate to the Nuu-chah-nulth suffix **-iču** ‘at the lid of a container’), producing an analysis like (#):

- (62) **dačsa·bičíqxałsa·**
dač-(k)sab-ičíq-ǰ=’ał=sa:
 see-block-??-while=TEMP=2PL

Further research is needed to determine what other lexical suffix(es) may be involved in the construction of this word and how this interpretation fits in the larger context of the story being told.

L44 Hey! huṭačʔaḷ kʷakʷaʔawačiq.

Hey! The little ones started dancing.

Hey	huṭ-ač='aḷ	kʷa+kʷaʔaw='ač='iq
Hey	huṭ-'ačič='aḷ	RED+kʷaʔakʷ='ič='iq
Hey	dance-INCEP=TEMP	PL+small=DIM=ART

L45 dačsa·p̄it

He looked at him⁶⁸.

dač-sa·p='it
 dač-sa:p='it
 look-CAUS.PERF=PINV

L46 wiḱalat čuša· qʷa·du·ḷḷaḷqeyu·t̄ qʷa·

They were not aware (they were being tricked) because of how they were being like that.

wiḱ='al='at	čuša·	qʷa·du·ḷ-ḷ='aḷ=qeyu·t̄	qʷa. ⁶⁹
wiḱ='aḷ='at	čuša·	qʷa·du·ḷ-ḷ='aḷ=qeyuṭ	qʷa·
no=TEMP=3PL	aware.of.something	that's.why-while=TEMP=COND.3PL	do/be.thus

L47 ʔatqey ʔa·di·daḷal ʔaḷ (/ʔat?) hu·tuk kʷakʷaʔawačiq

Even though only just but the little ones danced.

ʔat=qey	ʔa·di·daḷ='al='°	ʔaḷ/ʔat(ḷ?)	hu·tuk	kʷa+kʷaʔaw='ač='iq
ʔat=qey(u)	ʔa·di·daḷi='aḷ='°i	ʔatu ⁷⁰	hu·tuk	red+kʷaʔakʷ='ič='iq
though=COND.3SG	only=TEMP=INDIC.3SG	still yet	dance-DUR	PL+small=DIM=ART

⁶⁸ I asked Maria for clarity on this section of the story, and she shared that in other versions of the story she has heard, “Yeah, one of the little crows (got tired of looking) and he spotted that he ate, and that they were being tricked.” I asked whether subsequent lines with third person singular marking may also refer to this one little crow (e.g. ʔatqey ʔa·di·daḷal). Maria suggests that this could be something like “even though only he noticed or something, but the little ones just danced. But he’s just the only one that saw... So that could be that those three sentences connect to that one little crow that noticed.”

⁶⁹ Davidson (2002:437) translates this root on its own as ‘be thus, be so, be a certain way’. Maria suggests an expansion of this translation ‘be like this; do like this’ because “the auxiliary verbs in English are not so separate in Makah for ‘do’ or ‘be’ (...) when you say ‘he is’ or ‘he does this’ in English, but in Makah you just use sometimes the one word” (p.c., January 11, 2023).

⁷⁰ Davidson (2002:385) describes a contrastive particle ʔatu in Makah (N ʔata, ʔat?) translated as ‘but, nevertheless, still yet’ which can coincide with the Assertive (see §3.23 for brief description). There is also a “conjunctive particle” ʔat ‘even if, sure enough, even he, they’ in Makah and Nuu-chah-nulth which “often reinforces a Conditional concessive” as we hear earlier in this line (277). In the context where ʔat appears on its own and apocope deletes the final vowel, there is the possibility that this could be either particle. A better understanding of the surrounding phrases would help to discern which it is. Maria also describes ʔed ‘but’ which Davidson (2002:405) defines this as an emphatic particle and she says is typically added to the end of a sentence.

L48 haʔukʷaʎ, haʔukʷaʎ ʎu·kʂu·d

Raven ate, he ate.

haʔukʷ=ʼaʎ

haʔuk=ʼaʎ

eat=TEMP

haʔukʷ=ʼaʎ

haʔuk=ʼaʎ

eat=TEMP

ʎu·kʂu·d

ʎu·kʂu·d(a)

Raven

3.25 Line 48: Temporal specifier =ʼaʎ

The temporal specifier =ʼaʎ appears throughout this story but because it does not significantly colour our translation or interpretation of this story, this morpheme’s presence or absence did not initially raise many questions during the conversations between me and Maria. However, within this relatively short five-minute story, we have analyzed 45 instances of this morpheme being used. Through the process of developing this thesis, I became curious about what may motivate the decision to use an apparently non-obligatory morpheme so regularly. This section provides a preliminary discussion of the patterns of this clitic’s use in the narrative context of this Raven and Crow story to contribute to the description and understanding of its use.

The so-called temporal marker =ʼaʎ, which has also been referred to as the “immediacy suffix” (Jacobsen 1997a, Gill & Renker 1992), is often left untranslated in English (Davidson 2002:105) but may be interpreted as ‘now, (and) then, at that time’ when necessary. Davidson (2002:105) describes the temporal specifier as “grammatically optional” which Jacobsen (1979a:19) demonstrates by highlighting that =ʼaʎ is optional—at least at the word-level—by providing a comparison of **haʔuks** (eat=INDIC.1SG) and **haʔukaʎs** (eat=TEMP=INDIC.1SG) which are equally translated to English as ‘I’m eating’.

However, in terms of the temporal specifier’s function Davidson (2002:306) equally acknowledges that =ʼaʎ is “stylistically important and very frequent in discourse” and describes it as marking the order of a series of events with omission “denoting a background or previously existing situation”. Based on both the frequency of use and gaps observed in the telling of this story, it seems that there may be an

opportunity to further specify when this might be a “stylistic” choice as opposed to use motivated by pragmatic importance to relate events or states to one another chronologically.

In the context of this story where events are recounted fairly chronologically, there are no clear instances where =’aŋ would be omitted because of reference to established information. However, there are nonetheless sections of the story that appear to regularly omit the temporal specifier. Looking at the distribution of temporal specifier =’aŋ across the story, there are gaps in its use during the storyteller’s asides from the narrative that are during the introduction to the story (L1–L8), during the story song (L13–L14), where Ruth is speaking to herself or Melissa (L28–L30), and where a story character makes an aside comment (L20 and L35). From the description of the temporal marker as a sequencing clitic, the omission of the temporal in these contexts make sense in that they are not part of the main action of the story being told. Similarly, during the narrative action, there are regular inclusions of the temporal clitic. However, at a glance, the use of the temporal marker is less frequent in conversation between story characters. Although there are some examples of character speech that has been analyzed with the temporal, there are equally segments of character speech that appear without the temporal. If these can be considered overarching patterns for the use of the temporal marker, this clitic’s analysis in future transcription and translation work may provide another source of information to better translate, gloss, and analyze other stories by indicating sections that are in one way or another not part of the main narrative. Future research in discourse or corpus-based work could help to determine patterns of what has been described as more stylistic language use to support a deeper understanding of any preferences or restrictions regarding the use of =’aŋ.

L49 **ṗusšʔalaṭ hu·ta·q kʷakʷʔawačiq hiyo·ʔaḷ**

The many little dancers got tired. It was done.

ṗus-š=ʔal=°aṭ
ṗus-šiḷ=ʔaḷ=°aṭ
tired-PERF=TEMP=3PL

hu·ta·q
hu·ta·q
many.people.dancing

kʷa+kʷaʔaw=°ač=°iq
red+kʷaʔakʷ=°ič=°iq
PL+small=DIM=ART

hiyo·=ʔaḷ
hiyu·=ʔaḷ
done=TEMP

L50 **ya·tʔisi·ʔaḷ ḡaša·bis ḡeʔiksčʔaḷ**

Here now are bones. He (Raven) ate it all up.

ya·tʔis-i·=ʔaḷ
ya·tʔis-i·=ʔaḷ
here-at.beach-NFR=TEMP

ḡaša·bis
ḡaša·bis
bone

ḡe-ʔi·ks-č=ʔaḷ
ḡa·ʔi·ks-čīḷ=ʔaḷ
complete-consume-PERF=TEMP

L51 **wiktakšʔalaṭ haʔuk kʷakʷaʔawačiq,**

The little ones did not eat before going.

wik-taq-š=ʔal=°aṭ
wik-taq-šiḷ=ʔaḷ=°aṭ
not-before.going-PERF=TEMP=3PL

haʔuk
haʔuk
eat

kʷa+kʷaʔaw=°ač=°iq
RED+kʷaʔakʷ=°ič=°iq
PL+small=DIM=ART

L52 **waṭšʔaḷ.**

(They) went home.

waṭ-š=ʔaḷ
waṭ-šiḷ=ʔaḷ
go.home-PERF=TEMP

L53 **That's the end of the story. Yeah. That's the only one I- only other one I know.**

3.26 Conclusion

This chapter has presented the storywork that Maria and I have participated in to transform Ruth Claplanhoo's telling of the "Raven and Crow" story from separate audio and texts to time-aligned and analyzed materials that can be more easily engaged with by other teachers, language learners, and researchers. In addition to the presentation of the story that grounds our work and analyses, each section of this chapter presents the discussions and further research which arose from Ruth's storytelling and the collaborative process between me and Maria. Building on the grammatical work that has been done with

Makah speakers in the past, Maria and I connect these grammatical descriptions and patterns of the Makah language that have been written in larger linguistic works to an original context that formed those theories: story. This process highlighted new questions and perspectives to continue developing an understanding of how the Makah language is used and was used by first-language Makah speakers. With the guidance of the Makah Language Program and Makah Cultural & Research Center, in this case, led by Maria, the work and research being done will contribute to the developing linguistic understandings of Q^wi·q^wi·diččaḡ while also attending to the perspectives and goals of contemporary language use and revitalization.

A time-aligned spoken and written story allows learners to focus on particular aspects of the story to meet and support their learning goals. If people are just wanting to gain exposure to the sounds and rhythms of Makah, this story provides a first-language speaker fluently telling a five-minute story. By simply listening, a learner may be able to start feeling more comfortable with the sounds of Makah. For others beginning their language learning who prefer visual materials, this story enables people to listen and read along with the story to notice correspondences of Makah sounds and letters or gain familiarity with certain words that repeat. For those who have some background in learning the language, they will be able to pick out words and try to follow along with the storytelling to understand the meaning and teachings of the story. As learners advance, they may also be interested in exploring the morphological construction and glosses that this research provides to find patterns in how certain roots, suffixes, or words are used or change depending on their context. Looking more closely even at word-level patterns among the transcriptions can encourage learners to use new vocabulary or even tell stories of their own.

Our analyses in this chapter include themes related to Makah storytelling and story song traditions, discussions of the linguistic terminology and the chosen practices of different scholars, possible interpretations of natural or “rapid” Makah speech, and sociolinguistic questions pertaining to variation or dialect. Other questions that have emerged raise the possibility of allomorphy that is not yet captured in

existing literature and identify instances where the language use in this story may expand our current understanding of word-, clause-, or story-building in Makah. These types of lessons can also facilitate dictionary work and may illuminate new understandings of words, morphemes, or clause construction and inform how particular aspects of the language could be taught. By creating relationships between linguistic literature and shared stories or conversations that present Q^{wi}·q^{wi}·diččaq being used in context, this project hopes to illustrate the values of these different knowledges, how they can complement one another to develop and transform records and materials to invite ongoing engagement between these stories and members of the Makah Tribe in their own lives toward continued language revitalization and Makah-defined reclamation goals.

Chapter 4: Future research and project conclusions

This chapter delves into areas for future research related to this story and outlines how this project can be incorporated to support the more general goals of Makah language revitalization or reclamation. Next, I summarize overall conclusions about this thesis process as a whole including reflections on the methodologies applied and discussion of the collaborative model that was integrated through this thesis. It also reflects on the lessons that I have gained from engaging in this model of research, the challenges that it entails, and how Maria and I were able to navigate these challenges through our collaborative approach to research.

4.1 Future research and mobilization

Maria's and my conversations and questions emerged naturally through Ruth's storytelling, so the work presented in this thesis has spanned a variety of topics and offers many possible paths for continued work. Some of the following suggestions refer to continued language research or development of language resources, while others focus on areas for possible teacher intervention to adapt the story materials from this research process and develop more specialized lessons or activities.

Throughout this thesis, I highlight several opportunities for further research that would contribute directly to advancing the analysis of this particular oral story. These often refer to highly specific questions about particular words, analyses, or morphemes, however, our conversations also prompted larger questions and highlighted priorities for Makah language work. Beginning with work that is beyond the scope of the current thesis but could act as a continuation of the current project, Maria suggested creating a glossary of the words used in the story and, where applicable, word-level classifications of vocabulary as verbs, nouns, and prepositions for language teachers. For example, Maria suggested describing **hitači-da-ł** as a preposition because it means 'inside a container'. The assembly of a glossary could be accomplished fairly easily using ELAN's wordlist function to collate unique wordforms into a list format.

Building on this project, we also discussed the possibility of pursuing work with other tellings of this Raven and Crow story. Maria was interested in other versions of the story which would likely include other story songs, narrative details, or linguistic insight. Having other examples to draw upon may help us improve our understanding of the current story analysis while also enabling work with new stories shared by other speakers who may come from different backgrounds, experiences, generations, or villages. This type of project expansion could provide insight to our questions of speaker variation in Makah and would also allow more learners in the community to feel personally connected to language work and accessible stories if their family members had shared their versions of the story. Maria proposes that “having a collective story, not just one version, but [many tellings] mixed in” could help to develop more interest in learning among members of the Makah Tribe. To provide one possible vision for a larger collection of work such as this this, “*Tsitsakalames Ruby Ruby’s stories*” told by Ruby Dawson Cranmer (2019) in Kwakwala offers one way to do this. Editors Jonathan Janzen and Katie Sardinha describe how the process of creating this collection begins with Ruby oral telling of each story, Janzen and Sardinha’s transcription and analysis, and publication accompanied by final versions of the audio recordings, edited for any corrections or removal of personal information requested by Ruby.

In the broader landscape of Makah language work, this project also fits into existing projects involving dictionary development and Automatic Speech Recognition (ASR). By creating time-aligned, digitized transcriptions, translations, and eventually analyses, we are able to recover natural examples of fluent Makah speech, better understand how words are constructed to support lexical innovations in Makah and use these materials to further train revitalization-supporting technologies such as ASR. If these technologies can be improved, they could create preliminary transcriptions of oral recordings and remove a major bottleneck to continue the digitization, time-alignment, and analysis of other archival recordings. It also creates opportunities for a future online dictionary to explain internal word construction to those who are interested or to link dictionary entries to spoken examples or in-context translations. In-context

examples and translations can be especially useful for specifying the use of discourse particles or interjections whose meanings may be context dependent. Having digitized materials also invites a corpus-based approach to language learning or research to understand, for example, whether morphemes with similar meanings (e.g., **-i:ks** and **-i:s** discussed in §3.6) seem to be used in distinct contexts, or if the use of one over the other is a matter of speaker preference.

In terms of classroom activities, Maria and I have also identified pedagogical approaches that may be able to incorporate Ruth's storytelling and/or this thesis's storywork:

- **Puppet stories:** Maria mentions that "In our elementary—well, and high school too—we have a whole bunch of puppets and we've done puppet stories before. There could be some things that we end up making that will be based on something like this" (p.c. May 30, 2023).
- **Total Physical Response -Storytelling (TPR-S):** Billy (2015:44) discusses the development of "language teaching curricula based on Salishan storytelling" for her Grade 2/3 Secwepemc immersion classroom. This methodology begins by establishing story-relevant vocabulary using TPR lessons that pairs vocabulary with a physical component (body movement, gestures, photos, manipulation of a toy, puppet, etc.) (Billy 2015:3). Vocabulary is incorporated in simple storytelling and "circling" questions are asked to progress toward understanding the story (Billy 2015:4). Eventually, with the vocabulary and story structure, students speak the language by presenting (part of) the story themselves.
- **Learning to perform the story:** For more advanced language learners or teachers, Claxton (2020) and Daniels (2016) share their experiences learning to perform a story. These processes may be learned from in full for people interested in performing storytelling, or independent learners may also choose to adopt certain aspects of Claxton's and Daniels' learning processes. For example, in Chapter 3, Claxton describes reading along to a story with headphones on to minimize self-criticism in the beginning and, to adapt this to the Makah context, later reading to a teacher or

friend who may be able to offer feedback and guidance in pronunciations. As part of Daniels' learning process, she includes stages for identifying keywords to the story, understanding the structure of the language at the level of the word, phrase, and sentence, and building up to noticing prosodic patterns of an Elder's pronunciation through repeated listening. Subsequently, Daniels is able to practice telling these stories on her own, improving her pronunciation and recall of the story through continued repetition.

- **Principles of "Hesquiaht Language Flow"**: chuutsqa (2023:41) draws on her experiences of learning Hesquiaht as an adult and describes the four "learning currents" (oral tradition, experiential learning, cultural context, and interconnectedness) for teaching a 100-hour language-based language camp. She also outlines concepts of Second-language acquisition that enhance language teaching.
- **Spiraled Stories Teaching Method (SSTM)**: Hill (2023) outlines a teaching technique which specifically uses story recordings over a longer period of time that gradually introduces students to the story and promotes the learning of "vocabulary, grammar, phraseology, and storytelling techniques" (iii).

Makah language teachers can use the above suggestions to further adapt the materials developed through this project for specific classroom resources, language lessons, or curricula. In addition to uses that would see these materials used as part of existing language classes, they may also support the continued learning of Makah teachers, independent adult learners, and more advanced learners of Makah.

Pivoting to the work that could be done to facilitate Makah language learners' and teachers' engagement with this story, Maria and I also discussed developing glossing conventions that either clarify the meanings of some of the more grammatical glosses used in this project (e.g. INDIC, MIR, TEMP) or adjust the glosses to include less linguistic jargon to describe the morphemes that appear within the story. This

could help to make this story user-friendly, particularly for people who are interested in looking through this work independently and may not have access to a teacher to explain or provide further examples of these meanings. Creating formats of this story that can be listened to or read independently or communally in a family setting enables interested families to bring Q^wi·q^wi·diččaq into their homes regardless of their own comfort speaking or actively studying the language. Having materials like this available can invite multiple generations to learn from this story together, each paying attention to the lessons that are relevant to them. These lessons may be about storytelling, cultural lessons about how to be or do things, or lessons to help them as they practice listening in Makah.

In summary, these suggestions for future research and adaptation of the current research seek to continue developing our understanding of Ruth Claplanhoo's telling of the "Raven and Crow" story, to broaden the scope of this research model to include other stories or versions of this story, to support other concurrent Makah language revitalization/reclamation projects (e.g., dictionary building and development of ASR technologies), and to identify additional ways to minimize barriers to community members want to engage with this work.

4.2 Project conclusions

Ultimately, this process responded to both research questions asked within this thesis through methods informed by collaborative research practices (Czaykowska-Higgins 2009; Leonard & Haynes 2010; Yamada 2007) and storywork (Archibald 2008; Kovach 2021). This thesis demonstrates a through line of principles shared between these approaches as they apply in the contexts of archive-based storywork for the purposes of language revitalization and reclamation. While scholarship related to "collaborative" research has sought to inform relationships between research participants and other groups/parties, a "storywork" methodology contextualizes research participants' relationships with story and the roles of story in an Indigenous context. In our case, this focuses on story as a teacher of language and cultural knowledge and teachings.

This thesis presents a model for Collaborative Analytical Storywork in the setting of Makah language revitalization that provides a methodology to engage and mobilize existing documentation for contemporary language goals. Conducting this language work alongside Maria (with MCRC support) was, in my mind, the only way that such a project could have been undertaken—both from a personal, ethical perspective as well as in terms of the logistics to produce useful research. The development of the process for this research with Maria and other staff at the Makah Cultural & Research Center ensured that the project designed would be possible, of interest, and relevant to the community whose story and language this thesis involves. From planning the research process with Maria, receiving approval from the MCRC’s Board of Trustees, and discussing possibilities for maintenance and dissemination of our work with the MCRC’s archivist, each of these steps provided me with assurance that the necessary discussions were taking place to produce collaborative research that would support the Makah Language Program.

Logistically, the collaborative approach we participated in also ensured the quality of the linguistic work itself. Although there are linguistic resources related to Makah, Ditidaht, and Nuuchahnulth that this thesis draws upon to develop our glosses and analyses, there were also many instances where it was Maria’s knowledge and experience that set us down the right path to clarify the meaning of the story. Her knowledge of Qʷi·qʷi·diččaq and Makah stories was invaluable to this process and undoubtedly led to the creation of materials that are more accurate, and by extension, more useful to today’s community. This priority for creating accurate resources also reflects reverence for Ruth and the MCRC’s work to ensure that this story be shared and our responsibility to her as well as to future generations of teachers, learners, speakers, or researchers who may revisit these materials.

In practice, the collaborative research and feedback process highlighted both the strengths and limitations of this research model. The strength of our approach was that we were able to develop a workflow that allowed each Maria and me to learn from the process and from one another while taking on aspects of the work where the other did not have the capacity. For example, Maria wrote our initial

transcriptions and translations because she had the linguistic and cultural knowledge to develop those more easily and accurately, while I developed the time-aligned ELAN format and preliminary morphological analyses of the Makah transcriptions based on previous linguistic descriptions before our collaborative review. The benefit of this approach is that it made this work logistically possible while ensuring the quality of the materials we created. However, undertaking aspects of the work individually also posed challenges.

From the perspective of someone with relatively elementary knowledge of the Makah language, developing glosses and analyses related to a story I was unfamiliar with posed a significant challenge. Language-focused storywork requires a very general foundation in the language while also becoming aware of the specific contextual factors that may affect the ways in which these general linguistic patterns apply or change. Because the research is based in a communicative narrative, it does not necessarily focus on or repeat linguistic features but can incorporate any aspect of the grammar that suits the storytelling. In the earlier stages of this work, I felt a lot of discomfort about my understanding of Makah and my ability to develop the morphological glosses. However, through my continued meetings and conversations with Maria based around this story, she was able to help me to gradually relate the many abstracted grammatical concepts I had read about to particular lines of the story. Building these connections then allowed me to better remember and understand aspects of Makah grammar, and in turn, better understand the story itself.

Once we had spent the time in our collaborative feedback meetings, I was able to return to the linguistic research that informs Chapter 3 with greater resolve that I may be able to draw together more resources that could help to address the questions we posed during our meetings. Although this stage of additional linguistic research posed its own challenges, this time I could sense that this was, at least in part, a function of the limited resources available to explain the questions that remained from our original glossing and analysis. Doing this work in a context of language revitalization, there are inevitable gaps in

knowledge, and there are times where transcriptions and translations of recorded materials may not be conclusive, where literature on a given topic does not exist, or there are contradictory descriptions. Over the course of this research, we had to develop “solutions” that enabled us to best indicate the current status or certainty of the hypotheses that we present and to summarize the findings or possibilities of our research.

This concept of total “transparency” in the development of our gloss and analysis work, to me reflects a broadened consideration of how respectful and responsible research may be defined for collaborative research and storywork. In our research, there were many instances where Maria and I were both challenged to definitively provide an analysis. In these cases, Maria advocated for an abbreviation NFR ‘needs further research’ and transparent descriptions regarding our limitations. From my perspective, the care that we have put into this work is reflected in the efforts to create the gloss, but also to accept where we did not feel that we had the knowledge at this point in time to conclusively provide those glosses. Furthermore, by providing a transparent discussion of our theories in those cases, we hope to provide future researchers a clearer idea of the paths that have been trodden before. By recording our conversations and sharing select discussions here, and the reasons that we have favoured some analyses or remained uncertain about others, researchers in the future may be more easily able to carry on with this work. Language revitalization and reclamation depend on community-wide and intergenerational belief in the importance that this work carries on, so an approach that is informed by not only respect and reverence for past generations that shared their knowledge, but also future generations that may bring new insights and understandings, is hopefully clear in the efforts that we have made here to be open throughout this process.

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Appendix A: “Raven and Crow” story

As told by Ruth Claplanhoo; Recorded by Melissa Peterson (January 18, 1982)

Transcriptions and translations by Maria Pascua (September 29, 2020- November 15, 2021)

Glosses and analyses by Maria Pascua and Erin Hashimoto (November 2, 2022-May 30, 2023)

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NOTE: This analysis may be updated as needed as further research takes place.

L1 ʔu·ba·ćayiks ha·wićaqš mi qʷiyu·bito·wis Ča·q̇a·duʔu· hu·daq̇i·s.

I'm going to tell (a) story when Crow was getting driftage food.

ʔu·ba·ćayik=s	ha·wićaqš	mi
ʔu·aba:ću=ʔeyik=s	ha·wićaqš	mi
<i>ref.stem-talk.about=FUT=INDIC.1SG</i>	<i>telling.a.story</i>	<i>um (filled pause)</i>
qʷiyu·=bit=o·wis=°i	Ča·q̇a·duʔu·	hu·da·q̇i·s
qʷiyu=(b)it=o·wis=°i	Ča·q̇a·duʔu:	hu·da·q̇i·s
<i>when=PAST=DUB=INDIC.3SG</i>	<i>Crow</i>	<i>driftage-BFR-carry.along</i>

L2 (ʔuḥ...) ʔuḥ·ʔak ḥačupsi·qs...

She has a brother...

(ʔuḥ...)	ʔuḥ·u·=ʔak	ḥačupsi·qs
<i>false start</i>	ʔuḥ·u·=ʔakʷ	ḥačupsi·qs(u)
	<i>ref.stem-APPEN=POSS</i>	<i>brother.of.a.female</i>

L3 How do you say raven...

L4 in Makah?

L5 ʔu·kšū·d.

Raven.

ʔu·kšū·d

ʔu·kšū·d(a)

L6 ʔuḥo·ʔak ḥačupsi·qs ʔu·kšū·d.

She has a brother Raven.

ʔuḥo·=ʔak	ḥačupsi·qs	ʔu·kšū·d
ʔuḥ·u·=ʔakʷ	ḥačupsi·qs(u)	ʔu·kšū·d(a)
<i>ref.stem-APPEN=POSS</i>	<i>brother.of.a.female</i>	<i>Raven</i>

L7 ʔakya·x̣u·t̄ kʷakʔowačiq ča·q̄adaʔu·

She has a lot of small crows.

ʔakya-aʃu·t̄	kʷa+kʔow=°ič=°iq	ča·q̄adaʔu·
ʔaya-aʃu·(t̄) (+velar incr.)	RED+kʷaʔakʷ=°ič=°iq	ča·q̄aduʔu:
<i>many-in.front</i>	<i>PL+small=DIM=ART</i>	<i>crow</i>

L8 ʔakya·q̄ hakʔuʃʷ

Many (were) hungry.

ʔakya-i·q̄	haku-ʔiʃʷ
ʔaya-i·q̄ʷ (+velar incr.)	haku-ʔi·ʃ̣(a)
<i>many-many.score</i>	<i>hunger-suffer.from</i>

L9 “hiʃu· hu·daqi·seyiks.” wa·ʔal.

“Okay. I will carry along driftage food,” she says.

hiʃu·	hu·da·q-i·s=eyik=s	wa·=ʔal=°i
hiʃu·	hu·da·q-i·s=ʔeyik=s	wa·=ʔaʃ=°i
<i>Okay</i>	<i>driftage.food-BFR-bring.along=FUT=INDIC.1SG</i>	<i>say=TEMP=INDIC.3SG</i>

L10 wa·ʔaʃwa·d ʔabe·ʔiqsʔuq ča·q̄a·daʔu·

So it was said (by) the mother Crow.

wa·=ʔaʃ=wa·d	ʔabe·ʔiqsu=°iq	ča·q̄a·daʔu·
wa·=ʔaʃ=wa:d(a)	ʔabe·ʔiqs(u)=°iq	ča·q̄a·duʔu:
<i>say=TEMP=QUOT.3SG</i>	<i>mother=ART</i>	<i>Crow</i>

L11 qaʔawaca·ʔaʃ du·č̣xi·waʔaʃwa·d ʃi·beyis

“Get the pack basket.” It was said Crow sang while she walked the beach. Crow sang at the same time.

qaʔawac-a·=ʔaʃ=ʔ	du·č̣-x̣-i·waʔ=aʃ=wa·d
qaʔawac-a·=ʔaʃ=ʔi	du·č̣ [L]-(x̣)xi-wiʃ-[IterL]=ʔaʃ=wa:d(a)
<i>pack.basket-NFR=TEMP=IMPER.2SG</i>	<i>song-asking.for-while-INCEP-ITER=TEMP=QUOT.3SG</i>

ʃi·-bey-is
 ʃi·-baʔ-ʔis
walking-moving.about-on.beach

L12 du·č·x̣i·waṭaḷ Ča·q̣a·daʔu· .

Crow sang at the same time.

du·č·x̣i·waṭaḷ=ʼaḷ
du·č [L]-(x̣)ḷi:wiḷ-[IterL]=ʼaḷ
song-asking.for-while-INCEP-ITER=TEMP

Ča·q̣a·daʔu·
Ča·q̣a·duʔu:
Crow

L13 ye·ʔi·wa ye·ʔi·wa ha· ye·ʔi·wa

(song syllables)

L14 ʔu·ʔu·duḵs k̄a·k̄ašćuqačakt

I'm looking for hair seal on the water.

ʔu·ʔu·duḵs=
RED+ʔu·iduḵs=
DISTR+ref.stem-look.for=INDIC.1SG

k̄a·k̄ašću·q·ačakt
RED+k̄ašću·q·ačakt
DISTR+hair.seal-BFR-on.the.sea

L15 That's seal... and she was singing.

L16 dudu·č·x̣i·waṭaḷ hu·daqi·t, ʔu·ʔu·duḵ^waḷ k̄a·šću· hu·di·qey

She was singing while going after hair seal driftage.

du+du·č·x̣i·waṭaḷ=ʼaḷ
RED+du·č [L]-(x̣)ḷi:wiḷ-[IterL]=ʼaḷ
DISTR+ song-asking.for-while-INCEP-ITER=TEMP

hu·daqi·t
driftage.food-NFR

ʔu·ʔu·duḵ^w=ʼaḷ
RED+ʔu·iduḵ^w=ʼaḷ
DISTR+ref.stem-look.for=TEMP

k̄a·šću·
k̄a·šću·
hair.seal

hu·di·=qey
hu·di·=qey(u)
driftage.food=COND.3SG

L17 wi·kaḷwa·d ḷeʔi·yaḵ ʔa·de·čʔaḷ ʔuqʔoṭ ʔi·ʔi·x̣^wʔiq k̄a·šću.

It was said she didn't even in fact perceive the big hair seal.

wi·kaḷwa·d
wi·kaḷwa·d(a)
not=TEMP=QUOT.3SG

ḷeʔi·yaḵ
ḷeʔi·yaḵ
NFR

ʔa·d·e·č=ʼaḷ
ʔa·di·eyačičiḷ=ʼaḷ
in.fact-INCEP?=TEMP

ʔuqʔoṭ
ʔuqʔoṭ
find

ʔi·ʔi·x̣^w=ʔiq
ʔi·ʔi·x̣^w=ʔiq
big=ART

k̄a·šću
k̄a·šću·
hair.seal

L18 **λadiw?aλ. hitaci-da-λ**

Then she stopped. She put it in the container (her pack basket).

λad-iw='aλ	hita-ci-d=aλ
λad(a)-i:wiλ='aλ	hita-cu-diλ='aλ
<i>stay.still-INCEP=TEMP</i>	<i>empty.root-in.container-PERF=TEMP</i>

L19 **?ada-wa tičaš wikaλ xa-yasit λu-kšu-d.**

As much as saying this (he) must have not been far behind (her), Raven.

?ada-wa	ti=čaš	wik='aλ	xa-yas=it
?ada-wa·	ti=čaš	wik='aλ	xa-yas='it
<i>only-say...</i>	<i>this-INFER.3SG</i>	<i>not=TEMP</i>	<i>far.behind=PINV</i>
λu-kšu-d			
λu-kšu-d(a)			
<i>Raven</i>			

L20 **q̄i>>taqλ λu-kšu-d**

Liar Raven (or could say, Raven is a liar)

q̄i>>taqλ	λu-kšu-d
q̄i>>taqλ	λu-kšu-d(a)
<i>liar.EMPH</i>	<i>Raven</i>

L21 **hišu . λadiwiλ. λadiwiλ. yuyubaχalc x̄woy," yaq^wa?aλit.**

"Okay. Stop. Stop. You are incorrect" He said to her.

hišu·	λad-iwiλ='	λad-iwiλ='	yuyubaχ=al=°c
hišu·	λad(a)-i:wiλ='i	λad(a)-i:wiλ='i	yuyubaχ='aλ=°ic
<i>okay</i>	<i>stay.still-INCEP=IMPER.2SG</i>	<i>stay.still-INCEP=IMPER.2SG</i>	<i>wrong=TEMP=INDIC.2SG</i>
x̄woy	yaq ^w a-'aλ='it	yaq ^w a-'aλ='it	
x̄woy	yaq ^w a-'aλ='it	yaq ^w a-'aλ='it	
<i>NFR</i>	<i>one.who=TEMP=PINV</i>	<i>one.who=TEMP=PINV</i>	

L22 **"kupu-diksi-cuχ," wa?aλ λu-kšu-d**

"I'm pointing at what you are carrying along," said Raven

kup-<u.>-d-iks=si-cuχ	wa-'aλ	λu-kšu-d
kup-<u.>-d-i:ks=si-cuχ	wa-'aλ	λu-kšu-d(a)
<i>point-EPEN-NFR-carry.along?=INDIC.1SG/2SG</i>	<i>say=TEMP</i>	<i>Raven</i>

L23 tá·qʷakšʔelaḥ Ča·q̇a·daʔu· ḷadi·wʔaḷ

(something about him straightening the basket Crow was carrying the hair seal in OR Crow believing him?). She stopped.

tá·qʷ-ak-š-ʔel=aḥ	Ča·q̇a·daʔu·	ḷad-i·w='aḷ
tá·qʷ-akʷ-šiḷ='aḷ=°aḥ	Ča·q̇a·duʔu:	ḷad(a·)-i:wiḷ='aḷ
<i>believing-DUR-PERF=TEMP=sympathy</i>	<i>Crow</i>	<i>stay.still-INCEP=TEMP</i>
<i>(straight?-??-PERF=TEMP=sympathy)</i>		

L24 ʔatqey hi·ta·suputʔoḷḥ(?) ka·šćuʔu·

Even as (while) he put the hair seal on the ground

ʔat=qey	hi·ta-'as-up-ut=ʔoḷḥ	ka·šćuʔu·
ʔat=qey(u)	hita-'as-u:p-ut='aḷḥ	ka·šćuʔu·
<i>though=COND.3SG</i>	<i>NFR</i>	<i>hair.seal</i>
	<i>empty.root-on.ground-CAUS.PERF-??=TEMP=at.same.time</i>	

L25 ʔu·cí·da·puḷ ʔiʔi·ḥʷ (cí) tídi·čuk

(He) leaves (a) big rock in (the basket)

ʔu·cí·-da·p='uḷ	ʔiʔi·ḥʷ	(cí)	tídi·čuk
ʔu·cí·-da·p='aḷ	ʔiʔi·ḥʷ(a)		tídi·čuk
<i>ref.stem-in.container-leave=TEMP</i>	<i>big</i>	<i>false start</i>	<i>rock</i>

L26 waʔšʔaḷ, waʔšʔaḷ.

She went home, went on home.

waʔ-š='aḷ	waʔ-š='aḷ
waʔ-šiḷ='aḷ	waʔ-šiḷ='aḷ
<i>go.home-PERF=TEMP</i>	<i>go.home-PERF=TEMP</i>

L27 “šū, šū ... ʔukya-ts ḥu· ḷuqʷaqsqey,” waʔaḷ Ča·q̇a·daʔu·

"Okay. Okay. Give that platter (to me)," said Crow.

šū.	šū.	ʔu·k-ya='it=s	ḥu·
šū.	šū.	ʔu·k-ya:'it='is	ḥu·
<i>okay</i>	<i>okay</i>	<i>ref.stem-INCR-give=PINV=IMPER.2SG/1SG</i>	<i>that</i>
ḷuqʷaqs=qey	wa·='aḷ	Ča·q̇a·daʔu·	
ḷuqʷaqs=qey(u)	wa·='aḷ	Ča·q̇a·duʔu:	
<i>platter=COND.3SG</i>	<i>say=TEMP</i>	<i>Crow</i>	

L28 ʔuχʷti·da·kχučaʔa·š ʕuqʷaqs qade·de...

(RC interjects about the type of platter) “Maybe had that one platter made of ummm...”

ʔu·χʷti·da·=k=χučaʔa·š	ʕuqʷaqs	qade·...
ʔu·χti·da·=ak=χučaʔa·š	ʕuqʷaqs	qade·(de)...
<i>ref.stem-made.of=POSS=PAST.INFER.3SG</i>	<i>platter</i>	<i>umm (filled pause)</i>

L29 ʔatkse·q tida... I forgot how to say cedar.

the wood, that one. I forgot how to say ‘cedar’

ʔatkse·=q	tida·
ʔatkseʔi:·=°iq	tida·
<i>wood=ART</i>	<i>that.one</i>

L30 ʔatkse·ʔ

It’s wood.

ʔatkse·ʔ
ʔatkse·ʔi:
<i>wood</i>

L31 ʔadi·sa· (hi...) hitaqsub ká·čúʔu·(ʔi)q

“So much (you folks) OR (exactly so) need to be above the hair seal”

ʔadi·-sa·	(hi...) hita-q-sub	ká·čúʔu·=°iq
ʔadi·-sa·	(hi...) hita-qi·-sub(a)	ká·ščúʔu:·=°iq
<i>this.much-precisely</i>	<i>empty.root-on.top-need</i>	<i>hair.seal=ART</i>

L32 káχšʔaʕ ʔudu·ʕ tidi·čuk qi·kʷa·ʔatʕaʕpi·tqey...

It broke because of (the) rock as it must have wrecked it...

káχ-š=ʔaʕ	ʔudu·ʕ	tidi·čuk	qi·-kʷa·-ʔat=ʔaʕ=pi·t=qey
káχ-šiʕ=ʔaʕ	ʔudu·ʕ	tidi·čuk	qi·-(ʔa)kʷa·č-ʔat=ʔaʕ=pi·t=qey(u)
<i>fall-PERF=TEMP</i>	<i>because.of</i>	<i>rock</i>	<i>shift.position-apart-NFR=TEMP=INFER=COND.3SG</i>

L33 “ha·>>>>,” wa·ʔaʕ Ča·qá·daʔuwq,

“Ohhhhh,” said Crow,

ha·>>>>	wa·=ʔaʕ	Ča·qá·daʔu=°iq
ha·>>>>	wa·=ʔaʕ	Ča·qá·daʔu:·=°iq
<i>oh.EMPH</i>	<i>say=TEMP</i>	<i>Crow=ART</i>

L34 “ha·>>>>! ʔuχo·ʔaλχwa·tsi·škub ʔuse·ʔit

“Oh! I hear that it is said exactly (of him).”

ha·>>>>	ʔuχ-o·=ʔaλ=χ=wa·tsi·=škub	ʔu-se·=ʔit
ha·>>>>	ʔuχ-u·=ʔaλ=χ=wa·tsi:=ʔa:škub	ʔu-sa·=ʔit
oh.EMPH	ref.stem-APPEN=TEMP=NFR=QUOT.1SG=MIR.3SG	ref.stem-exactly=PINV

L35 ǰitaqiliq λu·kšu·d

“The liar Raven" or "Raven the liar"”

ǰitaqil=ʔiq	λu·kšu·d(a)
ǰitaqλ=ʔiq	λu·kšu·d(a)
liar.said.of.male=ART	Raven

L36 “hišu· waha·ʔaλčʔič haʔukʷe·ʔisaλčʔič deʔiyu·χ, deʔiyu·χsa· haʔuk.”

“Okay. Go little ones, you all are going to eat, sharing food, you folks are sharing food to eat.”

hišu·	waha·=ʔaλ=č=ʔič	haʔukʷ-ʔe·ʔis=ʔaλ=č=ʔič
hišu·	waha·=ʔaλ=či=ʔič	haʔuk-ʔe·ʔis=ʔaλ=či=ʔič
okay	go=TEMP=GO/IMPER=IMPER.2PL	eat-going.to=TEMP=GO/IMPER=IMPER.2PL
deʔiyu·χ	deʔiyu·χ=sa·	haʔuk
deʔiyu·χ	deʔiyu·χ=sa:	haʔuk
share.food.with	share.food.with=2PL	to.eat

L37 wa·ʔaλ Ča·ǰa·daʔu·

said Crow.

wa·=ʔaλ	Ča·ǰa·daʔu·
wa·=ʔaλ	Ča·ǰa·duʔu:
say=TEMP	Crow

L38 wa·ha·ʔalaʔ ti· kʷakʷaʔowičiq

So these little ones went.

wa·ha·=ʔal=ʔat	ti·	kʷa+kʷaʔow=ič=ʔiq
wa·ha·=ʔaλ=ʔat	ti·	RED+kʷaʔakʷ=ʔič=ʔiq
go=TEMP=3pl	these	PL+small=DIM=ART

L39 ya-ʔa-dʔats siqi-da-kaʎ ʎu-kʂu-d

Here he was (?) Raven cooking

ya-ʔa-dats	siqi-da-k='aʎ	ʎu-kʂu-d
<i>NFR</i>	siqi-da-k ^w ='aʎ	ʎu-kʂu-d(a)
	<i>cooking.something=TEMP</i>	<i>Raven</i>

L40 “de-ʔiyuʂ^wasid haʔuk,” weʔitid ʔabe-ʔiqsu-c... wa-ʔalaʔ

"We are (going to?) eat all the food," his mother said to him (one of the crow children... they said it).

de-ʔiyuʂ ^w -as=id	haʔuk	wa-ʔit=it=°i	ʔabe-ʔiqs-u-c
de-ʔiyuʂ-ʔe-ʔis=id	haʔuk	wa-ʔit=(b)it=°i	ʔabe-ʔiqs(u)-ʔu:c
<i>share.food.with-going.to?=INDIC.1PL</i>	<i>eat</i>	<i>say=PINV=PAST=INDIC.3SG</i>	<i>mother=POSS.3SG</i>
wa-ʔal=°aʔ			
wa-ʔaʎ=°aʔ			
<i>say=TEMP=3PL</i>			

L41 hi-ʂu-ʔi-s siqeya-ʔi-č.

(MP: It appears Raven said this part) “Okay well you go along, you folks cook it.

hi-ʂu-ʔi-s	siq-eya-p='i-č
hi-ʂu-ʔi-s	siq-a:ya:p='i-č
<i>NFR</i>	<i>COOK-CAUS.PERF=IMPER.2PL</i>

L42 hu-ʔuk^waʎči hitacaqabasicsa ʔada-wq.”

Go on (and) dance, you folks go around the fire.”

hu-ʔuk ^w ='aʎ=či	hita-caqab-as=icsa	ʔada-w=q
hu-ʔuk='aʎ=či	hita-caqap(ʔ) [L] -ʔas=°ica:	ʔada-k ^w =°iq
<i>dance-DUR=TEMP=GOIMPER.2SG</i>	<i>empty.rt-going.around-on.ground=INDIC.2PL</i>	<i>fire=ART</i>

L43 dačsa-p... dačsa-bičiqʂaʎsa siqeya-ʎ

Causing to look up... (you folks look up?) while its cooking

dač-sa-p...	dačsa-bičiqʂaʎsa	siq-ey='a-ʎ
dač-sa:p		siq-a:ya:p='aʎ
<i>look-CAUS.PERF</i>	<i>NFR</i>	<i>cooking-CAUS.PERF=TEMP</i>

L44 Hey! huṭačʔaḷ kʷakʷʔawačiq.

Hey! The little ones started dancing.

Hey	huṭ-ač='aḷ	kʷa+kʷaʔaw='ač='iq
Hey	huṭ-'ačič='aḷ	RED+kʷaʔakʷ='ič='iq
Hey	dance-INCEP=TEMP	PL+small=DIM=ART

L45 dačsa·p̄it

He looked at him.

dač-sa·p̄=it
dač-sa·p̄=it
look-CAUS.PERF=PINV

L46 wiḱalaṭ čuša· qʷa·du·ḷ-ḱaḷqeyu·ṭ qʷa·

They were not aware (they were being tricked) because of how they were being like that (looking up).

wiḱ='al='aṭ	čuša·	qʷa·du·ḷ-ḱ='aḷ=qeyu·ṭ	qʷa·
wiḱ='aḷ='aṭ	čuša·	qʷa·du·ḷ-ḱ='aḷ=qeyuṭ	qʷa·
no=TEMP=3PL	aware.of.something	that's.why-while=TEMP=COND.3PL	do/be.thus

L47 ʔatqey ʔa·di·daḱal ʔaḷ (/ʔat?) hu·ṭuk kʷakʷaʔawačiq

Even though only just but the little ones danced.

ʔat=qey	ʔa·di·daḱ='al='°	ʔaḷ/ʔat(ḱ?)	hu·ṭ-uk	kʷa+kʷaʔaw='ač='iq
ʔat=qey(u)	ʔa·di·daḱi='aḷ='°i	ʔatu	hu·ṭ-uk	red+kʷaʔakʷ='ič='iq
though=COND.3SG	only=TEMP=INDIC.3SG	still yet	dance-DUR	PL+small=DIM=ART

L48 haʔukʷaḷ, haʔukʷaḷ ḷu·kṣu·d

Raven ate, he ate.

haʔukʷ='aḷ	haʔukʷ='aḷ	ḷu·kṣu·d
haʔuk='aḷ	haʔuk='aḷ	ḷu·kṣu·d(a)
eat=TEMP	eat=TEMP	Raven

L49 p̄usšʔalaṭ hu·ṭa·q kʷakʷʔawačiq hiyo·ʔaḷ

The many little dancers got tired. It was done.

p̄us-š='al='aṭ	hu·ṭa·q	kʷa+kʷaʔaw='ač='iq	hiyo·='aḷ
p̄us-šič='aḷ='aṭ	hu·ṭa·q	red+kʷaʔakʷ='ič='iq	hiyu·='aḷ
tired-PERF=TEMP=3PL	many.people.dancing	PL+small=DIM=ART	done=TEMP

L50 ya·tisi·ʔaʎ ʎaša·bis ʎeʔiksčʔaʎ

Here now are bones. He (Raven) ate it all up.

ya·t-i-s-i·=ʔaʎ	ʎaša·bis	ʎe-ʔi·ks-č=ʔaʎ
ya·t-ʔis-i·=ʔaʎ	ʎaša·bis	ʎa-ʔi·ks-č-iʎ=ʔaʎ
<i>here-at.beach-NFR=TEMP</i>	<i>bone</i>	<i>complete-consume-PERF=TEMP</i>

L51 wiktakšʔalaʔ haʔuk kʷakʷaʔawačiq,

The little ones did not eat before going.

wik-taq-š=ʔal=ʔaʔ	haʔuk	kʷa+kʷaʔaw=ʔač=ʔiq
wik-taq-šiʎ=ʔaʎ=ʔaʔ	haʔuk	RED+kʷaʔakʷ=ʔič=ʔiq
<i>not-before.going-PERF=TEMP=3PL</i>	<i>eat</i>	<i>PL+small=DIM=ART</i>

L52 waʔšʔaʎ.

(They) went home.

waʔ-š=ʔaʎ
waʔ-šiʎ=ʔaʎ
<i>go.home-PERF=TEMP</i>

L53 That's the end of the story. Yeah. That's the only one I- only other one I know.

Appendix B: Collaborative Analytical Storywork method schematic

The following table outlines the different tasks involved in the Collaborative Analytical Storywork method, a description of key motivations or decisions that inform each step, and the technologies involved in this workflow. This method is originally used to develop a morphological story analysis but could be expanded to apply to other descriptive linguistic research.

Task	Description	Technologies
Recording selection	<ul style="list-style-type: none"> Discussion of any factors that would influence the useability, appropriateness, or scope of the project. 	Zoom
Transcription/translation	<ul style="list-style-type: none"> Development of preliminary transcriptions, translations and segmentation of the text. Team members with familiarity in the culture and/or language may be best suited for this task if they have experience with the language's writing system and are comfortable translating. 	Word
Time-alignment	<ul style="list-style-type: none"> Time-alignment of the transcriptions and translations to the story recording using the segments determined in the presentation of the transcribed written text. 	ELAN
Preliminary morphological analysis	<ul style="list-style-type: none"> Build on the transcriptions and translations to develop initial morphological analyses. Include any notes or comments that may help guide and inform the review process. 	Word
Collaborative review of morphological analysis	<ul style="list-style-type: none"> Use the preliminary analyses to guide Zoom meetings between participants to review, complete, or revise the analyses. A Word format of the story analysis is used during review meetings. Word offers easier viewing via Zoom screensharing, the ability to tie notes to different levels of analysis, and more robust formatting options to use during drafting. Updated versions of the Word file were sent via email following weekly meeting. ELAN and Praat are referenced during meetings as needed to verify transcriptions or translations. ELAN can control playback speed and Praat generates spectrograms. 	Word Email Zoom ELAN Praat
Documentation of Zoom meetings	<ul style="list-style-type: none"> Collaborative review meetings recorded to document discussions in full for future researchers. Meeting recordings are saved to Google Drive for participant review and a Google Sheet is used to track requested and completed edits to these recordings as necessary. 	Zoom Google Drive Sheets ClipChamp
Revisions and supplementary linguistic research	<ul style="list-style-type: none"> Following the collaborative analytical review, further literature-based research is conducted to supplement the knowledge developed during the collaborative meetings and to try to clarify remaining questions. 	Word

<p>Review of final analysis and linguistic research</p>	<ul style="list-style-type: none"> • Conduct a review of the final linguistic descriptions and analyses to check that it is consistent with community knowledge and experience with the language. • Discuss any questions or feedback using Zoom or email. 	<p>Word Email Zoom</p>
<p>Archival and distribution</p>	<ul style="list-style-type: none"> • The various formats created from this thesis (ELAN, Word, video, etc.) are finalized with the revisions suggested during the review of the linguistic research. • Final files are sent to the appropriate archive/institution for community access and mobilization. 	<p>Email/Drive ELAN Word ClipChamp <i>Optional:</i> <i>ReadAlong</i></p>