

**Waldamas? An exploration into the phonological-word in
Kwak'wala**

by

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Abstract

Scholars and speakers alike transcribe Kwak'wala with often unaddressed assumptions about what the basic word-unit is. If the student of Kwak'wala is primarily interested in syntax, the grammatical-word will emerge as the most basic constituent. If the student is interested in phonology or phonetics, the phonological-word will be most salient. As a student of Kwak'wala most interested in morphology, I am caught between these two basic assumptions about how to define the 'word', and am consequently conflicted. Since Kwak'wala has always been and remains today a predominantly oral language, I assume that the spoken-word is the most relevant 'word' constituent in the minds of Kwak'wala speakers. Defining a 'word' as a constituent will therefore have phonological criteria for defining its boundaries. These boundaries can be isolated by applying three tests: 1) defining the stress domain of the 'word', 2) noting where pauses in speech may occur, and 3) noting where the speaker returns to during self-repair. In regards to clitics, these tests show that most Kwak'wala clitics are integrated members of the phonological-word as closely integrated clitics. A select few clitics, which act as case markers, and the definite article, display more independence than all other clitics by allowing pauses and self-repair to occur between them and their hosts. Still other clitics, when uttered in a successive string, are also revealed to create more independence from their host, albeit without the same observable stress-domain as unambiguous 'words' have.

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Introduction

Scholars and speakers alike transcribe spoken Kwak'wala with often unaddressed assumptions about what the basic word-unit is. There are typically two main approaches to defining word boundaries in any language, depending on the researcher's goals. For example, if a student of Kwak'wala is primarily interested in syntax, the grammatical-word will emerge as the most basic constituent. If the student is interested in phonology or phonetics, the phonological or prosodic-word will be most salient. As a student of Kwak'wala most interested in morphology, I am caught between these two basic assumptions about how to define the 'word', and am consequently conflicted.

As I have worked to define some suitable definition for the 'word' in Kwak'wala, I have determined to focus on the oral language. Kwak'wala has always been, and remains today, a predominantly oral language, with the written tradition relatively new, and still not used for the most important cultural rites, such as Big House ceremonies, and genealogies. I have chosen the spoken-word as my domain of investigation. My work has lead me to the conclusion that the phonological-word is a salient constituent in the minds of Kwak'wala speakers, and is therefore identifiable by speakers. Defining a 'word' as a constituent will therefore have phonological and prosodic criteria for defining its boundaries.

My motivation for studying the phonological-word (or prosodic-word) in Kwak'wala stems from reading transcriptions of Kwak'wala speech that did not appear to align with the prosodic divisions I thought I was hearing in natural speech. I isolate the boundaries of phonological/prosodic-words by applying three tests: by defining the 'word's' stress domain, noting where pauses in speech may naturally occur, and by noting where the speaker returns to after committing an ungrammatical pause during speech (something I refer to as self-repair). In regards to the rich clitic system of Kwak'wala, these tests show that most Kwak'wala clitics are members of the phonological-word of their hosts. Some clitics, however, are revealed to create their own 'word' when uttered as a string of consecutive clitics as minimally bisyllabic units. Others further allow pauses and self-repair between them and their hosts, although they are monosyllabic.

The prosodic irregularities I find surrounding some clitics strongly suggests that the

phonological-word is a nuanced constituent in Kwak'wala. Those confusing inconsistencies I was observing between the literature and the spoken-word align with the prosodic irregularities I found surrounding certain clitics.

This paper is organized as follows: in Chapter 1, I give a short exposé on the Kwak'wala language family, its place in that family, and some information of the geographical regions and dialects that compose this language. I also give some socio-linguistic information on Kwak'wala, as well as a short history of post-contact language scholarship to date.

In Chapter 2, I provide the necessary linguistic background information in order to understand the argumentation in defining the phonological-word in subsequent chapters. I include a phonemic inventory and basic syntactic structure, a section on morphology, stress, and reduplication. The section on morphology explains the difference between Kwak'wala's suffixes and enclitics, the constituent mismatch of the enclitics between the syntactic and phonological domains, and notes on each of the enclitic types. These include case markers, visibility markers, the definite article, temporal markers, and pronouns. It ends with a brief note about affixes which cause phonological changes on their host root, and others which conspicuously do not. Those that do not are also investigated for their role in phonological-word formation in subsequent chapters. This chapter continues with a description of stress in Kwak'wala, highlighting its predictability as a default-to-opposite system. Finally I give a description of reduplication, which is notable for being the only morphological occurrence to the left edge of a root, ending with a brief look into double reduplication in Kwak'wala.

In Chapter 3, I argue that the phonological/prosodic-word (or PWord) is an intuitively salient constituent in the minds of speakers of any language. As a predominately oral language, I assume Kwak'wala speakers to have a ready intuition on phonological and prosodic features which determine phonological-word boundaries. This assumption is based on the theoretical background that the PWord is the first and foundational unit learnt by children during first language acquisition.

Chapter 4 gives an overview of a number of Kwak'wala learners since the late 1800s, and how they have transcribed the PWord in Kwak'wala. I present two sections, the first looking at how scholars have treated the PWords, and the second looking into how the PWord is

treated in community literature. Scholars are generally split between those who consider all attaching morphology to be subordinated to its host root, and those who award some morphemes independence from their hosts. Scholars do this through their transcriptive choices, positing what I assume to be PWord boundaries as orthographic-word divisions. Some scholars give orthographic independence to case markers, the definite article, and series of clitics I call clitic-strings. Community members are also divided in the same treatment of these clitics. Some authors award independence to the same clitics as some scholars do, while other authors subordinate all clitics to their host as well. What is striking about this inconsistent treatment of Kwak'wala's orthographic-words is that the inconsistencies are limited to a few specific clitics, and not random morphemes. Those specific clitics are those I mentioned, case markers, definite article, and clitic-strings.

In Chapter 5, I begin a more rigorous account of clitics and how they relate to the PWord. First I give a more detailed account of Zwicky's (1977) clitic criteria outlined in Chapter 2, providing Kwak'wala examples for each of his six tests. Through these tests I find that there is strict ordering between two classes of clitics: leftward and rightward modifying. These two clitic classes behave differently in their phonological integration with their hosts, as was noted by scholars and authors in Chapter 4. The leftward modifying clitics are more phonologically and prosodically attached, while the rightward modifying clitics, which I call wanderer clitics, are more phonologically and prosodically independent from their hosts. I also find that stress will be resisted by an optimal stress bearing candidate if that syllable is a wanderer clitic or within a clitic-string.

In Chapter 5 I also provide a brief overview of some issues in prosodic theory. Specifically I present how wanderer clitics and clitic-strings do not obviously fit into the basic prosodic model. I also provide an overview of a few prosodic theories, each attempting to grapple with the intuition that there is some variability in clitic behaviour cross-linguistically. The scholars I explore here are Nespor and Vogel (1986), Zec (2005), Selkirk (1995), and Anderson (2005).

In Chapter 6, I show that morphological elements in Kwak'wala are on a wordhood continuum, with affixes at one extreme and roots on the other. Clitics fall in the middle of this continuum, being at once very PWord-like in some prosodic respects, and very affix like

in others. This chapter also investigates the difference between the two clitic types from Chapter 5: internal-clitics and wanderer clitics. I use three prosodic tests to show that wanderer clitic are prosodically more independent than internal clitics. These tests are stress-domain, pauses, and self-repair. Wanderer clitics allow pauses and self-repair re-sets to occur before them, intervening between them and their hosts. All other clitics do not allow this. Clitic-strings, which are series of one or more clitics which make up a minimum of two well-formed syllables, also show more prosodic independence than standard clitics in Kwak'wala. Clitic-strings allow pauses and self-repair to occur before and after them, and are resistant to housing their host's stress when they are the optimal stress bearing candidate. In these ways clitic-strings are very much like wanderer clitics, strongly suggesting that there are two general phonological clitic types in Kwak'wala.

I believe that reflecting the intuitions of mother tongue speakers of any language in the study of that language greatly aids in a deeper understanding of how that language behaves. As such I believe that defining phonological-word boundaries in Kwak'wala will better reflect the intuitions of mother tongue speakers in the written form. Moreover, it is my wish that this paper will motivate more interest in studying Kwak'wala for both the scholar and language learner.

Gwagwixs'ala¹

Gans wiwaḡḡam laxa yakantaḡas? Hemaḡ wadḡam nukwa kaḡ thesis. Ki's koḡḡa Kwakwaka'wakw xa galabe' dḡa'wi da gwalbe' sa kakaduxsila, o'am yakantaḡa, kayo's kakaduxsilasua's. O'am koḡḡala xi's waḡdam. Axestaḡ da koḡḡex ka a'yu'selaxdaxw Kwakwaka'wakw xa waḡdam.

How many words are in a phrase? This is the question of my thesis. Kwak'wala speakers don't think about where words start or stop, they just speak, there was no writing. They just know what they're talking about. I want to know how the Kwakwaka'wakw understand the word.

Lamaḡ kaḡutḡa'a weḡme'e' ugwaḡa koḡḡala a'yu'selasui da waḡdam. Lamaḡ axala olaḡal waḡdam ka kwaksi'stala da waḡdam t'soyi da yakantaḡa, o'am hayulis yakantaḡa kayo'sanu'xw kakadoxsilasua xa da Kwak'wala, o'manu'xw yakantaḡa ola xwa ḡala. Kaḡ yudox axaya sa waḡdam ka ḡala gwaḡ sa wadḡam. Hedox da xus'idi, dḡa'wi da hiḡagila, dḡa'wi da ikaḡi.

What I found is that the word can be identified many different ways. I use parts of natural speech to describe what words are in a phrase, because Kwak'wala has always been an oral language, and remains mostly oral today. I found that there are three features of speech which signal word edges in Kwak'wala. These are pauses, self-repair sites, and the domain of stress.

Lami's xixus'idi le'e' kwitḡalaḡa sa yakantaḡa, le'e' da weḡ Kwakwaka'wakw gwa's dḡa'wi ḡaḡikeḡala ḡala xi's waḡdamḡe'. Kaḡutḡalaḡa ka o'am kwitḡalaḡa xa Kwakwaka'wakw lax hutḡilax wadḡama's la'am ki's he gwigila naxwa. O'amḡa iḡiḡ yakantaḡa waḡdamxde' Kwakwaka'wakw, lami's hayuḡala laxi's waḡdamḡe'. He edaḡi hiḡagilaxḡa, la'am iḡi yakantaḡa la'as sa hiḡagila. He gwixsi da la'as sa hiḡagila dḡa'wi da xixus'id. Niḡeḡalaḡa ka lila'as he gwixsi da gwaḡi sa waḡdam.

Pauses are breaks in speech, where speakers can stop and think about what they will say next. I noticed that speakers pause only in certain points in a phrase, and not everywhere possible. If a speaker pauses in a bad spot, they would always repeat the last word. This going back is called self-repair, and the point to which speakers go back, is the self-repair site. This self-repair site and the good places that pauses occur turned out to be the same points in the phrase. I believe that these points are the same as word edges.

1 Terms – Wiwaḡḡam: pauses- xus'id, self-repair- hiḡagila, stress- ikaḡa, root- aḡaboye' sa waḡdam

Łokwagawa ńam silabał lax wiła wałdam. Hedi ikałaxtłe' silabał. He ikała sa wałdam tłapała xa naxwa silabał laxa wałdam. Gayuł naxwa ikała sa wałdam lax awaboye' sa wałdam. Galabańd wiła wałdam xa awaboye' sa wałdam. Łamis lagami i'am'ame' wałdam, ka axatłala Kwakwaka'wakw laxa awaboye' sa wałdam. Hemi i'am'ame' wałdam safiksxtła dławi kałitikxtła. Hemis i'am'ame' wałdam yakanłala ayusała ikagawe'gila. Łamis a'xoła sisafiksxtła laxa awaboye' sa wałdam dławi da ikała sa wałdam, dławi nańampana kałitikxtła ugwaka. Ła'am wałdamgilabidu wiwa'okwi da kałitikxtła.

There is one syllable that is more dominant than the others in all words. This syllable is stressed. The stress domain of a word covers all the syllables which are dominated by the stressed syllable. The word stress always originates with the root in Kwak'wala. Every word begins with the word root. Then a series of smaller parts follow, that speakers attach to the roots. These smaller parts are called suffixes and enclitics. These parts make the phrase better understood. Suffixes are always a part of the stress domain of the root, and most clitics are as well. Some clitics, however, sometimes make their own semi-words.

Łamis hiłkołam kałitikxtła xus'id dławi da hiłagila lax ma'ł unu'dze', la'am kayo's ikałanukwa. He'am ugwakaluxw da kałitikxtła laxa da wa'okw kałitikxtła. He kikałitikxtła 'xa', dławi 'sa', dławi, 'da'. Ugwaka'am xa'e', xu ńamoła kałitikxtła ma'ł silabałgila, la'am alumasi wałdambidugila. Łamis hiłkołam xus'id dławi da hiłagila laxa unu'dze', dławam ki's hiłkołam ikała. He'am kałitik dudokwołaxtła.

There are a few clitics which allow pauses and self-repair sites on either side of them, and never contain the stressed syllable. This makes these clitics unique from other clitics. These clitics are xa, sa, and da (which are all grammatical markers, meaning: to what, with what, and the). Also, when one or more clitics join together to create at least two syllables, they create a new semi-word. This allows pauses and self-repair sites on either side, and also do not take a stressed syllable. I call these groups of clitics clitic-strings.

Hemis yudox kikałitik (xa, sa, dławi da), dławi da kałitik dudokwoła, axt'so amabidumxw gwigwałi da olakał wałdam. Hemis tłumxw laxwagawe' xa nanaxme' "Gan's wiwałdam laxa yakanłala" lax Kwak'wala, la'am ugwakala yiyakandas kikałatasu. Galabała awaboye' sa wałdam wiła wiwałdam, dławi gwałala wałdamxde'. Axt'so laxa da walas wałdam xa wałdambidu, la'am kikałitik xa, dławi sa, dławi da, dławi kałitik dudokwoła.

This means that those three clitics (xa 'to what', sa 'with what', and da 'the') and clitic-strings together, mark smaller word edges within the main word. So the answer to the question 'How many words are in a phrase' in Kwak'wala, is more complicated in Kwak'wala than other languages with writing. In Kwak'wala, the left edge of every root ends the previous word and begins a new one. Every instance of the clitics xa, sa, and da are semi-word boundaries within the larger word, as well as clitic-strings.

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Gilakasla naxwa!

Chapter 1: Background on Kwak'wala and the Kwakwaka'wakw

This chapter outlines the language of focus in this paper: Kwak'wala. It situates Kwak'wala in its family context and geography. It also gives a short sociolinguistic background on Kwak'wala speakers and community members. It further offers a brief history of scholarship in the Kwak'wala language, as well as my own history and work with the Kwak'wala language. It concludes with a brief summary of some of the current language activity in British Columbian universities and in a few Kwakwaka'wakw communities.

1.1 Language typology, family

Kwak'wala is a Wakashan language spoken in British Columbia, Canada. The Wakashan language family was first classified as such by Boas & Powell (1991), and includes two branches: Northern and Southern. The Southern branch includes the languages Nuuchahnulth, Ditinaht, and Makah, covering the land on the eastern side of Vancouver Island and the Olympic Peninsula in Washington State (USA). The Northern branch includes the languages Haisla, spoken in Kitamaat; Heiltsuk (Heiltsuk), spoken in Bella Bella and Klemtu;

Oowekyala (Owik'ala), spoken in Rivers Inlet; and Kwak'wala, spoken on northern Vancouver Island and the adjacent mainland (Umista 1981b; Lincoln & Rath 1980; Anonby 1997). These regions can be seen in Illustration 1²: Wakashan Languages.

2 Taken from the UBC Museum of Anthropology website. <http://image.frompo.com/4f4705f2cbf211f996551a80ecf8ddd3>

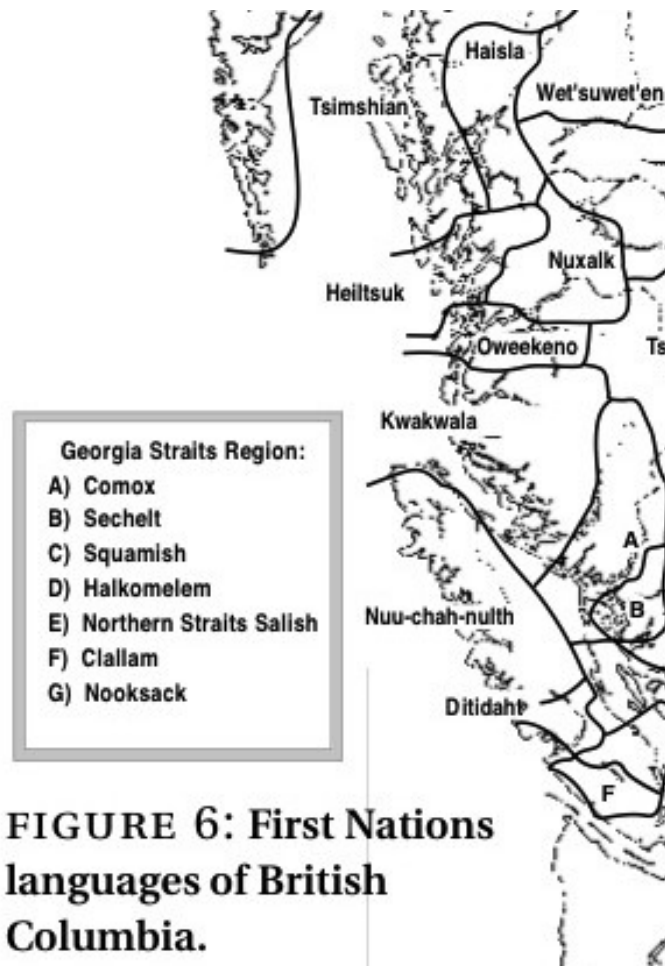


Illustration 1: Wakashan Languages

Mutual intelligibility between the North Wakashan languages has not been seriously investigated, with the exception of Heiltsuk and Owik'ala. Although these languages are very similar phonologically and morphologically, they differ in their inventories of suffixes, in morphophonology, and in syntax (Lincoln & Rath 1980). Nevertheless there is a great deal of anecdotal evidence to suggest that speakers do claim that other North Wakashan languages are intelligible, including language used in the Big House. In my own preliminary research, speakers of Kwak'waka imperfectly understand Haisla, but have great difficulty understanding Heiltsuk. This seems counterintuitive because Heiltsuk is geographically closer to Kwak'waka speaking territory. Haisla is North of the Heiltsuk speaking area and does not border the Kwak'waka area. This suggests that Heiltsuk is a linguistic innovator among North Wakashan languages, but much more research in this area is needed.

Speakers of Kwak'wala, traditionally live in a territory that includes most of eastern and northern Vancouver Island and the adjacent mainland (see Illustration 2³). Kwakwaka'wakw

is the term most people of the Kwak'wala speaking heritage self apply. The Umista Cultural Centre in Alert Bay, for example, uses Kwakwaka'wakw, meaning “Kwak'wala speaking people” in a relatively official capacity. Some of the elders dislike the term, preferring the older *Kwakiutl* or *Kwagiulth* (Anonby 1997). Kwakiutl was the name of only one of the Kwakwaka'wakw tribes before contact, specifically that of *Tsaxis*, or Fort Rupert. It was there

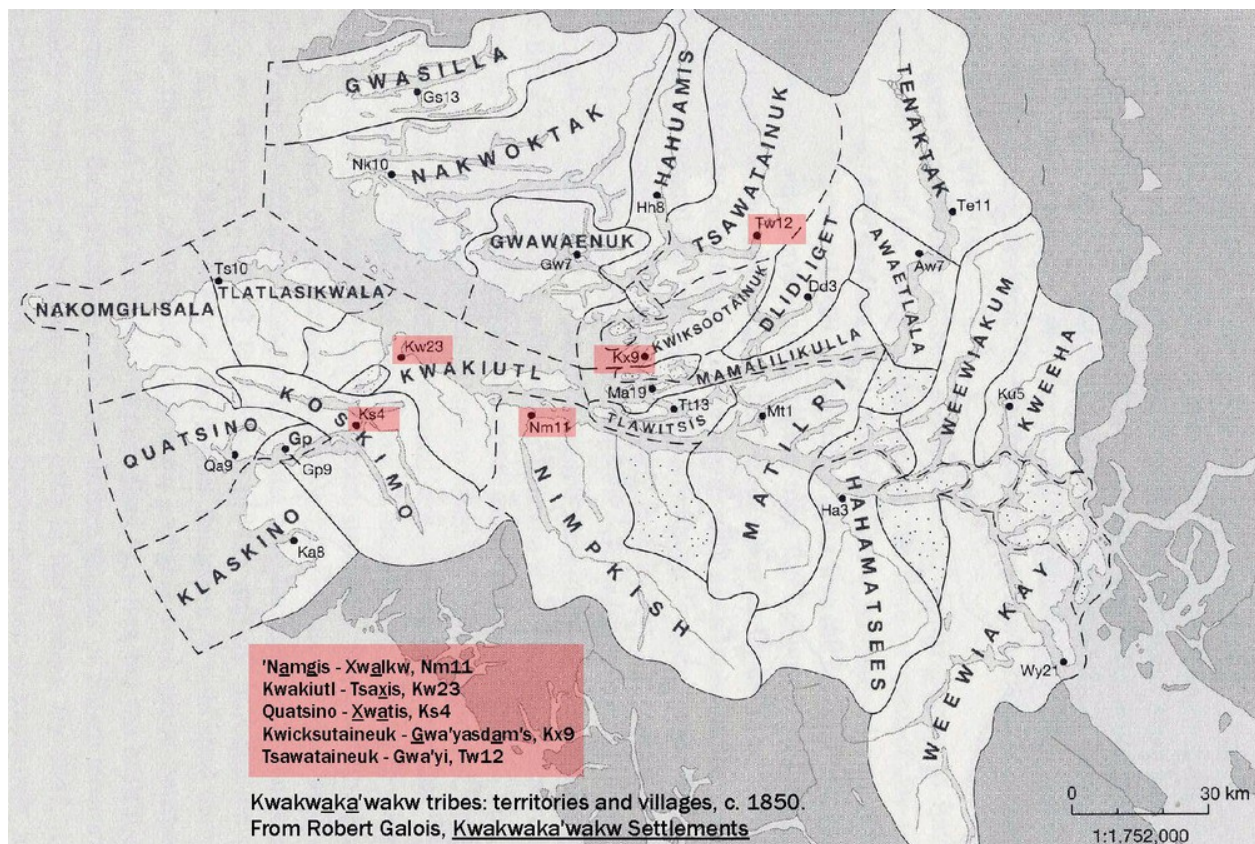


Illustration 2: Traditional Kwakwaka'wakw Nations

that the earliest European scholars and language learners began to study this language, and so that particular name was applied to the language as a whole. Because of this, some communities outside of Tsaxis prefer the name *Bak'wamkala* (literally *people-speak*) to refer to their shared language. Although much more descriptive and inclusive a name, *Bak'wamkala* is not widely used. For this reason, I will continue to use the more familiar 'Kwak'wala' in this paper. These were the original inhabitants of the Northern Vancouver Island area.

3 Map from <http://www.firstnations.eu/img/04-2-0-villages-b.jpg>

Today, there are two major geographical centres of the Kwakwaka'wakw: The northern tip of Vancouver Island, centred in Alert Bay (the northern area); and North-central Vancouver Island, centred in Campbell River (the southern area). The communities in the northern area

are Port Hardy, on Vancouver Island; Alert Bay, on Cormorant Island; Kingcome Inlet, on the mainland; and Gilford Island. The communities in the southern area are Cape Mudge, on Quadra Island; Campbell River, across the strait on Vancouver Island; and the southernmost community with Kwak'wala speakers: Comox. There are five dialects, highlighted in Illustration 3⁴: Map of Kwakwaka'wakw Nations: Nak'wala, spoken in T'sulquate (indicated

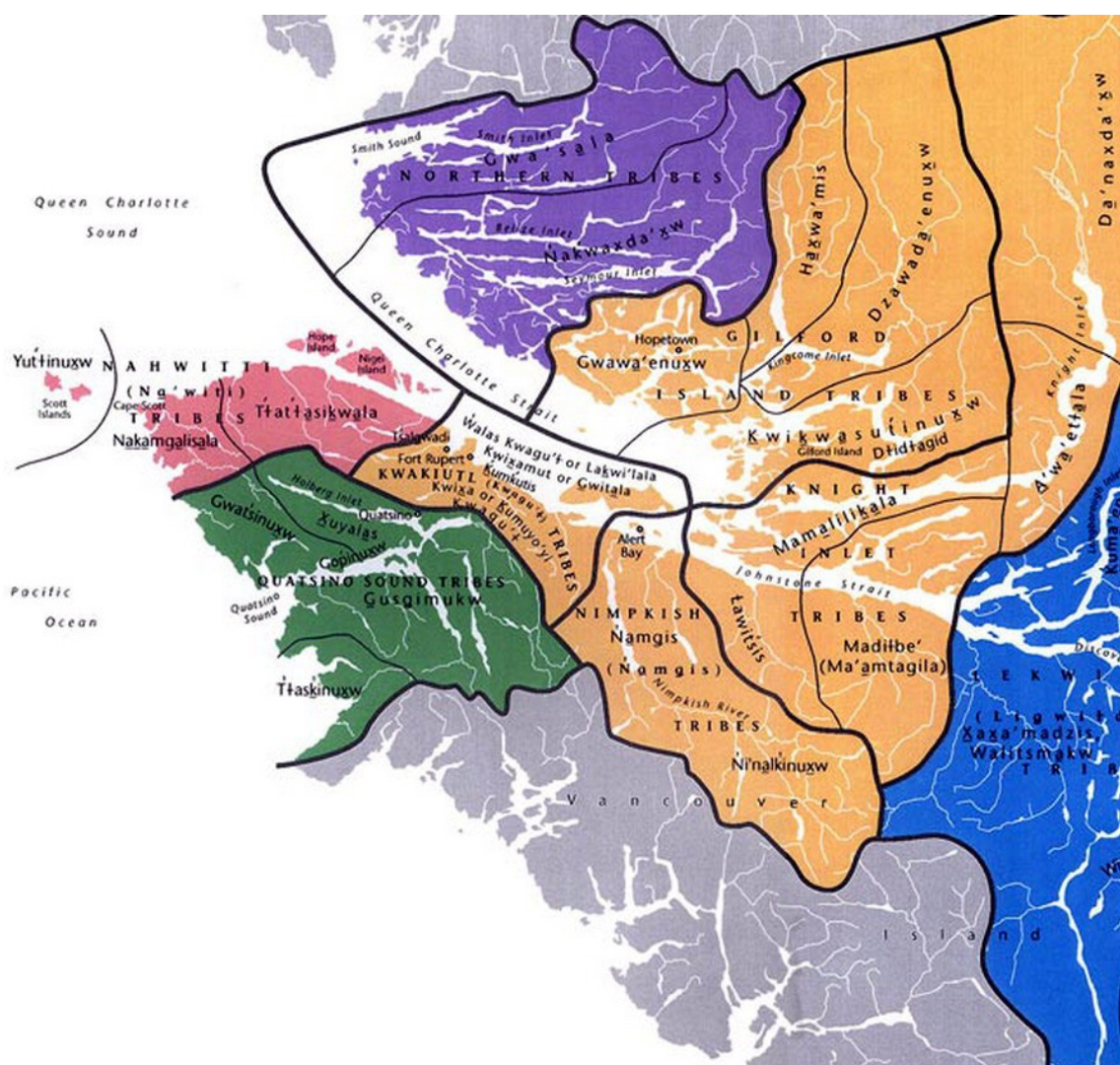


Illustration 3: Map of Kwakwaka'wakw Dialects

4 Map taken from the Umista Cultural Centre website

by the purple field); Gut'sala, spoken by the Quatisino tribes (indicated by the green field); Kwak'wala, spoken in Alert Bay, Kingcome and Fort Rupert (indicated by the orange field); T'lat'lasikwala from the tip of Vancouver Island (indicated by the red field), and Lik'wala, spoken around Campbell River (indicated by the blue field) (Anonby 1997). All Kwak'wala speakers can understand each other, although the usage in some villages differs slightly from other regions (Umista 1981b). All original language data collected for this paper was given by speakers of Kwak'wala, originally from Alert Bay and Kingcome.

1.1.1 The Kwakwaka'wakw in Canada

Contact with Europeans has had an enormously negative impact on the language of the Kwakwaka'wakw. In the late eighteenth and early nineteenth centuries, the first explorers and traders of European descent had little effect on Kwakwaka'wakw language and society. This changed drastically over the subsequent 150 years with the advent of land-based trade and non-native settlement. A mass reduction of the indigenous Kwakwaka'wakw population due to disease took place during the late 19th-early 20th century. This was a result of direct contact with European settlers along the West Coast of Canada. During this period the Kwakwaka'wakw population dropped by 75% between 1830 and 1880 (Wilson 1964).

This was followed by the residential school era from the early to mid-twentieth century, which caused a break in culture and language transmission from one generation to the next. These residential schools were created for the purpose of separating Aboriginal children from their families, in order to weaken family ties and cultural linkages such as language (TRC 2015:v). Most Kwakwaka'wakw children were sent to St. Michael's Residential School in Alert Bay, which operated from the 1920s to the 1970s. For over a century, the central goals of Canada's Aboriginal policy were to eliminate Aboriginal governments through a process of assimilation, and cause Aboriginal peoples to cease to exist as distinct legal, social, cultural, religious, and racial entities in Canada (TRC 2015:1). This included a ban on the use of Kwak'wala for children in the residential school system.

The estimated pre-contact Kwakwaka'wakw population was 19,125, which fell to a mere 1,039 in 1924, due to both war and disease. The ethnic Kwakwaka'wakw population has since rebounded, having 5,517 members in 1996 , and 5,900 strong as of 2012 (Kwakiutl

Indian Band 2012). There are a few competing statistics on the total estimated number of Kwak'wala speakers. It is estimated that there are 200 remaining speakers, which account for less than 4% of the Kwakwaka'wakw population (Kwakiutl Indian Band 2012). 190 of these are in Canada, all over the age of 60, while the total population of speakers in all countries may be near 270 (Grimes 2000). All Kwakwaka'wakw societies now function almost fully in English, with the exception of some church services and big-house ceremonies.

1.1.2 Language of the Kwakwaka'wakw

In a socio-linguistic sense, the shift from Kwak'wala to English in all speech domains is almost complete. Some linguists estimate the remaining life of this language to a few decades at most (Anonby 1997). However, recent revitalization efforts have had wide acceptance in local communities, and are beginning to bear fruit. From about the 1970s to the present, there has been a resurgence of pride in Kwakwaka'wakw culture and language, and today Kwak'wala is proudly used as a marker of this cultural identity by all levels of speakers (Goodfellow 2005:55). There is also a renewed prestige accompanying a high level of knowledge in Kwak'wala, as such language learners are highly regarded by the broader community and may be called upon to speak at important events such as Big House ceremonies.

In terms of language development, there is a deep-rooted sentiment that the salvation of the Kwak'wala language rests in the hands of the on-reserve schools. Nearly every Kwakwaka'wakw is literate and dominant in English, which is in almost every respect the language of utility. Church services and Big House ceremonies are domains which persist in using Kwak'wala on a regular basis. There are also numerous resources for learning the language (First Voices 2012), as well as transcribed traditional legends and stories (Boas 1911). There is, however, little in terms of higher-level creative writing in Kwak'wala, translated, or indigenous works of fiction.

1.2 History of Kwak'wala language scholarship

As mentioned above, there have been a number of different names given the language I refer to here as Kwak'wala. One of the first Europeans to begin investigations into Kwak'wala was

Rev. Alfred Hall, who published a short grammar of *Kwagiutl* (1888). He called the language as such because he was stationed in Fort Rupert, where local Band members identify themselves as *Kwagut*. Hall remained in Fort Rupert from 1878-1880, until he relocated to Alert Bay. Hall's ministry was characterized by remarkable longevity. "Hall's task was to minister to the indigenous people who lived towards the north of Vancouver Island, and from the start of his time there he seems to have been keen to try to understand the communities amongst which he lived and worked, an approach that prompted him to consider linguistic matters from the very start of his residency" (Tomalin 2011:88).

Aside from his grammar, he also published a *Kwagiutl* Anglican Book of Prayer as well as translations of the book of Acts and the Gospel of Matthew. Indeed, even after moving to Alert Bay, he continued to study with the same language teacher (William Brothie) that he had employed in Fort Rupert, with plenty of evidence to suggest that the two men worked closely together on the language (Tomalin 2011:89). However, while Hall did some valuable work in documenting language, George Hunt's unpublished account indicates that Hall was eventually shunned by the Kwagut communities (some who still lived in the traditional territory of the Port Hardy area at the time). This was due to denominational fighting between Catholics, Anglicans and other early missionaries. The Kwagut rejected all those missionaries upon realizing that they were being treated as pawns in those denominational squabbles (Boas 1946).

A short time after Hall came the most famous anthropologist to work with the Kwakwaka'wakw: Franz Boas. He conducted intermittent field work in the Northwest Coast between 1885 and 1930, engaging in ethnographic interviews, compiling myths and oral histories, charting Kwakiutl social and political organization, and observing festivals and ceremonies (Milwaukee Public Museum 2015). His primary location of research was the same Fort Rupert that Hall had been serving. "It is worth noting that Hall's teacher is the same William Brothie who helped Franz Boas and George Hunt to revise their *Kwakiutl Texts*" (Tomalin 2011:89). Boas' work was done chiefly through consultation with George Hunt, who was son of a British HBC trade operator and a woman of Tlingit nobility. Hunt's mother's status likely gave him membership to the Raven House of the Taant'aḱwáan (Tongass) Gaanax.ádi, through the matrilineal traditions of both the Tlingit and the Kwakwaka'wakw. This gave Hunt unique access to many otherwise closed rites and

prestigious meetings between local leaders, giving him an atypical linguistic exposure of the Kwak'wala language (Berman 1994). George Hunt's first wife was from Tsaxis (Fort Rupert) and his second wife was Nak'waxda'xw. This is another reason he had direct access to knowledge of the broader Kwak'wala speaking communities (Boas 1946).

Hunt and Boas collaborated during Boas' frequent trips to Vancouver Island, but also through correspondence. Boas elicited and transcribed Kwak'wala language material during his field trips to BC, and studied it in great depth at various American Universities where he was employed. He would mail Hunt questions and requests for elicitation, and receive a reply from Hunt. In this fashion, Boas and Hunt produced a large number of publications (1911, 1914, 1935, 1947, among others) which immediately reveal a staggering amount of work put in by Boas in his analysis and description of Kwak'wala. This remains the largest body of work ever done on Kwak'wala, and has overshadowed all studies done on the language since. Even work on other North Wakashan languages must reconcile itself with the claims and thoroughness of Boas' work (Rath 1974).

1.2.1 Contemporary Scholarship

There have been a number of scholars since Boas who have come from outside the Kwakwaka'wakw community to study and learn Kwak'wala, further adding to the body of scholarly work in this language. Notable authors have been Anderson (1984, 2005), Bach (1975), Chung (2007), Grubb (1977), Levine (1977), Lincoln & Rath (1980), and Fortescue (2007), though there have been many others.

The Universities of British Columbia (UBC) and Victoria (UVic) have had involvement with the Kwakwaka'wakw for a number of years. UVic has had an ongoing Indigenous Education programme, which offers both undergraduate and graduate courses. At the undergraduate level, UVic offers community-based, language specific programs, in partnership with individual Indigenous language communities, called the Diploma and Bachelor of Education in Indigenous Language Revitalization. At the graduate level, they offer a Certificate and Master's degree program in Indigenous Language Revitalization⁵.

⁵ See (uvic.ca/education/prospective/indigenous/).

UBC has more recently become involved with Kwak'wala revitalization and documentation with local speakers in Vancouver and Victoria. The UBC linguistics department has also secured a Research Agreement between themselves and the Kwakiutl (Fort Rupert) Band, outlining the way UBC researchers and the Band can work together to document and proliferate Kwak'wala. This has resulted in a great deal of contemporary scholarship in Kwak'wala, in the form of papers published to the ICSNL (International Conference of Salish and Neighbouring Languages) conference proceedings, as well as doctoral dissertations and masters' theses.

1.2.2 Personal History with Kwak'wala

I grew up in Port Hardy, which is home to two relocated Kwakwaka'wakw nations: Gwa'sala and 'Nakwaxda'xw. My father taught in the elementary school on-reserve, and as such was immersed in Kwakwaka'wakw culture and some of the language. He was given the name *Kwamxalagalis*, made famous through the correspondence Hunt and Boas had in the early 1900s⁶:

...if I come to three old men. ask them the meaning of the name Q!omxaElagEles...well one of the old men say. the meaning of this name is Propert Rolling Down Mountian. and the other say People Rolling Down from his Highness. and the third one say. all time Property Rolling Down from him. now you will see in this name is told in three Defferent ways By three men. now here when a mountian the stone and trees keeps on comeing Down a land slide, the Indeans calls it q!omxalagElis all times Rocks Rolling Down mountian, this means that the chief is a mountian. and Property that he gives away to the Defferent tribe is the Rock Rolling Down from his Body or Highness. So the Right meaning is all times Property Rolling Down from his Body (the mountian).

([Hunt to Boas 9/28/18] Berman 1994:490)

Through my father's involvement, I was also exposed to some degree of Kwakwaka'wakw culture. This was a strong factor in my desire to continue studying and learning the language after having taken a field methods course at UBC in which Kwak'wala was the topic. Since that time at UBC, I, and a number of other students, continued to work on Kwak'wala with the speaker who had been teaching us at UBC. I have also conducted independent field trips to two Kwakwaka'wakw communities in Kingcome Inlet (Gwa'yi) and Alert Bay (Yalis). All of

⁶ Spelling errors and peculiarities were present in the original correspondence and have not been corrected to preserve authenticity.

the original data collected for this project was gathered through the local speaker in Vancouver and speakers in these two communities.

1.2.3 Language in the Community Today

On the community level, there are plans for a new centre to be built called the Kwakwaka'wakw First Nations centre for language and culture (KCLC). This has gained wide endorsement, from organizations such as the U'mista Cultural Society, the Kwakwaka'wakw Elders Assembly, the Canadian Commission to UNESCO, and Maori institutions in New Zealand. This centre will house copies of original Kwak'wala documents from libraries and museums. The KCLC plans to digitize the estimated 30,000 documents, making them available to students and researchers. Standardized translations, a complete bibliography and a cultural dictionary are also planned (Jamieson-McLarnon 2015).

The Canadian federal government has also promised to fund the Nuyumbalees Cultural Centre on Quadra Island, British Columbia, to create a digital audio-visual library by recording and preserving an estimated 320 hours of elders' conversations in the Li'qwala/Kwak'wala language. This material will be for use in local schools and in the public programming initiatives of the Nuyumbalees Cultural Centre (Nation Talk 2012). For a detailed overview of language use and identity, see Rosborough (2012).

Conclusion

The purpose of this chapter is to situate the Kwak'wala language into its linguistic and geographical location, and prepare the reader for the discussion to follow. This chapter explains that Kwak'wala is a North Wakashan language, with a comparatively long and rich history of research within that language family. Mother tongue speakers are few, but second language learners are many, and general interest in Kwak'wala is growing rapidly. It is my hope that the following chapters will inform and interest the reader in a language which has captivated me since my childhood.

Chapter 2: Linguistic Background of Kwak'wala

This chapter highlights some of the key features of Kwak'wala as they relate to the goal of defining the phonological- or prosodic-word (PWord). In Section 2.1, I provide a phonemic inventory and a short description of the syllable structure, followed by a brief explanation of the community orthography, and the orthographic choices I have made in presenting Kwak'wala here. Section 2.2 is devoted to morphology, highlighting some important features such as the phonological differences between affixes and clitics, and phonological effects that some affixes have on their host roots. Section 2.3 outlines the mismatch between the prosodic and syntactic domains of some particular clitics. Each of these traits will have some measure of value in determining the boundaries of the PWord, particularly in the prosodic behaviour of clitics. In Section 2.4, I give particular attention to the stress system, describing it in some detail. Stress will play a central role in finding the boundaries of PWords, and a solid understanding of how Kwak'wala shows stress is crucial to this end. Finally, Section 2.5 gives a short description of reduplicative plurality in Kwak'wala and preliminary analysis of two interesting morphological peculiarities in modern Kwak'wala: double plural reduplication and secondary stress.

2.1 Phonemes

Like many of its neighbouring languages, Kwak'wala displays a large phonemic inventory. It makes use of every place of articulation filling out nearly every articulatory manner, from voiced to ejective, in most of those places. Kwak'wala also boasts a contrastive glottal feature on its sonorant phonemes, further adding to this phonemic richness. Table 1 displays the complete consonant inventory, given using the international phonetic alphabet (IPA).

Table 1

Consonant Inventory	Labial	Alveolar	Post-Alveolar	Palato-Alveolar	Velar	Uvular	Glottal
Nasal	m - m ^ʔ	n - n ^ʔ					
Plosive	p - b	t - d	ts - ɬ	tʃ - dʒ	k - g k ^w - g ^w	q - ɢ q ^w - ɢ ^w	ʔ
Ejective	p̰	t̰	ts̰	tʃ̰	k̰ - k̰ ^w	q̰ - q̰ ^w	
Fricative		s		ʃ	x - x ^w	χ - χ ^w	h
Approximant		l - l ^ʔ		j - j ^ʔ	w - w ^ʔ		

Note especially the contrastive labialized velar and uvular consonants in both ejected and non-ejected sets. In total there are 42 contrastive consonants. The vowel inventory of Kwak'wala is somewhat less robust. There are six vowels in total, displayed in Table 2:

Table 2 - Vowel Inventory	i		u
	e	ə	o
	a		

There is no evidence to suggest that modern Kwak'wala has any sort of contrastive vowel length feature, contrary to Bach (1975). Vowels are always lengthened when stressed, however, as will be explained in Section 3. There is evidence to suggest that underlyingly, there are only two vowels /ə, a/, all other vowels being then derived through combinations of /ə/ and approximants /w, j/ (Bach 1975). Although this analysis serves to explain exceptions in the Kwak'wala stress system, it is not generally recognized and will not enter much into the discussion of 'wordhood' in Kwak'wala.

The schwa vowel is often (and possibly always: see Section 3) epenthesized in order to obey Kwak'wala's strict syllable structure rules: each syllable must have exactly one onset consonant, but can show either no coda, one coda consonant, or coda clusters of up to three consonants (see this section below). This can be seen in example (1), which shows common Kwak'wala borrowings from English:

(1)	IPA	pə.lá.was	kə.léps	sə.lí.bas
	Umista	pəlawas	kəleps	səlibas
	Translation	flowers	grapes	slippers

(First Voices 2015)

In (1) the common English borrowings are uttered with an epenthesized schwa vowel between the two initial consonants. There are some exceptions, however, as Kwak'wala does seem to allow for some rare onset clusters through borrowings:

(2)	IPA	skúlat̚si
	Um̐sta	skulat̚si
	Translation	<i>school</i>

Here there is no epenthesized schwa intervening between the initial consonants. This is never seen in the non-borrowed Kwak̐wala inventory.

This obligatory onset may be somewhat opaque in cases where a root otherwise begins with a vowel, as expressed by the Um̐sta orthography:

(3)	IPA	ʔə́w̥.lí.gən	ʔóm.ləm	ʔí.gis
	Um̐sta	uligan	amlam	igis
	Translation	<i>wolf</i>	<i>toy</i>	<i>sand (on beach)</i>

(First Voices 2015)

Here, the IPA transcription and Um̐sta writing are quite different in regards to the initial syllable. In the case of *wolf*, the Um̐sta orthography shows an 'u' vowel, whereas the IPA shows the underlying glottal stop onset, followed by a schwa and glottalized [w̥]. This is done to satisfy the otherwise straightforward stress rules (see Section 3), as the second syllable shows stress. The other examples simply show the underrepresentation of the predictable initial glottal stop when no other initial consonant is present (as in English orthography). This mismatch between IPA transcription and community orthography is very rare in Kwak̐wala, and is an atypical example which still shows underlying syllable structure.

Coda consonants are very common. Kwak̐wala allows a large number of consonant sequences and clusters within the 'word', with restrictions on the first member of the cluster. This shows the sonority hierarchy of Kwak̐wala. Most clusters are started by either /ʔ/, a fricative, or a resonant, although there are a few exceptions. These can be seen in example (4).

(4)	IPA	łónxs.tu	ná.qiχst	tsəlχ ^w s.ta
	Umista	łanxstu	naķixst	t'salχwsta
	Translation	<i>green coloured</i>	<i>want to drink</i>	<i>hot water</i>

(First Voices 2015)

In example (4), some robust coda clusters can be seen: [nxs], [χst], and [lχ^ws]. Note that each of these shows evidence of Kwak'wala's sonority hierarchy. Resonants precede fricatives, which precede stops. Most consonants are permitted as the second member in consonant codas, with the one exception that a velar or uvular consonant cannot appear second to a first member of the same type (Boas 1911:50).

2.1.1 Orthography

There have been a number of different orthographies used by scholars and community members since research first began on Kwak'wala in the late 1800s.⁷ Two are now defunct orthographies, which were used almost exclusively by individual scholars in Boas (1911, etc.) and Grub (1977). Currently there are four orthographies used by scholars and community members: IPA (International Phonetic Alphabet), NAPA (North American Phonetic Alphabet), Li'qwala, and Umista. The IPA notation is not generally used by linguists studying this language, who typically prefer the NAPA which most notably substitutes a number of digraphs for other symbols (e.g. dķ ~ λ, tķ ~ λ̥, t'ķ ~ λ̥̥). The Li'qwala community orthography is largely based on the NAPA system as well. I use the IPA for my transcriptions of original language data in this paper, along with transcriptions into the Umista orthography, which is the most widely used orthography among Kwak'wala learners and community members. This orthography was based off of the practical alphabet for Northwest languages created by Randy Bouchard (1970-1977), adapted for Kwak'wala by David Grubb (1977), and further refined by the Umista Cultural Centre (Umista 1981).

My IPA transcription will have one modification, however. I will not use the superscripted glottal stop [ʔ] to show glottalized resonants, but rather an apostrophe above the resonant [m̐], following both the NAPA and Umista conventions. The following table outlines the

⁷ A table outlining the differences between five Kwak'wala orthographies can be found in the appendix.

orthographic correspondences between the Umista and IPA notations.

Table 3. IPA ~ Umista conversion chart

IPA	Umista	IPA	Umista	IPA	Umista	IPA	Umista	IPA	Umista	IPA	Umista	IPA	Umista
m	m	t	t	dʒ	dʒ	g	g	ʔ	ʔ	w	w	i	i
mʔ	mʔ	d	d	tʃ	tʃ	qʷ	kʷ	s	s	wʔ	wʔ	e	e
n	n	ʈ	ʈ	k	k	gʷ	gʷ	l	l	x	x	a	a
nʔ	nʔ	ts	ts	g	g	k̥	k̥	lʔ	lʔ	χ	χ	ə	ə
p	p	dz	dz	kʷ	kʷ	q̥	k̥	ʈ	ʈ	xʷ	xʷ	u	u
b	b	tʰs	tʰs	gʷ	gʷ	kʷ	kʷ	j	y	χʷ	χʷ	o	o
p̥	p̥	tʃ	tʃ	q	k̥	qʷ	kʷ	jʔ	yʔ	h	h		

2.1.2 Basic Word Order

Canonical word order in Kwak'wala is verb-subject-object (or VSO). As a verb initial language, the left edge of any phrase is very easy to detect. This is shown through example (5). All following examples in this paper follow the same format as this one here: The written form in the Umista orthography appears first, followed by an IPA transcription with a morphological breakdown and gloss. Finally the free English translation appears in italics at the bottom of each example.

- (5) Umista Míx̣i dzunuq̣ʷa x̣wa nála
IPA míχi dzúnuq̣ʷa χʷa nála
Morpheme míχ=i dzúnuq̣ʷa =χʷa nála
Gloss sleep=D3 Wild woman =ACC day
Translation *Wild Woman sleeps in the day*

Here, the phrase is introduced by the predicate, in this case [míχ] *sleep*. This is followed by the subject of the clause [dzunuq̣ʷa] *wild woman*. It then ends with the accusative case marker [χʷa] which introduces the object [nála] *day*. Example (5) shows VSO ordering. Many phrases in Kwak'wala, especially during natural speech, however, show a slightly

altered ordering. In example (6), an auxiliary begins the phrase, followed then by the subject, then verb and object.

- (6) Umista Ləmisi da gigingənanəm tixtso laxa laxe'
 IPA ləmisi da gigingənanəm tixtso laxa laxé?
 Morpheme lə-m = ís = i = da gi-gín-gənanəm tixtso laxa laxé?
 Gloss AUX-DISC = and = D3 = DET RED-PL-child fall PREP basket
 Translation *And the children fell out of the basket*

Example (6), the auxiliary [lə] begins the clause, and contains all the syntactically conditioned morphology (see Section 2). Next is the subject [gigəngənanəm] *children* followed by the verb [tixtso] *fall*. Then comes a preposition followed by the object [laxe?] *basket*. This example shows AUX-SVO ordering. An additional ordering can be observed in Kwak'wala narrative structure. In some cases subject fronting is used to highlight certain arguments within a clause. Fronting is a technique used in Kwak'wala narratives to add intensity and fast-paced action in certain parts of a story. It is also used to introduce important actors and objects (Janzen 2015:82). This is seen in example (7)

- (7) Umista Gígame' Grey Eagle əʔáχsi laxa ...
 IPA gígame? (grey eagle) ʔəʔáχsi laxa
 Morpheme gígame? Grey Eagle ʔəʔáχs = i laxa
 Gloss chief Grey Eagle guard = D3 PREP
 Translation *Chief Grey Eagle guarded the ...*

(Janzen 2015)

Example (7) shows that, in some instances, the sentence ordering can be SVO, for a particular discourse effect. This exception, however, proves the general rule in its rarity: Kwak'wala is a VSO language.

2.2 Morphology

Kwak'wala is a morphosyntactically notable language not only because of its basic word order, but because it disallows any prefixes or proclitics. This is easily seen in example (8).

(8)	Umista	Ḳinəm dzíkasi ləgú
	IPA	qínəm dzíkasi ləgú
	Morpheme	qínəm = dzí = kas = i ləgú
	Gloss	many = GRN = QNT = D3 strawberry
	Translation	<i>(There were) lots of great big strawberries</i>

Here we see a copular adjective⁸ as the predicate *lots*, followed by a string of three enclitics, ending with the direct object *strawberry*. Note that all three of these enclitics modify the direct object, although they are prosodically attached to the preceding root. Example (9) shows this as well, using the accusative enclitic [=χa] which must precede the root it modifies: [gəla] *bear*. This despite prosodically attaching to the phrase initial locative copula [ju] *to be there*. This is explained a little more clearly below in Section 2.3.

(9)	Umista	Yaxa gəla	gəla
	IPA	juχá gəlá	gəla
	Morpheme	ju = χa gəla	gəla
	Gloss	be.2 = ACC bear	bear
	Translation	<i>That bear there</i>	<i>a bear</i>

I provide a table of the personal or locative morphemes, their predicative form, and corresponding pronominal and determiner forms in Table 4 below. These determiners I call visibility markers, as explained in Section 2.2.2.

⁸ See Littell (2010) for more on Kwak'wala copular constructions.

Table 4 Person/Location	1	2	D1	D2	D3
Predicative form	/nug ^w a/	/su/	/ga/	/ju/	/he/
Corresponding pronominal/ determiner form	/ = ən/	/ = as/	/ = ga/	/ = uχ ^w /	/ = i/

(Littell 2010)

The clitics in Kwak'wala denote all pronominal, temporal, and conjunctive suffixes (Boas 1900:711), which include the complex deictic system. I expand upon the important clitics for the aim of this paper in defining the phonological/prosodic-word (PWord) in the section below.

2.2.1 Affixes and Clitics

Clitics, like affixes, appear on the right edge of constituents they modify, that is, are enclitics and suffixes. Affixes in Kwak'wala are only found on the right edge of the root they modify, whereas clitics can precede the root they modify (see Section 2.3), yet phonologically attach to a different preceding root. It would be reasonable to assume, therefore, that distinguishing between suffixes and clitics, or between direction of modification in clitics, would be difficult. However, Kwak'wala displays some morphological regularities which help to define morpheme type and role. Zwicky (1977) formulated six distinguishing features which serve to separate clitics from other linguistic elements. I briefly explain each of these six features in the context of Kwak'wala's morphology. It is not my aim to prove each morpheme as either a clitic or affix, as such distinctions are not very controversial in most cases within this language. Furthermore, I give this issue of distinguishing clitics better attention in Chapter 5.

1. Ordering

Boas (1911, 1947) explores in great detail the semantic roles of all of Kwak'wala's 'affixes'⁹ and their relative distribution of attachment to the right of the root. An informative, if somewhat confusing, table of the ordering of all attaching morphemes (affixes and clitics) can be found in Boas (1947:235). In terms of modern clitic ordering, Chung (2007:101) offers the following sequence: case – location – determiner – visibility – temporal. Preceding

⁹ The concept of a 'clitic' had not yet arrived in the lexicon of linguists and anthropologists, and so Boas labelled all non-roots affixes, even though the distribution and behaviour of some of those 'affixes' are now uncontroversially regarded as clitics.

the clitics listed by Chung are affixes denoting such things as number and physical features, as well as other clitics such as pronouns.

2. Internal Sandhi rules

Boas also investigated in great length phonological alternations triggered by affixes upon the host stem. Specifically these were the hardening and softening affixes. Crucially for this point, clitics are immune to phonological changes which affixes are involved in. That being said, if a morpheme in Kwak'wala appears to trigger phonological change in the host stem, it is an affix not a clitic.

3. Binding

When looking at syntactic coordination, different behaviour between affixes and clitics can be observed. Clitics will always remain in the same syntactic position, even when their host root is moved elsewhere along with any affixes. This is evident in Kwak'wala's second position clitics (Anderson 1993), which remain in second position after a phrase initial verbal element, regardless of the content of that element or any other syntactic alternation.

4. Construction with affixes

In Kwak'wala it is quite common to observe a long string of morphemes attached to the right edge of a root. These morphemes will have the ordering listed in 1. above, but also contain a crucial division between morphological type: affixes may not attach to clitics, but clitics may attach to affixes. This is explored briefly below.

5. Rule immunity

This diagnostic explains that only clitics, and not affixes, can be deleted from their host without changing the meaning or grammaticality of those hosts. Deleting a Kwak'wala suffix will always change that root's meaning.

6. Accent

Clitics cannot host PWord stress, but affixes can. This final diagnostic does not actually hold true for Kwak'wala in all cases. This is explored somewhat in Section 2.4, and is of crucial importance in Chapters 5 and 6.

Related to the second test above, Boas (1911) states that some Kwak'wala morphemes effect their host root by 'hardening' and 'weakening' a phoneme in that root. Others have no effect on their hosts at all. These morphemes are attached exclusively to complete words, that is, words which are grammatical without the addition of another morpheme. A complete list of these morphemes appears in the appendix, and a modified version showing only suspected

clitics is given here as Table 4.

Table 4	Boas	IPA	Umista (in context)	Gloss
Quantifier	- bido ^ε	= bidu	Gānanam = <i>bidu</i> = o _x	small, a little
	- dzē	= d̥i	wāla = <i>dzi</i>	large, very much, many
	- k' as	= kas	Ṛinam = <i>kas</i>	real, really
	- (x')da ^ε x ^u	= dax ^w	Gax = <i>daxw</i> = x = o _x	plural
Evidential	- x̣ent	= χ̣ənt	Su'am̄ = <i>x̣ant</i> = t̄	evidently
	- g' anēm	= ganəm	Mitsa = <i>ganəm</i> gax̣an	perhaps
Connective	- t!a	= t̄	l̄a-m̄ = is = t̄ = i...	but
	- wis	= is	l̄am̄ = is...	and so
	- so ^ε	= su	T̄lakam = <i>su</i>	passive
Temporal	- laxsd	= xsd	Ṛisi Shawn gax̣ = <i>laxsd</i>	contrary to fact, past
	- (x')de	= xʔid	t̄lakam = <i>xʔid</i> = i gax̣an	transition from present to past
	- L	= t̄	Gax̣ = <i>t̄</i> = an	future

Adapted from (Boas 1911:451-5)

Although not every one of the morphemes Boas transcribed are comprehensible in modern Kwak'wala, many remain productive. Still others have some slight phonological changes, or are less productive and are calcified into lexical items. In contrast to those suffixes which trigger phonological changes, these crucially do not alter the host root at all. Some of these morphemes fall into the categories of known clitics, as listed in Section 2.2. Others belong to other categories, but remain good candidates for further tests to determine if they, too, are clitics.

2.2.2 Case markers

Grammatical roles are marked by clitics, which always precede their arguments but are incorporated prosodically onto the preceding stem (Boas 1900:714, Elfner 2008:4). These case markers are accusative [= χ^(w)a], which marks most direct objects and arguments in prepositional phrases; and oblique case [= sa], which marks the direct object of certain

verbs, as well as instruments, passive by-phrases and third-person possessors who are not coreferent with the subject (Sardinha 2013:8). The optional [a] vowel following the case markers serves to mark an argument that is neither proper nor generic. Constructions following proper-names would be [... =χ Jon] and not * [... =χa Jon], whereas *man* usually appears as [... =χa bəg^wanəm] or [... =χa =da bəg^wanəm]. This [a] disappears when vowels or resonants follow (Pat Littell personal communication).

The case markers can be seen in the following examples.

- (10) Umista Lə'əm̩ kasa ale x̩a gigingananəm
 IPA ləʔəm̩ qasa ʔale χa gigingənanəm¹⁰
 Morpheme lə-əm̩ qasa ʔale =χa gi-gin-gənanəm
 Gloss PREP-DISC walk search =ACC RED-PL-child
 Translation *She wanders looking for children*

Here the accusative case marker [=χa] introduces the direct object of the phrase *children*. This marking is obligatory. The oblique case is also obligatory, shown in the following example:

- (11) Umista Ləmisənu'x̩w edaka lax bota's sa k̩wəls̩k̩wəljak̩w
 IPA ləmisənuʔχ^w ʔedaqa lax botaʔs sa ɕ^wəls̩ɕ^wəljak̩^w
 Morpheme lə-m̩ = is = ənuʔχ^w ʔedaqa lax bot = aʔs = sa ɕ^wəls̩ɕ^wəljak̩^w
 Gloss AUX-DISC = and = 1PL.EXCL return PREP boat = 3sg =OBL old.folk
 Translation *We went back to the old folk's boat*

Here the oblique case marker [=sa] introduces the possessor [ɕ^wəls̩ɕ^wəljak̩^w] *old folk* of the direct object [bot] *boat* which, in this instance, is introduced by a locative preposition [lax]. The prepositions are not typically considered clitics due to their phonological independence. In some instances of natural Kwak'wala speech, both accusative and oblique cases can occur together, shown in the example here:

¹⁰ See Section 2.5.1 for an explanation of double reduplication.

(12)	Umista	A'axali xasa kidɬəm
	IPA	ʔəʔaxəli xasa kidɬəm
	Morpheme	ʔəʔaxəl=i =χa=sa kidɬəm
	Gloss	guard=D3 =ACC=OBL net
	Translation	<i>They guarded them with a net</i>

Here, both case markers appear together, between the phrase-initial predicate, and the participant. The accusative marker acts as a pronoun in this case, substituting for the subject of the clause (in this case *strawberries*). The oblique marker then attaches to the right edge of the material closest to the noun-phrase it introduces, which in this phrase is the accusative marker. This shows a string of three consecutive clitics: [=i=χa=sa], which span three syntactic constituents.

2.2.3 Visibility Markers

The demonstrative system is a rich and interesting one in Kwak'wala. It has been analysed in a number of competing ways (Boas 1947, Chung 2007, Nicholson & Werle 2009) each with their own aim and contribution. I rely mainly on the work by Nicholson & Werle, but depart from it in some important ways. They argue that NP-internal 'determiners' (those that modify the phrase they attach to) are those which describe visibility, and the NP-external 'determiners' (those involved in the mismatch described below) denote distance from the speaker. I conflate these two into one label: visibility markers. It seems to me that a distinction between geographical space and perceived space is not enough to warrant two different names, the syntactic pattern being enough to separate NP-internal and -external visibility markers. The demonstrative clitics of locatives, determiners, and visibility markers (Chung 2007) I therefore jointly label as 'visibility markers'.

Nicolson and Werle (2009) clearly define the determiner and demonstrative system of Kwak'wala. All nouns in Kwak'wala must have a visibility enclitic attached either to the right edge of the noun phrase as a noun-phrase-internal (NP-internal) visibility marker, or to the right edge of the preceding noun phrase (as a NP-external visibility marker). From here on I refer to these visibility clitics as pre-nominal and post-nominal respectively. The visibility

system is anchored on the speaker and describes three levels of spacial distance for both visible and invisible elements: at the speaker, around the speaker, and far from the speaker. The three visible degrees of distance I gloss as D1, D2, and D3, and I1, I2, and I3 for the invisible post-nominals, following Nicholson & Werle (2009). The three visual distances are described below:

- (13) Umista Digilaga Mayax ka'ans
 IPA dígilaga májax qəʔəns
 Morpheme di-gila = ga Maya = x ka' = an's
 Gloss tea-make = D1 Maya = D1 COMP = 1PL.INCL
 Translation *Maya (here) is making tea for us*

(Nicholson & Werle 2009:5)

- (14) Umista Yumuxw Brendanx
 IPA jú.mux^w brén.dənx
 Morpheme Yu-m̩ = ux^w Brendan = x
 Gloss be.2-DISC = D2 Brendan = D2
 Translation *That's Brendan (around)*

(Nicholson & Werle 2009:5)

- (15) Umista Angwaxthi da gānanam?
 IPA ʔən.g^waχ.tʰi da gə.ná.nəm
 Morpheme Angwa-xthi = i = da gānanam = Ø
 Gloss who-called = D3 = DET child = D3
 Translation *What is that child's (not around) name?*

(Nicholson & Werle 2009:5)

These examples show both pre-nominal and post-nominal visibility markers. Note that the pre-nominal visibility markers are those that give information about the following noun phrase. Syntactically they must precede the noun phrase, but are not prosodically

independent enough to exist without a host. This means that they must attach to the right edge of the preceding prosodic unit, as shown by the IPA and Umista transcriptions. I give the complete list of visibility markers in the following table.

Table 5 Pre-nominal				Post-nominal	
	subjects	χ -objects	s-objects	visible	invisible
D1	=ga	= χ ga	=sga	= (ə) χ , = (i) χ I1	=ga?
D2	=u χ^w	= χ u χ^w	=su χ^w	= (e) χ , = (i) χ I2	=e? χ , =a? χ
D3	=i	= χ	=s	=i, =a, \emptyset I3	=e?, =a?, =o?

(adapted from Nicolson & Werle 2009:29)

Note that the ' χ -objects' (accusative) and 's-objects' (oblique) visibility markers appear to be phonemically identical to the 'subjects' visibility markers with the exception of having either an initial ' χ ' or 's', and with the exception of the third distal visibility markers which are simply ' χ ' and 's'. I follow Nicholson & Werle in assuming that these visibility markers are not (or no longer) morphologically rich. That is, I assume that the D2 s-object visibility marker is not [=s=u χ^w] = OBL = D2, but one clitic as given in the table above.

All nouns in Kwak'wala must be specified for visibility. Note that this table does not show a visible-invisible distinction for the pre-nominal enclitics, as it does for the post-nominal ones. The addition of a visibility marker on (or before) elements which are otherwise used as a verb or adjective has a nominalizing effect on that element.

2.2.4 Definite Article

The definite article in Kwak'wala is [=da], glossed as DET. The [a] vowel here is the same that attaches to the case markers, and disappears when another clitic appears. Without evidence to the contrary, I will assume /da/ as the underlying shape of this morpheme. It should be noted that [da] does not behave exactly like the definite article in English; having a slightly different scope and syntactic role (Black 2011).

(16)	Umista	Ƙi's da hutɪli da ɡənanəm
	IPA	kiʔs da hutɪli da ɡənanəm
	Morpheme	kiʔs =da hutɪl=i =da ɡənanəm
	Gloss	NEG =DET listen=D3 =DET child
	Translation	<i>The child didn't listen to it</i>

Here [=da] defines both *listen* and *child*, functioning in the first instance as a sort of pronoun which refers to what was said in the previous sentence, and in the second instance to single out the one child of the story as the topical referent. As briefly explored above, [=da] also regularly pairs with the pre-nominal visibility system to indicate definiteness.

2.2.5 Temporal Markers

Also involved in Kwak'wala's clitic system are temporal markers. Boas (1911:442) outlined certain 'suffixes' which indicate time-relations, such as past, present, and future. He classified these along with the suffixes indicating the modality of a process as beginning, gradual, continued, repeated, uncertain, simulated, etc. Boas, however, made a distinction between the temporal 'suffixes' and the visibility markers. He stated that the latter must be classed with the syntactic particles, but not the former (Boas 1911:443). In contradiction to this analysis, I assume the temporal markers to be clitics, following Greene (2013). These clitics number along with the determiner, visibility and case markers. The temporal clitics are remote past [=oɬ], near past [=xʔid], future [=tɬ], and transition from past to present [=xde], and are shown in the following examples:

(17)	[=oɬ]	Umista	Ləmis da'oɬ ɡaxən laɣa gukw
		IPA	ləmis daʔoɬ ɡaxən laɣa guk ^w
		Morpheme	lə-m̩ = is da = oɬ ɡaxən laɣa guk ^w
		Gloss	AUX-DISC = and take = FAR.PAST IND.1sg PREP house
		Translation	<i>Then he brought me home</i>

- (18) [=xʔid] Umista Lax'idānu'xw laxa la Dzəpəs
 IPA laxʔidənuʔx^w laxa la ɬəpəs
 Morpheme la = xʔid = ənuʔx^w laxa la ɬəpəs
 Gloss go = NEAR.PAST = 1PL.EXCL PREP go Dzapes
 Translation *We went to live in Dzapes*

- (19) [=tʃ] Umista Kəyo'stʃən əxəxsta tsuʔ
 IPA kəjoʔstʃən ʔəxəxsta tsuʔ
 Morpheme kəjoʔs = tʃ = ən ʔəxəxsta tsuʔ
 Gloss nothing = FUT = 1sg want anything
 Translation *I will not want anything*

- (20) [=xde] Umista Tʃakamxdi gaχən
 IPA tʃaqəmxdi gaχən
 Morpheme tʃaqəm = xde = i gaχən
 Gloss hit = TRANS = D3 IND.1sg
 Translation *She hit me (past to present)*

2.2.6 Pronouns

The pronominal system of Kwak'wala is also expressed as enclitics. Although noun-phrases can be substituted by their obligatory visibility marker (Janzen 2015), the pronouns as described here are those which are direct referents to people. Table 6 shows the pronoun system of Kwak'wala.

Table 6: Pronouns Subject

Object

	IPA	Umista	IPA	Umista
1sg	= ən	= ǎn	gaχ = ən	gaǎ = ǎn
1PL.EXCL	= ənuʔχ ^w	= ǎnu'xw	gaχ = ənuʔχ ^w	gaǎ = ǎnu'xw
1PL.INCL	= ənʔs	= ǎn's	gaχ = ənʔs	gaǎ = ǎn's
2sg	= əʔs	= ǎ's	= us	= us
3sg	∅	∅	= q/ = s	= k/ = s

Here, the pronouns of Kwak'wala are given, showing first, second, and third persons. Note that the first person plural (1PL) is divided into exclusive (EXCL) and inclusive (INCL) types. The exclusive is used when the interlocutor is not included as a referent in the pronoun, and inclusive when the interlocutor is a part of the plural referent. The second and third person plural pronouns are expressed by the addition of the plural suffix [-xdaʔχ^w] before the respective enclitic. Note also that the object pronouns forms for the first person all attach to the verb [gaχ] *come*. Literally these would mean 'to me' or 'to us', which serve as independent pronouns. I regard these as single entities as opposed to enclitics, despite their obvious morphological parts. This is shown in (21) here:

- (21) Umista Hemǎn ǎ'aχsila Gigame' gaǎn
IPA hemǎn ʔəʔaχsila gɨmeʔ gaχən
Morpheme he-m = ən ʔəʔaχsila gɨmeʔ gaχən
Gloss be.3-DISC = 1sg guard chief IND.1sg
Translation *The Lord guards me*

2.3 The Enclitic Mismatch

Much has been made of the mismatch between the syntactic and prosodic constituencies in Kwak'wala over its history in scholarship (Boas 1911, 1947; Anderson 1985, 2005; Chung 2007; among others). As I discuss in later chapters, this mismatch will also have an impact on 'wordhood' in the phonological and prosodic sense. Basically, Kwak'wala syntactically requires certain 'function-words' (or functors) to precede the phrases they modify. These

functors are enclitics, however, and so are dependant on a host for word-level prosody to their left. This creates a mismatch between the prosodic domain and the syntactic one, shown in Example (22) here. The syntactic domain I show in [square brackets], and the prosodic domain in (round brackets).

(22)

Umista	([mit'sa ganəm kasdzit̪i][χa] (bəgwanəm])
IPA	([mit'sa ganəm kasdzit̪i][χa] (bəg ^w anəm])
Morpheme	([mit'sa = ganəm = kas = d̪i = t̪ = i] = [χa] (bəg ^w anəm])
Gloss	kiss = probably = QNT = GRN = FUT = D3 = ACC man
Translation	<i>She'll probably give the man a really big kiss</i>

(Janzen 2011)

This example shows that the accusative marker [=χa] is prosodically associated with the previous domain, but syntactically associated with the following one [bəg^wanəm]. The same is seen in the following example.

(23)

	[ləm̩is gaχsui da ʔixpəʔoma laχənuʔχ ^w guk ^w]
Umista	([ləm̩is) (gaχsu[i da] (ixpəʔoma)) ([laχ][ənuʔχ ^w] (guk ^w))
IPA	([lə-m̩ = is) (gaχ = su = [i da] (ʔixpəʔoma)) ([laχ] = [ənuʔχ ^w] (guk ^w))
Gloss	AUX-DISC = and come = PASS = D3 DET fruit PREP = 1PL.EXCL.POSS house
Translation	<i>Then the fruit was brought up to our house</i>

(Janzen 2011)

There are two mismatches between the prosodic domain and the syntactic one in the above example. First, the visibility marker and the determiner [=i = da] are prosodically involved in the preceding domain of *come*, but modify the following *fruit*. Second, the possessive pronoun [=ənuʔχ^w] is subordinated to the preceding preposition prosodically, yet modifies the following root (*our*) *house*.

(24)	[la gaχe? əʔedaqaxdaχ ^w ən ʔumwəle? ləʔa kitla]					
Umista	([la)	(gaχe'	(a'edakaxdaχw)[ən)	(umpwəle'])	([la'a])	(kitla])
IPA	([la)	(gaχ = eʔ	(əʔedaqax-daχ ^w) = [ən)	(ʔump-wəɬ = eʔ)]	([lə = a)	(kitla])
Gloss	AUX	come = I3	return-PL = 1POSS	father-late = I3	PREP = D3	fish
Translation	<i>They came back, my father and them, from fishing</i>					

As above, the possessive pronoun [=ən] is prosodically attached to the previous root *they return*, but modifies the following root *father*. Note as well the difference between the pre-nominal and post-nominal visibility markers, the former of which are always involved in this mismatch, the later of which are not.

In total, the enclitics involved in this mismatch are the pronouns, pre-nominal visibility markers, case markers, and the determiner. As I present more clearly in later chapters, some of these elements are inconsistently transcribed by scholars and authors of Kwak'wala as either subordinated or independent PWords (Chapter 4), or as prosodically unique elements (Chapter 6).

2.4 Stress

In this paper, I assume that phonological 'wordhood' in Kwak'wala has much to do with the stress domain of its prosodic constituents. It is therefore necessary to clearly describe this stress system before moving on to assigning PWord boundaries in following chapters. Languages often differ in the way that stress manifests itself. There are many theories, including linear and non-linear phonology, metrical theory, optimality theory (Gussenhoven & Jacobs 2005), among others, which attempt to predict and explain the various stress systems observed in natural language. For this reason I find it prudent to explain my own understanding of stress, and goals in describing the stress system of Kwak'wala as it relates to the definition of the PWord.

One of my underlying assumptions in this paper is that every phonological-word (PWord) must have exactly one stress. If some collection of phonemes combine to form syllables, yet do not display any evidence of their own stress, I assume it is not a PWord but some other

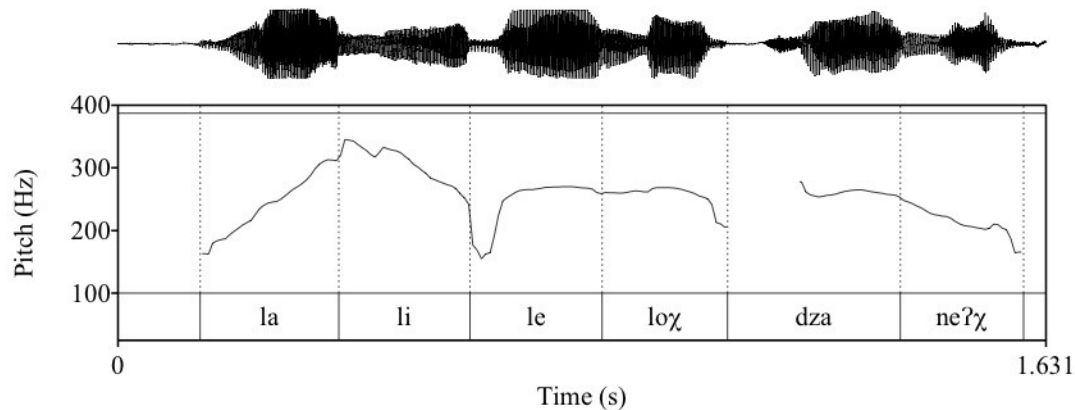
prosodic element (like an affix or clitic). Finding the boundaries of a PWord, therefore, depends greatly on where stress can and cannot appear. Simply stated, I describe stress in Kwak'wala to be a syllable nucleus which displays higher pitch, longer duration, and intensity greater than its surrounding syllables. Such phonetic traits in some contexts might also be accounted for through other prosodic functions such as phrase boundaries, focus constructions, or artificial emphasis. For the purposes of this paper I rely mostly on pitch evidence to show PWord stress.

I show the difference of stressed vs. unstressed pitch in Example (25). Here the intonation-phrase (IPphrase) contains two PWords: [lalileluχ^w dzoneʔχ] *Jon goes here and there*. The initial syllable in each PWord is the stressed one: [la] in [lalileluχ^w], and [dzo] in [dzoneʔχ]. Note that in [lalileluχ^w], each of the syllables shows a moraic, or stress bearing vowel.

(25)	Um̓ista	Lalileluχ ^w Dzoneχ
	IPA	lalileluχ ^w dzoneχ
	Morpheme	lalilela = uχ ^w dzon = eʔχ
	Gloss	go.here.there = D2 Jon = I2
	Translation	<i>Jon goes here and there</i>

The way stress is mechanically identified among all of these full vowels is through the relative pitch height of each, as well as the duration of the syllables. Note that in the pitch graph below, both the [la] and [dzo] syllable columns are wider than the others, indicating longer duration.

Table 7



I give the waveform at the top of Table 7, and stress can be seen by the relative height in pitch, indicated by the black variable horizontal line below it. In this case, I have divided each syllable with a vertical dotted line, with the IPA transcription of that syllable below and the pitch trace above it. The rising pitch of [la], which reaches to approximately 350 hertz, is what is perceived as high pitch, even though the next syllable shows residual pitch height as pitch declination starts. Pitch declination is the natural lowering of pitch throughout the duration of the phrase. Syllables that are perceived to be high in pitch are high in relation to the pitch declination. Note that both stressed syllables, the [la] and the [dzo] a relative peak in pitch, whereas every other syllable only drops in pitch (as in the second syllable [li]), or stays at a steady pitch level (as in the syllables [le.luχ] and the phrase final [neχ]).

2.4.1 Predictable Stress and Mora

I have observed that Kwak'wala is a stress language, whereby each 'lexical-word' shows exactly one accented syllable. This observation is supported by others who have studied the stress patterns of North Wakashan languages, as explored below. The placement of the stress in Kwak'wala is predictable, though unusual in terms of the typology of stress systems. Kwak'wala has a 'default-to-opposite' system, where stress falls on the leftmost moraic syllable, or the rightmost syllable if none in the PWord are moraic (Bach 1975, Elfner 2008). This stress system is explained by Bach (1975:2) in an intriguing way. He states that:

Stress first syllable with long vowel or vowel plus tautosyllabic resonant or if none stress last syllable... It is as if the stress rules scan from one end of a word to the other and if they never

meet the conditioning environment they hit the last syllable that could be stressed.

How this plays out in actual Kwak'wala examples will be explored below. Moraic syllables (denoted by a ' μ ' symbol) are those with a 'full' vowel, or the combination of a schwa and a following non-glottalized sonorant in syllable coda position. A full vowel 'V' is defined as one of the vowels found in the vowel phoneme chart above (not including schwa). This could be described in terms of the prosodic 'activity' of the relevant phonemes, whereby prosodically 'active' segments are moraic, while 'inactive' segments are not entitled to their own mora. Onset consonants are never moraic. Syllable coda consonants may or may not be moraic, depending on the language (Gussenhoven & Jacobs 2005:146). The possible moraic syllables in Kwak'wala are shown in the following table, where 'C' stands for any onset consonant, 'V' stands for vowel, 'R' for resonant, 'R^ʔ' for glottal resonant, and 'ə' for schwa.

Table 8 - Moracity	Full vowel	Schwa	Schwa with resonant	Schwa with glottal resonant	Full vowel with resonant
Moraic	CV μ		CəR μ		CV μ R
Non-moraic		Cə		CəR ^ʔ	

This table shows that moraic stress bearing syllables are any of those with a vowel, or a schwa and resonant coda. There is no evidence to suggest that a full vowel and a resonant together 'V μ R' are 'heavy' or have two morae (Gussenhoven & Jacobs 2005). If they did, they would likely always attract stress to that syllable. Thus: *V μ R μ .

Schwa is never moraic on its own (Shaw 1992), and therefore always inactive. In fact it has been argued that schwa in North Wakashan languages is nearly always epenthesized, or 'phonetic' (Rath 1976, Lincoln & Rath 1980). Thus, underlying forms for Kwak'wala roots have been transcribed as follows:

(26)	Underlying Form	/t̥m̥.x ^w ms/	/ʔns.w̥t/
	Lincoln & Rath	t̥mx ^w .m̥s	ʔns.w̥t
	IPA	t̥əmx ^w m̥əs	ʔənsw̥ət
	Umista	t̥amxwm̥as	ʔansw̥at
	Translation	gooseberry bush yesterday	

(Lincoln & Rath 1980:19)

Schwa appears in the uttered/surface form of the root in Kwak'wala, but not in other North Wakashan languages like Owik'ala (Howe 2000) and Heiltsuk (Rath 1976). Schwa takes on the articulatory features of the surrounding phonemes, which accounts for the large phonetic space in which schwa can appear (Boas 1911). If there are no moraic syllables in the PWord, stress appears on the rightmost syllable (Boas 1947; Shaw 2008; via Elfner 2008:8), even if that syllable may only have an epenthized schwa as its nucleus. This means that there are two factors (which could easily be called constraints) that combine to select the stressed syllable: Stress is found on the leftmost moraic syllable of the PWord, or on the rightmost syllable when no syllable is moraic.

2.4.2 Examples of Stress

The following are examples which clearly display the predictability of stress in Kwak'wala, as a default-to-opposite system. Example (27) shows stress on the leftmost syllable, when other syllables are also moraic stress bearing candidates. Example (28) displays the non-moracity of schwa, as these examples show stress on the only moraic nucleus, which happens to be the rightmost syllable. Examples in (29) show that a schwa and a following coda resonant together create moraic stress-bearing syllables. The rightmost syllables are stressed in the examples shown in example (30), even though all syllables have schwa as their nucleus. Finally, example (31) shows that glottalized-resonants in syllable coda position cannot combine with schwa to hold stress, as they do otherwise. Stress is marked with the acute accent ['], and syllables divided by a period [.]. These examples are organized with the IPA transcription in square brackets first, then in the Umista orthography, with a translation into English following.

(27)	[g ^w á.wi.na]	[wá.ɬa.ɬa]	[ʔá.ba.ni]
	gwawina	waɬaɬa	abani
	<i>raven</i>	<i>effortless</i>	<i>maggot</i>

(First Voices 2015)

Elements like *raven*, *effortless*, and *maggot* each display three moraic syllables, which are all potential stress-bearing units. Of these, the leftmost syllable consistently appears with stress: [g^wáwina] [wá.ɬa.ɬa] [ʔá.ba.ni].

(28)	[kə.ɬə.lá]	[wə.tɬá]	[q ^w ə.sá]
	kəɬəla	wətɬa	k^wasa
	<i>scared</i>	<i>ask</i>	<i>turn pages/peel</i>

(First Voices 2015)

Examples like *scared*, *ask*, and *peel* display stress on the rightmost syllable, as they are the only syllables which have a moraic vowel (i.e. not schwa). These examples show that stress is not simply always on the leftmost syllable, but on the leftmost moraic syllable.

(29)	[p̥án.Gə.to.ʝi]	[ʔə.wán.χeʔ]	[dʒəχ.səm]
	p̥angatoʝi	awənχe'	dʒəχsəm
	<i>grumbling about working</i>	<i>edge</i>	<i>tin can</i>

(First Voices 2015)

The example *grumbling about working* shows stress on the first syllable, *edge* on the second syllable, and *tin can* on the third. Each of these are the leftmost syllable which contains a schwa vowel followed by a resonant in coda position making them moraic. This is despite the fact that a following syllable may contain a full vowel as its nucleus, and is therefore also moraic. Moraic syllables of either the schwa-sonorant or full vowel kind are of equal value, the leftmost of either receiving stress.

- (30) [lə.ḡʷəs] [wə.dʒə́t] [dʒə.xə́χs]
 lāk'was **wadlāt** **dłaxaxs**
 outdoor fire *hear something* *canoe seat*

(First Voices 2015)

Examples *outdoor fire*, *hear something*, and *canoe seat* show stress on the rightmost syllable. This is the default position when all syllables are non-moraic. Note that the stressed rightmost syllable is closed in each example; showing a non-resonant consonant coda. This does not add moracity to the syllable, but does provide the environment necessary for an epenthetic schwa to appear.

- (31) [həm̩x.ʔíd] [kʷən̩.χá] [gə́ʔχs.dá.ʔi]
 həm̩x'id **kwaṇ̩xa** **gal̩xsdayi**
 ate *brown* *wake (of boat)*

(Janzen 2011, First Voices 2015)

The final examples show that the leftmost syllable does not hold stress, even though the schwa vowel is followed by a sonorant in coda position. This is because that sonorant is glottalized, and therefore not able to contribute to the moracity of its syllable. Stress is therefore given to the next syllable containing a full vowel. To note, this last example is morphologically complex: [həm̩-x.ʔíd] 'eat-BEC'. This indicates that stress is assigned after the 'word' has built its morphological structure as a stem. It should be noted here that the stress on the first full vowel (or non-glottal syllabic resonant) of the 'word' is determined by the syllable candidates of the host root and any following morphology. Crucially this includes clitics, as clitics display their dependent status by not initiating new stress domains (Anderson 2005:19), but contributing to the existing syllable structure of their host. The data in (32) show that personal pronouns may hold stress when added to stems which would otherwise show stress on the default-to-opposite right edge.

(32)	Umista	bakwałalan	kanú'xw	dławán'se'
	IPA	bə.ǵ ^w ə.ɬə.lən	qə.núʔχ ^w	dʒə.wənʔ.seʔ
	Morpheme	bəǵ ^w əɬ-əla = ən	q = ənúʔχ ^w	dʒəw = ənʔs = eʔ
	Gloss	sleepy-CONT = 1sg	COMP = 1PL.EXCL	CONJ = 1PL.INCL = I3
	Translation	<i>I am sleepy</i>	<i>... for us</i>	<i>... with us</i>

As phonological 'wordhood' in Kwak'wala is the primary focus of this study, the role of these clitics will become more important in the following chapters. They do not, however, play as straight-forward a role in the stress domains of PWords as any combination of roots and affixes do. It is sufficient for now to state that clitics are involved in the stress system of Kwak'wala.

2.5 Reduplication

The only morphological trait seen on the left edge of any root in Kwak'wala is reduplication . There are a number of non-productive uses for reduplication in Kwak'wala, all of which are now lexically fossilized excepting plurality, distribution, repetition, and diminutive (Kalmar 2003). To express plurality, Kwak'wala uses partial reduplication by taking as its reduplicative template the first consonant of the root, followed by the fixed segment (Urbanczyk 2013) vowel [i], and any nasal coda if one exists. This can be formalized as such:

$$C_jV(N)... \rightarrow C_ji(N_g)C_jV(N_g)... / PL-C_jV(N_g)...$$

This is exemplified here by (33).

(33)	Umista	tsaʔa	tsitsaʔa
	IPA	tsáʔa	tsitsáʔa
	Morpheme	tsáʔa	tsi-tsáʔa
	Gloss	younger.sibling	PL-younger.sibling
	Translation	<i>younger sibling</i>	<i>younger siblings</i>

This shows that plurality is formed by reduplication of the initial consonant, in this case the affricate [tʃs], followed by the most unmarked vowel in Kwak'wala [i]¹¹. The root then continues as in the singular form. Adding syllables to the left edge of the stem, in this case, does not have an impact on which syllable houses stress.

Plural reduplication is also in play when assigning stress. As explained above, plural reduplication adds a copy of the first consonant, followed by the unmarked vowel [i]; a 'full' vowel capable of housing stress. According to the stress rules already outlined, it would seem that every plural noun would display syllable initial stress, as that would be the leftmost 'full' vowel and optimal candidate. Despite this, the reduplicated syllable does not carry Pword stress. Instead, it rests on the syllable it would have without reduplication having taken place. This is shown through example (33) above.

Note that the stress on both the single and plural forms of *younger sibling* remains on the same syllable, regardless of the presence or absence of the reduplicated syllable.

2.5.1 Double Reduplication

There is a striking exception to this otherwise totally regular feature. When a noun houses stress on the second syllable, the plural form of this noun will assign stress on the reduplicated syllable. This is displayed in example (34).

(34)	Umista	bagwanəm	bibagwanəm	gənanəm	gíngənanəm
	IPA	bəg ^w ánəm	bíbəg ^w anəm	gənánəm	gíngənanəm
	Morpheme	bəg ^w ánəm	bí-bəg ^w anəm	gənánəm	gín-gənanəm
	Gloss	man	PL-man	child	PL-child
	Translation	<i>man</i>	<i>men</i>	<i>child</i>	<i>children</i>

Here, the stress shifts from the second syllable (the leftmost moraic candidate in both *man* and *child*) in the singular, to the reduplicated syllable (now the leftmost moraic candidate in both *men* and *children*). Note here that the nasal coda in [gənánəm] appears in the

¹¹ Reduplicants tend to have unmarked phonological structures (Kager 1999:196)

reduplicated plural form as well: [*gín̩gənanəm*]. Complicating things somewhat is the tendency for some modern Kwak’wala speakers to employ double plural-reduplication on nouns which have this second syllable stress. This is shown in example (35).

(35)	Umista	bibagwanəm	bibibagwanəm	gingananəm	gigingananəm
	IPA	bí̌bəg ^w anəm	bí̌bí̌bəg ^w anəm	gín̩gənanəm	gígín̩gənanəm
	Morpheme	bí̌-bəg ^w anəm	bi-bí̌-bəg ^w anəm	gín̩-gənanəm	gi-gín̩-gənanəm
	Gloss	PL-man	RED-PL-man	PL-child	RED-PL-child
	Translation		<i>men</i>		<i>children</i>

Here, the two plural forms differ through the addition of a second reduplicated syllable on the left edge of the root. Despite this, the stress does not shift to this new syllable, as it did when the first reduplicated syllable was added to the left edge, but remains as it does in the regular plural form. Note also that in the case of the double-reduplicated *child*, the second (leftmost) reduplicated syllable does not show the coda nasal.

I suspect that double reduplication is done to avoid placing stress on the leftmost plural-reduplicated syllable. This is analogous to what is observed in normally reduplicated nouns with stress on the initial syllable within the root. In these normal cases, the plural-reduplicated syllable is ignored when assigning stress placement, even though this reduplicated syllable would be in all instances the leftmost moraic syllable.

2.5.2 Secondary Stress

Relating to the double-plural-reduplication stress anomaly is the analysis of secondary stress in Kwak’wala. Secondary stress is a complicated area to investigate using conventional prosodic theory, such as prosodic foot structure. Noguchi (2011:328) states that some researchers claim that Kwak’wala foot structure is weight-sensitive iambic¹², while others claim that it is non-weight-sensitive trochaic (Kalmar 2003:18). This disagreement likely arises out of the peculiar 'default-to-opposite' analysis of Kwak’wala stress placement as described in Section 2.4 above. In Romance languages, PWord stress is determined by the

¹² See Noguchi (2011) and Kalmar (2003) for references.

number of syllables in a word. French, for instance, always stresses the PWord-final syllable, Hungarian the initial syllable, while Italian stresses the penultimate syllable. Metrical feet map themselves out from that stressed syllable leftward to accurately predict secondary stress. Kwak'wala, however, places stress on the leftmost moraic candidate within the PWord, regardless of that syllable's position within the PWord or amount of syllables in the PWord. Mapping iambic or trochaic feet out from the stressed syllable in Kwak'wala is, therefore, problematic.

Noguchi's proposal in solving this issue is to analyze the pattern of secondary stress. Note that the discussion presented above deals only with primary stress. I give an example, adapted from Noguchi (2011), here as (36). To reiterate, in the singular form, [bəgwánəm] *man* shows that the initial syllable is unstressed, but when pluralized the reduplicate syllable is stressed [bí-bəgwanəm] *men*.

- (36) a. bəgwánəm bí-bəgwanəm
 man men
 b. bábagwəm bi-bábagwəm
 boy boys

By contrast, (36)b. shows that in the case of [bi-bábagwəm] *boys* where the base noun has initial stressed syllable [bábagwəm] *boy*, the reduplicate syllable is not stressed. Noguchi (2011:329) proposes that if the trochaic analysis is taken, the former case can be explained by the formation of a new trochaic foot: (bí.bə).(gwà.nəm), while the latter case can be explained by the violation of well-formed footing, *(bí).(bà.ba).gwəm, or the unfaithful realization of the base stress, *(bí.ba).(bà.gwəm). Secondary stress in Kwak'wala is generally dubious, however. There is not much clear instrumental evidence for secondary stress in Kwak'wala, as roots are typically short, and clitics do not tend to display much rhythm. It could well be the case that non-stressed full (moraic) vowels are artificially perceived as having secondary stress in Kwak'wala by native English speakers¹³. In English, only the stressed syllable contains a full vowel; all other vowels in the PWord being phonologically reduced. The lack of phonological reduction of Kwak'wala's non-stressed vowels within the

¹³ However, Noguchi is a native speaker of Japanese, not English. It is unlikely that he would manufacture secondary stress on non-stressed full vowels in Kwak'wala as an English speaker might.

PWord might, therefore, appear to signal secondary stress, even if there is no phonetic evidence of stress (i.e. a relative spike in pitch, intensity and duration). I address the issue of prosodic feet further in Chapter 5 and 6 below. A more rigorous phonological analysis of double-reduplication, footing, and stress in Kwak'wala, as has been done on Northern Lushootseed (Puget Salish) by Urbanczyk (2013), would be enlightening.

Conclusion

This chapter provides the reader with some foundational linguistic background on Kwak'wala. It focuses specifically on those features surrounding the morphology and phrase construction. These features are crucial in understanding PWord constructions in Kwak'wala, and the boundaries that define them. Specifically I show the phonological differences between affixes and clitics, and point out the mismatch between the prosodic and syntactic domains surrounding and involving some particular enclitics. I further give attention to Kwak'wala's stress system, explaining that every PWord will have one stress, and that stress will be the leftmost moraic syllable in every PWord. I provide a pitch trace graph to show what I consider stress to be in an instrumental sense. I also provide a short description of reduplicative plurality in Kwak'wala and preliminary analysis of double plural reduplication and secondary stress.

Chapter 3: The 'Word' as an Intuitive Unit

A central assumption of this paper is that the 'word' in Kwak'wala is an identifiable unit in the consciousness of native speakers. As such, this unit must be evident through observation of natural speech by native speakers. As language is a spoken medium of communication, it follows that the spoken unit is one that can be referred to as a 'word'. I do not claim that the spoken-word is the only relevant one in the minds of Kwak'wala speakers, only that it is a strong one, and deserves attention which has been until now neglected in Kwak'wala scholarship.

In Section 3.1, I attempt to give some support to the underlying assumption that the PWord (phonological/prosodic word) is a salient and recognizable unit in the minds of Kwak'wala speakers. I present the assumption that the intuition native speakers have for 'word' boundaries exists in all languages, based on the prosody of that given language and the common cognitive biology shared by humans. Intuition for 'words' is a language universal, although the actual boundaries of a 'word' in any language cannot be ascertained through intuition alone. In Section 3.2 I also give some attention to the idea that children of any language group first learn complete 'words' during acquisition. Children of every culture learn their first language the same way, using the same cognitive tools and strategies to achieve fluency (Clark 2003). Exploring first language acquisition would, therefore, shed some light on to how the 'word' unit comes to be understood by native speakers. These 'words' form the basis for all subsequent mother-language learning. Crucially, acquisition of the 'word' predates the acquisition of phonemes, and of syntax. Section 3.3 outlines a theory identified by Moreno-Cabrera (2014) which might be useful in giving some constraints to the possible length of PWord in any language, based on short-term memory.

The following argumentation relies heavily on some key assumptions about the nature of language and language learning. At every point I try to make these assumptions clear, and where possible support them.

3.1 Intuition

It is widely attested that some unit called 'word' is an intuitive entity in all the world's

languages (Bolinger 1963, Coseriu 1964, Crystal 2008). As such it seems reasonable that native speakers would be able to comment on where the natural boundaries between their 'words' are. In natural speech, such prosodic divisions between PWords (which are made obvious by most orthographies through white space) tend to disappear. This does not, however, mean that natural fluent speech consists of an uninterrupted flow of endless utterances (Moreno-Cabrera 2014:138). There must be intuitive breaks hidden behind the actual production of speech where 'words' are discernible by the speaker. It is, however, possible that the idea of a universal 'word' concept is due to the bias towards written language and the thousand-year-old influence of the habit of word separation by spaces in Western languages (Haspelmath 2011:33).

This constitutes a major pitfall in defining the PWord constituent. It is too easy to confuse it with an orthographic-word. Even linguists studying languages without written traditions compulsively transcribe the speech they hear into orthographic-words, and make prosodic judgements by leaving spaces between them (see Chapter 4). Louwrens & Poulos (2006) argue that continuous strings of speech, when transcribed, are usually questioned by speakers and linguists as to their accuracy in reflecting segments in the utterance. A linguist would probably argue that any utterance should be broken up into smaller units than the entire phrase (Louwrens & Poulos 2006:391). Punctuation, such as a space, at best describes phonological facts about the utterance necessary for communication.

Indeed, 'words' are most often referred to as the physically definable units of writing, bounded on both sides by white space (Bolinger 1963, Crystal 2008). Any notion of 'word' can hardly be disassociated from the cultural omnipresence of writing¹⁴. English, as with most other European languages, gets its writing system and notions about word constituents from Latin. In Latin, an 'utterance' *oratio* was defined physically, as a stretch of vocal sound *uox* formed, in ancient accounts, by air set in motion. As speech, it was articulated ultimately into spoken 'letters'. The *dictio* 'word' was thus the smallest unit from which such a stretch of speech was formed directly (Matthews 2002:268). Even in the ancient Latin understanding, the spoken word and the written word were so intertwined as to be referred to with the same names. English almost certainly has been influenced by this view; a view which has gone

¹⁴ I once had a conversation with a woman whose mother language was Hakka. She claimed that there were "no words" in her language. What she meant was that her language was not traditionally written, or rather that the writing system used for Hakka (standard Chinese) is not really reflective of her speech.

unchallenged among its European neighbours.

Allwood (2010:3), however, argues that the orthographic word can muddy attempts at assigning PWord boundaries. He explains that if the relation between orthographic-words and phonological-words is considered, it immediately becomes apparent that there is no one-to-one correspondence between orthographic, phonological, and semantic 'words'. This strongly suggests that there is no definition of 'word' that can be applied to any language, yielding consistent results, that are in accord with our writing habits (Haspelmath 2011:71). The written form of language will not be taken as any sort of evidence towards assigning PWord boundaries. However, Chapter 4 explores the orthographic-words given by Kwak'wala authors as evidence of informed assumptions upon PWord boundaries. This in turn informs a more rigorous analysis of the PWord in Kwak'wala in Chapter 6.

Crystal (2008:521-2 emphasis my own) defines the 'word' as:

A unit of expression which has **universal intuitive recognition by native-speakers**, in both spoken and written language. However, there are several difficulties in arriving at a consistent use of the term in relation to other categories of linguistic description, and in the comparison of languages of different structural types.

Not to belittle Crystal's warning against positing a universal definition of a 'word', his appeal to intuition suggests that 'words' are real cognitive units in the minds of all speakers in every language. This remains true even if the specific boundaries for a 'word' in one language differ greatly from the boundaries of another language. It only means that the linguist must apply tests, taking into account the intuitions of speakers, to find the 'word' boundaries in any given language. I explore such tests in Chapter 5, and apply then to Kwak'wala in Chapter 6.

Bolinger (1963:114) states, "the average person regards [the word] as an old friend. He knows his culture, and he knows its designations." Coseriu (1964:141–142) agrees, asserting: "Nous estimons la notion de 'mot' comme intuitivement établie¹⁵." This would indicate that speakers of any level of literacy have clear intuitions about what is and what is not a word (Haspelmath 2011:34). Indeed, it is intriguing that people in many (possibly all) languages

15 We regard the notion of word as intuitively established

possess a concept referred to as a 'word'. This is superficially corroborated in Kwak'wala by the fact that a word for 'word' exists: *wałdam*. Assigning a label to a speech event such as this suggests that Kwak'wala speakers have some intuition that the 'word' is a viable unit in their language. However, Dixon & Aikhenvald (2002:3) note that the vast majority of languages spoken by traditionally non-literate, or oral societies, have a lexeme meaning '(proper) name', but none have the meaning 'word'. Indeed, the lexeme *wałdam* is listed by Lincoln & Rath in their *North Wakashan Comparative Root List* (1980:305-6) as something closer to 'speech' than a close translation of the European 'word' concept:

- wał - 1. speech, discourse ... "discourse, words spoken"
- 2. (Kw only) wish (e.g. Kw *wała* "to wish" *wałdm* "a wish")
- 3. (Kw only) to joke, talk foolishly (e.g. Kw *wałala* "telling jokes")

This appears to temper the discussion on the validity of the intuitive 'word' concept in Kwak'wala. However, if speech or discourse can be divided into units in the minds of fluent speakers, then that unit would become our definition of a PWord. I take the etymologically oral meaning of *wałdam* (*word*) as further support towards defining the PWord as an intuitively salient one in Kwak'wala.

The widely held, and rarely challenged, belief that 'words' are intuitive in all languages may have been sparked by Sapir's (1921: 33–34 via Haspelmath 2011:34) observation that “the naïve Indian, quite unaccustomed to the concept of the written word, has nevertheless no serious difficulty in dictating a text to a linguistic student word by word”. This is of course an anecdotal observation, but Haspelmath states that it became widely known as a very popular referent. A contrary anecdotal observation is Evans et al.'s (2008: 97 via Haspelmath 2011:34) finding that Dalabon speakers (not literate in their language) are happy to make metalinguistic comments about parts of polysynthetic words. This raises the question: are 'words' truly intuitive cross-linguistically, or only salient in select languages, or languages of a certain typology?

3.1.1 Other languages

A counter argument to Bolinger's statements above is that the 'word' may be intuitive and

basic to language and language learning for English (and languages like English), but not for other languages such as Kwak'wala. For example, Chew (1964) states that the European understanding of a 'word' constituent does not accurately apply to Japanese. He states that early foreigners to Japan had trouble segmenting Japanese speech transcribed into Latin letters. On one point Chew agrees with Bolinger that a word as an intuitive unit has validity, but one that differs from the European tradition. In his article, Chew says that there does appear to be an intuition of a 'word' unit in Japanese, but one which segments some linguistic elements (particles vs. affixes) differently than has been the orthographic convention in Europe. Native speakers of Japanese consistently transcribe clitics or other free particles as suffixes, and not as their own orthographic-words, as outsiders have done. This indicates that there is an intuitive concept of 'word' in Japanese, according to Chew. That its boundaries differ from those of English or other European languages is not surprising.

The mismatch of assumptions that native speakers of one language assign to PWord boundaries is not limited to comparing Japanese and English. Different intuitive criteria for defining word-boundaries are likely to be found between most languages, however nearly or distantly related. For example, Chinese, with its staggeringly rich literary tradition, is also cited to show signs that native speakers hold the 'word' as an intuitive unit, but again one that is not defined in the same way as it is by English speakers. Duamnu (1998:30) explains:

Intuition is certainly an important factor to consider, and in many cases people's intuitions do agree. On the other hand, the fact that there is still no consensus on where to draw the line between word and phrase in Chinese, even though the discussions started since at least the 1950s, indicates that there are areas where people's intuitions either are not clear or do not agree. Specifically, while it is relatively easy to determine the wordhood of an expression that contains an affix, it is harder to analyze... nominals that do not contain an affix.

Duamnu warns against a cross-linguistic understanding of the intuitive-word as a model for assigning word-boundaries because of the inconsistency in judgements between individual native speakers. Yet at the same time he affirms that such an intuition exists in the minds of Chinese speakers, even if the exact boundaries of this intuition of wordhood remain unclear. An outsider's perspective on word-boundaries as they interact with affixes in Chinese defies

the intuition of many literate Chinese speakers. This is because outsiders will have different criteria for defining the 'word' than the native speakers will have, even though the intuition that the 'word' as a cognitively real unit exists in both. This means that the intuitive-word is not a reliable way to define PWord boundaries. Intuition should indeed be used with caution, and should not be used alone to argue for one or another among conflicting criteria (Duamnu 1998:31). However, the universal intuition of 'word' segmentation does tell us that such boundaries do exist, and simply need more falsifiable evidence to determine their exact boundaries. Such evidence for Kwak'wala is given in Chapter 5 and 6.

There is, however, a lurking question that is raised here: If there is a universal intuition for 'wordhood', what is the cross-linguistic criterion for such an intuitive-word? In this paper, I assume this criterion to be the prosody. Phrasal segmentation into PWords is intuitive in the minds of speakers, and the particular prosodic system of a given language will inform that intuition as to where PWord boundaries lie.

Both Chinese and Japanese are isolating languages, which have strict consonant-vowel-(nasal) syllable profiles. This fact surely factors into the realization of what a 'word' constituent is, whether in an intuitive or descriptive sense. Indeed, language typology on a whole must have a large role to play in the PWord boundaries of any language. Languages are typically classified into distinct morphological types: analytic (eg. English) - isolating (eg. Chinese) - synthetic (eg. most Indo-European languages) - fusional (eg. Indo-European, Semitic) - agglutinative (eg. Uralic, Altaic) - polysynthetic (eg. Eskimo, Ainu) - oligosynthetic (eg. Nahuatl) (Moreno-Cabrera 2014:132). Kwak'wala is an agglutinative¹⁶ language, laying almost at the extreme opposite end of the morphological spectrum from Japanese and Chinese, which are isolating.

Trask (2004) questions whether all languages even have truly definable 'words'. The general intuition is that the 'word' in any language would be a unit smaller than a phrase, and that a phrase can house two or more words. Trask warns that this view does not hold straightforwardly for all languages. In some languages, it can be difficult to draw a distinction between sentences and words, especially in languages tending towards the polysynthetic end of the typological spectrum (Trask 2004:11). Allwood (2010) agrees that

¹⁶ Also claimed to be polysynthetic by some scholars.

the linguistic typology, as it pertains to what morphological traits a language has, will directly affect the word-constituent. That is, the type and number of morphemes which attach to a root will affect the native speaker's intuition on where to draw the line on word-boundaries. In analytic languages like English, the 'word' is a unit that is supposed to be smaller than a phrase or a sentence that both typically consist of a sequence of 'words'. This account does not hold straightforwardly for languages of all types. In polysynthetic languages, it can be difficult to draw a distinction between sentences and words (Allwood 2010:8), a fact that Boas (1911) stated as the case for Kwak'wala, as I note in Chapter 2.

However, another way of looking at language typology is not in the separate classes given above, but on a spectrum. In this sense, all languages would be considered agglutinative. The difference between languages would lie in the degree of morphological integration of the agglutinated grammatical elements, those being compounds, suffixes, and clitics (Moreno-Cabrera 2014:159). Under this view, defining PWord boundaries would be an exercise of applying phonological tests to suspected 'word' peripheries, wherever those might be. Some languages on one side of the scale would show a higher degree of phonological independence between 'words', whereas the other extreme would show much more phonological dependence of elements within a phrase. Gertds & Werle (2014:2) treat Hul'q'umi'num' (Salish) this way, seeing morphology as a continuum of wordhood, from independent words at one end to affixes on the other, with particles or clitics somewhere in the middle. Obviously, both the morphological type of a given language and the general intuitions of native speakers will together hint at how a PWord can best be defined in that language.

3.2 First Language Acquisition

I assume that first language acquisition is a process of gradual memorization of whole 'words' or idiomatic phrases through repeated muscular movements. This is in contrast to some first language acquisition theories which argue that the phoneme is the first learning target of the child. Such a theory would wisely cite infant babbling as evidence, as well as the fact that it is necessary to have some command over the production of sounds before anything can be coherently iterated. But do children truly begin with individual sound segments? There is considerable evidence against this.

Bolinger (1963) argues that a first language being learnt by a child is seldom phonemically accurate. He argues that the phoneme is not the target of the child's utterance but the 'word', which I take to be the PWord. Indeed in many well-documented cases (including Clark 2003), children produce a sound appropriately at one stage and then later appear unable to produce it in that word any more. My own two-year-old daughter will regularly alternate between [gagi] and [dadi] for *doggy*. One question such phonemic shifts raise is whether children's perceptions and productions of adult words are always faithful reflections of the adult forms (Clark 2003:107). It might well be that the child is perceiving the input incorrectly. However, at this early stage of language acquisition, Bolinger says that the word is phonemically amorphous (1963:116), it is more likely that the child is integrating the newly learnt 'word' into its mental lexicon. Accurate phonemic pronunciation of the child is not reinforced by adult speakers and refined by the child until the 'word' constituent is regularly uttered and repeated.

Therefore, I take PWords as the basic unit of language acquisition crosslinguistically, not the phoneme. This stands to reason, as a child would naturally begin to assign labels to the most cognitively and physically relevant entities in its world. Studying children's understanding of 'words' also has the benefit of discounting any orthographic influence. An adult's understanding of the 'word' will nearly always be influenced by their level of literacy and the visual representation of what they say. Children are naïve to this, and consider the 'word' in its truly fundamental way: as real-life entities.

3.2.1 Names

The first 'words' a child learns are names. Bolinger states that children understand names as fused physically with the things they denote (1963:130), first learning the names of people and objects. He explains that 'words' “are recognized as a mother's face is recognized, not in terms of features that are repeated or not repeated from face to face, but as a whole” (1963:116). Children seem first to pick up terms for objects in preference over terms for parts, collections of parts, properties, relations, or actions. This results in an early preference for acquiring (adult) nouns over other word-classes (Clark 2003:133). It is upon such names for entities that children can then refine their phonemic production to match their newly gained competence.

I assume that more abstract meanings related to those learnt names develop only later in linguistic development, on the basis of first understanding that those 'words' have a relationship to entities in the physical world. The child later learns that no one situation has exclusive title to the word (proper names eventually become an isolated class), and there is a gradual process of abstraction, of naming through analogy rather than by individual identity (Bolinger 1963:130). This is what then gives rise to morphology and syntax. When two names must relate to each other they will have a strict ordering, some sort of identifying affix, or some other systematic method of understanding relationships. Haspelmath (2011:32) agrees, stating that linguists usually presuppose that the 'word' is a fundamental and universal category of language structure, because morphology and syntax are both defined in terms of the word. Dixon & Aikhenvald (2002:6) also state that 'words' are the underlying basis for other linguistic analysis, as morphology deals with the composition of 'words' while syntax deals with the combination of 'words'. Haspelmath and Dixon & Aikhenvald here are both referring to the morphosyntactic-word, but I extend this statement to include PWords to the study of phonology as well.

The trouble with assigning solid PWord boundaries in a language like Kwak'wala is the behaviour of those clitics involved in the syntactic-phonological mismatch. Naïve child speakers are not expected to show exceptions to this problem, however intuitive the PWord might be. Indeed, consulting children on the relative phonological dependence of case marking clitics would likely be futile, and require a grasp of syntax the child might not yet possess. This is also irrelevant in the study of Kwak'wala, as reliably fluent speakers with such intuitions are all over the age of 60. Spencer & Luís (2012) argue that problems such as how to prosodically parse clitics are often the result of forces that drive language change. Language is a dynamic system, and we would expect clitic systems to evolve. In this view, clitics are simply elements on their way to either becoming root-like 'words', or affixes. This sort of diachronic information doesn't have to be available to the language learner. All the child needs is the descriptive wherewithal to be able to describe those patterns that are actually found in their language and generalize from them appropriately. Spencer & Luís (2012:319-20) state:

Thus the language itself as a system can behave in what seems to be a lawful fashion, while the synchronic description can be as arbitrary as it needs to be to get the facts right.

To us this seems the only reasonable way to approach the logical problem of language acquisition: compared with genuine syntax, clitic systems are finite systems (much like morphological systems) and therefore don't require the language learner to have access to universal patterns of diachronic change. Indeed, it would be a grave mistake to try to plug such knowledge into the child's language faculty, and it is very difficult to see how doing so could possibly lead to a viable model of language acquisition.

As first language learners, children use whole 'words' as their learning targets. Names are the first learnt 'words', but there must be some constraint on this name giving in order to give identifiable boundaries to a 'word' unit.

3.3 Constraints on 'words'

The limits of the spoken word, by children or adult speakers, might be determined by the producing and processing limitations of humans. This would mean that the spoken word as a producing and processing unit should be very similar in all languages, since such limitations are exactly the same for all humans (Moreno-Cabrera 2014:158). It is important to note that I include this discussion here not as my own claims, but as an interesting concept related to the segmentation of phrases into smaller 'word' units.

In an influential paper, Miller (1956 via Moreno-Cabrera 2014) discusses some of the limitations that short-term memory imposes on human information processing. Miller noticed that the memory span of young adults was around seven elements called *chunks*, regardless whether the elements were digits, letters, words, or other units (Moreno-Cabrera 2014:140). One of these constraints has to do with the optimal number of elements that one spoken word can accommodate as a production and perception unit. Miller's proposal is that seven, plus or minus two, is the optimal quantity of information that can be handled efficiently by the working short-term memory (Moreno-Cabrera 2014:153). The spoken word, which is midway between the phonological word, the semantic-word and the psycholinguistic-word, could be identified with those information chunks presenting an optimal unit size according to the constraints on speech production and perception (Moreno-Cabrera 2014:142). I assume that the information chunks in a phonological sense are prosodic syllables, meaning that no language ought to have any PWord of more than

“7(+2)” syllables. Information on the semantic and psycholinguistic-word in Kwak’wala is very limited, and so I will give primary attention to the phonological-word (PWord) in segmenting natural speech. Study of Kwak’wala semantic-words would be a very welcome addition to the discussion of the intuitive ‘word’ unit.

According to Dahl (2004:257 via Moreno-Cabrera 2014), the concept of *packets* can be used to identify and characterize the linguistic units produced by native speakers. A packet would typically be a ‘word’ or a short phrase, pronounced as at most one prosodic unit (PWord). That is to say: a packet is a PWord. Under this analysis, PWord have their own specialized set of constraints: First, a noun phrase containing at least one lexical element *and* having a specific reference does not easily fit into a packet. This would indicate that such specific (and most likely phrasal) lexeme + referent combinations would require the use of two (or more) PWords. Second, an element within a packet may not be independently focused or emphasized. This would mean that the packet as a whole would need to be focused, not a part of that packet¹⁷. Finally, an element within a PWord should not have an internal syntactic structure of its own, meaning that elements of PWords should be the smallest indivisible units (morphemes) in language (Moreno-Cabrera 2014:143). Bringing the concept of chunks (syllables) together with the concept of packets (PWords), we arrive at the idea that PWords will be regularly seven syllables long at the most (with some room for exception), and that a phrase containing any sort of syntactic relationship will likely have at least two PWords contained in it. I assume this to apply in Kwak’wala.

Conclusion

In this chapter, I show that speakers of many typologically different languages share an intuition that speech is divided into units I call PWords. The exact boundaries of these PWords need not be identical or even defined with a universal theory. Such an aim is outside the scope of this paper. Instead it lends some validity to the idea that the ‘word’ in all languages, including Kwak’wala, is a unit worth discovering. I have also shown that many scholars regard the ‘word’ as the primary language learning building block for children, as they first learn the names for entities during acquisition. This creates some foundation for my assumption that the PWord is intuitive for all speakers. These ‘words’ are constrained by the

17 For an analysis on the prosody of focus in Kwak’wala, see Noguchi (2011).

biological features of our minds to 'words' no longer than nine syllables. This is an assumption which I put to the test in the coming chapters. The remaining chapters in this paper deal with phonological evidence of the PWord in Kwak'wala, starting with an exploration into the comparative orthographic choices scholars and speakers have made when studying Kwak'wala.

Chapter 4: The 'word' in Kwak'wala Literature

In this chapter I provide examples of transcriptions from some of Kwak'wala's most prominent scholars. I explain that, throughout Kwak'wala scholarship there have been inconsistencies between authors' choices as to how a phrase is segmented into smaller pieces orthographically. This inconsistency is restricted to only the definite article [=da] and case marking clitics. These morphemes are involved in the phonological/syntactic mismatch explained in Chapter 2, and are most often variably transcribed. I refer to these inconsistently parsed clitics as *wanderers*. The inconsistency in transcription of the wanderer clitics (case and definite article), and the regularity of all other morphemes when transcribed in Kwak'wala, strongly suggest that there is some sort of phonological boundary issue to be resolved around those clitics. It is not yet my intention to make claims about the phonological status of the wanderers or any other morpheme in Kwak'wala. I provide such a phonological investigation in Chapters 5 and 6.

In Section 4.1, I highlight how each author transcribes Kwak'wala by providing examples from their data. The examples are organized as follows: The top line presents the transcription of the author in the orthography that they used. The transcriptive choices by these scholars as to segmentation within the phrase are telling, not as phonetic evidence of PWord boundaries, but of the underlying assumptions of those authors on how the PWord in Kwak'wala should best be represented. The next line gives the same example in the Umista¹⁸ orthography, followed by an IPA transcription in the next row. The IPA transcription is transposed directly from the Umista transcription. My own assumptions as to phrase segmentation are evident in the Umista and IPA transcriptions, but are not in focus here. I support my transcriptive choices in Chapter 6. I then present a morphological breakdown using the IPA, followed by a gloss. Finally I give the translation offered by the author, or my own verified translation if none was given in the publication.

The Kwak'wala scholars include Alfred Hall, Franz Boas (George Hunt), David Grubb, Emmon Bach, Robert Levine, Stephen Anderson, Yunhee Chung, and Masaki Noguchi. This is by no means an exhaustive list of those who have studied the language, but is a good general

¹⁸ In some cases the scholar's transcription might not match the spelling of the same form found on the First Voices resources. In such cases I conform the Umista transcription to that found on the First Voices web site.

account of the sort of treatment the 'word' in Kwak'wala has been given. The data shows that each author either assumes dependency of the clitics on their host roots (thereby presenting them within the same orthographic-word¹⁹), assumes they are more independent and presents them as their own orthographic-word, or presents a mixture of the two. In some contexts the distribution of the clitics also plays a role in their relative independence. When two or more clitics follow each other, they together form a unit that appears more independent in some authors' transcriptions than those individual clitics would when they appear on their own. These groups I call *clitic-strings*, which I define as: one or more clitics which together make at least two well-formed syllables.

In Section 4.2 I present some examples of modern Kwak'wala literature. These examples form the starting basis for defining the PWord in Kwak'wala, as assumptions on PWord segmentation by these authors are made with a more intuitive bias, and less theoretical bias as there inevitably will be in the transcriptions of scholars. In the examples of community literature, I show that there are regular inconsistencies in the treatment of case marking clitics, the definite article, and the deictic connector clitic [=tɬ]²⁰. At times they are subordinated to the preceding root (written as one orthographic-word), and at other times appear independently (with a space on either side). Some examples show both subordinated and independently written clitics at different points within the same phrase. Clitic-strings (clitics which make up at least two well-formed syllables) typically receive special independent treatment when written in the community literature.

4.1 Kwak'wala Scholars

This section outlines the transcriptive choices of Kwak'wala scholars. Sub-sections are broken into individual authors, titled by that author with the date of their most notable publication(s). I present the scholars in chronological order.

19 I define the orthographic-word to be the unit of characters in a transcription that is bordered by white space, following Trask (2004).

20 Boas says that it's part of the historical 1st person marker [=əntɬ], and I have yet to find any instance where the deictic connector [=tɬ] appears without the first person singular [=ən] immediately preceding it.

4.1.1 Alfred Hall (1888)

Rev. Alfred J. Hall has the distinction of being the first European to produce a grammar of the Kwak'wala language. He spent time in Fort Rupert as a missionary, learning and writing about the language in his spare time. He makes no claims to be a practiced linguist, but states (Hall 1888:59):

There are doubtless many inaccuracies which are open to correction, but I trust there is something in my work which will afford pleasure to the philologist, and I earnestly hope it may prove an assistance to those who wish to gain a knowledge of Kwagiutl, in order that they may ameliorate the condition of these Indians.

His use of the word 'Kwagiutl' describes the dialect Hall was exposed to in Fort Rupert (Tsaxis), and was later used by Boas as well to describe the language spoken as a whole. In Hall's grammar, he glosses most morphemes as their own words. This was either done to help himself understand the complex morphology of Kwak'wala by representing the language in a close morpheme-by-morpheme breakdown, or was an observation on his part about the prosodic structure of the language. The following examples show his transcriptions, with notable transcriptive choices bolded.

(1) Hall	kī-kukla-zāk gākyau sa bibagwānum			
Umista	kīkātładzak kaṭəs sa bibagwanam			
IPA	q̑i-q̑əṭṭaḌzak kaṭəs sa bi-bəg ^w anəm			
Morpheme	q̑i-q̑əṭṭa-Ḍzak	kaṭəs	= sa	bi-bəg ^w anəm
Gloss	PL-six-at.once	log	= OBL	PL-man
Translation	'They each brought six logs' (The men each got six logs)			

(Hall 1888:71)

Some of Hall's Kwak'wala words like “gākyau” are not attested in the modern language. In the Umista and IPA transcriptions I give the Kwak'wala form for *log* found in the First Voices online resource. Hall was either not totally accurate in his phonological representations, or was using words no longer contained in modern Kwak'wala. He does, however, consistently

parse most morphemes he transcribes. Hall shows this in Example (1) by giving orthographic independence to the oblique case marker [=sa], and continuing to do so in all other transcriptions.

Example (2) shows that Hall writes the accusative case marker [=χa] followed by the first person possessive pronoun [=ən] together as their own orthographic-word.

(2)	Hall	Niki kun umpāk gints muhīdi giāk
	Umista	Niki <u>x</u> an umpax <u>g</u> an's mux'idi ga <u>x</u>
	IPA	niki χən ʔumpax gənʔs muxʔidi gaχ
	Morpheme	nik=i =χ=ən ʔumpa=χ gənʔs mu-xʔid=i gaχ
	Gloss	say=D3 =ACC=1sg.POSS father=D2 IND.1PL.INCL hit-NEAR.PAST=D3 IND.3sg
	Translation	'He told my father that we struck him'

(Hall 1888:87)

Hall extends this orthographic independence to the visibility system, which no following scholar has done. This is shown in Example (3).

(3)	Hall	Kwilātl idag ia giakun kun kīsī lākun dūkwitl lāk
	Umista	ḳẉaḷaʔidaga ga <u>x</u> an <u>k</u> an kisi la <u>x</u> an dukwiʔ la <u>x</u>
	IPA	q̣ʷəʔaʔʔidaga gaχən qən kisi laχən dukʷiʔ laχ
	Morpheme	q̣ʷəʔaʔʔida=ga gaχən q=ən ḳis=i laχ=ən dukʷ-iʔ laχ
	Gloss	hide=D1 IND.1sg COMP=1sg no=D3 PREP=1sg see-in.doors PREP
	Translation	<i>Hide me, that I may not be seen</i>

(Hall 1888:87)

Here, the root *hide* is erroneously broken up, making two orthographic-words: one containing the two first syllables of the root, and the second the third syllable of the root and the visibility marker [=ga]. In Example (4), Hall again erroneously breaks apart the form *and* along with the adjoining third distal (=D3) visibility marker [=i]. He also gives orthographic independence to the definite article [=da].

(4) Hall	Lī Peter gla wī da wa-ūq apostles nānākmi...
Umista	Lā Pita dḷāwī da wā'okw kaḷut'linuxw nanaxme'
IPA	lə pita dḷəwī da wəʔok ^w ɬaḷut'linux ^w nanaxmeʔ
Morpheme	lə pita dḷəw = i = da wəʔok ^w ɬaḷut'-inuχ ^w nanax-m = eʔ
Gloss	AUX Peter and = D3 = DET remaining school-AGENT answer-DISC = D3
Translation	<i>Then Peter and the other apostles answered...</i>

(Hall 1897:87)

These examples show that Hall assumed some measure of phonological independence of the case and visibility clitics, as well as the definite article [=da], by presenting them in their own orthographic-words. These examples might not constitute as much evidence given the admittedly amateur account of the language description. It is, however, the oldest record of linguistic analysis on the Kwak'wala language, and is of use when regarded in the context of other more celebrated scholars.

4.1.2 Franz Boas (1900-1947)

This section explores the transcriptive choices made by Kwak'wala's most published author, Franz Boas. The amount and quality of work Boas produced is remarkable, especially considering his brief and intermittent personal contact with the Kwakwaka'wakw. It is in a posture of respect and admiration that I approach Boas' work, however critically I might present it.

Unlike Hall, Boas transcribed many of the elements in Kwak'wala's clitic system adjoined to the previous root or stem. This is because Boas believed (correctly) that the clitics are phonologically dependent upon a preceding root. He is quoted as saying (Boas 1911:440):

The position of a word in the sentence is determined by syntactic particles. The parts of the sentence are held together firmly, and their position is definitely determined by their coalescence with syntactic elements which indicate the relations of subject, object, instrument, and possession²¹. By this means the whole sentence is knit together so firmly that

²¹ These being what would later be accepted as the clitics [=χa] ACC and [=sa] OBL

a separation into words in quite arbitrary. The firmness of the word-complex is due largely to the complete phonetic coalescence of the syntactic particle with the preceding word, and to its function as determining the syntactic value of the following word.

Here Boas outlines his belief that the root and all 'affixes' (including clitics) in Kwak'wala are one phonological unit. Even though he believed that any segmentation of the phrase into smaller units ('words') was arbitrary, he did himself transcribe phrases into such smaller units, in a consistent and regular manner. One of these regularities was in his treatment (Boas 1947:206) of the case marking clitics.

The chief formal characterization of the sentence is the close connection of its parts, which is due to the fewness of syntactic forms by means of which all possible relations are expressed, and to the subordination of the noun under the verb by means of particles which coalesce phonetically with the preceding word, while they determine the function of the following word.

Through these quotes, Boas states his understanding of the phonological dependence of the case markers in Kwak'wala, as well as highlighting the phonological/syntactic mismatch of such elements. He believed that the case marking clitics were always 'phonetically coalesced' with the preceding root, and therefore part of that PWord. The following examples show this dependence. Again, I present the important elements in bold.

(5) Boas	laE'm ^ɛ lāwis lä'x ā'La ^ɛ yasa xwā'xwak!una
Ümista	La'am lawis lax ?a'tłaya sa xwixwak'wana
IPA	laʔəm lawis lax ʔaʔtłaya sa x ^w ix ^w ak ^w əna
Morpheme	la-əm la = wis lax ʔaʔtłaya = sa Ci-x ^w ak ^w əna
Gloss	AUX = DISC QT = and PREP in.land = OBL PL-canoe
Translation	<i>Then he went inland toward the canoes</i>

(Boas 1911:554)

Here, Boas transcribes the oblique marker [=sa], which modifies the following root [x^wix^wak^wəna] *canoes*, together with the preceding stem. This makes one orthographic-word. This holds true for the accusative marker [=χa] as well, shown in the next example.

(6) Boas	Laɛ'm sEk·a'x̥a gwô ^ɛ yɪ'm
Umista	La'aṁ s̥aka x̥a gwaṽam
IPA	laʔəm̄ səka χa ɡʷəjəm
Morpheme	la-əṁ s̥aka = χa ɡʷəjəm
Gloss	AUX=DISC spear =ACC whale
Translation	<i>Then he speared the wale</i>

(Boas 1911:557)

Here, Boas transcribes the accusative marker [=χa] as phonologically dependent upon the preceding stem by presenting them as one orthographic-word. Boas is very consistent in his transcriptions; always transcribing the case markers as dependent in this way. Boas (1911:442-3) also treated other clitics in Kwak'wala the same way as he did the case markers:

A third class of suffixes indicate time-relations, such as past, present, and future. With these may be classed the suffixes which indicate the modality of a process as beginning, gradual, continued, repeated, uncertain, simulated, etc. Many of the suffixes express the subjective relation of the mind of the speaker to the event. This is also true of the demonstrative suffixes indicating position in relation to the speaker, and visibility or invisibility. These, however, must be classed with the syntactic particles.

Here Boas lays the foundation for the inclusion of the temporal markers and the visibility system as clitics. He treats these clitics as he does the case markers in his transcriptions: as phonologically dependent and belonging to the orthographic-word of the previous root. The following example shows a temporal, visibility, and case marking clitic, all as subordinated onto the preceding orthographic-word.

(7) Boas	Hō'x ^ε wīdōx alē'wats!äxsenu ^ε x ^u gīgama ^ε ēx
Umista	Χux'idux ^w alewat'se'x sanu'x ^w gigame'x
IPA	χuxʔiduχ ^w ʔalewatʃeʔx sənuʔχ ^w gɪgameʔχ
Morpheme	χu = xʔid = uχ ^w alewatʃ = eʔx = s = ənuʔχ ^w gɪgameʔ = eʔχ
Gloss	split = NEAR.PAST = D2 hunting canoe = D3 = OBL = 1PL.EXCL.POSS chief = D3
Translation	<i>The hunting-canoe of our chief is split</i>

(Boas 1911:554)

Here Boas transcribes the temporal marker [= xʔid], pre-nominal visibility clitic [= uχ^w], and the oblique case marker [= sa] within the orthographic-word of the previous root. This is again in contrast with Hall, who had 'idagia' in a series of clitics as its own orthographic-word above. This shows that Boas made transcriptive choices that were extremely sensitive to the close phonetic relationship of clitics with their hosts. This at times obscured the structural interpretation of some elements (Anderson 1985), even though his treatment of each clitic was meticulously consistent.

Nevertheless, Boas was keenly aware of the problems he faced through his transcriptions. His ideology was such that publication was more important than perfection, and so errors would have been expected in his work, even systemic ones.

When the publication of the various collections of texts was started, there seemed to be no prospect of a careful revision and since their value is as much ethnological and stylistic as linguistic, it seemed best to publish them notwithstanding their imperfections. In too many cases material of great value has been lost because the author waited to perfect and complete it and the unpublished manuscripts are lost to science. I present my material fully conscious of its shortcomings. [Boas 1930, 1:xi-xii].

(Berman 1994:492)

Bach (1975:10) concurs, stating that there are many phonological inconsistencies and mistakes in the forms cited in his posthumously edited grammar (Boas 1947). I myself have noted in looking through these texts that his stress placement is inconsistent with the predictability of the modern Kwak'wala stress system, as explained in Chapter 2. Another of

these systemic errors lies in Boas' personal assumptions about the nature of what he called suffixes. Boas' work on Kwak'wala was conducted through a series of field trips, but primarily through correspondence with George Hunt. Hunt was a fluent Kwak'wala speaker from Fort Rupert, and an accurate and trustworthy consultant for the language (Berman 1994). Boas, however, made systemic alterations to Hunt's texts, which he would send Boas by post. Specifically, Boas and Hunt disagreed over the best way to transcribe a group of elements that Hunt viewed as separate words and wrote as such, but that Boas insisted on treating as suffixes. These elements belonged to two morphological categories: the category Boas called word-suffixes, which are indeed suffixes, and the category of person- and case-marking syntactic clitics. In his own words, Hunt requested, "Put them as I do. not two or three word together as you put them [not] aemlawese [but] instade aem-lawese or [not] gaxe⁵loL [but] gaxe lôL. then it is Easayer to Read²²" (Hunt to Boas 1/24/21 via Berman 1994:496). In editing Hunt's texts for publication, Boas wrote all the semi-independent morphemes together as one orthographic-word, as shown in the above examples.

Boas of course believed he was correcting mistakes made by Hunt, a conclusion that would be easy to arrive at considering Hunt's presentation of written English. In fact, Berman (1994:498) states that Hunt's written Kwak'wala actually has many fewer grammatical errors than his English does. In making alterations, Boas believed he was correcting Hunt's transcriptional errors. To be fair, many of Hunt's objectionable transcription practices are indeed errors in the written form. The significance of the errors, however, varies widely. Berman (1994:498) states that Hunt went through periods in which he used [=χa], the accusative clitic, to introduce a subject nominal. Boas thought that such subject nominals could sometimes be explained as appositions, but in many cases the usage was just plain wrong, and when confronted with the fact, Hunt acknowledged he had made a mistake. In other cases, Berman suggests that Hunt's practice is just as correct as Boas' preferred version. She cites one case where she believes Hunt was right and Boas was simply wrong, and Boas's adjustments to Hunt's transcriptions actually inserted new mistakes (1994:492).

Part of the struggle for Hunt was Boas' unintuitive orthography. In attempting to represent accurately all the sounds produced by Kwak'wala speakers, Boas created a transcriptional

22 Spelling and structural errors were retained from Hunt's original written correspondence. It is interesting to note that Hunt's command of Kwak'wala, even in the written form, was likely superior to that of his English.

system that was very awkward for Hunt to use. Even after Boas's revision of the orthography in 1900, it still contained characters representing nineteen vocalic segments, far more than the five²³ actual Kwak'wala vowel phonemes ([i], [e], [a], [o], and [u]). It seems inevitable that Hunt would find it difficult to keep track of the mass of diacritics Boas required him to use (Berman 1994:493). This phonetic hurdle should not have impeded Hunt's intuitions on where word-boundaries should be placed, and so disagreements between Boas and Hunt over phrase segmentation are not surprising.

Indeed it is interesting that Boas' transcriptions were very narrow in regards to the phonemes, but somewhat broad in regards to prosody. This indicates that Boas was relatively unconcerned with orthographic-words or Pwords, as he believed that such segmentation was 'arbitrary'. He did, however, develop some assumptions as to phrase-internal segmentation, as evidenced by his regularity in orthographic-word choices. Boas did not break the phrase up arbitrarily, but assumed the 'complete phonetic coalescence' of the clitics to their hosts. It should be noted, however, that although Boas was systematic and thorough in his analysis and research of Kwak'wala, a large number of Boas' 'words' were incorrectly transcribed, and entered his data base as errors (Lincoln & Rath 1980:50). This is especially true of his posthumous grammar (Boas 1947). Many suggest that such materials should be used with caution. Validating Boas' research under this light of uncertainty has been a fieldwork focus for a number of linguists (Berman 1994, Anderson personal communication), myself included. Even such validation can be misleading, however, because in many cases some entries appear to have been taken from surrounding languages and have been misclassified as Kwak'wala (Lincoln & Rath 1980:51). It should therefore not be surprising that stark differences exist between my treatment of many of the morphemes found in Boas' works and his own treatments of these same morphemes.

4.1.3 Bach (1975-2006)

Work on North Wakashan languages in the 70s was dominated by Boas' grammars (1911, 1947) and other writings. Thus work by scholars such as Kortlandt (1973) and Rath (1974) on Haisla, and Lincoln & Rath (1980) on the *North Wakashan Comparative Root List* are each, in some degree, in the shadow of what Boas had written about those languages. Those

²³ Or perhaps three according to Bach (1975): a, ə (underlying), ə (epenthesized)

scholars regularly cite Boas in their work, both when agreeing and disagreeing with Boas' descriptions. This is true of Bach as well. Although his (1975) account of vowels and stress in Kwak'wala gives no examples of entire phrases (it being a purely phonological paper), his (2006) paper on the deictic system in Kwak'wala does. Here, his transcriptive choices for the definite article and case markers can be observed:

(8) Bach	du'x̣ ^w idasx̣u ^{x̣} da gu'k ^w i ^{x̣}
Ümista	Duxw'ida's x̣ux̣w da gukwix̣
IPA	duχ ^w ʔidəʔs χuχ ^w da guk ^w iχ
Morpheme	duχ ^w -xʔid = əʔs = χuχ ^w = da guk ^w = iχ
Gloss	see-BEC = 2sg = ACC.D2 = DET house = D2
Translation	<i>Do you see this house?</i>

(Bach 2006:271)

In the above example, the definite article [=da] appears as it did in Boas' transcriptions: as attached to the preceding root as one orthographic-word. This is true also for the case and visibility markers [=χuχ^w]. This is seen in the following example as well, where the accusative marker [=χa] appears orthographically subordinated to its host.

(9) Bach	laʔəm' k ^w a's'ə'la ^{x̣} a gəna'nəm ...
Ümista	La'əm̄ k̄was̄ala xa gənanəm ...
IPA	laʔəm̄ k̄ ^w əs̄əla χa gənanəm ...
Morpheme	la-əm̄ k̄ ^w əs-əla = χa gənanəm
Gloss	AUX-DISC sit-CONT = ACC child
Translation	<i>And now they let sitting on the ground the child ...</i>

(Bach 2006:271)

Here the accusative case marker [=χa] is transcribed as one orthographic-word with its host. This shows that, like Boas, Bach considered the definite article, case markers, and visibility markers to be phonetically subordinated to the preceding PWord.

4.1.4 Grubb (1977)

Like Bach, Grubb was not primarily motivated by the morphology of Kwak'wala, but rather the phonology. As such, I do not expect Grubb to focus much attention on the placement of the clitics in regards to their host roots. In fact, cases where these clitics appear are relatively rare in Grubb's work. Grubb only has one, found in the preface of his dictionary, given below. Nevertheless, the treatment of these clitics, when they do appear is telling, even if the orthographic presentation of these clitics might be given following the assumptions of previous scholars (like Boas).

(10) Grubb	lemən tlekem <u>tlek</u> John
Ümista	Lamən tla <u>kam</u> tla <u>k</u> John
IPA	ləmən tləqəmtləq ɕan
Morpheme	lə-m̩ = ən tləq-ə̃m = tɬ = q ɕan
Gloss	AUX-DISC = 1sg hit-face = FUT = 3sg John
Translation	<i>I'm going to slap John on the face</i>

(Grubb 1977:26)

Here Grubb follows Boas and Bach in treating the future tense clitic [= tɬ] as subordinated to the preceding root as one orthographic word. Note as well that the third person object pronoun [= q] on the verb attaches to the right edge of the tense clitic, and is also included in the orthographic-word of the host. Although the tense markers are not members of the wanderer clitics, it would be safe to assume that Grubb would treat the wanderer class of clitics the same way as he does the tense and pronoun clitics.

4.1.5 Levine (1977)

Robert Levine departs from his contemporaries in regards to his treatment of Kwak'wala's clitics. As a syntactician, Levine was more interested in the relative structure of the parts of the sentence, especially relative clauses (1978) and the passive system (1980a, 1980b). As such, Levine was likely more intentional about parsing the syntactic clitics in his transcriptions. He treats the case markers differently than the visibility system, the former as

its own orthographic-word, the latter as subordinated. This is shown in the following examples.

- (11) Levine $\dot{c}\acute{a}w\acute{a}n\lambda asga \acute{x}a \ b\acute{a}g^w\acute{a}n\acute{a}m$
 Ûmista $t's\grave{a}w\grave{a}n \ t\grave{a}s\grave{a}ga \ x\grave{a} \ b\grave{a}g\grave{w}a\grave{n}\grave{a}m$
 IPA $t\acute{s}\acute{a}w\acute{a}n \ t\grave{a}s\grave{a}ga \ \chi a \ b\acute{a}g^w\acute{a}n\acute{a}m$
 Morpheme $t\acute{s}\acute{a}w = \acute{a}n = t\grave{a}s = ga \quad = \chi a \quad b\acute{a}g^w\acute{a}n\acute{a}m$
 Gloss $give = 1sg = CONN = D1 \quad = ACC \quad man$
 Translation *I give it to the man.*

(Levine 1977:101)

Here, the accusative case marker [= χa] is transcribed as its own orthographic-word, whereas the visibility marker [= ga], along with the connective [= $t\acute{a}s$] are given as one orthographic-word together with their host root. Levine gives the oblique case marker [= sa] the same relative dependence as the accusative case marker, as seen below.

- (12) Levine $\dot{c}\acute{a}w\acute{i}da \ b\acute{a}g^w\acute{a}n\acute{a}m \ sa \ g\acute{a}ldas$
 Ûmista $t's\grave{a}wi \ da \ b\grave{a}g\grave{w}a\grave{n}\grave{a}m \ sa \ g\grave{a}ldas$
 IPA $t\acute{s}\acute{a}wi \ da \ b\acute{a}g\grave{w}a\grave{n}\grave{a}m \ sa \ g\acute{a}ldas$
 Morpheme $t\acute{s}\acute{a}w = i \quad = da \quad b\acute{a}g\grave{w}a\grave{n}\grave{a}m \quad = sa \quad g\acute{a}ld-as$
 Gloss $give = D3 \quad = DET \quad man \quad = OBL \quad box-thing$
 Translation *The man gives the box.*

(Levine 1977:103)

Here, the oblique case marker [= sa] appears as its own orthographic-word, just as the accusative case marker did. Also to note in this example is the subordination of the definite article [= da] to the preceding root. This is again shown in Example (13).

(13)	Levine	məxʔidida	gənanəm	ʃa	gəldas
	Umista	məxʔidi	da	gənanəm	ʃa gəldas
	IPA	məxʔidi	da	gənanəm	ʃa gəldas
	Morpheme	məx = xʔid = i	= da	gənanəm	= ʃa gəld-as
	Gloss	hit = NEAR.PAST = D3	= DET	child	= ACC box-thing
	Translation	<i>The child hit the box.</i>			

(Levine 1977:102)

In this example, Levine provides evidence for his transcriptive choices on three different clitic types: tense, visibility, and wanderer clitics definite article, and case marker. The visibility marker [= i], and definite article [= da] are transcribed as subordinated to their host root which together form one orthographic-word. As above, the case marker [= ʃa] is given more independence, appearing as its own orthographic-word.

Levine's motivation for his transcriptive choices may have been born out of his attention to the syntactic-phonological mismatch of Kwak'wala's case marking clitics, making the case markers seem to be relatively more involved in the following root than other clitics. This does not, however, hold for the definite article [= da], which also modifies the following root while being phonologically dependent upon the preceding root, just as the case markers are. It is therefore more likely that Levine's motivation in transcribing the case markers as more dependent than the other clitics stemmed from his understanding of how Kwak'wala was being used naturally by speakers. It certainly did not stem from the work of previous Kwak'wala scholars.

4.1.6 Anderson (1985, 2005)

Stephen Anderson, a morphologist, studied Kwak'wala (more accurately Lik'wala) mostly in the Campbell River area, and on Quadra Island, during the summers of 1976 to 1979. A lot of the material cited by Anderson is from Boas' grammars and other materials, when not his own elicited material. He has stated that a lot of his time with the speakers he worked with was focused on Boas' work. The main thing he accomplished, in his words, was "learning how to make use (and sense) of [Boas'] posthumous grammar" (Stephen Anderson, personal

communication). As such, I would expect Anderson's transcriptive parsing choices to be similar to Boas', not only because of his attention to Boas' work, but also because of his focus on Kwak'wala morphology. The following examples show that his orthographic-structure does indeed resemble that of Boas.

- (14) Anderson k^wixʔid-ida bəg^wanəma-~~x~~-a q'asa-s-is t'əlwag^wayu
 Ŭmista Kwix'idi da bagwanam xa kasa si's təlwagwayu
 IPA k^wixʔidi da bəg^wanəma χa qasa siʔs təlwag^wayu
 Morpheme k^wi = xʔid = i = da bəg^wanəm = a = χa qasa = s = iʔs t'əlwag^w-ayu
 Gloss club = NEAR.PAST = D3 = DET man = D3 = ACC otter = OBL = 3.POSS club-tool
 Translation *The man clubbed the sea-otter with his club.*

(Anderson 1984:24)

In the above example, both case markers [=χa] and [=sa] are transcribed within the orthographic-word of the host root. So too is the visibility marker [=i] and the definite article [=da]. The only segmentation into smaller units within the phrase occurs at the left edge of each new root (or the right edge of each stem, before the next root begins). This is also seen in the next example.

- (15) Anderson lam-ən ʔit'idə-~~λ~~ amʔ'idə-~~ʔ~~isa k^wagut-ix
 Ŭmista Lamən itidatʔ amʔ'ideʔi sa Kwagutlix
 IPA lamən itidatʔ amʔ'idatʔi sa k^wagutlix
 Morpheme la-m̥ = ən itida = tʔ amʔ'ide = tʔ = i = sa k^wagut = ix
 Gloss AUX-DISC = 1sg again = FUT ridicule = FUT = D3 = OBL Kwagiut = D2
 Translation *I will again make fun of the Kwagiut*

(Anderson 1984:39)

Here, the case and visibility clitics are subordinated into the orthographic-word of the previous root. Adding to Anderson's polysynthetic treatment of all of Kwak'wala's morphemes, he also subordinates evidentials into the orthographic-word of the previous element, as seen in the following example.

(16)	Anderson	la ^h ma- xənts-i ga ^h - i-da ʎ'ayə-q ganuʎ hamyiʎ- x-əns k'utɪla-xd
	Umista	la ^h ma xenti ga ^h i da tʎayəq ganuʎ hamyitʎ xən's kʉtilaxd
	IPA	la ^h ma χənti ga ^h ɪ da tʃajəq ganuʎ hamjitʃ χənʔs kʉtilaχd
	Morpheme	la-m̐ = a χənt = i gaχ = i = da tʃajə = q ganuʎ
	Gloss	AUX-DISC = D3 must = D3 come = D3 = DET black.bear = 3sg night
	→ Morpheme	hamjitʃ = χ = ənʔs kʉtila = χde
	→ Gloss	eat = ACC = 1PL.POSS fish = TRANS
	Translation	<i>Apparently the bear came in the night to eat our fish.</i>
		(Anderson 1984:40)

Here, Anderson includes the evidential [=χənt] *must* within the orthographic-word of the sentence initial root, along with the surrounding visibility markers. Boas also orthographically coalesced all morphemes on to the right of the preceding root, including the evidentials, which Boas described as suffixes (1911, 1947). Anderson's transcriptive choices are likely evidence of his focus on morphosyntax, and his familiarity with Boas' publications.

4.1.7 Chung (2007)

In a stark departure from Anderson, Yunhee Chung transcribes many of the clitics involved in the phonological/syntactic mismatch²⁴ as their own orthographic-word. This is what Chung calls the demonstrative complex, which has a strict ordering of case enclitic, locative (pre-nominal visibility), and determiner before the noun, and post-nominal visibility and temporal modifiers attaching after the noun. When the case markers are positioned together with other clitics to form a clitic string, much of that clitic string is also transcribed together as its own orthographic-word. Chung's transcriptions and clitic ordering can be seen in the following examples.

²⁴ Those being the case markers, the definite article, pre-nominal visibility markers, and possessive pronouns.

(17)	Chung	kaχpəndas χgada kadayuk
	Ümista	kaχpəndə's xgada kadayuχ
	IPA	kaχpəndəʔsχga da kadajuχ
	Morpheme	kaχpənd = əʔs = χga = da kad-aju-χ
	Gloss	sharpen = 2sg = D1 = DET write-INSTR = D1
	Translation	<i>Sharpen the pencil</i>

(Chung 2007:105)

Here, Chung separates the accusative object near-visible marker [= χga] and the definite article [= da], together into their own orthographic-word. Moreover, when case markers are not members of clitic-strings, they are still rewarded their own orthographic-word, as seen in example (18).

(18)	Chung	ʃax ^w əlanuk ^w wəʔənuʔχ ^w a sa giGameyūʃa
	Ümista	ʃaxwəlanukw wəʔənuʔxwa sa gigameyūʃa
	IPA	ʃax ^w əlanuk ^w wəʔənuʔχ ^w a sa giGamejəʃa
	Morpheme	ʃax ^w əla-nuk ^w = wəʔ = ənuʔχ ^w = sa giGame-əʃ = a
	Gloss	love-have = past = 1 PL.EXCL = OBL chief-former = D3
	Translation	<i>We loved the late chief</i>

(Chung 2007:109)

The above example shows that Chung transcribes the oblique case marker [= sa] as its own orthographic-word, just as Hall and Levine had done before him.

Such segmentation practices have been rejected by Greene (2013:6), who states that “Noguchi (2011) shows that enclitics in the demonstrative complex form a phonological word with the preceding predicate. For this reason, I have modified Chung's (2009) example, which originally presented the demonstrative complex, χ = ga = da as a separate word.” From a phonological standpoint, the [χg] onset cluster seems dubious, as no other onset cluster can be found in Kwak'wala at all, outside of obvious borrowings from English. Chung's transcriptions remain consistent throughout all her examples, however, as seen below.

(19)	Chung	duχ ^w idaʔs χuχda maʔuk ^w eχ w ^ˈ alas bibəg ^w anəm
	Ŭmista	duxwida's xuxw da maʔukwuxw w ^ˈ alas bibəgwanəm
	IPA	duχ ^w iduəʔs χuχ ^w da maʔuk ^w uχ ^w w ^ˈ alas bibəg ^w anəm
	Morpheme	duχ ^w id = əʔs = χuχ ^w = da maʔ-uk ^w = uχ ^w w ^ˈ alas Ci-bəg ^w anəm
	Gloss	look = 2sg = ACC.D2 = DET two-person = D2 big PL-man
	Translation	<i>Look at these two big men</i>

(Chung 2007:106)

In this example, Chung transcribes the accusative marker and the pre-nominal visibility marker together with the definite article to form one orthographic-word. However, the post-nominal visibility marker [= uχ^w] on the root [maʔuk^w] is not transcribed as its own orthographic-word.

(20)	Chung	duχwidas χuχda guk ^w λuχ
	Ŭmista	duxwida's xuxw da gukwɬuxw
	IPA	duχwidaʔs χuχ ^w da guk ^w ɬuχ ^w
	Morpheme	duχw ^ˈ id = əʔs = χuχ ^w = da guk ^w = ɬ = uχ ^w
	Gloss	look = 2sg = ACC.D2 = DET house = FUT = D2
	Translation	<i>Look at the future-to-be house</i>

(Chung 2007:109)

Here again the accusative case marker, along with a pre-nominal visibility marker and the definite article [= χuχ^w = da] are presented as one orthographic-word. Notably, the post-nominal visibility marker [= uχ^w] does not form its own orthographic-word, but is subordinated to that of the previous root.

Chung's transcriptions are unique, and appear to be syntactically motivated. Only those clitics which attach prosodically to the left, yet modify the root to the right are treated as separate orthographic-words by Chung. Those are the case markers, pre-nominal visibility markers, and the definite article. However, as I show in the Section 4.2, there may also be some intuitive evidence in parsing these (or some of these) clitics more independently than

others.

4.1.8 Noguchi (2011)

I feel it is important to include Masaki Noguchi's transcriptions here for two reasons: First, his is the first good account of the intonation structure of Kwak'wala, and his transcriptions should consciously reflect his assumptions about the prosody of PWords. Secondly, it is among the more recent accounts of Kwak'wala, and takes most of its data from the same speaker that I do, with different results. In the examples below, Noguchi presents PWords which follow the subordination model shown by Boas and Anderson before him.

(21)	Noguchi	həm'xʔídu <u>χ</u> da bədí <u>χ</u> a g ^w əsú
	Ŭmista	Həm̩x'ídu <u>x</u> w da bədi <u>x</u> a gwasu
	IPA	həm'xʔídu <u>χ</u> ^w da bədí <u>χ</u> a g ^w əsú
	Morpheme	həm-xʔid = u <u>χ</u> ^w = da bədi = <u>χ</u> a g ^w əs <u>u</u>
	Gloss	eat-NEAR.PAST = D2 = DET cougar = ACC pig
	Translation	<i>The cougar ate a pig</i>

(Noguchi 2011:330)

Here, both the definite article [=da] and the case marker [=χa] are subordinated onto the preceding orthographic-word along with the pre-nominal visibility marker [=uχ^w]. This is again shown in the following example.

(22)	Noguchi	həmápu <u>χ</u> ta bədí <u>aχ</u> a g ^w əsú la <u>χ</u> g ^í úk
	Ŭmista	Həmapu <u>x</u> w da bədiya <u>x</u> a gwasu la <u>x</u> gukw
	IPA	həmápu <u>χ</u> ^w da bədía <u>χ</u> a g ^w əsú la <u>χ</u> gúk ^w
	Morpheme	həm-áp = u <u>χ</u> ^w = da bədí = a = <u>χ</u> a g ^w əsú la <u>χ</u> gúk ^w
	Gloss	eat-taste = D2 = DET cougar = D3 = ACC pig PREP house
	Translation	<i>The cougar is eating a pig in a house</i>

(Noguchi 2011:335)

Here again, the definite article and accusative case marker are subordinated onto the preceding orthographic-word in his transcriptions, along with the pre-nominal visibility markers.

(23)	Noguchi	k ^w éχidu <u>χ</u> páte <u>χ</u> o zónəsas k ^w éχayu				
	Ŭmista	Kwex̣'idux̣w Pata x̣ux̣w Johna sa's kwex̣ayu				
	IPA	k ^w éχiduχ ^w páta χuχ ^w dzóna saʔs k ^w éχaju				
	Morpheme	k ^w eχ-xʔid = uχ ^w	pat = a	= χuχ ^w	dzóna	= sa = aʔs k ^w eχ-aju
	Gloss	hit-NEAR.PAST = D2	Pat = D3	= ACC.D2	John	= OBL = 3sg hit-tool
	Translation	<i>Pat hit John with his bat</i>				

(Noguchi 2011:334)

Once more, Noguchi shows the subordination of the syntactically rightward-modifying enclitics. The pre-nominal visibility marker [=uχ^w], along with the third person singular pronoun [=aʔs] are subordinated to the preceding orthographic-word, together with the case markers [=χa] and [=sa].

Summary

From the accounts of these scholars, it would seem that the more focused they are on the syntax, the less subordinated some of the rightward-modifying clitics tend to be.

Contrastingly, the more phonologically focused the scholar is, the more likely those clitics were to be transcribed as subordinated to the previous orthographic-word. The following table shows which clitics were treated as their own orthographic-word in the transcriptions of each scholar discussed above. I devote a column to each of the wanderer clitic types of case and definite article, but also include pre-nominal visibility and a column for clitic-strings. The authors are listed in rows, and the intersection of that author with a clitic column is given an 'X' if that author transcribed the corresponding clitic as its own orthographic-word. A ' - ' denotes a lack of evidence.

Table 9 - (In)dependence Visibility Case Definite Clitic-string
Article

Hall	X	X		X
Boas				
Grubb	-	-	-	-
Bach				
Levine		X		
Anderson				
Chung		X		X
Noguchi				

This table shows that Hall, Levine, and Chung were the only authors who transcribed some clitics as orthographic-words. Each of these three treated the case markers as independent from other segments. Both Chung and Hall additionally considered clitic-strings as independent orthographic-words, while Hall is the only scholar to have given orthographic independence to visibility markers. Interestingly, community literature in Kwak'wala shows similar tendencies in the independence of clitics, especially those in clitic-strings.

4.2 Evidence in Community Literature²⁵

Although predominantly an 'oral' language, Kwak'wala still has over one hundred years of written tradition. However, the written form of the language did not become standardized until relatively recently. As such, most written sources authored by fluent speakers throughout this last century each contain an idiosyncratic and phonemically over-broad orthography. Such resources are valuable and interesting in their own right, but as there is little orthographic consistency in these writings, they cannot be relied on for evidence of prosodic intuitions. Kwak'wala's modern writing system has, however, been growing in importance since the 1980s, as many are endeavouring to learn Kwak'wala as a second language. Because of this, there are a growing number of published examples of original Kwak'wala literature which shed light on the PWord intuitions of mother-tongue speakers. Samples of such published community literature, however, still display inconsistent parsing surrounding the wanderer clitics. This section explores three examples of published

²⁵ I define 'Community Literature' as the original (non-linguistic) written work by members of a language group, written with that language's agreed upon orthography.

community literature, which show that the deictic connective, pre-nominal visibility markers, case markers, and definite article are the only elements which receive inconsistent orthographic treatment.

4.2.1 Umista Learning Books

This section outlines the phrasal segmentation practice found in the Kwak'wala language learning materials produced in 1980 by the Umista Cultural Society in Alert Bay (Powell et. al.). This resource was produced by the Kwak'wala Language Project, which was a basic course in Kwak'wala that was used either for individual study or in a formal school setting. The Umista learning books, and all further Kwak'wala publications by the Umista Cultural Centre, show complete consistency when it comes to orthographic representations of the deictic connective, definite article, case markers, and visibility markers. It may well be the case that these learning materials were attempting to standardize the orthography in light of the sort of inconsistencies noted in this chapter. In all examples provided from this resource, the case markers [=χa] and [=sa], connective [=tɬ], and pre-nominal visibility markers are written as their own orthographic-words, while the definite article [=da] is always subordinated. This might well indicate an assumption on the part of the authors that case markers and pre-nominal visibility markers show prosodic independence. Example (24) shows that the accusative case marker [=χa] is given as its own orthographic-word.

(24)	Umista	Hə's dexid x̣a kawayu
	IPA	Heʔəʔs daxʔid χa kawaju
	Morpheme	he = əʔs da-xʔid =χa kaw-aju
	Gloss	be.3 = 2sg hold-BEC =ACC knife-tool
	Translation	<i>Go get the knife</i>

(U'mista Cultural Society 1981a:19)

Here, the accusative case marker [=χa] is represented without prosodic attachment to the preceding stem. This contrasts with other clitics, such as post-nominal visibility markers and the pronoun clitics, which are consistently attached to the preceding stem. This juxtaposition can be seen in example (25).

(25)	Umista	T'samx'idəs xuxda dāmsxex
	IPA	t̚səmɬ?idəs χuχ ^w da dāmsxe'χ
	Morpheme	tsəm-x?id = əʔs = χuχ ^w = da dāmsx = eʔχ
	Gloss	point-BEC = 2sg = ACC.D2 = DET salt = D2
	Translation	<i>Point to the salt water</i>

(U'mista Cultural Society 1981b:17)

Here, the second person singular pronoun [= uʔs] and the second distal post-nominal visibility marker [= eʔχ] are both written as belonging to the orthographic-word of the previous stem. This contrasts with the clitic-string of accusative pre-nominal visibility, and definite article, which are written together as one orthographic-word [= χuχ^w = da]. This clitic string does not include the second person pronoun [= uʔs], indicating that the choice to segment the orthographic words was not based on morphological status (i.e. all roots and suffixes together and all clitics together), but on some other criterion. This criterion I assume to be prosodic. The next example shows the connective [= t̬] and first distal pre-nominal visibility marker [= ga] presented as beginning their own orthographic-words as clitic-strings.

(26)	Umista	Hamiksilən t̬ax gada kutalax
	IPA	hāmiksɪlən t̬aχ ga da kutəlax
	Morpheme	hāmik-sila = ən = t̬ = aχ = ga = da kutəla = ax
	Gloss	food-make = 1sg = CONN = D1 = D1 = DET fish = D1
	Translation	<i>I'm cooking fish</i>

(U'mista Cultural Society 1981a:22)

This example shows the assumed prosodic independence of both the connective [= t̬] and the first-distal pre-nominal visibility marker [= ga], which each form an orthographic-word with the pre-nominal visibility marker [= aχ] and definite article [= da] respectively. Crucially, the pre-nominal visibility marker [= ga] is the only visibility marker which is transcribed as beginning its own orthographic-word. It is extremely likely that this is due to its phonemic shape, as it is also the only visibility marker that has a CV syllable pattern.

However, the definite article [=da] has the same syllabic shape, yet does not enjoy the same orthographic independence that [=ga] does in the Umista learning materials. This is likely due to the fact that it is the last clitic in order before the following root (see Chapter 5).

The prosodic choices in these examples of community orthography likely shed light on the intuitions of native speakers of Kwak'wala. Although not enough evidence to accurately assign phonological-word boundaries on their own, these judgements do suggest that there is intuitive prosodic independence associated with the case markers, pre-nominal visibility markers, and the connective never seen with the pronoun clitics or post-nominal visibility markers.

4.2.2 Goodfellow (1991)

Anne Marie Goodfellow (1991) has a PhD in anthropology from the University of British Columbia, and is the author of an indigenous language immersion program, *Gangananamasa Kwakwaka'wakw (Children of All Kwakwala-speaking People)* (Nimpkish Education Board 1991). She has also published a book based on her dissertation *Talking in Context: Language and Identity in Kwakwaka'wakw Society* (McGill-Queen's University Press 2005), and an edited book *Speaking of Endangered Languages: Issues in Revitalization* (Cambridge Scholars Publishers 2009)²⁶. I use her language learning resource *Gangananamasa Kwakwaka'wakw* as another piece of community literature to demonstrate how Kwak'wala has been written out formally. I pay special attention to those same wanderer clitics that have been shown above to appear either as an average clitic, subordinated to its host orthographically, or as an orthographic-word on its own.

In this resource, Kwak'wala is written using the Umista orthography without English translations. Orthographic-words are not consistently parsed. The case markers, connective [=tʰ], and determiner clitics, when they appear, are not written in a consistent manner in terms of prosodic dependence to the preceding root. The following table shows the number of occurrences that the case markers, the definite article, and the connective appear as either subordinated (transcribed as one orthographic-word with the preceding root), independent (its own orthographic-word) and as included in an independent clitic-string. Also included is

²⁶ Information taken from <http://www.thenhier.ca/en/content/goodfellow-anne-marie>

single occurrence of the augmentatives [=dzi, =ka] together as a clitic-string.

Table 10 – Goodfellow (in)dependence

Morpheme	subordinated	independent	clitic-strings
=χa	12	13	2
=sa	11	3	6
=da	46	12	
=tɬ	1		4
=dzi = ka			1

As this table shows, the accusative case marker [=χa] is about as likely to appear subordinated as independent, with occurrences numbering 12 and 13 respectively. The oblique case [=sa], however, occurs three times more often subordinated than independent, but occurs more often as a member of an independent clitic-string, in some cases even as the first member of that string. The definite article [=da] is nearly four times more often transcribed subordinated than independent. Most of these subordinated occurrences, however, are in conjunction with a phrase-initial deictic copula. The independent determiners are preceded by visibility markers. The connective [=tɬ] appears only five times in this resource, but in four of those cases is involved in an independent clitic-string, each time as the initial morpheme. I display examples of the orthographic distribution of these clitics, starting with Example (27). This example shows that the case markers can appear subordinated to the preceding orthographic-word.

- (27) Goodfellow Gāngananāmasa Kwakwaka'wakw
 IPA gingənanəma sa k^wak^wəkəʔwak^w
 Morpheme Cin-gənanəma =sa k^wak^wəkəʔwak^w
 Gloss PL-child = OBL Kwak'wala.speaker
 Translation *Children of the Kwakwaka'wakw*

(Goodfellow 1991)

Here the oblique marker [=sa] is subordinated to the preceding PWord. The accusative marker also appears subordinated, as example (28) shows.

(28)	Goodfellow	Xa _l an'saxa k _u tala la _x a xa _l at'si
	IPA	xə _l ənsa χa k _u təla laχa xə _l atʃi
	Morpheme	xə _l = ənʔs = a = χa k _u təla laχ = a xə _l atʃi
	Gloss	smoke.fish = 1 PL.INCL = D3 = ACC fish PREP = D3 smoke.house
	Translation	<i>We smoke those fish in the smoke house</i>

(Goodfellow 1991:17)

As above, the accusative case marker [=χa] is subordinated to the preceding PWord. The next set of examples, however, shows the opposite treatment of these clitics. Example (29) shows that the case markers can appear as both subordinated to and independent from the preceding orthographic-word, sometimes both within the same phrase.

(29)	Goodfellow	Hanat'ḥansaxa ga _l ga'omas lans ha _m ap xa ə _l dzi
	IPA	hanat _l ənʔsa χa ga _l gaʔomas lənʔs hə _m ap χa ə _l dʒi
	Morpheme	hana = tʃ = ənʔs = a = χa ga _l gaʔomas la = ənʔs
	Gloss	hunt = FUT = 1 PL.INCL = D3 = ACC animals AUX = 1 PL.INCL
	→	Morpheme hə _m -ap = χa ə _l dʒi
	→	Gloss eat-taste = ACC fat
	Translation	<i>We will hunt the animals so we can eat the fat</i>

(Goodfellow 1991:25)

Here the accusative marker [=χa] is treated differently twice within the same phrase. It appears in second position after the initial verb *hunt* as subordinated, then later after the verb *eat* as independent. In addition to these examples, the case markers are always given as an independent orthographic-word when appearing in clitic-strings, as the following examples show.

(30)	Goodfellow	A _x 'stān'dāns s _a x _a t̪iyu le'gāns a'ānta.				
	IPA	aχʔstənʔdənʔs saχa t̪iju le gənʔs aʔənta				
	Morpheme	aχʔstənʔd = ənʔs	= sa = χa	t̪iju	le	gənʔs aʔənta
	Gloss	dip = 1 _{PL.INCL}	= OBL = ACC	hemlock.branch	PREP	IND.1 _{PL.INCL} herring.eggs
	Translation	<i>We dip them, the hemlock branches, to get the herring eggs</i>				
						(Goodfellow 1991:11)

Here the oblique marker [=sa] and accusative marker [=χa] appear together to form their own orthographic-word. This is again shown in Example (31), this time with a string of two oblique case markers.

(31)	Goodfellow	A _x a'lāns sasa x̲igwayu lāx _a awinagw̲il le'e t̪əx̲'ida				
	IPA	ʔaχalənʔs sasa χig ^w aju lāχa awinag ^w il leʔeʔ t̪əx̲'ida				
	Morpheme	ʔaχala = ənʔs	= sa = sa	χig ^w -aju	lāχa	awinag ^w -il
	Gloss	work = 1 _{PL.INCL}	= OBL = OBL	broom-tool	PREP	ground-in.doors
	→	Morpheme	le = eʔ	t̪ə-x̲'id = a		
	→	Gloss	PREP = I3	push-BEC = D3		
	Translation	<i>We work the broom along the floor to sweep up</i>				
						(Goodfellow 1991:123)

In this example the two oblique markers [=sa = sa] appear as a clitic-string to form their own orthographic-word²⁷.

Other clitic-strings can also form independent orthographic words in Goodfellow's resource. Some, as in Example (32), begin with the deictic connective [=t̪]. In all but one occurrence²⁸ of this connective, it appears as an independent orthographic-word as the first of a clitic-string.

27 The first [sa] is referencing the floor which is being swept, and the second [sa] is indicating the broom as the instrument for the sweeping. A narrow English translation might be, “We swept it, with a broom, on the floor”.

28 That one exception presented the [t̪] as the only clitic between two stems. The deictic connective was not able to begin its orthographic-word because there was no other material to help for a clitic-string.

- (32) Goodfellow Dukwālān **tłaxa** ga'adzak la'e xat'sa'esa
 IPA duq^wələn tlayχa ɡəʔaɖzaq ləʔeʔ xatʂəʔesa
 Morpheme duq^wəl = ən = tɬ = a = χa ɡəʔaɖzaq lə = eʔ xatʂəʔes = a
 Gloss see = 1sg = CONN = D3 = ACC starfish PREP = I3 waning.tide = D3
 Translation *I see the starfish when the tide goes out*

(Goodfellow 1991:167)

Here the deictic connective [= tɬ] is followed by a visibility marker [= a], then the accusative marker [= χa]. As seen in the examples (30) and (31) above involving case markers, clitic-strings meet the minimal syllabic requirement for prosodic feet²⁹.

The augmentatives often appear as independent orthographic-words as well (Janzen 2011). Goodfellow treats them as such in their only appearance in her resource, shown here in the following example.

- (33) Goodfellow Wixān's **dzika**. Lə'muxw xat'sa'esa.
 IPA wixənʔs ɖika ləm̩ux^w xatʂəʔesa
 Morpheme wix = ənʔs = ɖi = ka lə-m̩ = ux^w xatʂəʔes = a
 Gloss do = 1PL.INCL = GRN = QNT PREP-DISC = D2 waning.tide = D3
 Translation *There's lots to do when the tide goes out*

(Goodfellow 1991:175)

Here the augmentatives [= ɖi = ka] are given independent status as their own orthographic-word. These morphemes only appear independently when appearing in clitic-strings, and are included in Boas' table of 'suffixes' in Chapter 2. As in the above examples of the case markers not appearing in large clitic strings, the definite article [= da] is treated either as subordinated or independent by Goodfellow, sometimes within the same phrase. This is shown in example (34).

²⁹ This will be an important point in Chapter 6.

(34)	Goodfellow	Heda gayuthi da u'ligana'eda athi
	IPA	heda gajutʰi da əwligənəʔeʔ da athi
	Morpheme	he = da gajutʰ = i da əwligən = eʔ da athi
	Gloss	be3 = DET origin = D3 DET wolf = I3 DET forest
	Translation	<i>That wolf comes from the forest</i>

(Goodfellow 1991:31)

Here the definite article [=da] appears three times: twice subordinated and once independent. There is strong scholarly support for treating the definite article that follows a visibility copula (such as [he = da] in the example above) as one prosodic unit (Nicholson & Werle 2009). The other two examples appear in very similar morphological positions, yet are treated differently by Goodfellow. They are both preceded by a pre-nominal visibility marker consisting of a vowel (although those visibility markers are not the same) and are immediately followed by the next nominal root.

Example (35) shows a rare instance where a visibility marker can begin a clitic-string and start a new orthographic-word.

(35)	Goodfellow	Duxw'idas gan t̪ətəm̪əx
	IPA	duχʷʔidəʔs gən t̪ətəm̪əx
	Morpheme	duχʷ-xʔid = əʔs = ga = ən t̪ətəm̪ = aχ
	Gloss	see-BEC = 2sg = D1 = 1.POSS hat = D1
	Translation	<i>Look at my hat</i>

(Goodfellow 1991:97)

Here, the first distal pre-nominal visibility marker [=ga] appears in a clitic-string with the first person possessive pronoun [=ən] as an independent orthographic-word. [=ga] is the only visibility marker that can appear first in an independent clitic-string, and never appears alone as its own orthographic-word. Goodfellow's orthographic choices here reflect the phrase segmentation of Powell et.al. (1980) above.

The orthographic segmental inconsistencies observed in Goodfellow's work may be present because the speaker dictating the language, or Goodfellow herself, is writing the language as they hear it. This will be sometimes with a prosodic break before certain clitics, and sometimes not. This would then reflect the intuition of the authors as to the phonological dependency of these clitics (although more than orthographic evidence is needed before accurately proving this point). The inconsistency in writing a space before these clitics is likely not due to naïvety nor lack of proficiency by the speaker. More likely it is an intuitive and informed decision to obey the underlying prosodic signal that Kwak'wala shows on those morphemes.

4.2.3 Daisy Sewid-Smith

Daisy Sewid-Smith is a First Nations educator and historian, who received her education in the culture and history of her people from her father and her two grandmothers. She is the descendant of Nahxnaxwolla, third son of Caqqamey, of the Qwiqwasutitutw, of Gilford Island, British Columbia. She was born in 1938 in Alert Bay (Tsayis), and is one of nine children of the late Chief James Sewid. She is a member of the Mamaliliqala tribe of Village Island.

At the University of Victoria, Sewid-Smith was a member of the Advisory Council for the Centre for Studies in Religion and Society. Sewid-Smith was also the Department Head of First Nations Education by School District 72 (Campbell River), where she made many contributions to Kwak'wala through translations and interpretations of her special knowledge of the language, culture and history to others, including a language learning book for use in schools (BSCF 2015). She helped develop the *kʷaḱʷala Language Lessons* under the direction of the Native Studies Advisory Committee, Special Services Branch, School District No. 72, by members of the Native Studies Programme.

By looking at examples of her work in this language primer, her orthographic choices are made clear. Again I assume that these orthographic choices are not arbitrary, but a view into her understanding of Kwak'wala PWord structure and how that structure is best represented. In Example (36), the phrase [gamən gagəmp gada] *This is my grandfather* shows Sewid-

Smith's view of pre-nominal visibility markers and the definite article. In her transcription, she writes both the first distal visible marker [=ga] and the definite article [=da] together with the host root. This may indicate a belief that these clitics are phonologically subordinated, according to Sewid-Smith.

(36)	Sewid-Smith	gamən ǵagəmp gada
	IPA	gamən ǵagəmp gada
	Morpheme	ga-m̩ = ən ǵagəmp = ga = da
	Gloss	be.1-DISC = 1sg grandfather = D1 = DET
	Translation	<i>This is my grandfather</i>

(Smith 1984)

This is in contrast with the independence of such clitic-strings as [=ga = da] seen above in Goodfellow's writing. Another example of Sewid-Smith's choice to write Kwak'wala enclitics together with their host is seen in (37). Here, both the second distal visibility marker [=uχ^w] and the definite article [=da] are written together with their host preposition [laχ].

(37)	Sewid-Smith	ǵəp̩iλuχ ^w laχoχ ^w da λoʔsiχ
	IPA	ǵəp̩iduχ ^w laχuχ ^w da dʒoseʔχ
	Morpheme	ǵəp̩id = uχ ^w laχ = uχ ^w = da dʒos = eʔχ
	Gloss	climb = D2 PREP = D2 = DET tree = I2
	Translation	<i>He is going to climb that tree</i>

(Wilson & Henderson 1980:45)

Next, Example (38) shows that Sewid-Smith treats the temporal markers and visibility markers in the same way as most other scholars. Here, the future tense marker [=tʃ], the second distal visibility marker [=uχ^w] are both subordinated to their host [la] go. However, in this phrase Sewid-Smith gives special orthographic independence to the accusative case marker [=χa]. This is the same orthographic treatment that the case markers received by Goodfellow and the Umista publications.

(38)	Sewid-Smith	laʎuχ ^w hanʎəʔ ʂa məʎʎu
	IPA	latʰuχ ^w hantʰəʔ ɣa məʎχtʰu
	Morpheme	la = tʰ = uχ ^w hantʰəʔ = ɣa məʎχtʰu
	Gloss	go = FUT = D2 hunt = ACC goat
	Translation	<i>He's going to shoot at goats</i>

(Wilson & Henderson 1980:45)

Sewid-Smith differs from the other authors in this section by consistently subordinating the visibility markers and definite article to their hosts. She aligns with the other authors, however, in her treatment of the case markers, giving them orthographic independence. I assume that the orthographic choice to treat some elements independently and others as dependent on the preceding stem to be reflective of each author's understanding of the prosodic nature of PWords in Kwak'wala. Under this assumption, there may well be some definable prosodic trait distinguishing some enclitics from others in this language.

Conclusion

In this chapter I show that not every clitic has been written as an independent orthographic-word by scholars and authors throughout history. From the late 1880s to today, only the definite article [=da] and case markers [=ɣa] and [=sa] ever appear independently as their own orthographic-word in any transcription. The case markers, the deictic connective [=tʰ], and pre-nominal visibility marker [=ga] are often given independent orthographic-word status when appearing as the first of a clitic-string of a combined syllable pattern of CVCV. No other clitic is ever treated with this inconsistent segmentation, even if that clitic is also involved in the phonological/syntactic mismatch, as in the possessive pronoun clitics. This demands a closer look at the prosody of these particular clitics, and is explored in Chapter 5.

Chapter 5: The Clitic Continuum

In defining the PWord in Kwak'wala, special attention must be given to the prosody of the clitics. As Chapter 4 shows, some clitics are regularly written in an inconsistent manner; sometimes as belonging to the orthographic-word of their hosts, and sometimes as their own orthographic-word. The question of why this is the case is addressed in this chapter. To begin, a useful characterization for clitics is that they have the distribution of 'function-words' and the phonological properties of affixes, with the possible addition of unique distribution (Spencer & Luís 2012). In an effort to ascertain their place in regard to PWords, I explore in this chapter the prosody of clitics in Kwak'wala as cross-linguistic 'function-words', which I call *functors*. Functors are not always clitics in a given language, but often show clitic-like behaviour, and do so in Kwak'wala. Exploring functors, therefore, helps in the discussion of how Kwak'wala's clitics relate to phonological-words.

This chapter looks at four different view points on clitics and their prosodic status. The first view I present is very different than the others, and so I break this chapter into two sections to reflect this. In Section 5.1, I return to Zwicky's (1977) criteria outlined in Chapter 2. I explain each of Zwicky's six clitic tests, and provide Kwak'wala examples for each, showing how various clitics in Kwak'wala pass or prove exceptions to each test. Zwicky was primarily focused of diagnosing clitics as a linguistic element, and so discussion of their prosodic interface is naturally not a part of his discourse. I do feel that it is important to include his six tests here, as they shed important light on certain aspects of Kwak'wala's clitics. Specifically it comes to light that there are at least two clitic types in Kwak'wala: a default type which is closely integrated with its host, and another type which shows significant independence from its host. This is crucially shown through Kwak'wala stress patterns in Section 5.1.6.

The aim of Section 5.2 is to highlight some important traits of Kwak'wala that confuse (or enrich) the discussion of the PWord. First I outline some basic prosodic theory, and explain how wanderer clitics and clitic-strings do not easily fit into the prosodic hierarchy provided. I then provide some background on a few prominent prosodic theories, showing that in each there is an intuition that not all clitics behave the same way. There is either some exceptional clitic between the PWord and other clitics, or there are a number of different

clitics on some morphological continuum. The theories I present are the Strict Layer Hypothesis by Nespor and Vogel (1986), the unique behaviour of functors as provided by Zec (2005), the various attachment strategies of functors given by Selkirk (1995) and a general theory of clitics by Anderson (2005). These prosodic theories do not adequately handle both Kwak'wala's wanderer clitics and clitic-strings, whose members behave as integrated clitics when alone, but quite independent from their hosts when combined as a unit. A useful theory in helping to define the PWord in Kwak'wala would need to include both the systematic independence of the wanderer clitics, and the variable independence of clitic-strings according to their syllabic size.

5.1 Zwicky's Tests for Clitic-hood

As Chapter 2 briefly outlined, there are six parameters developed by Zwicky (1977) that determine a morpheme's status as either a clitic or an affix. Interestingly, a stated meta criterion of Zwicky's (1985:289) states that, "In the absence of clear evidence classifying an item one way or the other, we should assume that the item is a word or an affix." With this in mind, Section 5.1 is organized into six sub-parts, one for each of these six clitic tests: 5.1.1 morpheme ordering; 5.1.2 internal sandhi rules; 5.1.3 binding; 5.1.4 construction with affixes; 5.1.5 rule immunity; and finally 5.1.6 accent. Such tests are relevant for this study, as morphological class is crucial in defining PWord boundaries. Boas (1911, 1947), for instance, labels all morphemes following the root as suffixes, even though he states that some of these 'affixes' show distribution and roles in relation to roots that are markedly different from others. In this section, I will explore these six parameters a little more thoroughly, focusing on those wanderer clitics which I have shown to be of some intuitive ambiguity in scholarly and community literature in the previous chapter. These wanderer clitics are case markers [=χa, =sa] and definite article [=da].

Such clitic defining tests must be conducted thoroughly. Clitic systems often resemble affix systems, and clitics can appear to be at once very nearly affixes, and very different from other non-clitic functors. The morphological limbo of clitics has led a number of scholars to deal with clitics by labelling them 'morphological objects', and not necessarily subject to the normal principles of syntax (Spencer & Luís 2012:134). Yet some clitics can also resemble morphosyntactic-words as well. This is especially the case when clitics are defined as a non-

prominent 'word' which must combine phonologically with a more prominent host (Spencer & Luís 2014:100). Under this definition, a clitic is sometimes simply a phonologically deficient 'word', albeit with a different syntactic distribution. This paper focuses on finding the boundaries of phonological-words (on strictly phonological and prosodic levels), specifically the right PWord edge boundary, which commonly contains enclitics. I regard clitics primarily on phonological terms as well, with the caveat that attention to morphology and syntax is often necessary in studying clitics in any detail. Clear tests that define clitics both against affixes and against PWords using phonological, morphological, and syntactic traits are, therefore, vital in accurately investigating any language's clitic system.

5.1.1 Morpheme Ordering

Boas (1911, 1947) explores in great detail the semantic roles of all of Kwak'wala's 'affixes' and their relative distribution of attachment to the right of the root. An informative, if somewhat confusing, table of the ordering of all attaching morphemes (affixes and clitics) can be found in Boas (1947:235). For the purposes of this section, I only explore the relative ordering of suffixes against clitics, and those within the clitic system. I provide a version of this list below, having omitted the morphemes which I cannot retrieve in modern Kwak'wala, and having kept Boas' translations.

Table 11 – Boas' 'Affixes'³⁰

1. = (Personal pronouns) and -xdaxw	11. = ganəm probably
2. = xde transition from present to past	12. = xənt evidently
3. = xʔid near past	13. -ana perhaps
4. = oʔ remote past	14. -l heresay
5. = tʃ future	19. = ɬa really
6. -lax hypothetical	22. -əʔ surprise
7. -əṁ conjunctive (disc)	23. = ɬi really
8. = ʔ but	24. = kas real
10. = wis and so	26. -nax ^w a all/usually

(Boas 1911:234)

³⁰ Boas uses the '=' as a marker for a weakening suffix, whereas I mark all clitics with an '=', and affixes with an initial '-'.

As can be seen by my conjunctive symbols, I do not consider all of these morphemes to be of the same type: a ' - ' represents a suffix and ' = ' represents a clitic. Crucially, this list is not the morphological ordering that Boas argues for. He writes at length (1947:235) about the relative ordering of each of the morphemes listed above against the others, in a confusing web of conditional dominance. As stated in Chapter 2, Chung (2007:110)³¹ offers the following sequence, which is corroborated by Boas:

Case> Pre-Vis > Det > [ROOT] Temp> Post-Vis

Chung (2007:110) also provides the linear order of 'determiner' clitics relative to the noun, which omits the pronoun clitics. The phrase initial predicate (normally a verb or verbal-auxiliary) is assumed at the left edge of Table 2 below. The Case (case marker), Pre-Vis (pre-nominal visibility marker), and Det (definite article) appear to the left of the roots, despite prosodically attaching to a different root to their left. I show them here only in relation to their target of modification, not as morphological type (enclitic).

Table 12

			Root					
Case	Pre-Vis	Det	Noun	Temp	Post-Vis			
Case	Pre-Vis	Det	Adjective	Temp	Post-Vis	Noun		
Case	Pre-Vis	Det	Numeral	Temp	Post-Vis	Adjective	Noun	

This table is well attested in terms of clitic ordering. With the addition of the pronouns, the relative ordering of the clitics is as shown in Table 3 below. This table also shows the break between the direction of modification of these clitics, and provides Kwak’wala examples in the rows below. Each example is rich in attaching clitics, and I insert each of these clitics into their respective column to show the strict clitic ordering.

31 I replace Chung's notation for LOC with Pre-Vis (denoting pre-nominal visibility) and VIS with Post-Vis (post-nominal visibility).

Table 13

← Leftward Modification				Rightward Modification →				
ROOT + Suffixes	Tense	Post-nominal Visibility	Pronouns	Case	Possessive Pronouns	Definite Article	Pre-nominal Visibility	ROOT
(1) yeɬ			=əʔs		=ən			ʔump
(2) heg ^w ix	=xʔid						=i	bək ^w əs
(3) wəɬ		=a		=χ	=iʔs			ʔump
(4) ɬamgilatɬ					=ənuʔχ ^w			ʔəbəmp
ʔəbəmp	=wəɬ	=eʔ		=χa		=da		wəʔok ^w

Boas (1947:206) was first to point out that the noun is subordinated under the verb by means of clitics which coalesce phonetically with the preceding 'word', while they determine the function of the following 'word'. This mismatch is clearly seen in Table 3 above as the bar separating the pronouns column and the case column. The five examples above show this strict ordering in natural language data. Obviously, an example cannot exist which displays every one of the ordered clitics listed here, given that two determiners cannot exist for the same noun. Each example is explored further below.

- (1) Umista yeɬa'sən ump bo gaχən
 IPA jɛɬəʔsən ʔump bo gaχən
 Morpheme jɛɬ = əʔs = ən ʔump bo gaχən
 Gloss why = 2sg = 1.POSS father leave IND.1sg
 Translation *Why did (you) my father leave me?*

This example displays the ordering of attachment between the two pronouns. Here, [=əʔs] *he* (denoting *father*) is doing the [bo] *leaving*, and so precedes the first person possessive pronoun [=ən], which modifies the following root [ʔump] *father*. The next example shows the ordering between a temporal clitic and a pre-nominal visibility clitic.

(2)	Umista	He gwix'idi Bākwas
	IPA	he g ^w ixʔidi bək ^w əs
	Morpheme	he g ^w ix = xʔid = i bək ^w əs
	Gloss	be.3 happen = NEAR.PAST = D3 wildman
	Translation	<i>That's what happened to Wildman</i>

Here, the temporal clitic [=xʔid] NEAR.PAST modifies the preceding verb [g^wix] *happen*, and is followed by the pre-nominal visibility marker [=i]. The third person pronoun which would appear between the temporal and visibility markers is null, and implied. Chung (2007) is diligent in displaying this 'null morpheme', but without evidence that a syntactic slot is really being filled by some invisible morpheme, or some other good reason, I will leave it as the spoken language does: implied.

The next example shows the relative order of the case marker in relation to both a pronoun and visibility marker.

(3)	Umista	Wəṭṭa xi's ump
	IPA	wəṭṭa χiʔs ʔump
	Morpheme	wəṭṭ = a = χa ³² = iʔs ʔump
	Gloss	ask = D3 = ACC = 3.POSS father
	Translation	<i>He asked his father</i>

This example shows that the post-nominal visibility marker [=a] precedes the case marker [=χa] which is then followed by the third person possessive pronoun [=iʔs]. At first glance it might seem odd that a post-nominal visibility marker follows a verb, not a noun. This visibility marker is serving two roles in this context: first it coordinates the subject of a previous clause with this new one (Janzen 2014), and second, it details the visibility information on this subject, namely that he is distant from the speaker yet visible. In this light, it is following a nominal: either that of the previous clause, or following the null third-

32 The underlying form of the accusative marker [=χa] is controversial. I assume that the vowel [a] is present underlyingly, and deletes when a following enclitic attaches with an initial vowel. An analysis which states that only the [χ] is underlyingly present is also possible.

person pronoun. Note that the unmarked tense in Kwak'wala is present or very near past (given context), as seen in the translation.

The final example contains two phrases which display clitic strings between roots [ɖam] *jam* and [ʔəbəmp] *mother*, as well as between *mother* and [wəʔokʷ ʔixpəʔomas] *remaining fruit*.

(4) Umista	Dzamlatɬanuʔxw əbəmp wəleʔ x̩a da wəʔokʷ ʔixpəʔomas
IPA	ɖamlatɬənuʔχʷ ʔəbəmp wəleʔ χa da wəʔokʷ ʔixpəʔomas
Morpheme	ɖam-gila = ətɬ = ənuʔχʷ ʔəbəmp = wəʔ = eʔ = χa = da wəʔokʷ ʔixpəʔomas
Gloss	jam-make mother = past = I3 = ACC = DET rest fruit
	= SURP = 1.PL.EXCL.POSS

Translation *Our late mom made jam with the rest of the fruit*

In the first phrase, there is only one clitic separating the first two nouns: the possessive pronoun [= ənuʔχʷ]. The second clause displays a series of three clitics, beginning with the leftward modifying post-nominal third distal invisible marker [= eʔ], followed by two rightward modifying clitics in [= χa] accusative case, and the definite article [da]. In both cases there is also some interplay between suffixes and enclitics: [-gila-tɬ = ənuʔχʷ] *-make-SURP = 1PL.EXCL.POSS* in the first, and [-wəʔ = eʔ] *-late = I3* in the second. I explore the ordering between suffixes and clitics further in Section 5.1.4.

These examples show the strict ordering of some clitics in relation to each other. The clitics shown in Table 3 are not exhaustive. Some clitics, such as the connectives [= (w)is] and [= tɬ], as well as the augmentatives [= ɖi] and [= ka] and passive marker [= su] are not included. Each of these clitics appears after the root + suffix stem, and before the listed clitics. I will include them in the discussion in Section 5.1.4 on the affix-clitic interface.

5.1.2 Internal Sandhi rules

The second of the six criteria for distinguishing affixes and clitics is the relative effect of internal sandhi rules upon the root and its affixes, and the stem with its clitics. Basically, Zwicky argues that clitics are not involved in internal sandhi alternations, but that roots and

affixes are. Therefore, passing this test will mean that an element has no effect on the root (and be a potential clitic), and failing the test means that an element effects the root, and is more likely an affix. This is in contrast with Nespor and Vogel (1986:147) who state that an element is a clitic if, together with a word, it is affected by internal sandhi rules³³. I will assume Zwicky's approach, as it is better suited to evidence in Kwak'wala.

The effects of internal sandhi rules play a key role in distinguishing Kwak'wala's affixes from its clitics. Boas (1911:451-5) was first to notice that affixes in Kwak'wala belong to two distinct classes: word suffixes and stem suffixes. The word suffixes are further split into adverbial, adjectival, and miscellaneous types, and are assumed here to indeed be morphological suffixes. The stem suffixes are split into hardening, weakening, and indifferent types. Those first two types which have an effect on the root I consider to be true suffixes as well, as they trigger an internal sandhi rule. The indifferent type, however, pass Zwicky's sandhi test, and so are potential clitics.

The hardening suffixes serve to glottalize the final consonant of the preceding stem, by making ejected consonants of voiceless ones, and glottalizing resonants. Weakening (or softening) suffixes cause lenition of the final stem consonant, voicing voiceless consonants and making fricatives of voiced consonants (Greene 2013:18). This can be seen in Table 4:

Table 14	Theme	Hardened	Softened
Boas	ēp-	ēp!-īd	ē'b-ayu
IPA	ip-	ip̚-id	ib-aju
Um̓ista	ip-	ip̚-id	ib-ayu
Gloss	<i>pinch</i>	<i>begin to pinch</i>	<i>dice</i>
Boas	bEK ^u -	bEK!-u's	bEGw-ī's-
IPA	bək ^w -	bək̚-əs	bəg ^w -is
Um̓ista	bək ^w -	bək̚w-əs	bagw-is
Gloss	<i>man</i>	<i>man in woods</i>	<i>man on beach</i>

Adapted from (Green 2013:7)

33 This is likely because Nespor and Vogel here were looking at clitics as distinct from 'words', not as distinct from affixes as such.

This shows the internal Sandhi rule that some suffixes have on roots. Here [-id] and [-əs] are hardening suffixes, as they make the preceding consonant ejective. Alternately, [-aju] and [-is] are softening suffixes in that they voice underlyingly voiceless consonants which they follow. Following Zwicky's second distinguishing test, these morphemes would then be considered affixes.

The strength of this test is that a researcher can immediately tell if a morpheme is a suffix and not a clitic if it appears to trigger phonological change within the host stem. The reverse, however, is not true. A morpheme which does not trigger phonological change within the host stem is not *necessarily* a clitic. It could be an affix which simply has no effect on its host, and so more of Zwicky's tests would need to be considered.

I give some further examples in this section of affixes which trigger such phonological changes, and phonemically similar clitics which do not. The following example shows four different suffixes which show their relative effects on the phonology of the stem. The root here is [ik] *good*. One suffix [suk^w] has no phonological effect on the stem. Two suffixes serve to soften the [k] on the root: [-ak] into fricative [x] and another [alatʰs] into voiced [g]. The hardening suffix [-iq] serves to glottalize the root's consonant, which in this case causes that consonant to become an ejective.

Table 15	root	No Effect	Softening		Hardening
Umista	ik	iksukw	ix'ak	igalat'si	ikik <u>l</u> ala
IPA	ʔik	ʔiksuk ^w	ʔixʔak	ʔigalatʰsi	ʔikik <u>l</u> ala
Morpheme	ʔik	ʔik-suk ^w	ʔik-ak	ʔik-alatʰs = i	ʔik-iq-ala
Gloss	good	good-body	good-thing	good-thing = D3	good-feel-CONT
Translation	<i>good</i>	<i>good looking</i>	<i>like</i>	<i>goodness</i>	<i>feel good</i>

(First Voices 2015)

Table 5 shows the root [ʔik] *good* undergoing phonological alternations triggered by suffixes. Each of the softening and hardening suffixes alters the final consonant of the root. Note that the suffix [-suk^w] has 'no effect' on the root but is still glossed as a affix, not a clitic. Despite passing Zwicky's second test this, and other such affixes, are true instances of Boas'

'indifferent' suffix category.

The effects of suffixes on their host root can be seen in Table 6 as well. Here, the root [bək^w] *human* is alternately followed by the suffixes [-əm] *face*, [-əs] *person*, [-is] *at sea*, and [-əs] *in the forrest*. The first again has no effect on the root. The next two are softening suffixes: [-əs] triggering lenition of the [k] to [x], and [-is] triggering voicing of [k] to [g]. The final suffix in this example hardens the root, making the [k^w] appear as [k̥^w].

Table 16	root	No Effect	Softening		Hardening
Umista	bək ^w	bək ^w əm	bax ^w əs	bag ^w is	bək̥ ^w əs
IPA	bək ^w	bək ^w əm	bax ^w əs	bag ^w is	bək̥ ^w əs
Morpheme	bək ^w	bək ^w -əm	bək ^w -əs	bək ^w -is	bək̥ ^w -əs
Gloss	human	human-face	human-person	human-at.sea	human-at.forest
Translation	<i>human</i>	<i>straight faced</i>	<i>people</i>	<i>Wildman of the sea</i>	<i>Wildman of the woods</i>

(First Voices 2015)

The examples in both Tables 5 and 6 show that suffixes which trigger phonological changes in their host root cannot be considered as clitics, as they do not pass Zwicky's second test. Those morphemes which do pass, however, are not necessarily clitics, but may be suffixes of the 'indifferent' type. I assume that [-əm] *face* here is indeed an affix on the basis of its behaviour in the other tests.

Example (5) shows that clitics also do not trigger the phonological alternation in the host root. The third person possessive clitic [= iʔs] does not have any effect on the final consonant of the same host root as above.

- (5) Umista Walas iki's watermelonxtla
 IPA ʷalas ʔikiʔs watermelonxtla
 Morpheme ʷalas ʔik = iʔs watermelon-xtla
 Gloss big good = 3.POSS Watermelon-name
 Translation *Oh his was good, what is called watermelon*

As similar (though not identical) morphemes, the relative effects of [=iʔs] 3sg and [-is] *at sea* show that suffixes but not clitics undergo phonological alternations with their hosts. These examples also show that one test alone is not enough to determine clitics from affixes, as some suffixes and clitics can behave like each other in some regards.

5.1.3 Binding

Different behaviour between affixes and clitics can be observed through syntactic coordination. This is the essence of Zwicky's third test. A clitic will always remain in the same syntactic position, even when its host root is moved elsewhere, along with any affixes. This is evident in Kwak'wala's second position clitics (Anderson 1993), which remain in second position after a phrase initial verbal element, regardless of the content of that element or any other syntactic alternation. I should also note that second position can have a phrasal definition as well as word-level one. That is, an element can be considered second position by following a phrase initial unit, or following the rightmost boundary of that phrase.

Anderson (1984) states that enclitics are indeed identified on the basis of their mobility. As second-position clitics, some of Kwak'wala's clitics directly follow the first prosodic-word, and so occur either after a pre-predicative auxiliary (if there is one), or after the main predicate (if there is no auxiliary). In contrast to enclitics, suffixes are not mobile, and always attach to the main predicate (Greene 2013:5) which they modify.

Examples (6) and (7) show the behaviour of affixes and clitics in Kwak'wala. In (6), I show two sequences of suffixes and enclitics: both following the phrase initial and phrase final roots. The first is the discourse marker followed by the conjunctive [=is] *and*. The second is of more interest. Here the suffix [-xʔida] *BEC* is attached to the verb [ʔaxʷala] *love* which it modifies, followed by the second distal visibility clitic [=χ] which acts as a pronoun for the direct object *her*. I put both suffix and clitic in bold.

- (6) Umista Ḻamis G̱waw̱ina ɬax̱walax'idax
 IPA ləm̩is ɡ̱˥waw̱ina ɬax̱˥walaxʔidaχ
 Morpheme lə-m̩ = is ɡ̱˥waw̱ina ɬax̱˥wala-xʔida = χ
 Gloss AUX-DISC = and raven love-BEC = D2
 Translation *Then Raven fell in love with her*

In (7), a suffix [-xʔida] remains attached to the verb [ɬax̱˥wala] *love* as they are now placed as second in phrase order. The visibility clitic [=χ] is now attached to the subject noun [ɡ̱˥waw̱ina] *raven* which appears phrase finally.

- (7) Umista Ḻamis ɬax̱walax'ida G̱waw̱inaχ
 IPA ləm̩is ɬax̱˥walaxʔida ɡ̱˥waw̱inaχ
 Morpheme lə-m̩ = is ɬax̱˥wala-xʔida ɡ̱˥waw̱ina = χ
 Gloss AUX-DISC = and love-BEC raven = D2
 Translation *Then Raven fell in love with her*

(Janzen 2014:appendix)

Note that the placement of the second distal (=D2) visibility clitic does not change along with the repositioning of the subject between these two examples, but remains phrase finally. The suffix, however, remains attached to the predicate regardless of the syntactic order. The visibility marker [=χ] is a clitic, and the change morpheme [-xʔida] *BEC* is a suffix, according to Zwicky's third test.

5.1.4 Construction with affixes

In Kwak'wala it is quite common to observe a long string of morphemes attached to the right edge of a root due to exhaustive suffixing and encliticizing. Many of these morphemes will have the ordering listed in 5.1.1 above, but there also exists a crucial division between morphological types: affixes may not attach to clitics, but clitics may attach to both affixes and other clitics. This is easily seen in Example (8), where two suffixes [-lax] *uncertain* and [-xda?χ˥w] *PL* precede the third distal (=D3) visibility clitic [=i].

(8)	Umista	nəkəɫaxda'xwi	* nəkəɫaxida'xw
	IPA	nəqəɫaxdaʔχ ^w i	nəqəɫaxidaʔχ ^w
	Morpheme	nəqe-lax-xdaʔχ ^w =i	nəqe-lax=i-xdaʔχ ^w
	Gloss	lunch.time-uncertain-3PL=D3	lunch.time-uncertain=D3-3PL
	Translation	<i>About lunch time I think</i>	[sic]

This example illustrates that affixes and clitics can be distinguished through the fact that clitics may attach to roots, affixes, and other clitics, but affixes may only attach to roots and other affixes. That is to say, if a morpheme attaches to the right edge of a clitic, it must also be a clitic.

The interplay between roots, suffixes, and enclitics can be further seen in Example (9). This example shows two instances of affixes interacting with clitics. The first is on the phrase initial root [lə], the second on the predicate [ʔiqa] *fall*. The auxiliary [lə] is followed by a discourse marker suffix [-m̃], which serves to refer the listener to a previous context, actor, or event. The stem [ləm̃] is then followed by [=is] *and* which together serve to move the event line of the discourse along. This is a very common construction in Kwak'wala discourse (see Janzen 2015).

(9)	Umista	Ləm̃is ʔit̃ikam̃as xa wəʔokw liləgu
	IPA	ləm̃is ʔit̃iqãmas χa wəʔók ^w liləgú
	Morpheme	lə-m̃=ís Ci-ʔiqa-m̃as =χa wəʔók ^w li-ləgú
	Gloss	AUX-DISC=and PL-fall-CAUS =ACC remaining PL-strawberry
	Translation	<i>Then she dropped the other strawberries</i>

Crucially here, the suffix precedes the clitic. This morphological ordering is also seen in [ʔit̃iqa] *fall*, where the reduplicated root is followed by the causative suffix [-m̃as]. This is then followed by the accusative case marker [=χa]. Here again the suffix precedes the clitic. Changing the relative order of the morphemes would result in an ungrammatical utterance:

(10)	Umista	*l _ə is _{m̃}	*t̃it̃ikaxamasa
	IPA	*ləis _{m̃}	*t̃it̃iqaχamasa
	Morpheme	lə = is-m̃	t̃i-t̃iqa = χa-m̃as = a
	Gloss	AUX = and-DISC	PL-fall = ACC-CAUS = D3

This shows that clitics can be distinguished from affixes by their crucial ordering: affixes must precede clitics.

As mentioned in Section 5.1.1, I give some attention to clitics not included in that section's critical clitic ordering table. The evidential [= t̃] *but*, connectives [= (w)is] and [= t̃(a)], as well as the augmentatives [= d̃zi] and [= ka] and passive marker [= su] are left out of the table. Each of these clitics appear after the root + suffix stem, and before the clitics listed in the table. The following examples show the ordering of these remaining clitics against suffixes and other enclitics.

In Example (11), the connective [= is] appears first in a string of three following clitics, the first of which is [= t̃] *but*. This is attached to the verbal auxiliary stem [lə-m̃]. The host stem is phrase initial in this example.

(11)	Umista	Ləmisti da k̃ogiga gənanəm kawayu nukw
	IPA	ləmisti da q̃ogiga gənanəm kawayu nuk ^w
	Morpheme	lə-m̃ = is = t̃ = i = da q̃ogiga gənanəm kawayu nuk ^w
	Gloss	AUX-DISC = and = but = D3 = DET hunchback child knife have
	Translation	<i>But the hunchbacked child had a knife</i>

This example shows that [= t̃] must be a clitic since it is preceded by [= is], also a clitic. The same can be seen in Example (12), where the connective [= t̃(a)] is preceded by the established pronoun clitic [= ən], and is followed by the third distal visibility marker [= χ]. Its placement after the pronoun clitic provides evidence that [= t̃(a)] is also an enclitic, according to Zwicky's fourth test.

(12)	Umista	Ax'exsdan tɬax dzusa
	IPA	ʔəχʔeχsdən tɬaχ ɖusa
	Morpheme	ʔəχ-ʔeχsd = ən = tɬa = χ ɖusa
	Gloss	AUX-want = 1sg = CONN = D3 juice
	Translation	<i>I want juice</i>

(Powell et.al. 1980:12)

Here, the root [əχ-ʔeχsd] is followed by a series of three clitics: first person pronoun [=ən], connective [=tɬ], and visibility marker [=χ]. All three are clitics according to Zwicky's tests so far. Notably, Powell et. al. segment this Kwak'wala phrase into three orthographic-words, which separate the pronoun from the other two clitics. These two, the connective [=tɬ(a)] and visibility marker [=χ] together form their own orthographic-word as a clitic-string.

The two adjacent clitics found in Example (13) also form a clitic-string. These are the augmentatives [=ɖi] and [=kas], which follow the root [ixpəʔomas] *fruit*.

(13)	Umista	La'ala laxa da ax'asu's xpa'omas dzikas
	IPA	laʔəla laxa da ʔəχʔasuʔs ʔixpəʔomas ɖikas
	Morpheme	la-əla laxa = da ʔəχʔas = uʔs ʔixpəʔomas = ɖi = kas
	Gloss	go-CONT PREP = DET place = 3sg fruit = GRN = QNT
	Translation	<i>Going to the place where there's lots of fruit</i>

I have segmented these augmentative clitics into their own orthographic-word in this example. The motivations for this are explained in the subsequent sections in this chapter, and in Chapter 6.

Example (14) shows the relative morpheme ordering of the passive enclitic [=su] against suffixes and other enclitics. The host root is [ɖam] *jam* which forms a stem with the suffix [-gila] *make*. Next come a series of clitics, beginning with the passive [=su], followed by the third person pronoun [=aʔs], and the first person possessive pronoun [=ən].

(14)	Umista	Ka ugwa _{ka} dzamgilasua's _{an} ab _{amp} w _{ale}			
	IPA	qa ʔug ^w aqa dʒamgilasuʊʔsən ʔəbəmp wəleʔ			
	Morpheme	qa	ʔug ^w aqa	dʒam-gila = su = uʔs = ən	ʔəbəmp = wəle = eʔ
	Gloss	COMP	also	jam-make = PASS = 3sg = 1.POSS	mother = past = 13
	Translation	<i>Lots of jam was also made by my mom</i>			

Here the passive suffix is first of the clitics to attach to the host stem. With the exception of the adversative conjunction [= ɪ] and the connective [= tɪ], each of these clitics appear first in a series of other clitics, attaching to the host stem. As clitics, this constitutes evidence for any clitic which follows [= is], [= dʒi], [= kas], and [= su] to also be clitics, but it is not evidence for these listed morphemes as clitics themselves. However, evidence from Zwicky's previous tests suggests that they are indeed enclitics, as the remaining two of Zwicky's tests also show.

5.1.5 Rule immunity

This diagnostic explains that only clitics, and not affixes, can be deleted from its host without changing the meaning or grammaticality of that host. Although this may not be entirely accurate for all languages, deleting a Kwak'wala suffix will always change that root's meaning. This is clearly seen in Examples (15) to (17). Here the stem [wətɪ-əla] *to hear* is accompanied by the first person singular pronoun clitic [= ən].

(15)	Umista	watɪ _{alan}
	IPA	wətɪələn
	Morpheme	wətɪ-əla = ən
	Gloss	hear-CONT = 1sg
	Translation	<i>I hear</i>

Removing the pronoun clitic in Example (16), does not change the meaning of the stem, which remains *to hear*.

(16)	Umista	wat̪l̪ala
	IPA	wət̪ləla
	Morpheme	wət̪l̪-əla
	Gloss	hear-CONT
	Translation	<i>to hear</i>

Removing the continual suffix [-əla] from the root will, however, change the meaning of that root, as seen in Example (17).

(17)	Umista	wat̪l̪an
	IPA	wət̪lən
	Morpheme	wət̪l̪ = ən
	Gloss	ask = 1
	Translation	<i>I ask</i>

Now, instead of this root meaning *I hear*, it now means *I ask*, because of the omission of the suffix. Note also that the final vowel of the suffix [-əla] is contracted with the initial vowel of the attaching enclitic [=ən]. This is evidence of both morphemes being involved within the PWord of the root, as explained in Section 6.2 below.

Additionally, a previously established subject can be implied through a visibility marker in Kwak'wala (Anderson 1985, Janzen 2015). Example (18) is taken from a traditional Kwak'wala story featuring Bāk̪wās (the Wildman of the Woods), and shows the rule immunity of clitics. Here, the third distal invisible marker [=eʔ] *ɪ3*, attached to the phrase initial complementizer [qa], refers to [gawaq̪anəm] *clams*, [d̪oli] *cockles*, and other things that are dug for on the beach. The other (in)visibility marker [=eʔ] on the phrase final root [həm̪] refers to the same food items again, this time in the context of eating, as opposed to gathering.

(18)	Umista	K̲a'e' da gawaq̲anəm dzoli d̲ɔwi da naxwa dzikas̲u laxa t̲ɛm̲a'is k̲a's h̲əm̲e'						
	IPA	qəʔeʔ da gawaq̲anəm d̲ɔli d̲ʒəw̲i da nax ^w a d̲zikasu laxa t̲ɛm̲aʔis qaʔs h̲əm̲eʔ						
	Morpheme	qəʔeʔ	= da	gawaq̲anəm	d̲ɔli	d̲ʒəw̲ = i	= da	nax ^w a
	Gloss	COMP = I3	= DET	clam	cockles	and = D3	= DET	all
	→	Morpheme	d̲zika = su	laxa	t̲ɛm̲aʔis	q = aʔs	h̲əm̲ = eʔ	
	→	Gloss	dig = PASS	PREP	beach	COMP = 3sg	eat = I3	
	Translation	<i>The clams cockles and all the things that are dug from the beach that's what he ate</i>						

In Example (19), the visibility marker [=eʔ] coordinates all of the food items, which can then be left implied.

(19)	Umista	K̲a'e da k̲a's h̲əm̲e'				
	IPA	qəʔeʔ da qaʔs h̲əm̲eʔ				
	Morpheme	qə = eʔ	= da	qə = aʔs	h̲əm̲ = eʔ	
	Gloss	COMP = I3	= DET	COMP = 3.POSS	food = I3	
	Translation	<i>That's what he ate</i>				

This shows that the visibility markers pass Zwicky's fifth test, as they are independent from their hosts. They can coordinate entire nominal-phrases, and can also be deleted without changing the meaning of their host.

5.1.6 Accent

The sixth and final test outlined by Zwicky (1977) has to do with the stress domain of a morphological constituent. In some cases, abnormal behaviour with respect to stress is one of the most salient tests in defining a clitic (Spencer & Luís 2014:105). This test states that clitics cannot host PWord stress, but that affixes can. Zwicky uses both Spanish and Turkish clitics to show that clitics do not have any influence on the word stress of their host. According to this test, this is enough evidence to consider clitics as non-word and non-suffix elements, which exist outside of the PWord domain. This diagnostic does not actually hold true for all languages including Greek and Latin (Nespor & Vogel 1986:515) and Kwak'wala.

As mentioned above, Nespor and Vogel (1986:147) state that an element is sometimes counted as part of the phonological-word for the purposes of stress assignment, and *therefore* must be considered a clitic. Following Anderson (2005:19) this test should be reworded to state that clitics display their dependent status on their hosts by not initiating *new* stress domains, but participating in the stress system already built within the stem. However, in Kwak’wala, some clitics do not participate in the stress system, while others do. This strongly suggests that there is a fundamental difference between two general clitic types in Kwak’wala.

For example, Kwak’wala allows enclitics to house PWord stress when they happen to offer the optimal stress bearing syllable within that constituent. As described in Chapter 2, stress in Kwak’wala appears on the first full vowel (or non-glottal syllabic resonant) of the PWord, where the relevant notion of PWord here includes a host and any following morphology (affixes and clitics). The examples found in Chapter 2, Section 2.4.2 above show this, which I provide here again as Examples (20)a and (20)b, this time with juxtaposing examples without the enclitics attached.

(20)	Umista	a	bakwə́lə́lən	b	bakwə́lə́lə
	IPA		bə.ḳʷə.ɬə.lən		bə.ḳʷə.ɬə.lə
	Morpheme		bəḳʷəɬ-əla = ən		bəḳʷəɬ-əla
	Gloss		sleepy-CONT = 1sg		sleepy-CONT
	Translation		<i>I am sleepy</i>		<i>sleepy</i>

This example shows that the root [bə.ḳʷə.ɬə] contains no moraic vowels on its own, and therefore assigns stress to its attaching morphology. In (20)a, the continuative suffix [-əl(a)] is followed by the first person pronoun [=ən]. The pronoun is moraic because the schwa and nasal coda combine to be so. This is then the left-most moraic candidate to hold stress (even though this syllable appears at the right-edge of the constituent). When the enclitic is removed as in (20)b, the stress falls to the [ə] vowel of the continuative suffix, which is also moraic. This vowel is absent when an attaching morpheme is vowel initial, as in the first case with [=ən]. Presumably, stress would fall on the final schwa vowel if this root was uttered

without additional morphology.

However, the Examples in (21) show that PWord stress does not obviously appear if no moraic candidate is provided.

(21)	Umista	<u>k</u> anú'xw	<u>k</u> a
	IPA	qənúʔχ ^w	qə
	Morpheme	qə = ənuʔχ ^w	qə
	Gloss	COMP = 1PL.EXCL	COMP
	Translation	<i>for us</i>	<i>for</i>

Here, the first person plural exclusive pronoun [=ənuʔχ^w] holds stress for the root [qə]. Lincoln and Rath (1980:350) list this root as meaning “For, for the benefit of, for the sake of, about, pertaining to, because, etc.” I gloss this root *COMP* for complementizer. When this root appears alone, there is no clear iteration of stress as there is when more syllables are added. For this reason I do not add an acute accent on the lone [qə] in the above example.

PWord stress can, however, be observed in some manufactured contexts where the root is focused. Selkirk (1995:14) observes that when focused, even functors like the above root [qə] and [dʒəw̃] in Example (22) appear in strong form with their own easily observable PWord stress. However, this stress is clearly seen only when there is adjoining morphology, not when the root is bare.

(22)	Umista	dʒəw̃án'se'	dʒəw̃
	IPA	dʒəw̃ánʔseʔ	dʒəw̃
	Morpheme	dʒəw̃ = ənʔs = eʔ	dʒəw̃
	Gloss	CONJ = 1PL.INCL = I3	CONJ
	Translation	<i>with us</i>	<i>and/with</i>

Here, the first person inclusive pronoun [=ənʔs] is the best candidate to hold PWord stress because the schwa and nasal coda combination is moraic. The second instance [dʒəw̃] is less

clear in terms of stress.

Likewise, the preposition [laχ(a)] does not have overt PWord stress when uttered alone, but does show PWord stress when an enclitic is added. In Example (23), the preposition [laχ] only shows stress when the first person plural exclusive clitic [=ənuʔχ^w] is added. That PWord stress appears on the [a] in the stem [laχ], as it is the leftmost stress-bearing candidate.

(23)	Umista	laχ	láχanu'χ ^w
	IPA	laχ	láχənuʔχ ^w
	Morpheme	laχ	laχ = ənuʔχ ^w
	Gloss	PREP	PREP = 1PL.EXCL
	Translation	to	to our

These examples show that the PWord stress of the roots can be placed on enclitics when they attach lexically to the root, and the enclitic provides the best or only available stress-bearing syllable. Other clitics which I have observed holding PWord stress are [=is] *and*, augmentatives [=dzi, =kas], the passive [=su], and the temporal marker [=xʔid]. Crucially, these clitics only hold stress when they are the best candidate to do so, and only when they attach lexically to the host PWord (see Section 5.3.2 below).

However, I have also observed that some clitics (and clitic-strings) resist housing their host's stress, even when it would seem that they would be the optimal candidate to do so. Example (24) uses the root [mədzək^w] *raspberry*, which has no moraic vowels and so shows stress on the rightmost syllable by default. When an affix is added, as in [mədzək^wgílatən] *I will make raspberry (jam)*, the stress is held on the leftmost full vowel of the PWord which appears in the suffix [-gila] *make*. Similarly, when a visibility marker [=uχ^w] *D2* or pronoun [=uʔs] *2sg* are added to the same root, they will host the PWord stress as well.

(24)	Umista	m̥dzákw m̥dzákwgílat̪ən	m̥dzákwúxw m̥dzákwṁú's
	IPA	m̥dzək ^w m̥dzək ^w gílat̪ən	m̥dzək ^w úχ ^w m̥dzək ^w ṁú's
	Morpheme	m̥dzək ^w m̥dzək ^w -gíla = t̪ = ən	m̥dzək ^w = uχ ^w m̥dzək ^w -ṁ = u's
	Gloss	raspberry raspberry-make = FUT = 1sg	raspberry = D2 raspberry-QU = 2sg
	Translation	<i>raspberry I will make raspberry (jam)</i>	<i>raspberry Are you a raspberry?</i>

However, Examples (25) and (26) show that other clitics in the same position resist housing the same host's PWord stress. In Example (25) the oblique case marker [=sa] would be the optimal candidate for housing stress, yet stress remains on the default rightmost schwa vowel of the root.

(25)	Umista	Yú'ám̥ m̥dzákw sa bəgwánəm
	IPA	júʔəm̥ m̥dzək ^w sa bəg ^w ánəm
	Morpheme	ju-əm̥ m̥dzək ^w =sa bəg ^w anəm
	Gloss	be.2-DISC raspberry =OBL man
	Translation	<i>These are the man's raspberries</i>

Similarly, the clitic [=ganəm] *probably*, does not hold its host's stress, even though it has a moraic vowel which could. Instead the PWord stress of [m̥dzək^w] *raspberry* remains in its default rightmost syllable, as though a following clitic were not present.

(26)	Umista	Yúm̥ən m̥dzákw ganəma'x
	IPA	júm̥ən m̥dzək ^w ganəmaʔχ
	Morpheme	ju-ṁ = ən m̥dzək ^w ganəm = aʔχ
	Gloss	be.2-DISC = 1.POSS raspberry probably = I2
	Translation	<i>These are probably my raspberries</i>

Note that in Example (26), the morpheme [ganəm] is indeed a clitic, because it is followed by the second distal post-nominal visibility marker [=aʔχ], which modifies the root it attaches to. [ganəm] is therefore certainly within the morphosyntactic-word of its host.

Other clitics which refuse to hold PWord stress (in environments where it is predicted they should) are the accusative marker [=χa], the definite article [=da] (the wanderer clitics) and well formed series of clitics which make up two syllables, which I call clitic-strings. These examples suggest that there are two types of clitics in Kwak'wala: those which are closely integrated with their hosts, and those which are more independent from them.

Summary

This section attempts to explore the behaviour of clitics in Kwak'wala as they relate to the PWord. I reiterate the more important findings of this subsection here. This section showed that not all clitics are alike in Kwak'wala. Section 5.1.1 showed that there is strict ordering between two classes of clitics: leftward and rightward modifying. As I show in subsequent sections, these two clitic classes behave differently in their phonological integration with their hosts. The leftward modifying clitics are more phonologically and prosodically attached, while the rightward modifying clitics (wanderer clitics) are more phonologically and prosodically independent from their hosts.

Section 5.1.2 showed that hardening and weakening suffixes trigger phonological alternations with their hosts. This diagnostic singles out all those morphemes which trigger such alternations as affixes, leaving those morphemes without effect on their hosts, including clitics, as yet morphologically indeterminate. Section 5.1.5 simply showed that affixes cannot attach to clitics, but clitics may attach to both affixes and other clitics.

Section 5.1.5 showed that clitics can be removed from their host without changing the meaning of that stem. Affixes, on the other hand, will change their hosts meaning when added or removed from it. In Kwak'wala, this expresses a crucial difference between affix and clitic functors. As mentioned, some clitics can appear very like affixes in a phonological and syntactic fashion. Specifically the post-nominal visibility markers are very affix-like in that they are closely attached to their host phonologically, and syntactically. Post-nominal visibility markers modify the stem they attach to, and so will move with their host in the sort of syntactic coordination tests shown in 5.1.3. They are usually a single phoneme, and as such are syllabically integrated with their host. For all this similarity to affixes, the post-nominal visibility markers are in fact clitics, because they can stand for entire phrases, in a

pronominal sense, but affixes cannot. This is shown in Example (18) above.

Section 5.1.6 showed that there is a marked difference between certain types of clitics in terms of PWord stress placement. Many clitics will hold the PWord stress of their host if they contain the best moraic material to do so. There are, however, some clitics in the same environment which contain the best moraic stress bearing candidate, yet do not appear with their host's PWord stress. These exceptional clitics are the wanderer clitics: case markers [=χa, =sa], definite article [=da], as well as clitic-strings. This strongly suggests that these wanderer clitics make up a separate class of clitic, as they relate to the definition of the phonological-word in Kwak'wala.

5.2 Issues in Kwak'wala Prosody

In this section I attempt only an initial prosodic analysis of Kwak'wala. I use only my own assumptions on the segmentation of the phrase into PWords based on the prosodic hierarchy from syllables into PWords, taking into account the domain and interplay of stress from the stem with the following clitics. I give more prosodic evidence through speaker-judged tests in Chapter 6 to support the implicit claims I make in this section.

This section also provides some background on a few prominent prosodic theories and shows how each attempts to grapple with the prosodic variability of clitics. There appears to be an intuition among the cited scholars that there is some intermediate level of clitic, or that there are a number of different clitics on some morphological continuum. This appears to be the case in Kwak'wala, as Section 5.1 above has shown. The prosodic theories presented here do not, however, simultaneously handle Kwak'wala's wanderer clitics and clitic-strings. A useful theory in helping to define the PWord in Kwak'wala would explain those problematic elements of Kwak'wala highlighted in Chapter 4, namely the wanderer clitics and clitic-strings, and apply them in relation to the PWord.

The theories I present are authored by Nespor and Vogel (1986), Zec (2005), Selkirk (1995) and Anderson (2005). Specifically, I present each prosodic theory only at the relevant levels for the purposes of this study, along with some discussion on important points as they relate to the definition of the PWord in Kwak'wala. I complete the chapter with a short exploration

into how a prosodic model would fall out in regards to wanderer clitics and clitic-strings if the domain of stress was not the PWord, but the PPhrase.

5.2.1 Basic Prosodic Theory

At the most basic level of the prosodic hierarchy are syllables (σ), which are further organized into feet (Ft), feet into phonological (or prosodic) words (PWd), PWords into phonological phrases (PPh), phonological phrases into intonational phrases (IP), and intonational phrases into a whole utterance (Utt). Implicit in these theories is the assumption that the prosodic organization they impose is an exhaustive one where anything uttered in a string of speech finds a place in this hierarchy (Anderson 2005:39). Table 7 shows graphically the prosodic hierarchy presented by both Nespor and Vogel, as well as Selkirk. I also give the corresponding symbols of each prosodic level as used by the respective author.

Table 17	Prosodic Domains (Nespor & Vogel 1986:16)	Prosodic Hierarchy (Selkirk 1995:5)
	phonological utterance U	Utt Utterance
	intonational phrase I	IP Intonational Phrase
	phonological phrase ϕ	PPh Phonological Phrase
	clitic group C	
	phonological word ω	PWd Prosodic Word
	foot Σ	Ft Foot
	syllable σ	σ Syllable

Note that Selkirk's prosodic hierarchy omits the 'clitic group' from Nespor and Vogel's prosodic domains, and is also argued against by Anderson (2005:13). I follow Selkirk's prosodic hierarchy, with her notations, only using those levels of the prosodic hierarchy needed to account for my data. Since my purpose in this study is to define the phonological/prosodic-word (PWord), I devote most attention to this level. To understand the PWord constituent, however, I briefly outline its proposed components below it: the foot and the syllable.

The syllable unit is not controversial. When parsing a string of speech into syllables, a consonant will be considered an onset over a coda. This is called the Maximal Onset Principle (Selkirk 1981). Kwak'wala only allows one onset per syllable (no onset clusters), and always begins a syllable with an onset consonant. Therefore a sequence CVCCVCV would be parsed into syllables as such: CVC.CV.CV. Any prosodic analysis of Kwak'wala will necessarily require the most basic level of prosodic-syllable. Less so obviously necessary are the levels of clitic-group and foot.

In support of the clitic-group level, Nespor and Vogel (1986) argue that specific combinations of a PWord and clitic trigger certain phonological alternations that do not apply in any other context in a given language. This distinguishes it from PWords above it, and feet below. However, Nespor and Vogel build their argumentation only upon the bases of two segmental rules of English and certain constraints on the metrical patterns of several poems. Cross-linguistic motivation, especially outside the Germanic or Romantic language families where clitic behaviour is very different than in languages like Kwak'wala, is conspicuously absent.

5.2.2 Issues with the Prosodic-word

With this brief background in basic prosodic theory stated, I now move on to describing some of the more interesting troubles in clearly defining PWords in Kwak'wala. At this stage I provide all data with transcriptions that award independence to those units of Kwak'wala which were inconsistently treated in Chapter 4. Specifically, the wanderer clitics and clitic-strings are sometimes transcribed as subordinated or independent, often by the same author. I show in Section 5.3 that they also do not conform neatly into prosodic theories which might otherwise be very useful in determining those PWord boundaries. Given this, the wanderer clitics and clitic-strings will be transcribed with white space on either side, which signals some prosodic independence dealt with more directly in Chapter 6. For now, I provide some natural Kwak'wala data to explain how the wanderer clitics and clitic-strings make the definition of the PWord interesting.

5.2.3 Wanderer Clitics

The wanderer clitics do not fit easily into the prosodic hierarchy in Table 7 above by not fitting well into either the prosodic foot or PWord levels. Example (27) shows that the use of prosodic feet complicates the analysis of Kwak'wala PWords. Here, I give a breakdown of a natural Kwak'wala intonation-phrase (IPhase) using feet as well as syllables and PWords. First I give the phrase transcribed in the IPA, then the prosodic breakdown into PWords, feet and syllables. Below these rows are the morpheme breakdown, translation into English, and prosodic structure. Note that the morphological breakdown and the syllabic breakdown are not aligned.

(27)	IPA	ləmísənu?χ ^w dúx ^w e? χa gúk ^w							
	Pwd	ləmísənu?χ ^w				dúx ^w e?	χa	gúk ^w	
	Ft	ləmí		sənu?χ ^w		dúx ^w e?	?	gúk ^w	
	σ	lə	mí	sə	nu?χ ^w	dú	x ^w e?	χa	gúk ^w
	Morpheme	lə-ṃ = is = ənu?χ ^w				dux ^w = e?	= χa	guk ^w	
	Gloss	AUX-DISC = and = 1PL.EXCL				see = I3	= ACC	house	
	Translation	<i>We saw the house</i>							
	Prosody	((ləmísənu?χ ^w) _{Pwd} (dúx ^w e?) _{Pwd} χa ₂ (gúk ^w) _{Pwd}) _{IPh}							

This example shows a few things about the prosodic difference between wanderer clitics like [=χa] and regular clitics if the level of prosodic foot is assumed. First, see that the leftward modifying first person exclusive pronoun clitic [=ənu?χ^w] is not segmented syllabically by itself, but shares syllabic make-up with the previous clitic [=is] *and*, which in turn is syllabically divided with the discourse marker [-ṃ]. Together they form an onset-rhyme structure as such [ṃi.sə.nu?χ^w], which does not align with their morphological divisions. They do, however, form two feet within the initial PWord, along with the auxiliary root [lə]: ((lə.mí)_{ft}(sə.nu?χ^w)_{ft})_{Pwd}.

However, if metrical feet are used in Kwak'wala, one would expect secondary stress on the

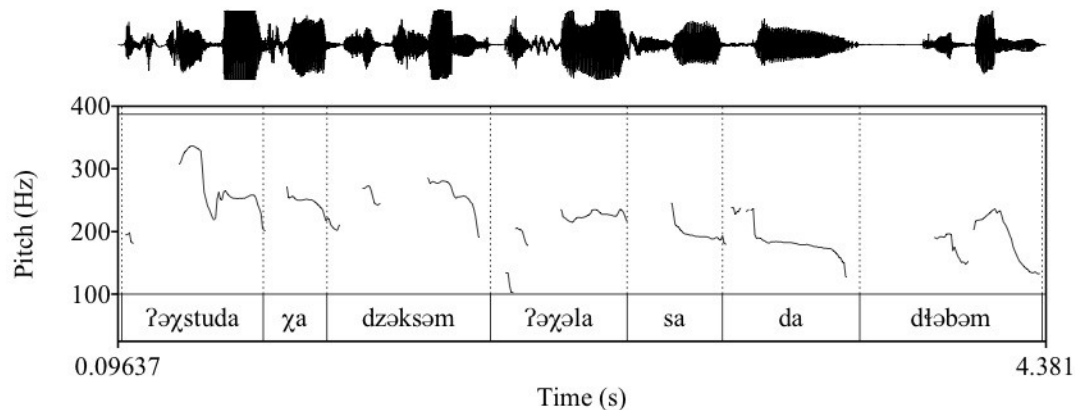
second syllable [nuʔχ^w] of the second foot. The foot structure in (27) assumes an iambic foot pattern, where the second syllable in a foot is stressed. This is, however, confused by the second PWord in this example: [dúx^weʔ]. Here stress falls on the first syllable of the foot, not the second. As I explain in Section 2.4 above, stress in Kwak'wala is placed on the leftmost stress bearing vowel (or final syllable when none are stress bearing). This means that the number or position of syllables within a PWord does not factor into where stress is placed.

Furthermore, the accusative case marker [=χa] does not form an obvious foot with any surrounding morphology. This is for two reasons: one, it has the CV structure to form its own syllable, therefore not being dependent on a previous morpheme for an onset (as in the case of [=ənuʔχ^w]), and two, it is an enclitic which cannot phonologically attach to the following PWord, but cannot be involved in the previous foot which already contains the maximum two syllable foot limit. This leaves the accusative marker stranded as either its own foot, or as an extrametrical syllable without a foot to attach to. Without including the intervening prosodic foot level, the syllables would attach directly to the PWord. Since the PWord already allows for n-ary branching, this does not pose a problem. Without prosodic feet being extended onto the enclitics, secondary stress on these clitics would not be assumed to exist either. This better reflects the reality of modern Kwak'wala. Issues surrounding such wanderer clitics as the accusative [=χa] are also dissolved, as they attach as syllables to their host PWord as every other syllable does. This is further exemplified in Example (28), where the clitic series [=sa=da] does not form its own prosodic unit, and is left unstressed. Notably, a lone case marking clitic [=χa] also appears in this phrase, which does not form its own PWord.

(28)	IPA	ʔəχstúda χa ɬəksəm ʔəχələ sa da dʒəbəm					
	Pwd	ʔəχstúda χa		ɬəksəm	ʔəχələ	sa	da dʒəbəm
		σ ʔəχs tú da χa		ɬək səm	ʔəχələ	sa	da dʒə bəm
	Morpheme	ʔəχstuda	=χa	ɬəksəm	ʔəχəla	=sa=da	dʒəbəm
	Gloss	open	=ACC	can	use	=OBL=DET	nail
	Translation	(She) opened a can with a nail					

Included below is a pitch trace of Example (28). As can be seen, the two focused PWords in this phrase are [dʒəksəm] *can* and [dʒəbəm] *nail*. Both of these PWords show stressed syllables with raised pitch relative to their surrounding syllables. Another PWord in this phrase [ʔəχələ] *use*, also rises in pitch, albeit not as much, and [ʔəχstuda] *open* rests at a steady pitch level. Notably, the wanderer clitics [=χa], [=sa], and [=da] all do not rise in pitch either.

Table 18



The wanderer clitics do not fit easily into the prosodic hierarchy as presented in Table 7 above. Specifically, prosodic feet do not help to incorporate these clitics into the prosodic hierarchy and are therefore suspect. Complicating the question of the utility of prosodic feet, however, are the common occurrence of clitic-strings in Kwak'wala.

5.2.4 Clitic-strings

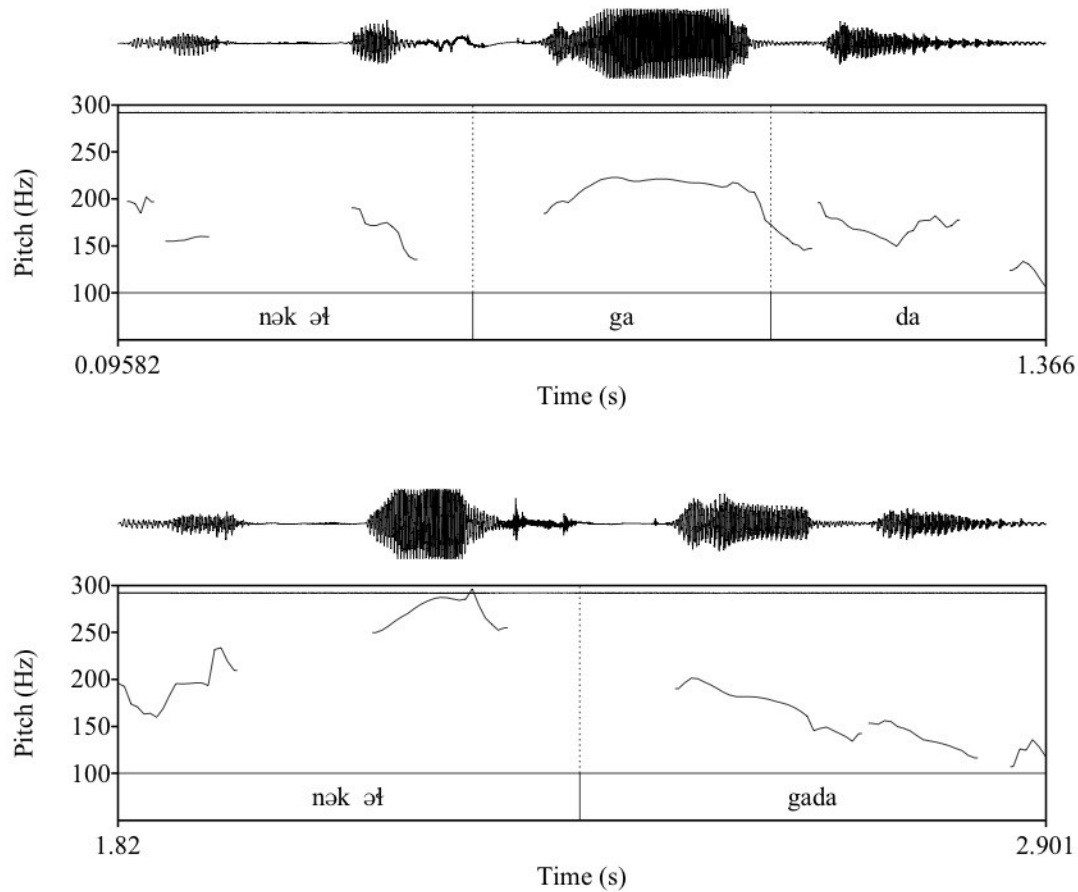
Along with the prosodic foot being suspect for wanderer clitics comes ambiguity in applying clitic-strings to the prosodic hierarchy. In Kwak'wala there is conflicting evidence that group syllables together into metrical feet. Secondary stress is only marginally attested outside of the root, and is dubious within the root as well³⁴. Rather, the attaching morphology of affixes and enclitics are uttered at a roughly equal pitch and intensity. However, there are some phonetic traits which might suggest feet as a real prosodic unit in Kwak'wala, principally involving clitic-strings. I show this through Example (29).

³⁴ Noguchi (2011) briefly notes secondary stress in pluralized tri-syllabic roots, but does not explore the matter in any great detail.

(29)	Umista	Nak'walgá' da - Nak'wál ga'da		
	IPA	nək ^w əlgá? da - nək ^w əl ga?da		
	Morpheme	nək ^w əl	= ga?	= da
	Gloss	salal	= I	= DET
	Translation	<i>This here salal</i>		

As seen in the Umista and IPA transcriptions, this phrase can be stressed in two different ways. Both are natural and grammatical utterances in Kwak'wala, with no apparent preference between them. The first transcription I present is to treat the invisible first distal marker [= ga?] as an internal clitic, independent from the definite article [= da]. It would therefore take the PWord stress, as the root [nək^wəl] *salal* has no moraic syllables making [= ga?] the only candidate. I show this first stress pattern in the first chart in Table 19 below. In this chart the stressed syllable [ga?] rises in pitch well above all other syllables to about 225 hertz. The stressed [ga?] syllable is also longer in duration than any of the other syllables.

Table 19



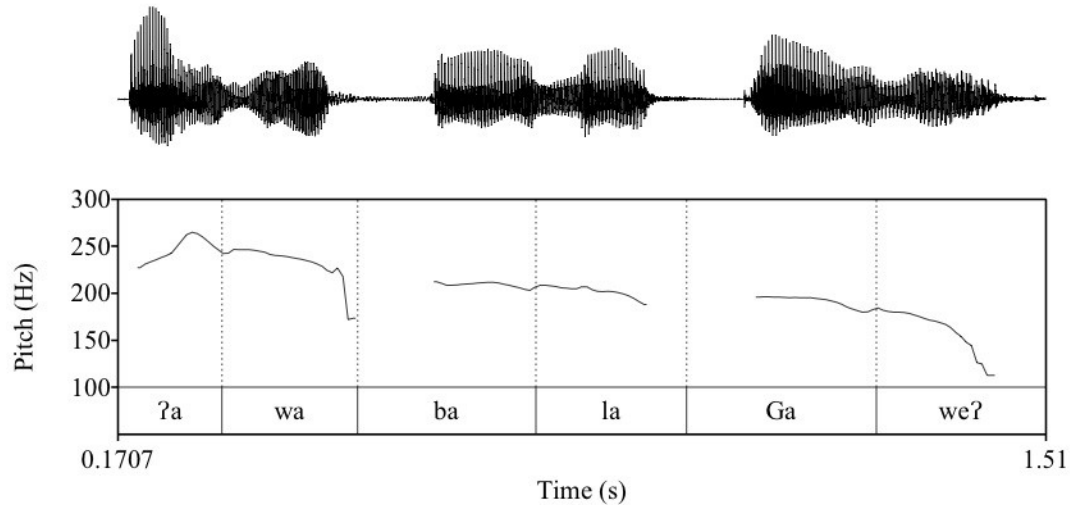
The second graph below the first one shows the alternative stress placement. In this case, the invisible first distal marker [= gaʔ] and the definite article [= da] together form a clitic-string, which resists housing the PWord stress of their host. The best stress bearing syllable is, therefore, the rightmost syllable of the root [nəkʷət] *salal* as the 'default-to-opposite'³⁵. In the above pitch graph, the stress is shown on the second syllable of the root [kʷət], which rises to a pitch of almost 300 hertz, for above all other syllables in this phrase.

I now look briefly at prosodic feet within a root and its affixes. In Kwak'wala, there is no clear evidence of metrical feet within the stem either. I show this in Table 20 with the phrase [ʔáwabalagaweʔ] *slowest*. Here, there are six syllables and potential for three metrical feet: {ʔawa}{bala}{gaweʔ}. The PWord stress appears on the leftmost syllable [ʔa]. This can be seen in the graph below by the pitch contour which rises above all other syllables in the

³⁵ See Chapter 2 for a full explanation of Kwak'wala's stress system.

phrase. The following syllables after the initial one appear to conform to natural pitch declination, without any convincing pitch peaks.

Table 20






There is no clear evidence from this example that the other syllables show the behaviour of prosodic feet. If they did, the metrical pattern would most likely be trochaic following the PWord initial stress. The first of the syllables in each pair {bala} and {Gawe?}, would show some sort of relative pitch prominence over the other. This is not the case. The duration of these initial syllables, however, is markedly longer than the second syllable in both cases (including the stop closures of the onset obstruents). Yet the PWord initial syllable does not show the same duration, even though it is the only clearly stressed syllable.

The two contrary stress placements in Table 19, and ambiguity of prominence in Table 20, are meant to highlight the difficulty and problematic nature of assigning prosodic feet to Kwak'wala. In one sense, enclitics appear not to coalesce, and participate in the PWord stress system. The other case shows that clitic-strings tend to form bisyllabic units which are suspiciously similar to what prosodic feet might look like in Kwak'wala, yet resist PWord stress and do not show obvious stress of their own. Within the stem, there is no evidence that one of a pair of syllables has relative pitch prominence over the other, although duration might play a role. Without a rigorous phonetic analysis, I leave the question of prosodic feet aside, and move forward with the concept of clitic-strings.

(30)

IPA	lə náx ^w ənuʔχ ^w laχa tsə́má χa gánuʔ										
Pwd	lə	n á x ^w ə nuʔχ ^w			laχa	tsə́ m á χa			g á nuʔ		
		/ \ \			/ \	/ \			/ \		
	σ lə	ná	x ^w	nuʔχ ^w	la	χa	tsə́	má	χa	gá	nuʔ
Morpheme	lə nax ^w a = ənuʔχ ^w				laχa	tsə́má		=χa	ganuʔ		
Gloss	AUX all = 1PL.EXCL				PREP	church	=ACC	night			
Translation	<i>We all went to church at night</i>										

(31)

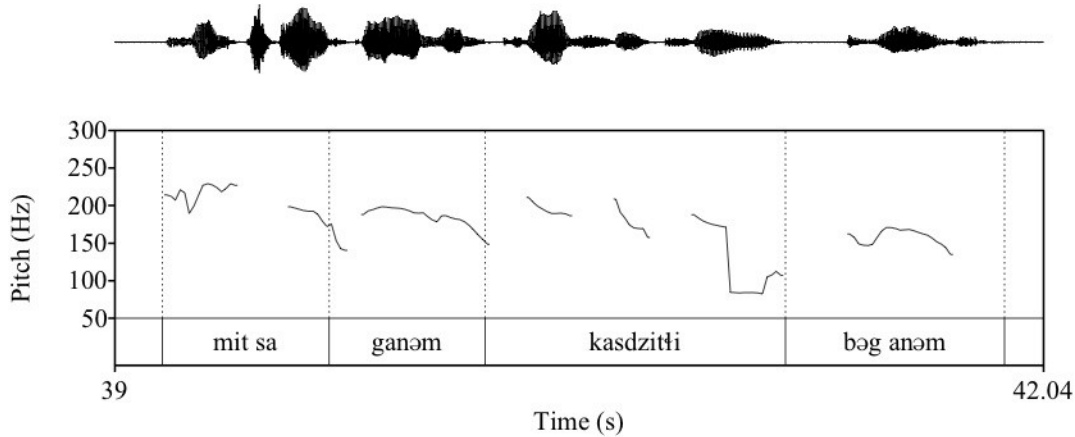
IPA	qínəm ɕikasi læɡú		
Pwd	qínəm	ɕikasi	læɡú
			
	σ qí nəm	ɕi ka si	læ gu
Morpheme	qínəm	= ɕi = kas = i	læɡu
Gloss	many	= GRN = QNT = D3	strawberry
Translation	<i>Lots of great big strawberries</i>		

Here, the three-clitic-string of [= dʒi = kas = i] together form their own quasi PWord, as they meet the minimal syllabic requirements and are syllabically well formed. According to Nespor and Vogel, they constitute too many well formed syllables to be prosodically dependent upon their morphological host to be considered as one with the previous PWord. Note, however, that they do not display the same obvious pitch prominence the other PWords do to indicate PWord stress.

A simple analysis of Kwak'wala's prosody would be to argue that there is either no use for prosodic feet, or that feet are only a part of the stem and do not include clitics at all. Indeed many languages impose metrical stress only on lexical items (nouns, verbs, adjectives, or adverbs) while relaxing it for functors (articles, pronouns, prepositions, etc.) which are prosodically dependent on content words (McCarthy & Prince 1986 via Kager 2007:196).

I provide an example of a pitch graph in Table 21 which is meant to display my difficulty in identifying a domain of prosodic attachment for the clitic-strings by viewing pitch behaviour. The exact phrase here is [mítʃa ganəm kasdʒi da bəgʷánəm] *She probably really kissed the man big*. The two uncontroversial PWords are [mítʃa] *kiss* and [bəgʷánəm] *man*. Each of these PWords display a syllable which rises in pitch above others within their respective PWord. The two clitic-strings, however, do not behave in such an obvious way. The first clitic-string [ganəm] *probably* shows significantly lower pitch than the initial PWord, including on its first syllable which would be the predicted PWord stress placement if it were a PWord. That first syllable is, however, noticeably higher in pitch than the second syllable. The second clitic-string [kasdʒitʃi] = QNT = GRN = FUT = D3 does not show a relative rise in pitch on the first syllable. All three syllables appear to show more or less the same pitch, with some allowance for natural pitch declination.

Table 21



Because metrical stress on the first of each of the clitic-strings is not obvious, I leave the issue of how to relate clitic-strings in the prosodic hierarchy aside in hopes that future phonetic research might take place.

Kwak'wala may be what is called an 'unbounded language' (Kager 2007), which has exactly one stress per PWord and no alternating rhythm. This allows for long strings of unstressed syllables to follow the stressed syllable within the stress domain of a PWord. Unbounded stress patterns are found in languages like Selkup (Western Cheremis). Selkup is a 'default-to-opposite' system like Kwak'wala, which stresses the rightmost heavy syllable, and otherwise the initial syllable in forms lacking heavy syllables (Kager 2007:197). As Section 2.4 above explains, Kwak'wala shows the inverse stress system to Selkup, stressing the leftmost syllable and defaulting to the final syllable when no moraic syllable is present. The mirrored stress system between Selkup and Kwak'wala suggests that Kwak'wala, by extension, may be an unbounded language as well.

5.3 Types of Clitics in Prosodic Theory

In this section I take a closer look at the relationship between the clitic and a few prosodic theories. This section specifically maps out the various ways that clitics are viewed within the prosodic framework I provide above. Because I assume there is no clitic-group, following Anderson (2005), and little use for prosodic feet, a syllable that directly aligns with a morpheme displaying clitic-like behaviour need not necessarily attach to the PWord level of the prosodic hierarchy. It could form its own PWord (as suggested by Nespor and Vogel

1986), attach directly to the Phonological-Phrase (PPhrase) level, or create a new PWord made up of that morpheme and the PWord of its host (Selkirk 1995), or any number or prosodic levels depending on the morpheme (Zec 2005).

Independent properties of clitics are given in Section 5.1 through Zwicky's (1977) six tests. Nespor and Vogel (1986:146) condense Zwicky's work into a more nuanced account of what may be regarded as a clitic. Some clitics behave more like independent 'words', some very like affixes, and some either like words or affixes depending on which of Zwicky's tests is applied. What this shows is that the simple definitions of a clitic are somewhat vague, and the specific definitions fail to generalize elegantly all of a clitic's behaviour. For this reason I provide only a brief overview of some prosodic theories, highlighting their application to Kwak'wala as much as possible.

5.3.1 Strict Layer Hypothesis

Nespor and Vogel (1986:141) define the phonological-word (PWord) as the level of the prosodic hierarchy that represents the mapping between the morphological and the phonological components of the grammar. They see the phonological-word as “the lowest constituent of the prosodic hierarchy which is constructed on the basis of mapping rules that make substantial use of nonphonological notions” (Nespor and Vogel 1986: 107). Hall et. al. (2008:184) explain that this statement is intended to mean that in any given language the phonological-word (as opposed to the syllable and the foot) consistently correlates with morphological boundaries. Indeed a lot of attention has been given to the prosodic-syntactic interface; how they match and inform the other, and how they differ. The current study only approaches such questions of prosodic-syntactic mapping insofar as that discussion helps in understanding the PWord boundaries of Kwak'wala. For example, it has been argued that some prosodic cues, such as pauses, signal syntactic boundaries. I consider this assumption in Chapter 6. At all points, however, I attempt to steer the discussion back onto the phonological boundaries of the PWord, and leave syntactic matters aside as much as possible.

Nespor and Vogel (1986:121-2) claim that any unattached prosodic element may form a PWord on its own. This allows for other elements that do not qualify within stems, for example conjunctions as in Examples (33) and (34), to also form PWords. The cross-linguistic

constraints on prosodic mapping from the level of the syllable to the PWord, as given by Nespor and Vogel (1986:109) is stated as such: The PWord must exhaustively dominate one or more constituents of the level immediately below it, the foot, and no other type of constituent. They label this the 'Strict Layer Hypothesis'. I argue above that the foot is not obviously useful for defining the PWord in Kwak'wala, and so I leave the discussion of prosodic feet aside. Applying PWord status to extrametrical elements is an interesting one, however, and is an idea I return to briefly in Section 5.3.6.

5.3.2 Behaviour of Functors

One simple definition for clitics is to treat them as a function-words, which I refer to as *functors*. Indeed elements belonging to functional categories display phonological properties significantly different from elements belonging to lexical categories (Selkirk 1995:1). This functional/lexical definition is indeed enough for some languages to account for their clitic behaviour. Most if not all clitics are semantically functional in nature, at least in Kwak'wala. Zec (2005:77) states that a lexical item is typically entered as syllables into the prosodic hierarchy at the status of PWord. But while a root will always create a PWord, forming that prosodic class, functors exhibit a much more erratic pattern cross-linguistically, generally corresponding to more than one level of the prosodic hierarchy. For example, Selkirk (1995:14) states that functors are not normally involved in the PWord stress system, and should therefore not be considered as PWords, but lower in the prosodic hierarchy. For example, when a given language allows the prosodic association of a clitic to be maximally loose, that language contains what Spencer and Luís (2012:106) refer to as 'outlaws', which are clitics that fail to participate in a typical manner within the prosodic organization and have the appearance of being invisible to principles of stress placement. However, I have already shown in Section 5.1.6, that some of Kwak'wala's clitics (which cannot appear alone in citation form) do indeed hold the PWord stress of their hosts³⁶. Others, like the case markers and definite article, do not.

This strongly suggests that there are two types of functors: free and bound. Zec (2005:110) agrees. She argues for a sub-classification of functors into free and bound classes, which is

³⁶ Stress here is defined by a standard utterance, without special phonetic focus on one element within the phrase. Selkirk (1995:15) states that functors can indeed be stressed if given special focus. I have observed this to be true for Kwak'wala as well, and explore this in Section 6.4.

rooted in prosody rather than morphosyntax, and reflects different degrees of prosodic dependence. Selkirk (1995:14) shows that most instances of stressed functors is the consequence of the assignment of PWord status to that functor. This would then be a free functor. Weak, unstressable forms, by contrast, are bound functors. Bound functors are therefore distinct from free functors through their prosodic behaviour. The prosody of lexical items more closely resemble the prosody of free functors, but are not reflected in the prosodic properties of bound functors. Zec further argues that the properties of bound functors are best captured by representing them as prosodic-affixes. In this view, clitics that are closely dependent on their hosts for prosody are these prosodic-affixes.

For example, Zec (2005:78) describes the Serbian clitic system as containing both free and bound functors, which exhibit gradient prosodic deficiency. She argues that free functors can indeed hold PWord status under certain conditions. In contrast, bound functors are characterized by a complete absence of prosodic salience. She states that the only prosodic status which members of this class can assume is that of a prosodic-affix. As such, prosodic-affixes could attach to other levels of the prosodic hierarchy, not only to the PWord level. This could be applied to Kwak'wala as well. Wanderer clitics could be considered as prosodic-affixes in the same way as some Serbian clitics, in contrast to the default clitic type. Room for clitic-strings is, however, not obviously present.

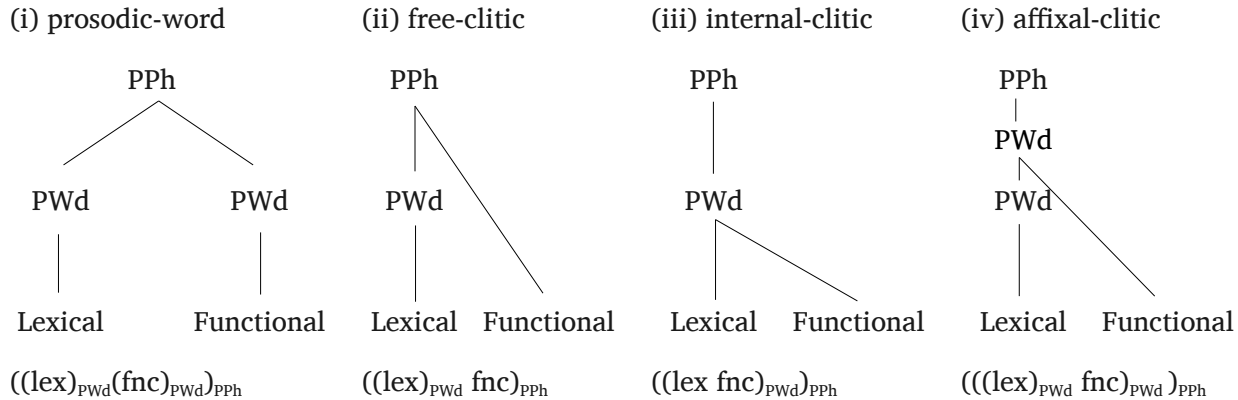
5.3.3 Attachment Strategies of Functors

Selkirk (1995:10) argues that the type of functor (bound or unbound) does not receive its prosodic traits through its morpho-syntactic positioning, but through its method of prosodic attachment. She states that it is the prosodic attachment by clitics onto various levels of the prosodic hierarchy that is responsible for the presence of various clitic types. Of course, clitics must be incorporated into PWords or some other constituent in the prosodic structure in order to be uttered at all (Anderson 2005:45-6). Crucially, this prosodic attachment can occur both lexically or post-lexically, depending on the level of attachment.

Selkirk (1995) outlines four types of attachment into what Anderson (2005) later describes as the (i) prosodic-word (ii) free-clitic (iii) internal-clitic and (iv) affixal-clitic. I give the four types of prosodic functor attachments graphically in the table below. To better relate these

four types of attachment to Kwak'wala, I have placed the functor (clitic) after the lexical element (root) in each instance to reflect enclitic behaviour. As a more general treatment of clitic-to-host attachment, each graphic could be mirrored to show proclitic behaviour as well.

Table 22

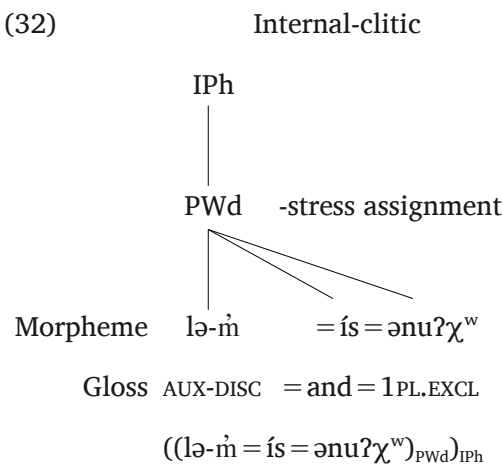


The first of these, the PWord clitic, is the case where the clitic is assigned independent status as a PWord in the phonology. A major factor in treating a clitic as a prosodic-word is the shape and syllable structure of that clitic as well as containing its own stress domain. Second, a free-clitic is associated (as a non-PWord) with its host within the PPhrase as a sort of phrasal-affix, and corresponds to Anderson's (2005) phrasal-clitic type, in which clitics require significant syntactic freedom. Third, an internal-clitic is incorporated into the same PWord as its host, and does so lexically as evidenced by its involvement in the stress domain of its host. This is likely the most common attachment type in the majority of the world's languages. The fourth type, affixal-clitics, adjoin post-lexically to the host to form a recursive PWord structure (Anderson 2005:46).

Each of these attachment types have been attested in natural languages. For example, Hall and Hildebrandt (2008) examine evidence for the syllable and especially the phonological word in the Kyirong dialect of Tibetan. In this language, the PWord displays three distinct representations for suffix-stem combinations, depending on the particular suffix involved. Naturally, Kyirong shows the common internal attachment type, where the stem and suffix form one PWord. This language also shows the suffix as lying outside of the PWord of the stem, and attaching to a higher prosodic constituent. This corresponds to the free attachment

type. Hall and Hildebrandt further show that the stem and particular suffixes are best analyzed as their own separate PWords, providing some evidence for the prosodic-word attachment type. In Kwak'wala, I assume the default attachment type for clitics to be internal-clitics. However, wanderer clitics and multi-syllabic clitics, or clitic-strings, which are not broken up during syllabification are very likely to appear as some other attachment type, as I show in the subsequent discussion and support with prosodic evidence in Chapter 6.

I assume that a theory which requires as few clitic types as possible, while accurately accounting for the data, is preferred. I would, therefore, not expect a language to exist that displays all four attachment types within the same system. In the case of Kwak'wala, I assume that internal-clitics, which attach directly to the level of PWord, are the strongly preferred clitic type in Kwak'wala, and likely the most common cross-linguistically. As explained, stress in Kwak'wala appears on the leftmost moraic candidate, or, on the rightmost syllable when no moraic syllable nucleus is present in the PWord. I show this through Example (32) where the PWord stress assignment occurs after the internal-clitics [=ís=ənuʔχʷ] have lexically attached to the stem [lə-ṁ]. The root is not moraic, as a schwa vowel followed by a glottalized resonant does not bear stress. The leftmost moraic candidate is, therefore, found on the following clitic [=ís].



Note that in Selkirk's model, there are no differences in PWord formation between internal-clitics and affixes, as both would be integrated closely and directly with adjacent lexical

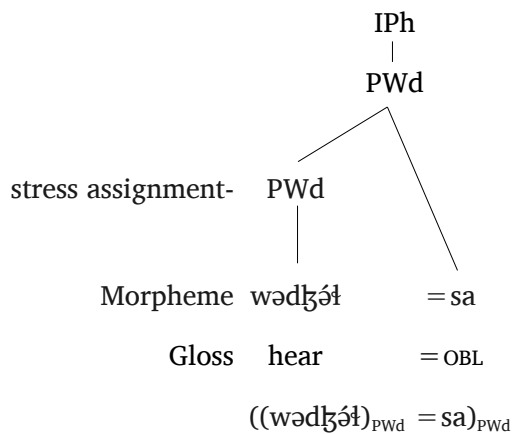
heads in a prosodic-word. Elordieta (2014:32) concurs that there are no PWord boundaries between functors and lexical items in the case of internal-clitics. A researcher would then expect that a very close degree of prosodic cohesion between internal-clitics and their host roots would closely resemble that of affixes and roots (or stems). The difference between affixes and internal clitics would thus be a morphosyntactic one, not a prosodic one, relating to Zwicky's first, fourth, and fifth tests from Section 5.1 above.

However, as discussed in Section 5.1.6, some clitics are not involved in PWord stress assignment, even if they present the optimal syllable in housing the PWord stress. Example (33) shows that the oblique case marker [=sa] does not hold stress, even though it would otherwise appear to be the best candidate, as described in Chapter 2 Section 2.4. Again, I show stress with the acute '´' accent.

- (33) Umista Wadlál sa bagwánam
 IPA wədʒəl sa bəɡˈánəm
 Morpheme wədʒəl =sa bəɡˈánəm
 Gloss hear =OBL man
 Translation *What the man heard*

The optimal candidate for stress in this example should be the case marker [=sa], as it is the only full vowel present within the PWord [wədʒəl=sə]. The second syllable, which is assigned stress, is non-moraic schwa [ə] which is followed by an equally non-moraic fricative [ʃ]. However, if the case markers are assumed to be affixal-clitics, which creates a post-lexical recursive PWord with their host, then this recursive PWord would appear after the initial stem has already assigned PWord stress. The only candidate to hold stress on the stem in an example like [wədʒəl] *hear* would therefore be the rightmost syllable. I show this graphically in Example (34).

(34) Affixal-clitic



(First Voices 2015)

Here, stress assignment occurs on the stem which forms the first PWord. The case marker then attaches to that PWord to form a recursive PWord along with the stem, but after PWord stress is already in place. In further examples, I assign affixal-clitic status to both case markers [=χa] *ACC* and [=sa] *OBL*, and the definite article [=da] *DET*.

However, the domain of attachment for clitic-strings is not obvious in this model. As mentioned, clitic-strings are one or more clitics which together create minimally two well formed syllables. In Kwak'wala, I have noticed that some clitics, or groups of enclitics which together make up two well-formed syllables, display some prosodic independence from their host, yet do not have the same stress domain as lexical roots always do. When appearing alone, the individual members of these clitic-strings behave as internal-clitics with no suggestion of independence. There is nothing in Selkirk's model, as I have described it, to suggest that relative size, or corporate size, has any bearing on prosodic attachment. How to fit clitic-strings into her model is, therefore, not obvious.

To illustrate this, common clitic-strings include [ganəm] *maybe*, [χənt] *must*³⁷, and any other internal-clitic which have the minimum syllable requirement (CVCV), such as [=dɛi = kas] = *GRN* = *QNT*. An example from Janzen (2011:5), given here as (35), shows a large series of

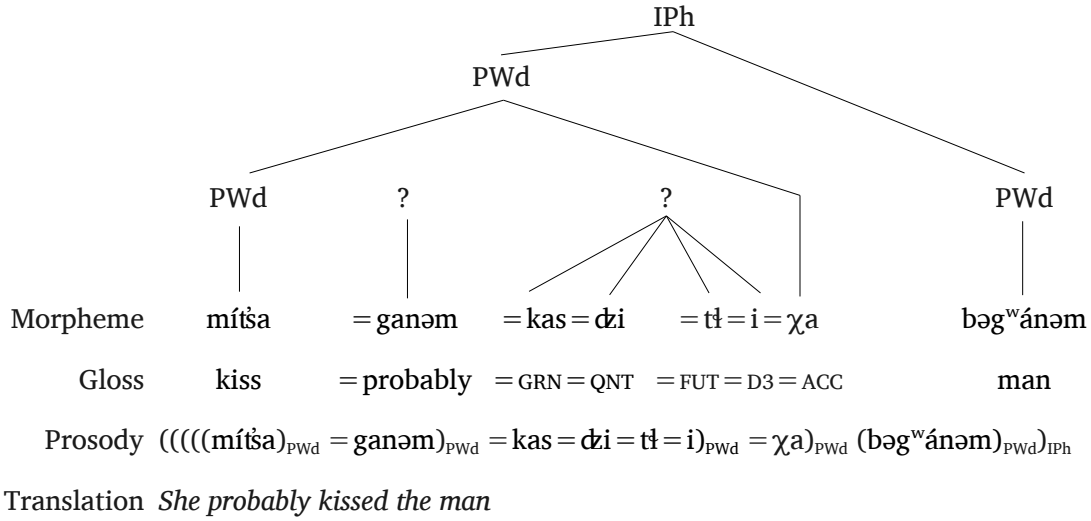
37 [χənt] *must* here does not actually have the bi-syllabic structure normally necessary to be considered to hold its own stress-domain and therefore be treated as a PWord-clitic. In this case I have observed similar prosodic behaviour between [χənt] and bi-syllabic [ganəm], which normally both appear with a following visibility marker. I assume [χənt] to normally be a clitic-string, with the awareness that it might not always be strictly prosodically accurate.

clitics which together form other syllabic units. In total six enclitics appear between the two roots [mítʂa] *kiss* and [bəgʷánəm] *man*. Of these six, only the last two, the third distal visibility marker [=i] and the accusative case marker [=χa] are rightward modifying. The other four clitics modify the initial root *kiss*, to which all six attach as enclitics. I mark the stress of each PWord in the IPA transcription with the acute accent '´'.

(35)	Umista	Mítʂa ganəm kasdzitli χa bəgʷánəm
	IPA	mítʂa ganəm kasdzitli χa bəgʷánəm
	Morpheme	mítʂa = ganəm = kas = dʒi = tʃ = i = χa bəgʷánəm
	Gloss	kiss = probably = QNT = GRND = FUT = D3 = ACC man
	Translation	<i>She'll probably give the man a really big kiss</i>

Strictly in terms of syllable structure, the clitics in this example can be separated into two different clitic-strings. The first is [ganəm] *probably*, which is bi-syllabic and qualifies as a clitic-string on its own. Second is the augmentative pair [=kas = dʒi] = QNT = GRN, which commonly appear together in this way in Kwak'wala speech, joined by the future tense marker [=tʃ], and the third distal visibility marker [=i] to make a tri-syllabic clitic-string [kasdzitli]. The accusative marker [=χa] is not a clitic-string member because it is only one syllable and is a wanderer clitic which in Selkirk's model creates a recursive PWord above that of its host. I present graphically this phrase in Example (36) which contains two PWords [mítʂa] *kiss*, and [bəgʷánəm] *man*, as well as a recursive PWord for the wanderer clitic [=χa] ACC. The two clitic-strings, however, do not have an obvious level of attachment.

(36) mítsa ganəm kasdzit̪i χa bəgʷánəm



Note that the future tense enclitic here modifies the phrase-initial verb [mítsa] *kiss*, yet the visibility marker and case marker modify the following root [bəgʷánəm] *man*. With square brackets denoting syntactic constituents, and round brackets denoting prosodic constituents, the phrase in (35) can be displayed in (37) as I do in Janzen (2011):

(37)	IPA	mítsa	ganəm	kasd̪i	t̪	iχa	bəgʷánəm
	Prosody	()	(
	Syntax	[]	[]

This shows that syntactic coordination does not have overt influence upon the prosodic-clitic assignment, as the clitic-string [kasdzit̪i] is unified prosodically, yet divided syntactically.

5.3.4 Clitic Behaviour

Anderson (2005) in *Aspects of the Theory of Clitics* argues that all clitics can be reduced to two types: morphological-clitics, and phonological-clitics. Anderson argues that these are not exclusive groups, but that a given morpheme can be a member of either one or the other, or both, together making three clitic types. I, in turn, argue that looking at clitics under this analysis helps slightly in explaining clitic behaviour in Kwakʷwala.

In order to properly understand Anderson's (2005) treatment of clitics, it is necessary to be familiar with the context from which he argues. Anderson redefines the often cited clitic definitions provided by Zwicky (1977) and Zwicky and Pullum (1983). They group clitics into three categories: special clitics, simple clitics, and bound words. The main difference between special and simple clitics, and bound words, is based on whether or not a related non-clitic form exists. Zwicky states that when an unaccented bound form acts as a variant of a stressed free form with the same cognitive meaning, it is called a special clitic. The second class, called simple clitics, are cases where a free morpheme, when unaccented, may be phonologically reduced and phonologically subordinated to a neighbouring word. As with special clitics, simple clitics therefore have a more fully phonologically realized alternate that appears in more enunciated environments, or even in free alternation. The third class Zwicky calls a bound-word. This is a morpheme that is always bound and always unaccented, that shows considerable syntactic freedom. This class was likely used as a 'catch all' for clitics in languages that did not fit into the definitions of either simple or special clitics, yet still displayed word-like semantics and affix-like phonological dependence.

Anderson begins his argumentation by stating that Zwicky has a major flaw in his definition of some clitics. Anderson claims that it is very common in languages of the Romance family of Europe to have what appear to be clear cases of special and simple clitics. Yet this definition is not supported by many languages, including Kwak'wala, which do not have alternate 'full' lexical forms from which clitics are derived. The clitic system of Kwak'wala is independent from other lexical-word types. As such, Anderson works to classify all of the prosodically dependent forms (especially pronominals in Kwak'wala, and both the proclitic and enclitic forms in related Heiltsuk³⁸) as *clitics*, regardless of whether or not they have non-clitic lexical alternants. Anderson argues that the most appropriate sense of *clitic* in the phonological context is one that is independent of the existence of non-clitic alternate forms.

Anderson (2005:23) therefore proposes a class of clitic he calls 'phonological-clitic', which is:

A linguistic element whose phonological form is deficient in that it lacks prosodic structure at the level of the Prosodic-word.

38 Heiltsuk is a North Wakashan language closely related to Kwak'wala. See Chapter 1 for the Wakashan language family.

To use Zwicky's terminology, 'simple clitics' are the same as phonological-clitics. Going back to Selkirk's prosodic-clitic types, phonological-clitics would include free-, internal-, and affixal-clitics.

However, Spencer and Luís (2014:106) investigated a number of cases where linguistic elements were claimed to be phonological-clitics, and came to the conclusion that it was difficult to find clear examples of pure phonological-clitics. Even when Spencer and Luís factored out the language-specific phonological constraints, they found that supposed examples of phonological-clitics tend to develop other clitic-like attributes in addition to their lack of prominence. An example of a 'purely' phonological-clitic in Kwak'wala might be the case markers [=χa] and [=sa], where they appear to behave phonologically like PWords in every respect except for the fact that they cannot appear phrase-initially, but as enclitics that require a host root. However, even the case markers display morphological positioning that cannot be explained by the phonology alone.

Because of examples such as Kwak'wala's case markers, Anderson (2005:31) proposes the second type of clitic, which he calls the morphosyntactic-clitic. He defines the morphosyntactic-clitics as:

A linguistic element whose position with respect to the other elements of the phrase or clause follows a distinct set of principles, separate from those of the independently motivated syntax of free elements in the language.

For Anderson, Zwicky's special clitics are morphosyntactic clitics, keeping in mind that Zwicky's special clitics can be phonological clitics as well. In this account, Anderson (2005:32) argues that Zwicky's class of bound-word clitics disappears as an independent category.

It has been tempting and somewhat productive for linguists to account for clitic behaviour by citing their syntactic role. For example, on the surface it would appear easy to claim that the wanderer clitics behave differently than the other clitics in Kwak'wala because of their rightward syntactic modification, and leftward prosodic dependence. Indeed Anderson (2005:19) states that the clitic nature of what I call the wanderer clitics in Kwak'wala is not

simply a matter of the manner in which they are pronounced. Rather they have significant implications for the range of syntactic possibilities in Kwak'wala. A nominal expression in Kwak'wala is always headed by a clitic, be it a visibility marker, case marker, or definite article [=da]. These must attach to the left of the root as a consequence of what is called 'Stray Adjunction', and as enclitics attach to the previous stem, not the stem they modify. Stray adjunction is defined as the universal convention by which extrametrical units not already involved are incorporated into the representation of stress within the domain of a PWord. By convention the extrametrical unit is weak, that is, not stress bearing.

Table 23 displays Selkirk's (1995) four prosodic-clitic types (PWord, free, affixal, and internal) grouped into the two more general clitic types (morphological-clitics and phonological-clitics) provided by Anderson (2005). I also map onto this table my proposed clitic classifications for Kwak'wala.

Table 23	Phonological-Clitics			
Anderson's Clitics	Morphological-Clitics			
Selkirk's Clitics	<u>PWord-clitic</u>	<u>affixal-clitic</u>	<u>free-clitic</u>	<u>internal-clitic</u>
Kwak'wala's Clitics		Wanderer Clitics	Default	Clitic-Strings

This table shows that the PWord-clitic is a morphological-clitic, as its positioning within the clause is conditioned morphologically. Internal clitics, by contrast, are very much phonological-clitics which are dependent upon their host stem for prosodic support, often being involved in their host's stress patterns. This is shown in Example (32) above. Internal-clitics are not, however, morphological-clitics as they are not motivated by their morphological position within the phrase. They simply appear as enclitics onto the root in which they modify, wherever that root might appear within the phrase.

Affixal-clitics and free-clitics are both morphological- and phonological-clitics as they are both phonologically dependent upon their host, and are also motivated by the structure of the phrase for morphological placement. Free-clitics cannot be uttered without some phrase initial material, and are prosodically incorporated into the stress domain of their host without affecting it. Affixal-clitics are phonologically dependent upon their host to appear in

an utterance, yet are not involved in that host's stress system as internal-clitics are. I show this in Example (34) above. Affixal-clitics are also morphologically motivated as they always appear in respect to the boundary of some verbal-phrase (for case markers) or nominal-phrase (for some post-nominal visibility markers).

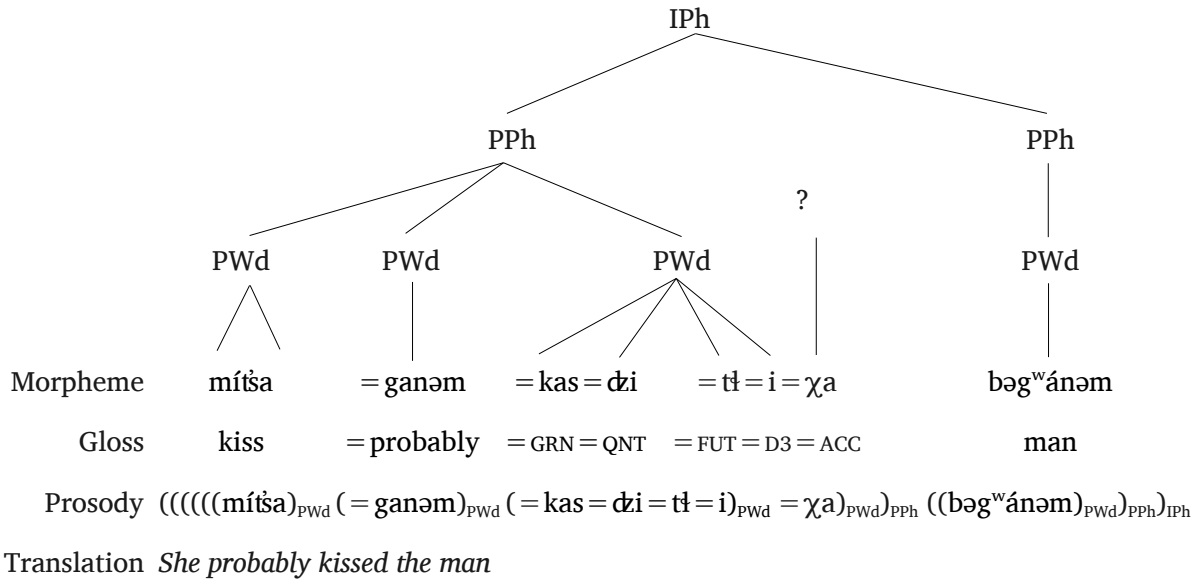
Table 9 also shows that clitic-strings do not obviously fit into Anderson's model either. The members of clitic-strings are obvious internal/phonological clitics when alone, but when joined by other clitics of the same type they behave much more independently. This is not due to the phonology or morphology of these elements, but their relative size. A prosodic theory that accounts for morphological size is, therefore, needed to accurately account for Kwak'wala data.

5.3.5 Prosodic-Phrase as Domain of Stress

Inclusion of clitic-strings into the prosodic hierarchy could be achieved through the introduction of the prosodic-phrase (PPhrase) into the discussion of PWord stress in Kwak'wala. Stress might actually be the domain of the PPhrase, selecting the leftmost PWord in that PPhrase to house stress. Clitic-strings could be considered a new PWord within the PPhrase of the enclitic host, but resist housing stress because it forms a new PWord, following Nespor and Vogel (1986) and Zec (2005).

I provide an example of stress being the domain of the PPhrase here in Example (38), which is a reworking of Example (36). Here, both clitic-strings create their own PWord, but are all incorporated into the same PPhrase as their host.

(38) mítsa ganəm kasɬitli χa bəgʷánəm



Under this analysis, stress only appears on the leftmost PWord within the PPhrase. Regularly, the PPhrase and PWord are perfectly aligned, as in [bəgʷánəm] *man* above. Therefore, creating a distinction between the PPhrase and PWord only becomes relevant when more than one PWord appears within the PPhrase, especially with the inclusion of clitic-strings. In this analysis the resistance of an enclitic to housing stress when in a clitic-string, but acceptance of stress when alone (as seen in [nəkʷəlgá? da] - [nəkʷəlgá? ga?da] in Example (29) above) is explained. However, the wanderer clitic [= χa] in Example (38) above does not have a natural place to attach to. Wanderer-clitics might be considered as one of Selkirk's free-clitics (1995), as it could attach directly to the PPhrase, avoiding the PWord level altogether. A serious problem with this explanation, however, is that adjectives and adverbs are generally considered to be dominated by a PPhrase along with their noun or verb counter part. This poses a problem because adjectives and adverbs in Kwakʷala, as lexical items, have their own stress domains. Under this analysis there would somehow be two stresses allowed in one PPhrase, or some sort of recursive PPhrase scheme to deal with this otherwise standard stress feature. Exploration into this sort of analysis is well beyond the scope of this paper, but begs further investigation.

Conclusion

In this chapter I give a more detailed account of Zwicky's (1977) clitic criteria outlined in Chapter 2, providing Kwak'wala examples for each of his six tests. His sixth test, Accent, shows a remarkable trait of Kwak'wala PWord stress: stress will not occur on the optimal syllable if that syllable is within a clitic-string. Stress also never appears on any of the wanderer clitics [=χa], [=sa] and [=da], even when they are each the optimal stress bearing candidate.

This chapter also provides some background on a few prominent prosodic theories, each showing that there is an intuition that not all clitics behave the same way. There is some intermediate level of clitic-ness, or there are a number of different clitics on some morphological continuum. The prosodic theories presented here do not simultaneously handle Kwak'wala's wanderer clitics and clitic-strings, who's members behave as integrated clitics when alone, but quite independent from their hosts when combined as a unit. A useful theory in helping to define the PWord in Kwak'wala would need to include both the systematic independence of the wanderer clitics, and the variable independence of clitic-strings according to their syllabic size. I attempt this by including the PPhrase as the domain of stress, but leave such an analysis not fully explored.

Chapter 6: Phonological/Prosodic Cues in Clitic Prosody

During natural speech, the divisions into units delimited by orthographic-words tend to disappear. This does not mean that speech consists of an uninterrupted flow of endless utterances (Moreno-Cabrera 2014:138), but that those subtle tells which signal prosodic boundaries are hidden. Linguists often cite phonological criteria for defining word-boundaries, such as final obstruent devoicing in Russian, Dutch, and German, ATR vowel harmony in Turkish, or stress in Polish. It is clear that phonological criteria and grammatical criteria do not always give identical results, and so the type of 'word' (morphosyntactic or phonological/prosodic) being studied must be clearly stated. Indeed, since the 1980s (Dixon 1977, Nespor & Vogel 1986) the consensus in the field has been that the phonological-word does not always coincide with the morphological-word (Haspelmath 2011:37). Acknowledging this, I focus the research of this paper towards the phonological-word, and leave the morphological-word aside as much as possible. Thus, I focus on prosodic cues in determining the segmentation of an intonation-phrase (IPhrase) into prosodic-words.

This chapter is split into five sections. In Section 6.1 I explore research conducted on Hul'q'umi'num' (Gertds & Werle 2014), a member of the Coast Salish language family, and geographical neighbour to Kwak'wala. This research shows that Hul'q'umi'num' shows similar clitic behaviour to Kwak'wala in the way that clitics can be divided into groups with either more or less phonological freedom from their host. I highlight Gertds and Werle's methodology in isolating Hul'q'umi'num' clitic classes, and relate this methodology to Kwak'wala's clitic system. In addition to Zwicky-like morphological criteria, they use prosodic cues to describe the relative independence or subordination of clitics in Hul'q'umi'num'. Specifically these are the stress domain of PWords, the grammatical insertion of pauses, and instances of 'self-repair'. Pausing in an unnatural place results in the speaker reiterating that PWord, or several previous PWords, and the point which the speaker returns to begin reiteration is the self-repair site.

Before I apply a similar prosodic investigation to Kwak'wala, however, I clearly outline the concept of clitic-strings, and their peculiar stress behaviour in Kwak'wala, in Section 6.2. Then, in Section 6.3 I relate Gertds and Werle's prosodic findings to the discussion from Chapter 5, and apply those three phonetic cues to Kwak'wala's clitic classes. I present each of

the three prosodic tests, stress, pauses, and self-repair in their own sub-sections, and apply each to the same Kwak'wala IPphrase in turn. This serves to isolate clitic-strings and wanderer clitics as prosodically less dependent upon their phonological hosts than standard Kwak'wala clitics.

Section 6.4 briefly explores historical pathways of clitic and PWord formation which can serve to explain why some of Kwak'wala's clitics are prosodically more independent than others. Finally Section 6.5 shows that the accusative case marker [=χa] can appear in unique and notably un-clitic-like positions within the phrase, in certain constrained circumstances.

6.1 Gerdt's and Werle on Hul'q'umi'num' Clitics

In their paper titled *Halkomelem Clitic Types*, Gerdt's and Werle (2014) explore the behaviour of clitics in the Coast Salish language of Hul'q'umi'num'. They see linguistic elements in Hul'q'umi'num' as each belonging to some point within a continuum of wordhood, from independent words at one end to affixes on the other (2014:246). Functors or clitics would appear somewhere between these two morphological poles. This is in contrast with other views which see each morphological type as discreet within the lexicon, each involving independent syntactic and phonological features. In this compartmentalized view, affixes, clitics, and words are each morphologically separate and definable. This sort of view certainly gave rise to Nespor and Vogle's (1986) 'clitic-group' in their prosodic hierarchy, which has been discarded by many scholars investigating clitics since. Gerdt's and Werle's idea that morphemes all belong on the same wordhood continuum is a radical one, but one that has significant empirical support and theoretic strength. This continuum helps in analyzing a language like Kwak'wala, which I argue not only has a distinction between PWords, affixes and clitics, but a sub-classification of clitics as well. Based on an examination of the syntactic and phonological properties of some Hul'q'umi'num' clitics, Gerdt's and Werle propose a unique classification of Hul'q'umi'num' clitic types on this wordhood continuum. These clitic types nevertheless relate to, but do not totally conform to, Selkirk's (1995) and Anderson's (2005) clitic classes.

To begin, Gerdt's and Werle (2014:269) refer to phonological representations which are

organized into prosodic constituents, such as syllables, and PWords. They assume that Hul'q'umi'num' syllables consist of at least an onset consonant and a vowel nucleus, but can also contain consonant clusters in the onset and coda. Cross-linguistically it is fairly common to have syllable onset clusters. Kwak'wala is not such a language, being restricted in syllable structure to one (and always one) onset consonant. Gerdt and Werle assume, as I do, that all PWords bear stress, and are pronounceable in isolation (p. 271).

Gerdt and Werle (p. 269-70) propose a theory of clitics called Prosodic Clitic Theory (PCT), which extends the theory of Prosodic Phonology outlined in Section 5.2 above, in order to account for the empirical complexities of prosodic clitics. In particular, Gerdt and Werle state that PCT posits the Lexical Category Condition, which states that prosodic structure is built around lexical categories (nouns, verbs, adjectives) and ignores functors (conjunctions, pronouns, auxiliaries) as much as possible. The absence of prosodic structure for functors also suggests that prosodic feet do not have a part to play in how clitics are involved with the PWord. Since this might otherwise leave functors with no level in the prosodic hierarchy to attach to, PCT also posits non-strict layering. This allows larger prosodic constituents to be parsed into smaller prosodic constituents, or for items on some level of the prosodic hierarchy to attach to a level higher than the one immediately above it. This is a problem with Nespor and Vogel's (1986) prosodic theory, which I present in Section 5.3.2 above. Selkirk's affixal-clitics and free-clitics attach from a level below the PWord to a level higher than the PWord: to a recursive PWord above the initial one for affixal-clitics, and directly to the PPhrase for free-clitics. Positing non-strict layering in contrast to Nespor and Vogel allows for all of Selkirk's attachment types, and accommodates the observed behaviour of functors such as clitics in Kwak'wala and Hul'q'umi'num'. I am unaware of the broader consequences of removing the Strict Layer Hypothesis from the prosodic hierarchy, but as a theory, PCT does a better job than Prosodic Theory of providing a frame work for describing Kwak'wala's clitic system, as it does for Hul'q'umi'num'.

6.1.1 Syntax of Hul'q'umi'num' Clitics

I begin a brief account of Gerdt and Werle's (2014) work on Hul'q'umi'num' clitic types with some background of their description of the syntax of those clitics. I present the foundation which prosodic constituents are based on, followed by the main contribution that Gerdt and

Werle offer in understanding the prosody of clitic behaviour in Section 6.1.2. According to Gerdts and Werle (2014), prosodic constituents imperfectly reflect syntactic constituents such as morphosyntactic-words and syntactic-phrases. They believe that prosodic cues, such as pauses and self-repair sites, often signal syntactic boundaries, and not phonological boundaries as I assume. However, they also state that prosodic constituents, and not syntactic constituents, are the domains of the phonological processes they use to classify clitics. Because of this, I feel confident that the prosodic cues they present are prosodic boundary markers, and are transferable to an investigation in Kwak'wala. I present their analysis of Hul'q'umi'num' prosodic constituents in Section 6.1.2. For now, the syntactic analysis I provide by Gerdts and Werle includes morphological behaviour (such as relative ordering) and role in the syntactic phrase. This helps to draw a clearer picture in classifying clitic types in Hul'q'umi'num'.

Gerdts and Werle begin their analysis of the clitic system of Hul'q'umi'num' by describing the 'orientation' of those elements. They define orientation as the clitic's placement with respect to an adjacent, host-like element. Put simply, this is the distinction between proclitics and enclitics, but proves to be more nuanced in practice. Gerdts and Werle (p. 248) assign two general classes for Hul'q'umi'num' clitics: inner-clitics and outer-clitics. They define inner-clitics as phonologically integrated with their hosts. This close integration allows Gerdts and Werle to confidently classify inner-clitics as proclitics or enclitics. By contrast, outer-clitics are less obviously integrated than inner-clitics, and are further divided into two categories. Outer-clitics that *follow* their hosts are straightforwardly analyzed as second-position clitics, as they are ordered with respect to a clause or nominal phrase, within which they follow some initial root. Outer-clitics that *precede* their hosts are called pre-predicate clitics, as they seem to be ordered with respect to a following predicate, not a preceding one.

Gerdts and Werle take syntactic properties of the clitics into consideration in order to classify the Hul'q'umi'num' clitics into these two types: those that precede their host and those that follow it. This is seen clearly by comparing Hul'q'umi'num' clauses with and without auxiliary verbs, as shown in (1). Gerdts and Werle denote inner clitics with a '=' at their attaching edge, and outer clitics with a ']' at their attaching edge.

(1) Hul'q'umi'num' Clitic-map

- a. pre-predicate clitic_{inner} proclitic = VERB = inner-enclitic_{second-position} clitic
- b. AUX = inner-enclitic_{second-position} clitic pre-predicate clitic_{inner} proclitic = VERB
- (Gerdt & Werle 2014:18)

Here, inner enclitics and second-position clitics follow the first suitable element of the clause (or phrase), while inner proclitics and pre-predicate clitics precede the predicate (in this instance the verb). The relative order and direction of attachment of these clitics is shown by examples (3) and (2).

- (2) wəł_yə = ʔewə kwəθə sʰəyʰ
- PERF_{SER} = come DT cold
- Winter was coming*

(Gerdt & Werle 2014:247)³⁹

Example (2) shows the proclitics [wəł_] and [yə =] in their relative order of outer clitic, followed by inner clitic, followed by the verb [ʔewə] *come*. The enclitics are shown in example (3).

- (3) nem = əł_cən həyeʔ
- go = PST_{1SG.SUB} leave
- I was going to leave*

(Gerdt & Werle 2014:247)

Here, the verb [nem] *go* is followed by the inner enclitic [= əł], which in turn is followed by the outer enclitic [_cən].

Now, how does this translate into the discussion on Kwak'wala clitics? There are no proclitics in Kwak'wala, but I have shown that there are pre-predicate enclitics, that is, those which

³⁹ I have kept the gloss and transcriptions provided by Gerdt and Werle in these two examples. For reference to the glossing abbreviations, please see their paper as referenced in the works-cited section below.

modify an element to the right, yet attach to an element to the left. These are the wanderer clitics (case markers [=χa] and [sa], and the definite article [=da]) as well as the possessive-pronouns and pre-nominal visibility markers. In Chapter 5 I find that the wanderer clitics appear similar to Selkirk's (1995) definition of affixal-clitics. Therefore, I propose that pre-predicate clitics in Kwak'wala can be viewed as wanderer-clitics or affixal-clitics. For the purposes of this paper, I will generally refer to such clitics as wanderer clitics.

Pre-predicate clitics/affixal-clitics = wanderer clitics

Gerdt and Werle cite syllabification and contraction as evidence that inner-clitics are phonologically integrated with their hosts. Syllabification is where a syllable is constructed across morpheme boundaries (p. 263), and contraction is where neighbouring phonemes across morpheme boundaries coalesce into one phoneme (p. 271). Since both syllabification and contraction are not observed on phonemes between two clearly independent PWords, Gerdt and Werle claim that they do not occur across PWord edges. Therefore, syllabified morphemes and contracting enclitics are PWord-internal. I observe this for Kwak'wala in Section 5.1.5 above, where an attaching vowel-initial enclitic contracts with the final vowel of a preceding suffix. For inner-proclitics, if the host starts with a consonant cluster, the first consonant is syllabified as a coda. In the same way, I assume that if the host ends with a coda consonant, and the clitic begins with a vowel, the coda will become the onset of the next syllable. I show exactly this alternation in Section 5.1.6, where Kwak'wala pronouns are syllabified across morpheme boundaries and are involved in the stress domain of their host. I repeat an illustrative example of this here in Example (4).

- (4) Umista dɬəwən'se'
 IPA dʒə.wənʔ.seʔ
 Morpheme dʒəw = ənʔs = eʔ
 Gloss CONJ = 1PL.INCL = I3
 Translation *With us*

As I show in the IPA transcription, the syllable parsing (indicated by the ' . ') does not match the morphological breakdown: as syllables, the PWord [dʒə.wənʔ.seʔ] is not parsed as it is

morphologically [dʒəw̥ = ənʔs = eʔ]. The first syllable is simply the first two phonemes of the root [dʒə]. The second syllable [w̥ənʔ] is the stress-bearing one, and is composed of the final consonant [w̥] of the root [dʒəw̥] and the initial vowel and following two coda consonants [ənʔ] of the pronoun [= ənʔs]. The final consonant [s] of this pronoun in turn becomes the onset of the third syllable [seʔ], along with the phonemes provided by the visibility marker [= eʔ]. This is just the syllabic evidence for inner-clitics used by Gerdts and Werle, and proof that there is no PWord boundary between the host and these morphemes. There are no proclitics in Kwak'wala, so the inner-clitics of Kwak'wala are only comprised of inner-enclitics. I propose that these are the same as internal-clitics, which is the default clitic-type in Selkirk's (1995) description.

Inner-enclitics = internal-clitics

Inner-proclitics = N/A

This leaves Gerdts and Werle's second-position clitics without yet an obvious parallel to the clitic classification I give in Chapter 5. Second-position clitics, according to Gerdts and Werle are those that attach to the right edge of a phrasal domain, as opposed to the domain of a root or stem (that is to the larger 'determiner phrase', not the smaller 'noun phrase'). This again corresponds to the pre-predicate clitics in Kwak'wala, as those pre-predicate enclitics also appear in second position on the rightmost periphery of their prosodic domain. I propose, therefore, that second-position clitics, pre-predicate clitics, and affixal-clitics are all the same type of clitic in Kwak'wala. Again, I label clitics of this type as wanderer clitics.

Second-position clitics =	wanderer clitics
Pre-predicate clitics =	
affixal-clitics =	

I give a modified morphological breakdown of Kwak'wala in (5), based on that shown in (1) for Hul'q'umi'num', and using Gerdts and Werle's terminology.

(5) Kwak'wala Clitic-map

a. VERB = inner-enclitic_pre-predicate clitic/second-position clitic

b. AUX = inner-enclitic_pre-predicate clitic/second-position clitic VERB = inner-enclitic

Note here the differences between the Hul'q'umi'num' and Kwak'wala clitic ordering. Since Kwak'wala has no proclitics or prefixes, there can be no morphological material to the left of the phrase-initial root as there can be in Hul'q'umi'num'. When the verb is not phrase-initial, as in (5b). above, inner-enclitics can appear following both phrase initial auxiliary, and the verb, with pre-predicate (or second-position) clitics in between them.

6.1.2 Prosody of Hul'q'umi'num' Clitics

In this section, I present my understanding of Gerdt's and Werle's (2014) prosodic classification of clitics. They find a range of clitic behaviours, not only in their placement in the clause as outlined in the previous section, but also in how phonologically dependent they are on a host. They refer to such phonological dependence as 'integration'. Gerdt's and Werle (p. 19) state that more integrated clitics can undergo phonological processes with their hosts, share the stress domain of their hosts, and generally resemble affixes. Less phonologically integrated clitics can show greater freedom in terms of placement within the clause and in crucial ordering with other clitics. Again, this reflects the notion that morphemes all belong on a wordhood continuum, with PWords at one extreme, affixes on the other, and clitics somewhere in between. This gradient treatment of morphology is one that I adopt for Kwak'wala in the following sections.

Integrated clitics under Gerdt's and Werle's definition would not pass Zwicky's second or sixth tests: Internal Sandhi rules and Accent, as stated in Section 2.2.1 above. The internal sandhi rule test states that only affixes, not clitics, trigger phonological alternations on the host stem. While Gerdt's and Werle (p. 21) do state that one phonological process (namely glottalization in Hul'q'umi'num' which spreads a glottal-feature from phonemes in the roots onto suffixes) does not apply to clitics, they do insist that most phonological alternations apply to the more integrated clitics. This creates a measurable difference between Gerdt's and Werle's proposed inner and outer clitic types: inner-clitics fail Zwicky's second test by being involved in phonological alternation with the stem, while outer-clitics do not fail this test. I

argue for a similar division of clitics based on Zwicky's sixth test (Accent) for Kwak'wala. In Section 5.1.6 above, I show that Kwak'wala 'internal-clitics' are in fact centrally involved in the stress domain of their host stem, while the wanderer clitics, as outer-clitics, may never house the PWord stress of their host.

Another phenomenon commonly associated with wordhood, used by Gerdts and Werle (p. 265), is pausing. Setting aside Gerdts and Werle's work for the moment, I explore exactly what I mean by 'pauses'. The discussion on pauses as a cue for classifying clitics, or discovering prosodic boundaries, is about as subtle as it is useful. Not all pauses have the same status. Some occur naturally at edges of Intonational-phrases (IPh) or at the boundaries of an entire Utterance (Utt), as a convenient period to take a breath. Others, however, are hesitations as the speaker seeks to construct the next part of their discourse, or sometimes to recall a certain linguistic form. Crucially, after such a hesitation (or thoughtful pause) the speaker either continues on from exactly where they had stopped speaking, or restarts back to some previous point (Crystal 2008:522).

These two dialogue strategies define what I call 'pauses' on the one hand, and 'self-repair' on the other. Although not alone enough evidence, both pauses and self-repair can be used to help define PWord boundaries. It is common for speakers to pause after a completed PWord, but it is unusual to pause within a PWord. Pausing in the middle of any PWord is considered an error and the PWord is restarted to the beginning of its left boundary, or some previous PWord boundary. I call this reiteration after an ungrammatical pause self-repair. In this way it is possible to help define both the left- and right-edge of PWords by observing the morphological positions where pauses can occur without triggering self-repair.

Returning now to Gerdts and Werle, they claim that a pause between an inner proclitic and its host is possible, but it is also possible to restart the prosodic-word and repeat the clitic (p. 266). By contrast, they state that pausing after a prefix is regarded as very unnatural. In this way, Gerdts and Werle show that instances of pauses and self-repair in Hul'q'umi'num' help define clitic type. In order to accurately determine where pauses can and cannot be placed without sacrificing naturalness in the language, Gerdts (personal communication) recorded hundreds of hours of audio together with mother-tongue speakers of Hul'q'umi'num'. These speakers were also linguists, and accustomed to making judgements and suggesting better linguistic forms to correct phrases that sound ungrammatical. They would inform Gerdts if

they wanted the audio clip edited to make the pause shortened or taken out altogether. In this way Gerdts developed a good sense of which pauses are unintentional and which are strategic.

Gerdts also tested the validity of adding pauses in certain places within her own Hul'q'umi'num' utterances. She then elicited judgements from Speaker-linguists as to what effect the pause had on the phrase, be it neutral, more natural, or less-natural. Gerdts also had her speakers read out sentences that she had marked with a '#' sign, indicating where she wanted them to pause. The speakers would try to pause in these places and again judge the naturalness of doing so. She additionally elicited short utterances from fluent speakers while having them beat on a surface with a pencil to indicate when they consciously knew they were going to pause. The principle method she used, however, was to take recordings of natural speech from elicited stories, then lengthen and shorten the pauses that naturally occur and ask for judgements on naturalness. This method is one I use here for Kwak'wala.

The results of these tests lead Gerdts and Werle to state that pauses are possible between the host stem and certain clitics, but never between the root and any affix. Indeed, they find no recorded texts in Hul'q'umi'num' which reveal any occurrence of pauses between a prefix and its host. Indeed, speakers are consistently intolerant of data that contain pauses after prefixes. For example, Gerdts and Werle (p. 267) state that Hul'q'umi'num' speakers have trouble understanding **“yə- // ʔəʔəʔaθən” COL-four(PL)* if there is a pause. The pause is indicated here by the double slash marks '//' which appears between the collective prefix *“yə-” COL-* and root *“ʔəʔəʔaθən” four(PL)*. When speakers are asked to repair such an example, they do so by removing the pause.

By contrast, Gerdts and Werle state that Hul'q'umi'num' speakers regularly accept and use data with pauses after proclitics. Because of this, pauses appear to be a reliable test for the distinction between prefixes and proclitics. Hul'q'umi'num' speakers find that it is natural to pause after an inner proclitic and before its host, especially in the middle of a long sentence. Similarly, pauses are often observed between pre-predicate clitics and their hosts. However, pauses between an inner-enclitic or a second-position clitic and their host are not allowed. Gerdts and Werle (p. 24) state that they observed no such natural data, and when pauses were manufactured between the host and following clitics, speakers judged that data to be

unnatural.

This observation allows Gerdts and Werle to differentiate between phrase-initial or introducer-clitics (which are inner-proclitics and pre-predicate clitics) on the one hand, and inner enclitics and second-position clitics on the other. In Hul'q'umi'num', pauses are only accepted between the host and certain prefixes, not a host and any following enclitic. Gerdts and Werle (p. 268) postulate that this difference may correlate with performative and cognitive aspects of the left edge versus right edge of the prosodic unit. They state that when there is a pause after the initial element of a phrase, it signals to the listener that additional information is imminent. This is an excellent way to signal that the speaker's turn is not finished during dialogue, as Hul'q'umi'num' speakers prefer silence rather than a phonetic filler, such as English '*umm*', German '*also*', or French-Canadian '*ben*', during a pause.

The same cannot be said for Kwak'wala based on my brief preliminary observations of Kwak'wala discourse. In contrast to Salish languages, there are no proclitics in Kwak'wala, so the left edge of the prosodic unit always aligns with the left edge of the root. Pauses do occur between an enclitic and its host, in contrast to Hul'q'umi'num'. Additionally, Kwak'wala conversation prefers more marked turn taking between interlocutors, and avoids silence. Kwak'wala recordings of natural conversation regularly show that speakers, who are familiar with each other and engaged in the conversation, speak over each other and at the same time, not leaving room for silence. Unlike Hul'q'umi'num', Kwak'wala speakers do employ a phonetic filler-word when silence occurs in dialogue, as English, German, and French do: "*axaya*" [əχaja] *thingy/what-cha-ma-call-it*, or "*maṣsaḥi*" [maṣsaḥi] *what is it*.

Gerdts and Werle (p. 269) conclude that Hul'q'umi'num' clitics show three degrees of phonological integration, with inner-enclitics and second-position clitics being the most bound, pre-predicate clitics being the most free, and inner-proclitics being somewhere in between. By juxtaposing Gerdts and Werle's syntactically- and phonologically-defined clitics, I provide their ordering of both clitic types in (6), in order from most integrated on the left, to least integrated to the right. The '>' symbol represents dominance, which in this context equates dominance with integration. More integrated elements will, therefore, be to the left of the '>', and the less integrated to the right. The syntactic types are particular to Hul'q'umi'num', differing in their ordering with respect to hosts, and placement within their

(7)

Syntactic freedom:

Full Word > pre-predicate clitics > second-position clitics > inner enclitic > inner proclitic > affix

Phonological integration:

affix > inner enclitic > second-position clitics > inner proclitic > pre-predicate clitics > PWord

(Gerdt & Werle 2014:275)

Gerdt & Werle (p. 275) state that clitics can be parsed at the right edge of a prosodic-word, at the left edge of a recursive prosodic-word, or directly by a phonological phrase. Crucially, PWord(-clitic) boundaries on either side should be observable in any language, including Kwak'wala. In theory, a pause should be able to appear at the left and right edge of affixal-clitics at the boundary of each recursive PWord and surrounding other units which are syntactically more independent from their hosts like clitic-strings. What follows is to apply the sort of phonological tests conducted by Gerdt & Werle to Kwak'wala to actually prove that this is the case.

6.2 Clitic-strings

An important concept in the investigation of the PWord in Kwak'wala is my notion of clitic-strings, as presented in Section 5.2.4 above. In Kwak'wala there are clitics which have more than one syllable, but there are also many instances of a series of clitics which, together, form multisyllabic constituents. I define clitic-strings as one or more consecutive enclitics which, together, compose at least two well formed syllables. In Kwak'wala well formed syllables always have a consonant onset, and a vowel nucleus, with coda consonants being optional. Clitic-strings are important because they behave in a more prosodically independent way, that is more PWord-like, than a typical monosyllabic clitic does.

The relative independence of clitic-strings has long been noted in Kwak'wala literature. Boas (1900:715) notes that Kwak'wala in the early 1900s had a strong tendency to combine the possessive pronoun, which ordinarily appears as a 'suffix' (clitic), with the pronominal suffixes (also clitics), so that they form one 'phonetic unit'. Contemporary scholars also concede that it is quite common for all the pre-nominal clitics to solidify into a single

prosodic unit by forming a distinct 'prosodic-word' (Black 2011:5 footnote).

For example, the enclitic [=ɖi] is an aggrandizer which is prosodically subordinated to any root it attaches to, as seen in Example (8). Here, the enclitic [=ɖi] is a part of the PWord of its host, as shown in the Prosody row: (w̥alasɖi)_{Pwd}.

(8)	Um̥ista	W̥alasɖi pus̥ka
	IPA	w̥alasɖi pus̥ka
	Morpheme	w̥alas = ɖi pus̥ka
	Gloss	big = GRN hungry
	Translation	<i>He's very very hungry</i>
	Prosody	((w̥alasɖi) _{Pwd} (pus̥ka) _{Pwd}) _{Pph}

However, when combined with the quantifier enclitic [=kas], the two create a clitic-string of two well formed syllables [=ɖi = kas] = GRN = QNT. This clitic string then creates a recursive PWord along with its host, instead of being completely subordinated to its host as in the example above. I show the prosodic relationship of this clitic-string to its host in as ((w̥alas)_{Pwd} ɖikas)_{Pwd} in Example (9). Note that the clitic-string creates an additional PWord with its host (w̥alas)_{Pwd} which is in itself also a PWord.

(9)	Um̥ista	W̥alas dzikas pus̥ka
	IPA	w̥alas ɖikas pus̥ka
	Morpheme	w̥alas = ɖi = kas pus̥ka
	Gloss	big = GRN = QNT hungry
	Translation	<i>He's really very very hungry</i>
	Prosody	((((w̥alas) _{Pwd} ɖikas) _{Pwd} (pus̥ka) _{Pwd}) _{IPh}

As I show in Section 6.3, certain identifiable prosodic traits, such as stress domain, pauses, and self-repair, identify this recursive PWord boundary. I will provide an example of the interaction of the stress domain with a clitic-string here. Example (10) shows the PWord

[nəkʷə́ɬ] *salal*⁴⁰ and the short phrase [nəkʷə́ɬúχ] *This is salal*. Note that in isolation, [nəkʷə́ɬ] *salal* shows PWord stress on the second (final) syllable, as indicated by the accent '´' mark. Stress falls on this syllable because there is no moraic candidate in this PWord, and so PWord stress defaults to the rightmost syllable. When the second distal visibility marker [=uχʷ] is added, the stress predictably shifts to the enclitic because it provides the only moraic syllable nucleus in the PWord: [nəkʷə́ɬúχʷ] *This is salal*.

(10)	Umista	nəkʷáɬ	nəkʷə́ɬúχʷ
	IPA	nəkʷə́ɬ	nəkʷə́ɬúχʷ
	Morpheme	nəkʷə́ɬ	nəkʷə́ɬ = uχʷ
	Gloss	salal	salal = D2
	Translation	<i>salal</i>	<i>This is salal</i>
	Prosody	(nəkʷə́ɬ) _{Pwd}	(nəkʷə́ɬúχʷ) _{Pwd}

Theoretically, we would expect stress to shift from a root with no moraic syllable nuclei, like [nəkʷə́ɬ], to any attaching morphology that provides a full vowel. This is not the case when clitic-strings attach immediately following the host root, however. Example (11) shows that the clitic-string [=ganəm = uχʷ] does not house the PWord stress, even though it provides the best candidate to do so. I again indicate the stress of each PWord with the '´' accent.

(11)	Umista	Yúmən nəkʷáɬ ganəmuχʷ
	IPA	júmən nəkʷə́ɬ ganəmuχʷ
	Morpheme	ju-m̩ = ən nəkʷə́ɬ = ganəm = uχʷ
	Gloss	be.2-DISC = 1.POSS salal = probably = D2
	Translation	<i>These are probably my salal</i>
	Prosody	((júmən) _{Pwd} ((nəkʷə́ɬ) _{Pwd} ganəmuχʷ) _{Pwd}) _{IPh}

Note that in this phrase there are two PWords with one stress for each: (júmən)_{Pwd} with the PWord stress falling on the first syllable, and ((nəkʷə́ɬ)_{Pwd} ganəmuχʷ)_{Pwd} with the stress falling on the rightmost syllable of the root. Crucially, the stress does not fall on the first syllable of the enclitic [=ganəm] *probably* even though it has a moraic stress-bearing vowel

40 Salal is a common Northwest Coast plant which produces an edible dark blue berry, also known as Gaultheria Shallon.

on both of its syllables. It does not take the PWord stress of its host because it is a clitic-string, and associates prosodically as a post-lexical recursive PWord, after the PWord stress has already been assigned: ((nə́kʷəɬ)_{Pwd} ganəmuχʷ)_{Pwd}). I give further evidence of the independence of clitic-strings as well as the wanderer clitics in Section 6.3.

6.2.1 Theoretical Support for Clitic-strings

There is some theoretical precedent to the clitic-string concept I argue for here. Members of lexical categories (such as those beginning each stress constituent in Example (16) below) invariably receive PWord status. Functors, however, may also achieve PWord-like status in specific cases. Zec (2005:83) states that in standard Serbian, the context with which a morphological unit is awarded PWord stress is a syllabic minimality requirement. Whether or not a functor will become a PWord crucially depends on its size: multisyllabic functors can show PWord stress, but monosyllabic functors cannot. The central assumption I make on PWord stress is that a prosodic-word can only have a maximum of one primary stress (Elordieta 2014:16). Another widespread, although not universal condition that PWords need to fulfill is minimum size. In many languages, a PWord needs to be minimally bisyllabic or bimoraic (Elordieta 2014:16). In Kwak'wala, there are many cases of monosyllabic roots, which I assume to be PWords as well, so this minimal syllabic requirement is waived for roots. However, the concept of syllable minimality is interesting for functors. For example, Elordieta (2014:35) states that multisyllabic prefixes in English are examples of functors which contain their own stress domains. She claims that they are stressed and do not trigger vowel reduction or other processes typical of weak, unstressed syllables. These are prefixes like *poli-*, *super-*, *extra-*, *mega-*, or *inter-*. Such well-formed multisyllabic prefixes in English should, therefore, be analysed as independent PWords. Extending this notion of multisyllabicity to Kwak'wala appears, at first glance, to support my argument for clitic-strings. However, simply being multisyllabic is not the only criterion in assigning PWord status to a functor.

As examples from Section 5.1.6 above show, the disyllabic first person plural exclusive clitic [= ənuʔχʷ] does not develop its own stress domain (as a PWord would), but houses the stress of its host. This enclitic is involved in what Gerdt and Werle (2014:20) call syllabification. As explained above, syllabification is when all the components of the PWord

are segmented into syllables after they have joined together morphologically. In the case of [=ənuʔχ^w], the syllabification process always spans a morphological boundary, due to the fact that every syllable in Kwak'wala requires a consonant onset. For example, [=ənuʔχ^w] commonly surfaces as [lə.m̩i.sə.nuʔχ^w] when combined with [ləm̩is], which combines the [s] from the clitic [=is] *and* with schwa vowel [ə] from [=ənuʔχ^w] to form the syllable [sə].

Gerds and Werle (2014) state that syllabification can be taken as evidence for phonological integration since it happens only when one element is a suffix or clitic and not an independent PWord. The clitic [=ənuʔχ^w] is, therefore, phonologically integrated with its host, and so cannot form its own PWord. Gerds and Werle note that, in Hul'q'umi'num', inner-proclitics and pre-predicate clitics never show syllabification. They offer the hypothesis that in Hul'q'umi'num' this is due to the fact that those clitic types all also happen to contain well-formed syllables. As for the Kwak'wala first person plural exclusive clitic [=ənuʔχ^w], it contains one badly-formed syllable, as evidenced by its CV structure. It begins with a vowel, and not the obligatory consonant every syllable in Kwak'wala requires. Parsing into syllables will, therefore, break up the morpheme boundaries of this clitic, causing integration with its host. Again, Section 5.1.6 shows that it can also house its host's stress, which further confirms its close integration and lack of PWord independence.

Zec (2005:93) calls clitic-string formation 'clitic stacking'. In her analysis, PWord structure allows the leftmost PWord to serve as 'first' for any number of second position enclitics, since each enclitic is attached to the same initial PWord, even though they are phonemically attached to each other. Zec argues that if enclitics were characterized as following the first *morphological-word*, then any enclitic after the first one in order would no longer be in second position. However, viewing clitics on a *prosodic* level, as following PWords, avoids this problem altogether. In this view, the stacked clitics behave as a prosodic unit. The prosodic status of stacked clitics further depends on their combined size: the clitic-string will become PWord-like if it is minimally disyllabic and conforms to the language specific syllable requirements. However, when these clitics come together to create at least two well-formed syllables in Kwak'wala, PWord stress is still not found on that constituent. As stated, I assume that a domain of stress to be central is defining a PWord.

There are, however, some scholars who claim that units of two syllable functors do create

PWords, even without apparent stress domains. Trommer (2008) argues that the traditional definition of the PWord in Hungarian, according to Nespor and Vogel (1986), is either a stem and any linearly adjacent string of suffixes, or any element not integrated into a PWord by that stem. That is to say that any linguistic material remaining outside of an easily defined PWord is also awarded PWord status. In Hungarian this would involve all postpositions, including the case suffixes. However, Trommer (2008:404) notes that of all postpositions in Hungarian, only the case suffixes are monosyllabic, while all others are bisyllabic. These bisyllabic postpositions behave in a more prosodically independent way than other suffixes do in Hungarian, including the case marking postpositions.

Trommer (p. 434) argues that scholars have previously used arbitrary morphosyntactic features to distinguish case markers and other postpositions in a effort to explain the independent behaviour of the later. Trommer claims that such an analysis ignores the clear correlation between phonological (bisyllabic vs. monosyllabic) shape and phonological behaviour of adpositional elements in Hungarian. He states that both problems can be avoided if case markers and adpositions are differentiated on phonological grounds instead of assigning them different morphosyntactic representations, that is, bisyllabic postpositions are PWords by virtue of being bisyllabic. Trommer (p. 415) redefines the PWord in Hungarian as either: a lexical stem and any right-adjacent string of functors from the extended projection of the stem which has at least one monosyllabic variant, or a minimally bisyllabic functional head.

This is interesting in the discussion of the PWord in Kwak'wala because it provides some precedent for the observed independence that bisyllabic functors (clitic-strings) have over their monosyllabic counterparts. Unlike Hungarian, these bisyllabic functors in Kwak'wala are all clitics, not any bisyllabic affixes or affix combinations. Nevertheless it is compelling that other languages have noted some real phonological differences between functional units of at least two syllables over those of just one syllable, without appeals to morphosyntax or use of the prosodic foot.

6.2.2 Clitic-strings as Prosodic Feet

Units of two syllables within the same PWord that follow the stressed syllable constituent

would appear to be very close to the definition of prosodic feet, as I explore in Section 5.2.4 above. Indeed, some Kwak'wala phrases can show that two or even three groups of clitic-strings can follow their host root, each dividing into their own bi-syllabic units. If looked at purely in terms of their syllabic behaviour, as Kalmar (2003) has done, clitic-strings could be considered prosodic feet. However, as I argue in Section 5.2.4, clitic-strings lack the crucial trait of secondary stress which prosodic feet are always assumed to have. In my understanding, metrical feet were originally motivated by those languages which show strong alternating stress patterns across multisyllabic PWords. In these languages, feet are units of two syllables where one of those syllables is said to be more prominent than others. Prominence is not an intrinsic property of stressed syllables, but a matter of relative strength between stronger and weaker syllables (Kager 2007:195).

As I show in Section 5.2.4 above, clitic-strings in Kwak'wala crucially lack this relative strength between their syllables. Also, under my definition, a clitic-string may be three syllables, as in [= ganəm = uχ^w] = *probably* = D2 in Example (11) above. This makes an analysis that employs prosodic feet in Kwak'wala often quite clumsy, though not impossible. Nevertheless, the fact that clitic-strings show prosodic independence and a strong preference to form two syllables is compelling, and begs further phonetic research.

In an attempt to understand prosodic reasons behind why clitic-strings might form in Kwak'wala, I look to the distantly (yet obviously) related South Wakashan language of Nuuchah-nulth. This language displays the opposite trait in regards to its enclitic-strings as Kwak'wala. Werle (2002:14) describes a prosodic system whereby a root plays host to a number of enclitics, as they do in Kwak'wala, but which are either parsed as belonging to the single foot of the host root, or are not footed. He suggests that since the third and later syllables of many PWords consist solely of clitics in Nuuchah-nulth, and clitics are prone to prosodic extrametricality, these enclitics might not influence the 'foot' level of the prosodic hierarchy at all.

Werle (2002:1) argues that the first two syllables of a PWord in Nuuchah-nulth are phonologically stronger, while third and later syllables are relatively weakened or eliminated altogether. He argues that this can be attributed to the structure of the Southern Wakashan PWord, which builds a foot over the first one or two syllables, leaving the rest of the word

unfooted. The strategy is to phonemically reduce the enclitics and include them in the prosodic foot of the root in order to incorporate the enclitics into prosodic foot structure. Werle (2002) states that if such enclitic reduction persists, there may come an advanced stage where the entire PWord consists of only a single foot, with most suffixes and clitics surfacing merely as strings of consonants in order to be allowed into that one foot as a complex coda cluster (p. 14). This is shown in example (12).

(12)	NAPA ⁴¹	q ^w aǰǰtkduuk
	IPA	q ^w aχχtkduuk
	Morpheme	q ^w aχaχ = it = ik = duu = k
	Gloss	because.of = PAST = REL = 1 PL = HAB
	Translation	<i>that's why we would</i>

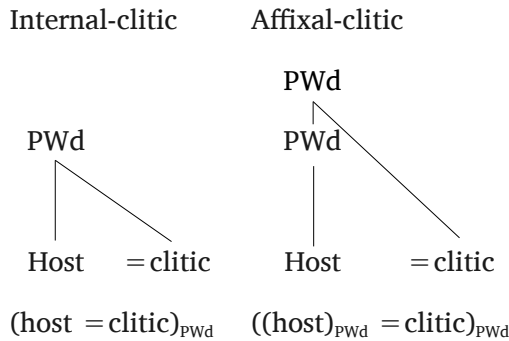
(Werle 2002:14)

The Nuu-chah-nulth example shows a strategy for dealing with clitic-strings opposite to that found in Kwak'wala. Constructing new prosodic units for clitic-strings, which contain the correct syllable profile, could be a strategy for solidifying the clitics within the prosodic system. This would then protect them from deletion or phonological reduction. The Nuu-chah-nulth strategy is to find a way to fit the clitic-string into the prosodic foot of its host without creating new feet or PWords where none exist lexically. However, Nuu-chah-nulth and Kwak'wala are similar in that each language has a strong preference to stress one of the initial syllables. All following syllables in both languages are uttered with significantly reduced strength.

The clitic series in Nuu-chah-nulth is dealt with in a very different way than in Kwak'wala. Those syllables which are not moraic and not initial are phonologically reduced in order to fit them into the existing foot structure of the root. This could be true of Kwak'wala as well, although the same phonological evidence is not observed. As shown above, I argue that prosodic feet are not necessary in defining the PWord in Kwak'wala, and so I do not posit anything at the foot level. I propose that Kwak'wala's strategy to deal with clitics is to either adjoin them to their host's PWord as an internal-clitic, or create recursive PWords as affixal-

41 North American Phonetic Alphabet

clitics. Affixal-clitic would then better accommodate the behaviour of the wanderer clitics and clitic-strings.



My prosodic treatment of Kwak'wala is supported by the application of the three prosodic tests in the following sections.

6.3 Phonological-Word Tests on Kwak'wala

As outlined in the previous section, and motivated by its success in defining clitic types in Hul'q'umi'num', I now move on to apply some of the same phonological tests to Kwak'wala's clitics as Gerdts and Werle (2014) do for Hul'q'umi'num'. There are three tests which I use to accurately define PWord boundaries, the first being the investigation of the PWord stress domain. The assumption is that a PWord may have exactly one primary stress, and that evidence of another primary stress would signal another PWord. I take the morpheme triggering the primary stress to be the root of that PWord, and the stress domain to also include any adjoining morphology, ending before the next root. The second is the grammatical insertion of pauses at specific points in the stem. Speakers may pause to collect their thoughts at strategic points in an utterance. These points signal prosodic boundaries I assume to also be PWord boundaries. I also assume that self-repair occurs when a speaker has paused at a point that does not coincide with a PWord boundary, and must return to a previous PWord boundary in the utterance before moving on with the discourse, in order to remain grammatical. I call this returned-to place the re-set point, which I also assume to be a PWord boundary. The location at which self-repair is triggered is evidence that that specific morphological position is not a PWord boundary. These are the testable features I use in this section to discern PWord boundaries in Kwak'wala.

My assumption that these prosodic tests are markers of PWord boundaries is not a standard one. Some linguists (Haspelmath 2011, Elfner 2012, Gerdts & Werle 2014, among others) believe that these pauses signal syntactic-word boundaries, not phonological-word boundaries. For example, Windsor (2011:11) argues in favour of *Match Theory*, which is originally proposed by Selkirk. This Optimality Theoretical hypothesis states that there is a perfectly aligned mapping constraint between the syntactic and prosodic structures of languages, allowing for syntactic-prosodic mismatches to occur in other prosodic constraints. The best argument for Match Theory, as cited by Windsor, is based on the ability to predict recursive prosodic-words based on morphosyntactic categories and not based on any strictly phonological trait, like weight sensitivity in Irish.

However, according to Hall et. al. (2008) most linguists now recognize the existence of both the grammatical-word (what I have been calling the morphosyntactic-word) and the phonological-word (PWord). They argue that countless studies have shown that within a single language, these two constituents do not always match. Hall et. al. (2008:183) state that it is the PWord, as a prosodic unit, which defines the domain for various generalizations, such as phonological rules, phonotactic conditions and minimality constraints. Following this, I assume that prosodic/phonological traits, such as the domain of stress, pauses, and self-repair, signal prosodic/phonological domains. I leave the issue of Kwak'wala prosodic/syntactic domain mapping to other scholars⁴².

6.3.1 Stress

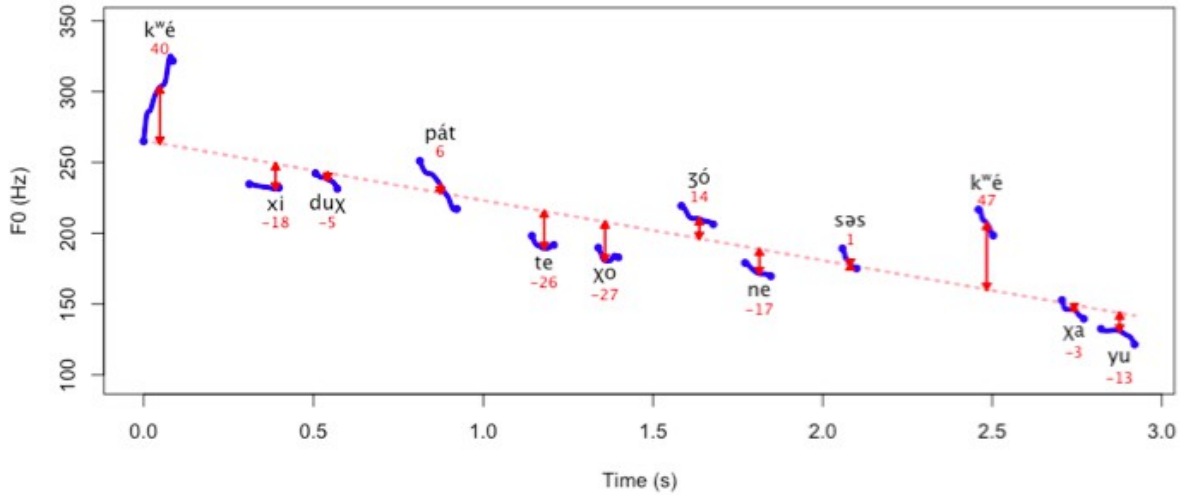
Some of these three tests have been used by other scholars for other languages as well. Shapiro (1967:433) provides a list of morphological and phonological criteria which he uses to define PWord boundaries in Russian. Relevant to the study of Kwak'wala PWord boundaries, Shapiro states that a “word” in Russian can be a group of functors (often clitics), can be separated from the next word by a particular morpheme, align at the phrase boundary, or align with the stress system. Shapiro may be conflating his definition of “word” to at once include the phonological-word and the morphosyntactic-word. His reference to functors and the stress system echos the methods used by Gerdts and Werle (2014), and so appear to have wider cross-linguistic validity.

42 I eagerly await Elfner's Kwak'wala findings in this regard.

As stated, stress has been cited by a number of scholars as a reliable criterion for assigning PWord boundaries. For Chinese, Duamnu (1998:46) states that the PWord is defined by the stress domain in all Chinese dialects. This both satisfies the linguist's need for segmentation on a phonological basis, and the intuition of native Chinese speakers that a constituent called a “word” exists, relating to the discussion in Chapter 3. Trask (2004:2) argues for the utility of the stress domain in English as well. He states that the most useful criterion is that a PWord contains only one main stress. Trask, however, also cautions against over applying the stress domain as a criterion in assigning PWord boundaries. The stress domain of languages like English (Trask 2004), and Chinese (Duamnu 1998), does not necessarily resemble other languages like Kwak’wala or Hul’q’umi’num’. I therefore use the PWord stress domain only in conjunction with the two other tests in defining PWord boundaries in Kwak’wala.

In Kwak’wala, the initial (leftmost) IPhrase boundary is marked by a spike in the phonetic behaviour of pitch, intensity and duration (Janzen 2011, Noguchi 2011). Phrases in Kwak’wala begin with this high pitch and intensity, and as the IPhrase progresses, natural phonetic declination of pitch and intensity occurs until a new IPhrase is begun. This new phrase is signalled by the reset of pitch and intensity to comparable levels of the beginning of the previous phrase. This can be seen in Tables 24 and 25. These tables show the natural pitch and intensity declination throughout two Kwak’wala phrases. They also show that the stressed syllable of each of the PWords rises above the pitch and intensity declination level. This relative phonetic prominence is interpreted by listeners as the stressed syllable, even though a stressed syllable is not more prominent in pitch and intensity than non-stressed syllables at the beginning of the phrase.

Table 24



(Noguchi 2011:334)

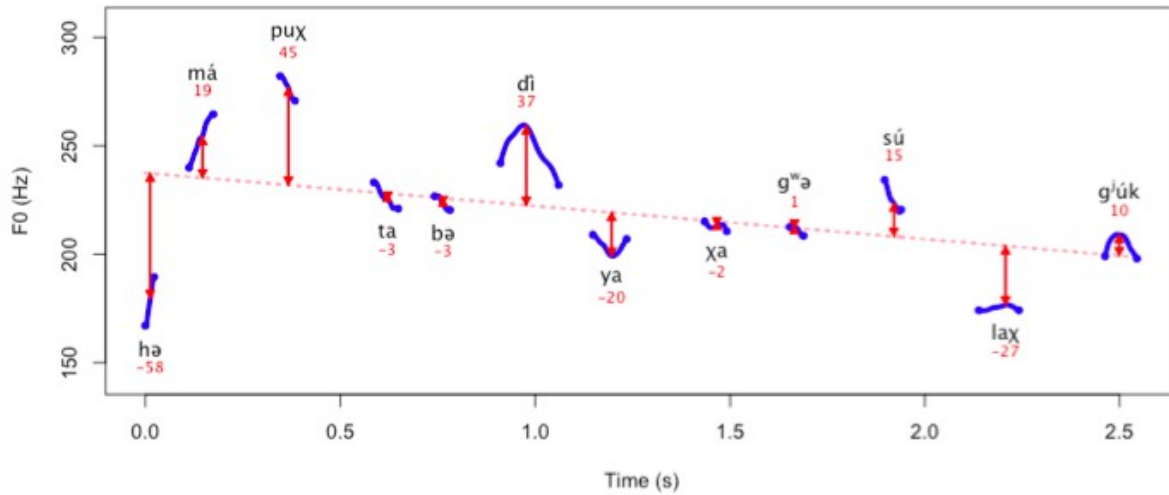
The phrase in Table 24 appears in example (13), and shows natural pitch and intensity declination, as well as the relative prominence of each stressed syllable. Note that each root contains a stressed syllable which rises above the red dotted diagonal line which indicates the natural pitch declination. The initial syllable [kʷi] (“kʷe” in Noguchi's transcription) is and measured 40 Hz above the declination line. The second stressed syllable is [pát] which appears 6 Hz above the declination line, while [ɟa] (“3ó” in Noguchi's transcription) is 14 Hz above the declination line. Finally, the final PWord in the phrase has the stressed syllable [kʷi] (“kʷe” in Noguchi's transcription), and rises 47 Hz above the declination line. I consider each of these syllables to be stressed because they breach the natural declination line.

(13)	Noguchi	kʷéχiduχ páteχo 3ónəsas kwéχayu
	Umista	Kwíx'iduxw Páte xa Dzóna səs kwíχayu
	IPA	kʷíxʔiduχʷ páte χa ɟána səs kʷíχayu
	Morpheme	kʷixʔid = uχʷ pat = a = χa ɟan = a = sa = əʔs kʷiχayu
	Gloss	hit-NEAR.PAST = D2 Pat = D3 = ACC Jon = D3 = OBL = 2.POSS bat
	Translation	<i>Pat hit Jon with his bat</i>

Table 25 shows a similar mapping of stress in the phrase [həmápuχʷ da bədíja χa ɢʷəsú lax gúkʷ] *The cougar is eating a pig in a house*. I provide a full gloss and translation of this phrase

in Example (14).

Table 25



(Noguchi 2011:335)

In this phrase, there are five PWords, one of which is a preposition [ləχ] and is not expected to express much pitch dominance⁴³. The other four PWords each house stressed syllables which show significant rises in pitch above the natural declination line. This is again indicated in Table 25 by the diagonal dotted red line. The first stressed syllable is [má], from [həmp] *eat*, and rises 19 Hz above the declination line. The following syllable [puχ^w] is higher still, but only as a result of the stressed syllable having peaked before it (note that [puχ^w] is falling in pitch, whereas the stressed [má] is rising). The next stressed syllable is [di] from [bədi] *cougar*, and rises 37 Hz above the declination line. The third stressed syllable is [su] from [gwəsʊ] *pig* and rises 15 Hz above the declination line. Finally, [gukw] *house*, as a mono-syllabic root, is stressed, rising 10 Hz above the declination line. Crucially, no other syllable breaches the declination line: each is either on the line, or far below it.

43 My underlying criterion for a PWord is a stress domain. I believe that PWord functors like [ləχ] do have domains of stress, which become more evident in different contexts and when it is focused. Its status as a root is not, to my knowledge, controversial in Kwakwala.

(14)	Noguchi	həmápuχta bədíyaχa gwəsú laχ gjúk
	Umista	həmápuχw da bədíya χa gwəsú laχ gúkw
	IPA	həmápuχ ^w da bədíja χa ɡ ^w əsú laχ gúk ^w
	Morpheme	həmáp = uχ ^w = da bədi = a = χa ɡ ^w əsʉ laχ guk ^w
	Gloss	eat = D2 = DET cougar = D3 = ACC pig PREP house
	Translation	<i>The cougar is eating a pig in a house</i>

Throughout the remainder of this section I provide a phrase of Kwak'wala speech on which I incrementally apply the three phonological tests: stress domain, pauses, and self-repair. Example (15) is one IPhrase in Kwak'wala, which I assume to have these three phonetic traits at its boundaries. I will repeat this phrase three times, once for each test, and display the growing segmentation within the phrase each time. Again I show the stressed syllables in the IPA transcription line with the acute accent ' ' '. In this example, the English gloss shows the same lack of phonological segmentation as the Kwak'wala.

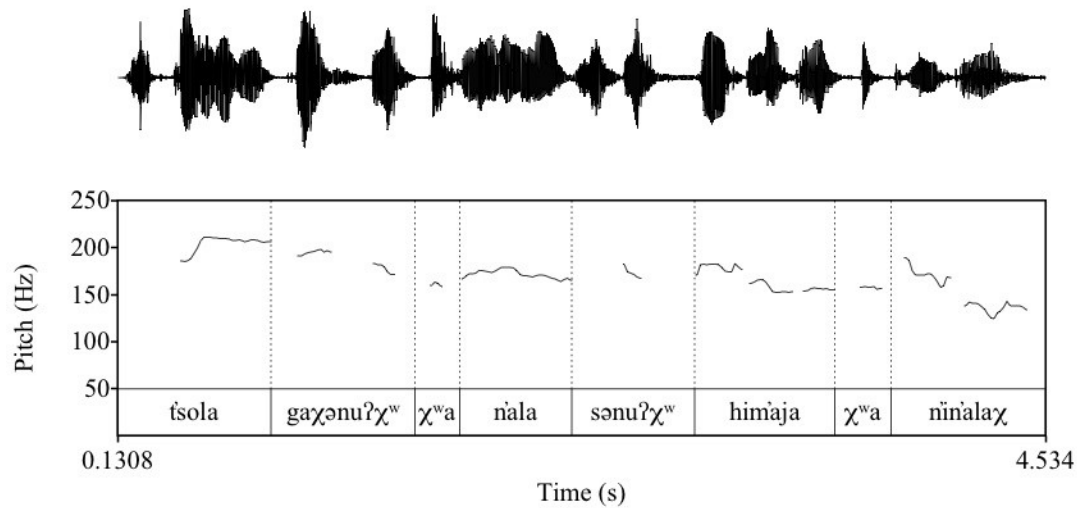
(15)	Umista	tśólagáχanuʔχwχwəńálaχχahíməyaxwəńíńala
	IPA	tśólagáχənuʔχ ^w χ ^w əńálaχχahímajaχ ^w əńíńala
	English	givecomeusthisdaythefoodthisdays
	Translation	<i>Give us this day our daily bread</i>

I provide a pitch graph⁴⁴ of this phrase in Table 26. Note a few interesting traits of this graph before moving on to the prosodic tests. Most obviously, there is a lengthy pause between the PWord [gaχənuʔχ^w] *our* and the case marker [=χ^wa]. The final two PWords [hińmaja] *food* and [ńíńala] *days* both show a marked rise in pitch, but no other element shows significant relative pitch prominence. This includes both appearances of the case marker [χ^wa], and the clitic-string [χənuʔχ^w]⁴⁵.

44 The vertical pitch lines which rise far above the natural pitch contours are products of glottalization. Note that each of these vertical pitch spikes correspond with either a glottal stop, as in [gaχənuʔχ^w], or the glottalized nasal resonants in [ńíńala].

45 Note that this clitic-string is only present in this iteration, not in the phrase presented in Example (15) and beyond.

Table 26



Using the stress domain to assign word-boundaries, following Janzen (2011), and outlined in this section, I segment this utterance into rough prosodic segments. I use square brackets to show the PWord stress constituents in (16). The left edge of each stress domain will always align with the left edge of every root in Kwak'wala. Here, I have simply divided the phrase into root-plus-attaching morphology units. These I consider to be the stress domain of each root.

(16)	Umista	[t̥sola]	[gaχənuʔχʷχʷa]	[n̥alax̥χa]	[himajax̥χa]	[n̥ɪnala]
	IPA	[t̥sóla]	[gáχənoʔχʷχʷa]	[n̥álaχχa]	[hímajax̥χa]	[n̥ínala]
	Gloss	[give]	[IND.1pPL.EXCL.ACC]	[day.I2.ACC]	[food.ACC]	[PL-day]
	Translation	<i>Give us this day our daily bread</i>				

This example shows that the utterance is easily broken up into PWord stress domains which each begin with the root. For instance, the third rough PWord [n̥alax̥χa] *day.I2.ACC* consists of three morphemes, the root [n̥ala], and two clitics: the second distal post-nominal invisible marker [=χ], followed by the accusative case marker [=χa]. I group these two clitics together with the preceding root [n̥ala] *day*, because they are both subject to the stress domain of that root as morphological enclitics. This is evidenced by the total lack of stress prominence on the clitics following their host root. They have no inherent stress, and so are prosodically dependent upon their host for prosodic involvement on the level of PWord.

There is no stress prominence following the root [nála] *day* until the next root [hímaja] *food* begins. Note that PWord stress domain segmentation reflects the orthographic-word choices of a number of Kwak'wala scholars in Chapter 4, including Boas (1900), Bach (1975), Anderson (1985), and Noguchi (2011).

6.3.2 Pauses

As stated, I assume that locations in a stream of speech where pauses can grammatically occur are markers of PWord boundaries. Crucial to this measure is that pauses need not be phonetically present in every instance. There need only be specific areas of the utterance in which pauses occur often enough to be considered a part of the grammatical intuition of speakers, and not a speech error. These pause locations will always occur in morphologically definable boundaries, which I assume to be PWord boundaries. Dixon and Aikhenvald (2002:10) state that possible pause locations have segmental merit, as the possibility of pausing is a sufficient criterion (in most languages) of PWord division. These pauses occur in Kwak'wala around the wanderer enclitics. These are the farthest from their host root, modify the following stem, and appear at the right-most boundary of their host's stress domain. Pauses also often occur before a clitic-string.

If such pauses signal PWord boundaries, those PWords must not be otherwise interruptible. As Crystal (2008:522) states, new elements (including pauses) cannot usually be inserted within PWords in normal speech. This is called the relative 'uninterruptibility' or cohesiveness of PWords. There is, however, a complication to this uninterruptibility in Kwak'wala. I argue that the wanderer clitics and clitic-strings create recursive PWords within the PWord of their hosts. I, therefore, claim that pauses occur at the recursive PWord boundaries as well as at the periphery of the entire PWord. Pauses, in this view, are *always* potentially present at PWord boundaries, and so can be expected to occasionally occur. If a pause does occur within the boundaries of a PWord, the speaker must return to some previous PWord boundary and reiterate. I call this self-repair, which I explore in Section 6.3.3.

Although Crystal (2008) and Dixon and Aikhenvald (2002:11) agree that the possibility of pausing before and/or after PWords has often been suggested as a prosodic test, they are

quick to point out that linguistic typology plays a crucial role as well. They state that the more polysynthetic a language is (that is, the longer its words tend to be) the more likelihood there is of a pause being made in the middle of some word-constituent, in addition to between them. It is not entirely clear to me whether Dixon and Aikhenvald overtly consider their pauses to refer to a prosodic/phonological-word or a morphosyntactic-word. I assume that pauses, as a prosodic event, signal prosodic boundaries. Nevertheless, I feel their warning about relative language typology is warranted. An analysis like that from Gerdtz and Werle (2014) shows that they successfully use pauses as one (but not the only) marker for distinguishing the morphological integration of clitics in Hul'q'umi'num' with their hosts. As both highly agglutinative languages, I assume that Hul'q'umi'num' and Kwak'wala require consistent evidence of pauses occurring in the same morphological location before pauses can be considered solid PWord boundary indicators. This consistency is indeed seen surrounding the clitic system of Kwak'wala as it is for Hul'q'umi'num'. In Kwak'wala, these pauses are never found in the middle, but near the extreme right edge of the host stem's stress domain.

The following examples show pauses which I observed in natural speech from a total of four mother tongue speakers. Each speaker uttered pauses in the same morphological environments without need for self-repair. I signal the pauses with an ellipsis '...' in the IPA transcription line. In each case, the speaker is able to continue the discourse after the pause without use of self-repair (next section 6.2.4), indicating that these pauses appear at natural prosodic boundaries. Example (17) shows a pause occurring between the initial stem [héma] with its post-nominal visibility marker [=e?] and the definite article [da].

- (17) IPA hémae' ... da gəlá
 Morpheme hé-ma = e? da gəlá
 Gloss be3-DISC=I3 DET bear
 Translation *That's the bear*

Instances of pauses occurring before the definite article are the most common and easiest to observe. When [=da] occurs in conjunction with certain visibility markers, such as [=ga=da], [uχ^w=da], and [=i=da], this pause is less often observable. The closer

phonetic relationship of these clitics has led many scholars (Boas 1911, Berman 1994, Nicholson & Werle 2009, among others) to identify them as a single clitic: [= gada, = uχ^wda, = ida, etc]. For the present, I assume that they are separate clitics (a visibility marker followed by the definite article), with the acknowledgement that I may be unaware of some other aspect of the grammar which identifies them as one unit.

Example (18) shows a pause between the proper name 'Grey Eagle' and the following accusative case marker [= χa]. Again this pause appears grammatical as the discourse continues without self-repair.

(18)	IPA	ɰalasi iksuk ^{wi} x ^w ənúk ^{was} Gréy Eagle ... χa kídɪɬ
	Morpheme	ɰalas=i ik-suk ^w =i x ^w ənúk ^{was} =s Gréy Eagle =χa kídɪɬ
	Gloss	big=D3 good-look=D3 child=3sg Grey Eagle =ACC princess
	Translation	<i>Very beautiful was Grey Eagle's child, the princess</i>

I should note that the appearance of the accusative marker [= χa] here is coordinating the syntactic phrase that preceded it. That is to say, [χa kídɪɬ] *the princess* is standing in for [x^wənúk^{was} Grey Eagle] *Grey Eagle's daughter*, as they are the same referent. The phrase [ɰalasi iksuk^{wi} χa kídɪɬ] *The princess was very beautiful*, would be equally grammatical. The pause in this case signals a reiteration of the previous noun phrase, as well as signalling a PWord boundary. In this case, the PWord boundary before the accusative case marker is being signalled here: (((ɰalasi)_{Pwd} (iksuk^{wi})_{Pwd} /*pause*/ χa)_{Pwd})_{Pph} (kídɪɬ)_{Pwd})_{IPh}.

Example (19) shows a pause between the initial stem and first person pronoun enclitic [= ən], and the connective [= tɬ(a)] with the accusative marker together in a clitic-string [= tɬa=χa]. Again this pause appears grammatical. Note that the clitic-string does not display its own stress prominence.

- (19) IPA dúχ^watlamən ... tlaχa gəlá
Morpheme duχ^watla-m̩ = ən = tla = χa gəla
Gloss watch-DISC = 1sg = CONN = ACC bear
Translation *I see that bear*

Example (20) shows the most interesting pause I have observed. It occurs between the verbal stem [qótlaɣitəla] *reason for knowing* and a first distal accusative object pre-nominal visibility marker [=χga] *here* which is followed by the first person pronoun [χgən]. These clitics together do not, however, meet the minimal syllable requirement for a clitic-string. Moreover it does not appear to be a possible syllable in Kwak'wala at all, as it has an onset consonant cluster, which is strictly disallowed in the language. Yet the placement of the pause, and the fact that the discourse continues without re-set cannot be refuted.

- (20) IPA másən qótlaɣitəla ... χgən dúx^watli gáχa gəlá?
Morpheme mas = ən qótla-ɣit-əla = χga = ən dux^watli = i gaχa gəla
Gloss how = 1sg know-reason-CONT = D1 = 1sg see = D3 come bear
Translation *How do I know I saw the bear?*

Note that this same visibility marker is given its own orthographic-word by Chung (2007) in Section 4.1.6 above. I present his example again as (21).

- (21) Chung kaχpəndas χgada kadayuk
Ümista kaχpənd = ə's xga = da kad-ayu = k
IPA kaχpəndəʔs χgada kadayuk
Morpheme kaχpənd = əʔs = χga = da kad-ayu = k
Gloss sharpen = 2sg = D1 = DET write-NSTR = D1
Translation *Sharpen the pencil*

(Chung 2007:105)

More investigation into this particular visibility marker, and its role in the prosody would be

enlightening. For now I consider [=χga] to be a clitic-string, and leave this issue aside. I continue to apply the pauses as they appear in natural speech as a cue in determining PWord boundaries.

In (22) I mark the positions that pauses may grammatically occur by using the '/' slash onto the phrase originally given in (15) above. This singles out the wanderer clitics, such as case markers and the definite article, as existing between prosodic boundaries in the utterance.

(22)

Umista [t̥sola] / [gax̣anu'xw / xwa] / [ɲalax / xa] / [him̥aɣa / xwa] / [ɲɲala]

IPA [t̥sóla] / [gáχənoʔχʷ / χʷa] / [ɲálaχ / χa] / [hímaja / χʷa] / [ɲɲala]

Gloss [give] / [IND.1PL.EXCL / ACC] / [day.I2 / ACC] / [food / ACC] / [PL-day]

Translation *Give us this day our daily bread*

Note that the pauses occur at the beginning of PWord stress domain, but also between the affixal-clitics and their host stems. This segments the host stem's stress domain at the left edge of each case marker.

6.3.3 Self-Repair

I cite self-repair as a successful test for PWord-boundaries. Put simply, self-repair is the negative data for pausing, that is, points out those morphological positions in which pauses are not allowed. Dixon and Aikhenvald (2002:24) explain that if a speaker realizes that they have made a mistake in the middle of an utterance they may sometimes pause. The mistake will have to be corrected by reiterating the utterance. The interesting questions are: at what place in the utterance is a pause unacceptable, and what exact place does the speaker return to in this process of self-repair. Crystal (2008:413) defines self-repair as a term used in conversation analysis and discourse analysis to refer to the attempt made by interlocutors to repair a real or imagined deficiency in the interaction. This could include perception errors such as mishearing or misunderstanding, or any performance error. Crystal (2008) explains that self-repair can be either self-initiated or listener-initiated in the form of echo questions. In my treatment here I only consider the self-initiated type of self-repair.

I assume that the consistent morphological location that speakers return to during self-repair will signal a PWord boundary. Instances of self-repair are, however, the most difficult test to elicit. The only reliable way to find instances of self repair is to passively observe or record speech and wait for them to occur naturally. I have observed some instances of self-repair taken out of a larger flow of natural speech, which I display below. The first of these examples are (23) and (24), where I show two PWords without complex morphology. These examples show that self-repair simply re-sets to the beginning of that PWord. In (23), an ungrammatical pause occurs after the root when the speaker attempts to add the reciprocal suffix [-pa]. The PWord is then re-set to its beginning, and the entire stem is reiterated with the suffix.

(23)	IPA	həntla ... həntlapa
	Morpheme	həntla həntla-pa
	Gloss	hunt hunt-REC
	Translation	<i>hunt together</i>

In (24), there is no adjoining morphology at all. The example is simply a tri-syllabic root [məkola] *island*, which the speaker mispronounces on her first attempt. She then repeats the entire PWord before moving on with the rest of her discourse.

(24)	IPA	mək ^w a ... məkola
	Morpheme	mək ^w a məkola
	Gloss	[sic] island
	Translation	<i>Isl...island</i>

These two examples show that with affixation, or without, the entire stem repeats at the left edge of the PWord if any change or error is made during the production of that constituent.

When post-nominal visibility enclitics (which are internal-clitics) are added to a stem, the same self-repair strategy applies. This is seen in (25), where the speaker decides to add the post-nominal first distal visibility marker [=χ] to the root [bəna] *down*. The speaker pauses

after the root while deciding how to proceed, returning to the beginning of that PWord in order to grammatically utter the enclitic visibility marker.

(25)	IPA	bəṇa ... bəṇaχ ... bəṇaχeʔ da ...
	Morpheme	bəṇa bəṇa=χ bəṇa=χ=eʔ da
	Gloss	down down = D1 down = D1 = I3 DET
	Translation	<i>down... down he... down here, there is ...</i>
	Prosody	((bəṇaχeʔ) _{Pwd} da) _{Pwd} ...

Note that the two other enclitics, the pre-nominal third distal invisible marker [=eʔ] and the definite article [=da], are both enclitics in a series, yet do not form a clitic-string. They do not have the syllabic requirement of CVCV to create one, because the visibility marker [=eʔ] has no onset consonant obligatory for well-formed syllables in Kwak'wala. Therefore, I do not assume that there would be a boundary between the two visibility markers [=χ] and [=eʔ]. Indeed, the second and final iterations in Example (25): [bəṇaχ ... bəṇaχeʔ] suggest that there is no grammatical pause where it occurs between the [=χ] and [=eʔ] visibility markers. This example does not show evidence of boundaries anywhere except the left edge (beginning) of the entire PWord.

The next two examples involve the case marking enclitics. Example (26) shows that the speaker pauses twice in the same phrase: once before iterating the oblique case marker [=sa], and again in the middle of uttering that same clitic. Remarkably, the speaker does not repeat the preceding stem [nuk^waʔs] (*he*) *has (love for) her* before being able to grammatically utter the case marker [=sa], but may pause and continue at that morphological point. The speaker can also self-repair to the left edge of that case marker (or right edge of the preceding stem) while repairing the iteration of that morpheme.

(26)	IPA	ɬax ^w alaxʔida nuk ^w aʔs...s...sa kidiɬ
	Gloss	ɬax ^w ala-xʔid = a nuk ^w = aʔs ... = s... = sa kidiɬ
	Morpheme	love-BEC = D3 have = 3sg = OBL = OBL princess
	Translation	(he) fell in love with her, the princess
	Prosody	((ɬax ^w alaxʔida) _{Pwd} ((nuk ^w as) _{Pwd} sa) _{Pwd} (kidiɬ) _{Pwd}) _{Iph}

This suggests that the left edge of the oblique case marker aligns with some PWord boundary. This case marker is not a member of a clitic-string, as the preceding pronominal third person object enclitic [=aʔs]⁴⁶ does not provide any useful prosodic material towards constructing the minimal syllable requirement for a new PWord. It does, however, create its own recursive PWord along with its host, because [=sa] is a wanderer clitic. In this IPhrase there are three PWords: [ɬax^walaxʔida] *fell in love*, [nuk^was sa] *have = OBL*, and [kidiɬ] *princess*. The second PWord, [nuk^was sa] *have = OBL* contains a recursive PWord, as signalled by the pause shown in Example (26).

Example (27) shows the same re-set phenomenon, this time with the accusative case marker. Here, the speaker first pauses before the accusative case marker [=χa], then again after the first iteration of the case marker with the third person object pronoun [=aʔs]. The speaker changes their mind about the type of pronoun to be used after the accusative case marker, and so must re-set back to the nearest PWord boundary in order to replace [=aʔs] with the third person *possessive* pronoun [=iʔs]. As above, this boundary is at the morphological left edge of the case marker, or the right edge of the host stem. The third person possessive pronoun is then iterated after the case marker.

(27)	IPA	ʔəχatɬalaχ...χaʔs...χiʔs qəm ^w a
	Morpheme	ʔəχ-atɬala = χ... = χa = aʔs... = χ = iʔs qəm ^w a
	Gloss	AUX-over = D1 = ACC = 3sg = ACC = 3.POSS feather
	Translation	(went) over his feathers
	Prosody	((ʔəχatɬalaχ) _{Pwd} χiʔs) _{Pwd} (qəm ^w a) _{Pwd}) _{Pph}

46 It could be argued that the ungrammatical pause is appearing after iterations of the [s] from the third person object enclitic [=aʔs]. This assumption is not, however, supported by the wealth of other examples where pauses appear before the wanderer clitics, and never before internal clitics like [=aʔs].

This example of self-repair does not necessitate reiterating the entire stem, but only the case marker. This shows a stark distinction between the types of clitics in Kwak'wala: some clitics allow pauses and self-repair sites and others do not. This PPhrase has two PWords, the first [ʔəχatʔalaχ χiʔs] (*went*) *over his* contains a recursive PWord, the boundary of which appears between the stem [ʔəχatʔalaχ] and the clitics [=χa=iʔs], as marked by the pause.

An important prosodic assumption to reiterate here is that during self-repair, I believe the speaker will re-set back to a PWord boundary. This will not necessarily be the nearest PWord boundary, although I have selected examples where it is very likely the nearest. More importantly, the re-set will occur at *any* PWord boundary, not only the leftmost one. In examples (26) and (27), I do not consider the case markers to constitute their own PWords or clitic-strings, as they do not alone have the minimal syllabic structure to create one. I do, however, consider the right edge of the host's internal PWord to end before the case markers in both examples. These clitics then prosodically attach as a recursive PWord along with the internal PWord of their host. This is reflected in the analysis in Section 5.4, where I consider the wanderer clitics, which include case marking enclitics, to have the prosodic behaviour of Selkirk's (1995) affixal-clitics. Despite this relative prosodic independence, they are still subordinated to their host's stress domain.

In (28) I place a vertical line '|' at each morphological point where I show self-repair to possibly occur, that is, at the re-set points. Example (28) does not actually show instances of self-repair or pauses, as this phrase was iterated fluently and without second guessing. I insert only the possible places that pauses and self-repair can occur, based on the previous examples where they do occur. Reasonably, these self-repair points align completely with both the pause locations and the right PWord stress domain boundaries.

(28)

Umista	[tʰsola] / [gax̩anu'x̩w / x̩wa] / [n̩alax / xa] / [him̩aʔa / x̩wa] / [n̩n̩ala]
IPA	[tʰsóla] / [gáχənoʔχ ^w / χ ^w a] / [n̩álaχ / χa] / [hímaja / χ ^w a] / [n̩n̩ala]
Gloss	[give] / [IND.1PL.EXCL / ACC] / [day.I2 / ACC] / [food / ACC] / [PL-day]
Translation	<i>Give us this day our daily bread</i>

Finally all three tests have been applied to the same IPhrase. The prosodic breaks between PWords are easy to identify. There are four prosodic boundaries between each PWord: the closing PWord stress boundary, pause boundary, self-repair boundary, and the opening PWord stress boundary. There are also boundaries within some PWords, namely those with adjoining case markers. Before each $[=\chi^{(w)}a] = \text{ACC}$ there is a pause and self-repair boundary.

Unfortunately with all the prosodic markings present, the prosodic breaks which define the PWord are difficult to see. To conclude, I give the same phrase again in (29), this time without brackets (which denote the stress domains) and slashes (denoting pauses) or vertical lines. In their place, I give white space at every point where at least two prosodic markers align. Those now isolated morphemes I show in bold.

(29)	Umista	t̥sola	gaʒanu'xw	xwa	nalax	xa	himaya	xwa	niñala
	IPA	t̥sóla	gáχənoʔχ ^w	χ^wa	nálaχ	χa	hímaja	χ^wa	níñala
	Morpheme	t̥sola	gaχənoʔχ ^w	χ ^w a	ñala=χ	=χa	hímaja	=χ ^w a	Ci-ñala
	Gloss	give	IND.1pPL.EXCL.	=ACC	day=11	=ACC	food	=ACC	PL-day
	Translation	<i>Give us this day our daily bread</i>							
	Prosody	((t̥sóla) _{PWd} (gáχənoʔχ ^w) _{PWd} χ ^w a) _{PWd} nálaχ) _{PWd} χa) _{PWd} (hímaja) _{PWd} χ ^w a) _{PWd} (níñala) _{PWd}) _{IPh}							

By positing an orthographic space-break where at least two of the three prosodic tests (stress domain, pauses, and self-repair) possibly show boundaries, as in Example (29), PWord-boundaries in Kwak'wala emerge. The prosodic boundaries expressed by white space do not all denote the same prosodic strength. Those spaces where only two prosodic boundaries are possibly present are examples of a recursive PWord boundary, crucially lacking the PWord stress domain boundary. This relates to the different degrees of independence present in Kwak'wala morphology. This shows that the case markers $[=sa]$ and $[=da]$ must be considered to exist in between two surrounding phonological-word boundaries, the first being weaker than the second. This corroborates the analysis that the case markers are affixal-clitics, which attach prosodically to a recursive PWord, creating PWord boundaries.

6.3.4 PWord Boundaries in Kwak'wala

The next set of examples show how other clitic types, such as wanderer clitics, other pre-nominal clitics (possessive pronouns, and pre-nominal visibility markers) and clitic-strings, appear under the same PWord segmentation. In the following examples, I take a natural phrase of Kwak'wala speech and segment it with the three prosodic boundary tests of stress domain, pauses, and self-repair. Extrapolating from the findings above, I put square brackets around the stress domains of every PWord. I also place a '/' at every point I would expect a pause may occur grammatically, based on my findings in Section 6.3.2. Finally I place a '| ' at every point where I expect self-repair re-sets to occur, based on the examples in Section 6.3.3. The recordings of the following examples do not actually show these three prosodic breaks at every point. Rather I posit all those places where I *expect* prosodic boundaries to occur, based upon the natural occurrences of those boundaries in the same morphological positions in other recordings.

Example (30) shows three different clitic types: a multisyllabic clitic in [ganəm] *probably*, a clitic-string made up of two internal clitics [=kas=dzi] *really big*, and the definite article [=da].

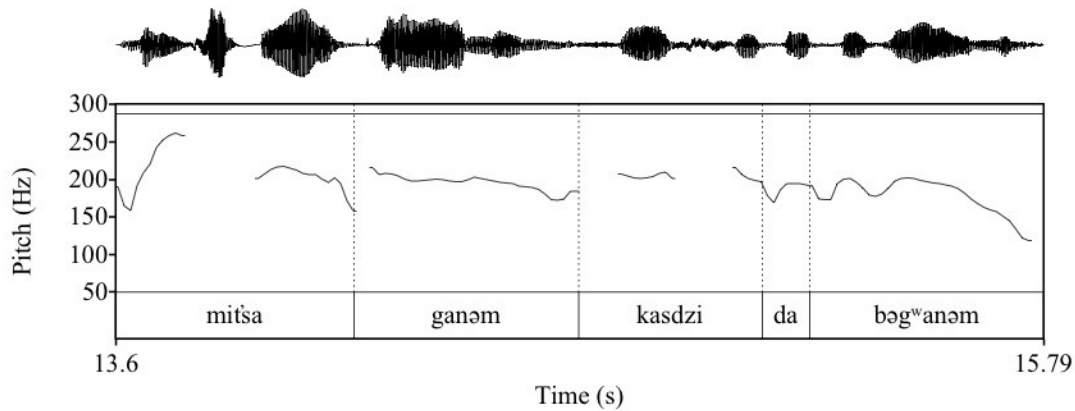
(30)	Umista	[Mít'sa / ganəm / kasdzi / da] / [bægʷánəm]
	IPA	[mít'sa / ganəm / =kas=dzi / =da] / [bægʷánəm]
	Gloss	[kiss / probably / =QNT=GRN / =DET] / [man]
	Translation	<i>She probably gave the man a really big kiss</i>

(Janzen 2011)

As expected, the clitic-strings including the multisyllabic clitic [=ganəm] *probably*, and [=kas=dzi] *really big* each show significant prosodic independence, even though they each remain within the stress domain of their host [mít'sa] *kiss*. Both clitic-strings have the syllabic wherewithal to show greater prosodic independence. The definite article, as above, allows for grammatical pauses and a self-repair point before (and after) it. I provide a pitch graph of this phrase in Table 27 below. Note the clitic-strings [=ganəm] *probably* and [=kas=dzi] *really big* generally follow natural pitch declination, as defined by Noguchi (2011). Again, it

may be that there is some secondary pitch prominence on the initial syllables of each of these clitic-strings, as relative to the second syllable of each pair, but the evidence is not clear. Note that the difference in pitch between the initial stressed syllable and second unstressed syllable of both PWords [mit'sa] *kiss* and [bæg^wanəm] *man* is (at their extremes) roughly 40 hertz. The difference in hertz between the initial and second syllables of both clitic-strings is around 10-20 hertz at their extremes.

Table 27



Example (31) shows the prosody of three internal-clitics in the first person plural exclusive [=ənuʔχ^w], and the passive marker [=su], as well as the post-nominal visibility marker [=a], which appears phrase finally. All of these clitics are completely subordinated to their hosts, with no prosodic boundary intervening between them.

(31)	Umista	[Ḳínəmənu'x ^w] / [dḥídḥádḥola] / [dúxw'idsua]
	IPA	[qínəmənuʔχ ^w] / [dḥídḥədḥola] / [dúx ^w ?idsua]
	Morpheme	qínəmə = ənuʔχ ^w dḥí-dḥədḥola dúx ^w a-x?id = su = a
	Gloss	lots = 1.PL.EXCL PL-relative see-BEC = PASS = D3
	Translation	<i>We had lots of relatives to see</i>

Example (32) shows an internal-clitic in the far past temporal marker [=oɬ], the oblique case [=sa], and the possessive pronoun [=ən]. The internal-clitic does not show any prosodic independence from its host, being subordinated into its stress domain and not allowing grammatical pauses to come between them. The affixal-clitic [=sa] and the possessive

pronoun [=ən], however, again show that pauses and self-repair sites can occur between them and their host. Note that the series of these two clitics does not make up a clitic-string, as it forms only one syllable.

(32)	Umista	[gáχ]	/	[a'édaka]	/	[dá'ot]	/	sən]	/	[tsáya]
	IPA	[gáχ]	/	[ʔəʔédaqa]	/	[dáʔot]	/	sən]	/	[tsája]
	Gloss	come	/	return	/	take = FAR.PAST	/	OBL = 1.POSS	/	younger.sibling
	Translation	<i>Then we talked with uncle before I brought my sister home</i>								

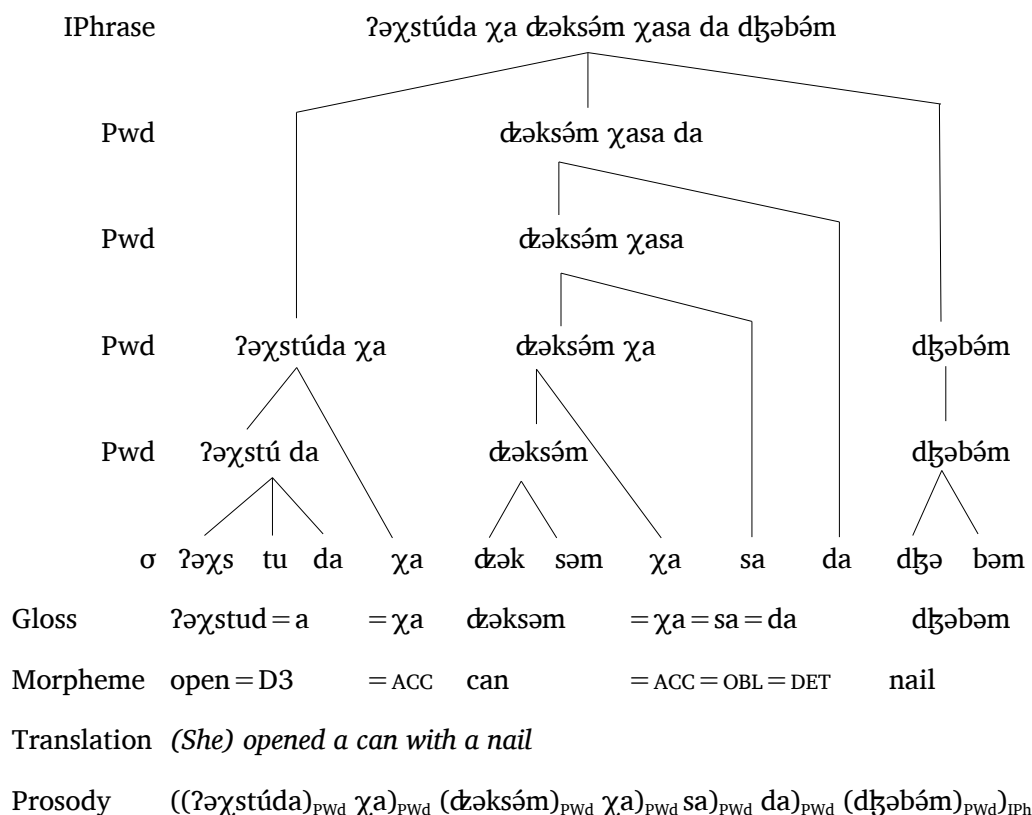
Example (33) shows the same two clitics as example (32), this time not in succession and each with their own host. The oblique case marker [=sa] remains relatively prosodically independent from its host by allowing pauses and self-repair sites to appear between it and its host. The possessive pronoun, however, is totally subordinated to its host in all ways. Note the syllable structure of the first person possessive pronoun [=ən] must take an onset from a previous morpheme during syllabification, in this case the [χ] from the preposition [laχ]: [la.χən]. As explained above, this dissolves any possibility for prosodic independence.

(33)	Umista	[nápi]	/	sa]	/	[dañám]	/	[láχən]	/	[úmp]
	IPA	[nápi]	/	sa]	/	[dəñám]	/	[láχən]	/	[ʔúmp]
	Gloss	throw = D3	/	OBL	/	rope	/	PREP = 1.POSS	/	father
	Translation	<i>(He) threw a rope at my father</i>								

These phonological features support the intuition and assumptions of speakers and some scholars (Hall 1888, Levine 1977, Powell et. al. 1980, Goodfellow 1991, Chung 2007, Nicholson & Werle 2009, Janzen 2011) who suspect that what I call here affixal-clitics or wanderer clitics in Kwak'wala are more prosodically independent than other clitics.

I provide here an example of my proposal of wanderer clitic attachment for Kwak'wala in (27). Here, three stems are divided by clitics: an accusative case marker appears between the first two stems, and a clitic-string of both case markers and the definite article appears between the second and third stem.

(34) IPA ʔəχstúda χa ɖəksém χasa da dʒəbém



Note that the accusative marker [=χa] is in second position following the phrase initial stem [ʔəχstuda] *opened*, and each of the accusative marker [=χa], oblique marker [=sa] and definite article [=da] all follow the nominal phrase headed by [ɖəksém] *can*. They are all wanderer clitics, which each attach prosodically to a recursive PWord above their host.

There is some precedent in accounting for prosodically unique functors as recursive PWords in the world's languages. Green (2008:193) argues for a similar analysis in Irish (a verb-subject-object language like Kwak'wala) to account for the domain of a phonological process called coronal blocking and s-Fortition. Green argues that the domain that blocks the phonological alternations of coronal place of articulation spreading and hardening of an [s] in a certain environment, aligns with the domain of the recursive prosodic-word. Windsor (2011:9) explains that the recursive PWord (which precedes the inner PWord in Irish) shows PWord level stress on the first syllable of what Green (2007: 200) calls a proclitic + host recursive PWord structure. This is said to also demonstrate the fact that the first syllable in the recursive word receives secondary stress, while the second syllable (the first syllable in

the inner PWord) receives primary stress. Again, a more rigorous investigation into how secondary stress is manifested (if at all) in Kwak'wala is needed.

6.4 Language Change

In the previous section, I show that the wanderer clitics and clitic-strings display unique independence in the prosodic makeup of the IPhrase. Why these morphemes, and no others, show this prosodic anomaly may be connected with their origins. Spencer and Luís (2012:319) state that the true explanation of any given morphological pattern will often be as much the effect of history as any internal property of the language. It follows then that a look into the diachronic origins of Kwak'wala's wanderer clitics would shed light on why these clitics, and no others, behave the way they do.

The unique prosodic status of some clitics in Kwak'wala is noted by the work of Nicolson and Werle (2009:24), who state:

In early Kwak'wala, determiners were morphologically and phonologically dependent, in that they usually co-occur with a following noun phrase, and are always pronounced as a unit with a preceding word. In modern Kwak'wala, by contrast, determiners are more independent, in that they more frequently occur without an NP, and are pronounced with a weaker connection to the preceding word.

Nicolson and Werle notice both a prosodic and syntactic difference between the Kwak'wala they hear, record, and study, and that transcribed by earlier authors. I take Nicholson and Werle's 'determiners' to be the rightward modifying clitics, namely the possessive pronouns, pre-nominal visibility markers, case markers, and the definite article. This look into ancient Kwak'wala suggests two possible avenues of language change which would serve to explain the synchronic independence of some clitics: wanderer clitics really were affixes and are becoming PWords, or they used to be PWords and are losing phonological independence as they become affixes. I lean towards the latter view, but first present some evidence of the former.

Nicolson and Werle suggest that the wanderer clitics are undergoing prosodic independence,

that is, moving towards becoming PWords from having been at one time affixes. They cite evidence that these clitics appear with weaker prosodic connections to the preceding root than they did according to Boas' transcriptions. This analysis makes perfect sense given the early account of Kwak'wala through Hunt and Boas (1900-1947). Those transcriptive choices presented by Hall (1888) (see Section 4.1.1) that do appear to display prosodic independence of what I call wanderer clitics could be discounted as amateurish mistakes. Indeed Hall's transcriptions are far from phonemically accurate and contain many easily identified errors. Yet, as I presented in Section 4.1.2, Boas's (1911, 1947) work was not free of mistakes either. Or rather, there was consistent disagreement between Boas and his principle language consultant, George Hunt. Hunt urged Boas to change his orthographic presentation to better reflect the Kwak'wala of his intuitions and understanding. This is the same basic assumption I employ in this paper and explain in Chapter 3: that the PWord is an intuitively identifiable unit in the minds of Kwak'wala speakers. Hunt states:

Put them as I do. not two or three word together as you put them [not] aemlawese [but] instade âem-lawese or [not] gaxe^elol [but] gaxe lôL. then it is Easayer to Read⁴⁷.

(Hunt to Boas 1/24/21 via Berman 1994:496).

Furthermore, I cite evidence from Boas (1900:715) that he himself observed greater phonological independence of 'determiners' which were grouped together, above in Section 6.2.2. The premise that wanderer clitics were at one point more prosodically dependent in the past is based on an older form of Kwak'wala as presented by Boas's large body of analysis and texts. Yet systematic transcriptive mis-analyses may well have been a part of the presentation of this language. Allow me, then, to turn to the other diachronic hypothesis: that wanderer clitics are losing prosodic independence from the status of PWord towards affix, and that they are somewhere in the middle of this process.

To begin, I provide the root-definitions of Kwak'wala's case markers as given by Lincoln and Rath (1980). I find it interesting that they would include these grammatical markers in their massive list of comparative North Wakashan roots, suggesting that they do indeed consider them roots and not mere functors. I show the oblique case [=sa] */hs/ followed by accusative [=χa] /χ̥/.

⁴⁷ I preserve Hunt's spelling errors as given by Berman (1994:496).

hs- To belong to him, her, it, them, etc.

(Lincoln & Rath 1980:385)

ǰ- demonstrative root used as a carrier for deictic and possessive suffixes and as marker of the direct object; e.g. Kw ǰn “my”; in the former function, it is a contracted form of yx- and, in the latter function is usually attached to the preceding word as a clitic – it is unclear whether the two functions are related historically

(Lincoln & Rath 1980:373)

In my understanding, I believe that the /ǰ/ given by Lincoln and Rath at once represents the case marker and the post-nominal third distal visibility marker [=χ] as well. It seems reasonable as Nicholson and Werle (2009) describe this visibility marker as an x-object, 'x' standing for the accusative case-type, as opposed to the s-objects for the oblique case-type. In addition, each of these synchronic clitics have counterparts in the other North Wakashan languages. The oblique case, given here as /hs/ appears as [h̥s · -] for Heiltsuk-Oowekyala, and [ʔs-] for Haisla. This same root in the other North Wakashan languages has varied meanings not confined to grammatical marking as it is in Kwak'wala. By contrast, Kwak'wala's accusative case marker has no counterpart in Heiltsuk-Oowekyala or Haisla.

The possibility that Kwak'wala's case markers originated from independent PWords is supported by Sardinha's (2011) historical research into the oblique case [=sa], or /hs/ as given by Lincoln and Rath (1980). She argues that the proto-North-Wakashan prepositional root **/his/* is currently developing third person oblique (OBL) case among the upper North Wakashan languages (Heiltsuk, Oowekyala, and Haisla) as it already has for Kwak'wala. She claims that the OBL case-marking and third person possessive enclitic [=iʔs] and third distal pre-nominal visibility marker [=s] of Kwak'wala also derived from the same proto-**his* form. Indeed, Sardinha (2011:386) states that the distribution and function of the oblique case and the third-person possessive clitic correspond with distribution and function of **his* constructions in the three Upper Northern Wakashan languages.

To explain a motivation for Kwak'wala's development of the oblique case, Sardinha (2011) argues that Kwak'wala has an aversion towards multiple arguments within one clause. Sardinha (2011:394) states that in Wakashan, preferences for reducing the number of (non oblique) internal arguments per clause seems to have provided an important impetus or

grammatical innovation throughout the family in developing case marking. This preference might explain the genesis of an accusative case marker, which would serve to single out one main argument in a clause. It is also possible that the genesis of [=sa] in Kwak'wala from historical */his/ developed by analogy through the accusative case marker [=χa] being already in place. What is striking here is that the historical innovation of Kwak'wala in developing oblique case, and the current innovations of Heiltsuk-Oowekyala and Haisla to do the same all stem from reducing an historical root into a grammatical functor. I assume that this historical root was a PWord, and that the synchronic realization of the oblique case in Kwak'wala is a prosodically reduced form of this once-PWord.

In fact, grammaticalization from PWords to clitics has some precedence in Kwak'wala. Fortescue (2006) states that classificatory verbs in North Wakashan have their historical source through grammaticalization of roots. He states that classificatory verbs originated from incorporated nouns, via classificatory affixes to independent classificatory roots. The sporadic nature of these classificatory roots, and the dissimilar distribution among Wakashan languages leads Fortescue to state that this is a fairly recent change in these languages, recent meaning after the Northern Wakashan languages split from each other. Classificatory roots in Kwak'wala, though relatively numerous, are still rather isolated and idiosyncratic. This displays the general assumption that unidirectional grammaticalization occurs from morphosyntactic-words to affixes. A morphologically specific trajectory is provided by König (2012:516), which states that a well-described pathway leads from noun or verb to adposition to case suffix:

noun > verb > adverb > adposition > case affix > loss

If classificatory roots undergo grammatical change through such unidirectional chains, there is not much theoretical motivation to claim that the Kwak'wala's case markers are exceptions.

If linguistic patterning is the result of forces that drive language change (such as unidirectionality), I then expect clitic systems to evolve in one direction, PWords to affixes, but not necessarily in the opposite way. However, this sort of historical information is at best educated guess work. Spencer and Luís (2012:319-20) state that the same sort of intuitive treatment of PWord that I use in this paper is not consciously available to mother tongue speakers. Spencer and Luís claim that all the speaker needs is the descriptive wherewithal to be able to describe patterns that are actually found in the language and generalize from them

appropriately (and to only a limited extent in the case of clitic systems). Compared with genuine syntax, clitic systems are finite systems (much like morphological systems) and therefore don't require the speaker to have access to universal patterns of diachronic change. Intuitions by the speakers, as used in this chapter, would not be the best descriptor of diachronic processes of Kwak'wala's clitic system.

6.5 The Uniqueness of 'χa'

In this section, I show that it is possible to have a non-attached, or 'floating' case marker appear at the very beginning of a phrase, and that [=χa] can also house its own emphatic stress. Both these instances are highly irregular and likely confined to a certain introductory or otherwise context rich discourse frames. The accusative case marker [=χa] is, however, the only enclitic which is able to be uttered without support from a preceding stem in any circumstance.

Iron-clad evidence proving that the case markers in Kwak'wala are indeed enclitics is that they can never begin a phrase or be uttered without some preceding linguistic material (Anderson 2005). If any fluent Kwak'wala speaker is asked for a translation of *the bear*, for example, the speaker will consistently offer the lone noun: [gəla] *bear*. If the researcher persists in attempting to elicit a phrase initial determiner, through context or definiteness or anything else, the closest they will come is a deictic copula, followed by the accusative case marker or visibility marker, then the noun: [jə=χa gəla] *that bear*.

As true as this is, [=χa] may indeed begin a phrase, albeit in a very constrained and specific function in Kwak'wala discourse: to begin a story. Given below are two examples of the accusative marker [=χa] at the left most edge of a natural Kwak'wala phrase. The first is a translation of the Lord's Prayer, likely first attempted by Hall in the late 1880s. The example here was recently elicited.

(35)	Umista	Ḫanuḫw Umpa laxa iki
	IPA	χənuʔχ ^w ʔumpa laxa iki
	Morpheme	χa = ənuʔχ ^w ʔump = a laxa ik = i
	Gloss	ACC = 1PL.EXCL.POSS father = D3 PREP above = D3
	Translation	<i>Our father who is in Heaven,</i>

Here, the accusative marker appears phrase-initially, followed by the first-person-plural-exclusive-possessive pronoun clitic [= ənuʔχ^w]. It could very reasonably be argued that this is only due to an amateurish translation, whereby the Kwak'wala is trying to fit the specific English clausal construction of beginning a phrase with “our father”. However, speakers of Kwak'wala do not consider this an ungrammatical construction, and there is at least one other example that shows the same behaviour of the accusative marker. It is a creation story titled *Kas'ida'asa san's Galga'lis The Path of Our Ancestors* (Grainger 2005), and begins as follows:

Ḫa galga'lis, bagwanamu'hida dḡigadu'las U'maḷame'. Gayutḡi laxa 'Ni'nalk'inuḫw laxa 'Namgis. K'otḡali U'maḷame'yas 'walase'tḡi paḡatḡ, la ax'ihḡis xwak'wana lax Hegam's - k'alsatḡe' laxa naḡe.

In the beginning, there was a man named U'maḷame' (Born-Noble) who was from the 'Ni'nalk'inuḫw (Up-River People) of the 'Namgis Nation. U'maḷame' knew the great flood was going to come so he brought his canoe to Hegam's (Hopetown, BC) and anchored it to a mountain there.

(36)	Umista	Ḫa galga'lis bagwanamu'hida dḡigadu'las U'maḷame'		
	IPA	χa gəlgaʔis bəg ^w anəmuʔḡi da dḡigaduʔlas uḡmaḷəmeʔ		
	Morpheme	= χa	gəlgaʔis	bəg ^w anəm = oḡ = i da
	Gloss	= ACC	first.on.land	man = FAR.PAST = D3 DET
	→	Morpheme	dḡigad = oḡ = aʔs	uḡmaḷəmeʔ
	→	Gloss	have.name = FAR.PAST = 3sg	born.noble
	Translation	<i>In the beginning, there was a man named 'Born-Noble'</i>		

This story begins with the accusative case marker [=χa], even though there is no material to the left upon which that clitic might gain prosodic incorporation. This corroborates the validity of the accusative marker appearing at the beginning of the Lord's Prayer translation above. I do not consider this evidence for a change in morphological status of the accusative case marker from clitic to root. I do, however, consider this as another signal that there is something prosodically unique about this (and possibly other) clitic(s).

In a recorded conversation, I observed a floating accusative case marker used naturally. Obviously, this was a context-rich instance whereby the bare case marker was used as a response to a direct question. I provide this section of conversation in example (37).

“Ałm̐anu'xw k̐olat̐ala... wilaxwdzi? June?”

It was later we found out... when? June?

“Am. Xa xi'anx.”

Yes. In summer.

- (37) IPA ʔałm̐ənuʔχ^w k̐olat̐əla ... wilaxχ^wɕi?June? ʔəm. χa xiʔənχ.
- Morpheme ʔał-m̐ = ənuʔχ^w k̐ot̐a-ət̐-əla wilaxχ^w = ɕi June ʔəm = χa xiʔənχ
- Gloss late-DISC = 1PL.EXCL know-SURP-CONT when = GRN June yes = ACC summer
- Translation *It was later we found out... when? June? Yes. In summer.*

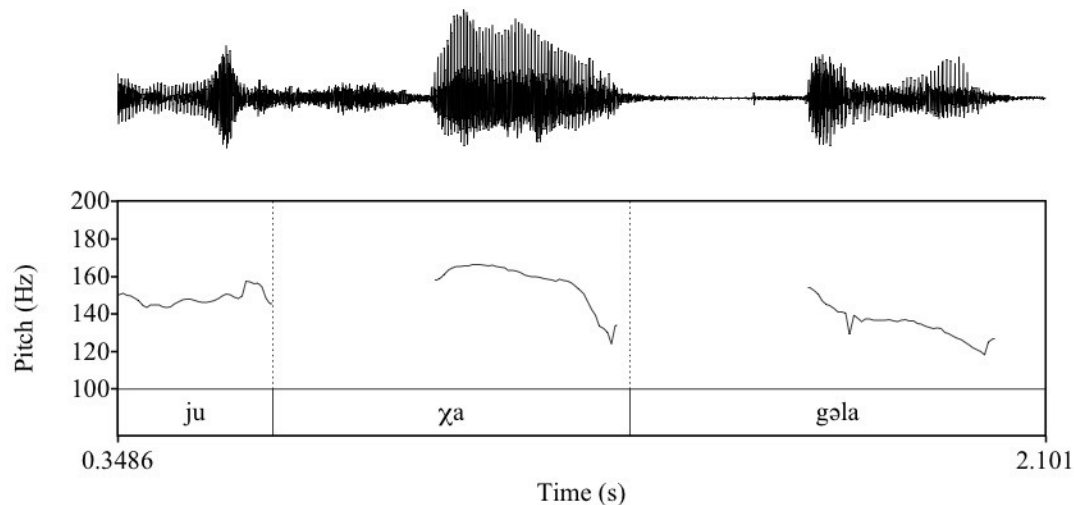
Crucially, the accusative case marker [=χa] begins a phrase followed by [xiʔənχ] *summer*. It does not attach to the preceding phrase [ʔəm] *yes*, as there is a pause and pitch/intensity reset between that PWord and [=χa] indicating an IPhrase boundary (Noguchi 2011, Janzen 2011). Strictly speaking this is not a well formed phrase in Kwak'wala. Upon investigation, however, is it judged to be natural.

Compounding this highly restricted evidence is the observation that the case markers can also be emphatically focused. A speaker, driven to near frustration by a seemingly incompetent researcher, can sometimes phonetically focus a case marker. Example (38) shows the phrase [yə χa gəla] *That bear*, with a pitch graph given in Table 28. The pitch of the accusative case marker [=χa] is significantly higher than any other syllable regardless of

natural declination. The [χa] in this phrase is clearly stressed.

(38)	Umista	Y _a χ _a gəla
	IPA	ju χa gəla
	Morpheme	ju =χa gəla
	Gloss	be.2 =ACC bear
	Translation	<i>That bear</i>

Table 28



Again, this is not enough evidence to state that case markers in Kwak'wala are PWords in their own right, or even prosodically unique in some way. Indeed this type of emphasis could be a result of the extreme contact that Kwak'wala has had with English, where this sort of emphasis is common. The speakers who show this emphasis are dominant English speakers, and may well be innovating in this respect. However, it is remarkable to me that few (or perhaps no) *other* functors in Kwak'wala are given this sort of emphasis. Coupled with the unique yet restricted use of the accusative case marker [=χa] in conversation and story telling, as well as its status as a wanderer clitic, it appears that this morpheme does enjoy prosodic independence greater than that of other clitics in Kwak'wala.

The assumption and foundational definition of clitics to this point has been their phonological dependence upon a neighbouring stem, in order to be grammatically uttered *at*

all. The fact that [=χa] appears in narratives and in natural discourse without preceding hosts, and can be uttered in some instances with its own clear stress, adds to the argumentation that this clitic (and possibly other wanderer clitics) is prosodically unique.

Conclusion

This chapter shows that the prosodic segments smaller than the intonation-phrase are not easily defined in Kwak'wala. They appear to be on a wordhood continuum, with affixes at one extreme and roots on the other. Clitics fall in the middle of this continuum, being at once very PWord-like in some prosodic respects, and very affix like in others. I show this in Figure 3 below.

Table 29: Wordhood Continuum

PWord----- Wanderer Clitic----- Clitic-string----- Internal Clitic-----Affix

This chapter also isolates the difference between two clitic types, internal-clitics which include the majority of clitics in Kwak'wala, and the wanderer clitics, which behave more independently than other clitics, that is, more PWord-like. Wanderer clitics are PWord-like in that they allow pauses and self-repair to occur both before and after their morphological boundaries, exactly as PWords do. Wanderer clitics are also distinct from other clitics in their resistance to housing the PWord stress of their hosts, yet are affix-like in that they do not display PWord stress domains of their own. Clitic-strings, which are series of one or more clitics which make up a minimum of two well-formed syllables, also show more prosodic independence than standard clitics in Kwak'wala. Clitic-strings allow pauses and self-repair to occur before and after them, and are resistant to housing their host's stress when they are the optimal stress bearing candidate. In these ways clitic-strings are very much like wanderer clitics, strongly suggesting that there are two general phonological clitic types in Kwak'wala.

Appendix

Glossing Table: This table includes all my glossing notation in all above examples, table and figures. It includes all of the abbreviations and terms used outside of those with perfectly transparent glosses.

Morpheme (IPA)	Abbreviation	Term
ga	be.1	First distal demonstrative
ju	be.2	Second distal demonstrative
he	be.3	Third distal demonstrative
=sa	=OBL	Oblique case
=χ ^(w) a	=ACC	Accusative case
=da	=DET	Definite article
=(a)χ	=D1	Post-nominal, first distal, visible
=gaʔ	=I1	Post-nominal, first distal, invisible
=(e)χ	=D2	Post-nominal, second distal, visible
=eʔχ/=aʔχ	=I2	Post-nominal, second distal, invisible
=i/=a	=D3	Post-nominal, third distal, visible
=eʔ/=aʔ/=oʔ	=I3	Post-nominal, third distal, invisible
=ga (=χga, =sga)	=D1	Pre-nominal, first distal, (accusative, oblique)
=uχ ^w (=χuχ ^w , =suχ ^w)	=D2 (=ACC=OBL)	Second distal, pre-noun phrase, (accusative, oblique)
=i (=χ, =s)	=D3	Third distal, pre-noun phrase, (accusative, oblique)
=ən	=1sg	First person singular/possessive
gaχən	IND.1sg	Independent first person singular
=əñs	=1PL.INCL	First person plural inclusive

= gəñs	= IND.1PL.INCL	Independent first person plural inclusive
= ənuʔχ ^w	= 1PL.EXCL	First person plural exclusive
= gənuʔχ ^w	= IND.1PL.EXCL	Independent first person plural exclusive
= əʔs (a's)	= 2sg	Second person singular/possessive Subject
= uʔs (u's)	= 2sg	Second person singular/possessive Object
= aʔs (a's)	= 3sg	Third person singular
gaχ	IND.3sg	Independent third person singular
= iʔs (i's)	= 3.POSS	Third person possessive
= oʔ	= FAR.PAST	Distant past
= xʔid	= NEAR.PAST	Recent past
= wəʔ	= past	Former, late
= xde	= TRANS	Transition from past to present
= tʔ	= FUT	Future tense
= su	= PASS	Passive
= dzi	= GRN	Aggrandizer (augmentative)
= ka(s)	= QNT	Quantifier (augmentative)
= ganəm	probably	Probably
= χənt	must	Must
= tʔ	= CONN	Deictic connective
Ci-	PL-	Plural
-aju	-INSTR	Instrumental
-xdaʔχ ^w	-3PL	Third person plural
-xiʔda (xi'da)	-BEC	Becomes/changes

-p̣a	-REC	Reciprocal
-(ə)ṃ	-DISC	Discourse marker
-ṃ	-QU	Question
-mas	-CAUS	Causative
-əla	-CONT	Continuative
-əṭ	-SURP	Surprise
-gila	-make	Make
-lax	-uncertain	Uncertain
-xtla	-name	Named, called
la	PREP	Preposition (originally 'go')
laχ(a)	PREP	Preposition
ki/ḳiʔs/kəjoʔs	NEG	Negative
ʔaχ	AUX	Auxiliary verb
lə	AUX	Auxiliary verb
q(a)	COMP	Complementizer
dʒəẉ	CONJ	Conjunction
Ci-	PL-	Plural
CV(N)-	RED-	Reduplication

Boas 'Suffix' Table: This is the complete suffix list, as adapted from Boas (1911). It includes Boas' original orthography, and his offered gloss. I also include both an Umista and IPA transcription of the term in a natural Kwak'wala phrase, with a translation. In those cases where Boas' 'suffix' was not understood by modern Kwak'wala speakers, I have left the Umista, IPA, and Translation columns blank.

Boas	Gloss	Umista	IPA	Translation
- ^ε eng' a	in a dream*			
- ayadze ^ε wał	used to be, do (?)*	offered:Wałwałoxw kayakinoxwa	wałwałox ^w kayakinox ^{wa}	He used to be a soccer player
- ana	perhaps	Angwanawis	əng ^w anawis	I wonder who that is.
- akwela	at intervals of time and space	Hañakwila	hañak ^w ila	Hurry up!
- eL	astonishing	Gaxa'edłā's!	gaχaʔedłəʔs	Wow you're here!
- o ^ε	hypothetic*			
- o ^ε	small*			
- ostq!a	to do*			
- uł, - ^ε wel	remote past	Gaxwelān bagwanāma	gaχwelən	Reincarnation (<i>lit</i> : I was here before)
- wis	and so*	lām̐is...	lām̐is	Then...
- ^ε wis	not*	Kisoχ bagwanām	kisoχ bəg ^w anəm	She's not a man
- wist!a	very	Yugwawistōχ!	yug ^w awisʔōχ	Oh it's raining!
- bido ^ε	small, a little, sing	Gānanāmbiduoχ	gənanəmbiduoχ	He's a little child
- boła	to pretend	Oboła'amōχ gāla	obołaʔəmoχ gəla	He's pretending to be a bear
- p!en	times	nāmpānagila -or- nāmpānχela	nāmpānagila nāmpānχela	once
- ^ε m	previously referred to	Gaxām̐ti	gaχəm̐ti	She'll be coming
- mēnē'x ^u	small, a little, plur	Alumasmanu'xw e'amlamōχ	alumasmanuʔχ ^w eʔamləmoχ	That's a new small toy

- emis	and so (- ^ε m-wis)	l̥amis...	ləm̥is	Then...
- den	finger width*			
- t!a	but	l̥am̥ist̥i...	ləm̥ist̥i	However...
- so ^ε	passive	T̥l̥ak̥amsu	t̥l̥əq̥əmsu	I got slapped
(- sdana	to die by outerforce)*			
- sk ^u	I told you so*	M̥amskiga ʎa's?	Məmskiga ʎaʔs	What did you say?
(- sgem	surface of round thing)	M̥anat'sig̥am	mənats̥ig̥əm	Looks like a drum
(- sg ^ε mak ^u	tribe)	Musgamakw	musgmak ^w	Four tribes
(- dzes	piece of)	*Dz̥apandz̥as	ɖəpandz̥əs	Japanese people
- dzē	large, very much, many	w̥aladzi	w̥aladzi	huge
- dzâ	emphatic*	Madzo's?	madzoʔs	What's wrong with you?!
(- ts!aq	long things)*	N̥am̥t'sak̥ela	n̥əm̥ts̥aq̥ela	one hour - one o'clock
- naxwa	from time to time	Yak̥antal̥anaxw̥an's	yaq̥antal̥anaxo_eənʔs	Sometimes we talk
- nes ^ε L	oh if!*			
- g' an̥em	perhaps	Mit̥sa gan̥am̥ gaχ̥an	Mit̥sa gan̥əm̥ gaχ̥ən	Maybe she'll kiss me
- g' iʎ	reason	Lag̥iʎt̥l̥an̥ lax̥	lag̥iʎt̥l̥ən̥	I might go there
- k' as	real, really	Ṙin̥am̥k̥as	q̥in̥əm̥q̥as	It's too much
- k' as ^ε o	nicely*			
- k' inaʎ	nicely	Ola ixkinaʎox̥ da k̥at̥am̥ax̥w	Ola ixkinaʎox̥ da k̥at̥əmax̥ ^w	Really nice picture
- ga, - gas	woman*	Tsux̥t̥lam̥agasox̥	tsux̥t̥lam̥agasox̥	That's a granddaughter
- q!a(la),	emphatic*	Olaḳ̥al̥ ik	olaḳ̥al̥ ik	Really good
- q!a(mas),				
- q!a(nak ^u)				
- (x')dela	past operative*			

- (x')da ^ε x ^u	plural	Gaxdaxw xox bagwins	Gaxdax ^w xox bag ^w ins	They're coming to visit
- (x')dax	still, yet (?)*	Mit'sax tse'mox gaxan	mitsax tse'mox gaxan	She's still kissing me
- (x')de	transition from present to past	tla ^ε kamxdi gaxan	Tla ^ε qamxdi gaxan	She slapped me
- (x')st!a	as usual*			
- (x')staak ^u	apparently*	Yuxta'akw	juta?ak ^w	Apparently that's him
- (x')La	very*	Suma'edla!	suma?edla!	It's you!
- xwa ^ε s	days*	Nampaxwas...	na ^ε mpax ^w as	One day...
- xent	evidently	Su'am xantla	su?am xantla	It might be you
- xa	to say*			
- xaa, - xat!	again*	Ugwa ^ε ka amxa'e	Ug ^w aq ^a amxa?e	He also did it
- xoL	astonishing!*	Su'amxu ^ε	su?amxu ^ε	Oh it's you
- (x)Le	miserably*			
- lag'a	now	Gaxma's laga'a?	gaxma?s laga?a	Have you arrived?
- lax	uncertainty	Wilaxwta's gaxlax	Wilax ^w ta?s gaxlax	When are you coming here?
- laxsd	contrary to fact, past	Kisi Shawn gaxlaxsd	kisi Shaw gaxlaxsd	Shawn didn't come here
- ^ε l	it is said*			
- La	but*			
- L	future	Gaxtlan	gaxtlan	I'll come

The following are a list of various Kwak'wala Orthographies, provided by Nicholson & Werle (2009:32). It includes a chart of every phoneme in each of the Uṁista, Grubb, Liq̓'wala, IPA, and Boas' writing systems.

Five Kwak'wala alphabets

U'mista	a	ḁ		b	d	dł	dz	e		g	gw	g̊
Grubb	a	e		b	d	dl	dz	eh		g	gw	g̊
Liḡ'wala	a	ə		b	d	λ	d*	e		g	g ^w	g̊
IPA	a	ə, a, ɪ, ʊ		b	d	dl	dz	ɛ, e		g ^j	g ^w	g̊
Boas	a, ā	ɛ, ä, î, û		b	d	ɫ	dz	ä, ê		g̊	gw, g ^u	g̊

ḡw	h	i		k	kw	k̊	k̊w		k̊	k̊w	k̊
ḡw	h	i		k	kw	k'	kw'		k̊	k̊w	k̊'
ḡ ^w	h	i		k	k ^w	k̊	k̊ ^w		q	q ^w	q̊
g ^w	h	i, e		k ^j	k ^w	k ^j	k ^w		q	q ^w	q'
ḡw, ḡ ^u	h	i, î, e, ē, ě		k̊	kw, k ^u	k̊!	k̊!w, k̊! ^u		q	qw, q ^u	q!

k̊w		l	l̊	ł	m	'm	n	'n	o		p	p̊	s	t	t̊	tł
k̊w'		l	l̊	lh	m	m̊	n	n̊	o		p	p'	s	t	t'	tl
q̊ ^w		l	l̊	ł	m	m̊	n	n̊	o		p	p̊	s	t	t̊	λ
q ^w		l	l'	ł	m	m'	n	n'	ɔ, o		p	p'	s	t	t'	tł
q!w, q! ^u		l	l̊	ł	m	'm	n	'n	â, ô		p	p!	s	t	t!	ɫ

t̊	ts	ts̊	u		w	'w	x	xw	x̊	x̊w	y	'y	'
tl'	ts	ts'	u		w	ẘ	x	xw	x̊	x̊w	y	ý	ʔ
λ	c	c̊	u		w	ẘ	x	x ^w	x̊	x̊ ^w	y	ý	ʔ
tł	ts	t's	u, o		w	w'	x ^j	x ^w	χ	χ ^w	j	j'	ʔ
ɫ!	ts	ts!	u, û, o, ô		w	'w	x̊	x̊w, x̊! ^u	x̊	x̊w, x̊ ^u	y	'y	ɛ

The following are the Zwicky and Pullum (1983) criteria for distinguishing clitics, in their own words.

- Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their stems
- Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups
- Morphophonological idiosyncrasies are more characteristic of affixed words than of clitic groups
- Semantic idiosyncrasies are more characteristic of affixed words than of clitic groups
- Syntactic rules can affect affixed words, but cannot affect clitic groups
- Clitics can attach to material already containing clitics, but affixes cannot

This is a Lilq^{wə}la visibility marker chart, provided by Anderson (2005:102). Note that it differs from the one I present in Chapter 2 in some respects, especially among the 'post-nominal' visibility markers.

Pre-nominal:	Subj:	-ga(da)		-ux(da)		-i(da)
	Obj:	- <u>x</u> ga(da)		-xwa,- <u>xux</u> (da)		- <u>x</u> (da)
	Inst:	-sga(da)		-sa, -sux(da)		-s(a)
Post-nominal:		-k -ga		-i <u>x</u> -aḡ		-∅ -a/i
		1ST.VIS 1ST.INV		2ND.VIS 2ND.INV		3RD.VIS 3RD.INV

This chart cross references both Selkirk (1995) and Anderson's (2005) clitic types with each of Kwak'wala clitics. The Kwak'wala clitics appear in the leftmost column, with an 'X' marking their membership in the corresponding clitic type along the rows.

Clitic-types	Affixal	Internal	Phonological	Morphological
Clitic-string	X		X	X
= ganəm <i>probably</i>	X		X	X
= χənt <i>must</i>	X		X	X
= χa <i>ACC</i>	X		X	X
= sa <i>OBL</i>	X		X	X
= da <i>DET</i>	X		X	X
Post-visibility		X	X	X
temporal		X	X	X
possessive-pronouns		X	X	X
Pre-visibility		X	X	X
pronouns		X	X	
= tɬ <i>connective</i>		X	X	
= ɬ <i>but</i>		X	X	
= is <i>and</i>		X	X	
augmentatives		X	X	
= su <i>passive</i>		X	X	
= wəɬ <i>former</i>		X	X	

References

- Allwood, Jens, Hendrikse, A. P & Ahlsén Elisabeth. 2010. Words and alternative basic units for linguistic analysis. *Linguistic Theory and Raw Sound. Copenhagen Studies in Language* 40. 9-26.
- Anderson, Stephen R. 1984. Kwakwala syntax and the government-binding theory. Cook, Eung-Do and Donna B. Gerds (eds.), *The Syntax of Native American Languages* 16. 21-75.
- Anderson, Stephen R. 1993. Wackernagel's revenge: Clitics, morphology, and the syntax of second position. *Language* 69. 68-98.
- Anderson, Stephen R. 2005. *Aspects of the Theory of Clitics*. Oxford: Oxford University Press.
- Annonby, Stan. 1997. *Reversing Language Shift: Can Kwak'wala be Saved?* University of North Dakota MA Thesis.
- Bach, Emmon. 1975. Long vowels and stress in Kwakiutl. *Texas Linguistic Forum* 2. 9-19.
- Bach, Emmon. 2006. Paradigm Regained: Deixis in Northern Wakashan. *SOAS Working Papers in Linguistics* 14. 267-281.
- Bach, Emmon; Darin Howe; Patricia Shaw. 2005. *Deixis in Northern Wakashan*. Handout presented at Workshop on Language contact, Endangered Languages Documentation Project, SOAS. July 1st 2005.
- Berman, Judith. 1994. George Hunt and the Kwak'wala texts. *Anthropological Linguistics* 36. 482-514.
- Black, Alexis. 2011. Ostension and definiteness in the Kwak'wala noun phrase. Lyon, John and Joel Dunham (eds.), *Papers for the Forty-sixth International Conference on Salish and Neighbouring Languages* 1-31. University of British Columbia Working Papers in

Linguistics.

Boas, Franz. 1900. Sketch of the Kwakiutl language. *American Anthropologist, New Series* 2. 708-721.

Boas, Franz. 1911. Kwakiutl. *Handbook of American Indian Languages* 1. 423-558.

Boas, Franz. 1946. *Kwakiutl Ethnographic Texts with Translation*. Mrs. Helen Boas Yamposky (unpublished).

Boas, Franz. 1947. Kwakiutl grammar, with a glossary of the suffixes. *Transactions of the American Philosophical Society* 37. 203-377.

Boas, Frank and J. W. Powell. 1991. *Introduction to Handbook of American Indian Languages and Indian Linguistic Families of America North of Mexico*. Lincoln: University of Nebraska Press.

Bolinger, Dwight. 1963. The uniqueness of the word. *Lingua* 12(2). 113-136.

Bouchard, Randy. 1970-1977. *How to Write series* (primers and tape recordings for the Bella Coola, Mainland Comox, Sechelt, Squamish, Halkomelem, Straits Salish, Lillooet, Okanagan, Shuswap, Thompson River Salish, and Haida languages). Victoria, BC: BC Indian Language Project ms.

Buffalo Spirit Communications Foundation (BSCF). Retrieved August 2015.
<http://www.buffalospirit.org/our-elders/daisy-sewid-smith>

Chew, John Jr. 1964. On word boundaries in Japanese. *The Journal-Newsletter of the Association of Teachers of Japanese* 2. 6-12.

Chung, Yunhee. 2007. The internal structure of Kwak'wala nominal domain. *Papers for the 42nd International Conference on Salish and Neighbouring Languages* 101-118. University of British Columbia Working Papers in Linguistics.

- Clark, Eve V. 2003. *First Language Acquisition*. Cambridge: Cambridge University Press.
- Coseriu, Eugenio. 1964. Pour une sémantique diachronique structurale. *Travaux de Linguistique et de Littérature* 2. 139–186.
- Crystal, David. 2008. *A Dictionary of Linguistics and Phonetics*, 6th edn. Oxford: Blackwell.
- Dixon, R.M.W. and Alexandra Y. Aikhenvald. 2002. Word: a typological framework. In R.M.W. Dixon & Alexandra Y. Aikhenvald (eds). *Word: A Cross-Linguistic Typology*, 1-41. Cambridge: Cambridge University Press.
- Duanmu, San. 1998. Wordhood in Chinese. *New Approaches to Chinese Word Formation: Morphology, Phonology and the Lexicon in Modern and Ancient Chinese*, 135-196. Berlin: Mouton de Gruyter.
- Elfner, Emily. 2008. *Focus in Kwak'wala*. University of Massachusetts, Amherst.
- Elfner, Emily. 2012. *Syntax-Prosody Interactions in Irish*. University of Massachusetts, Amherst PhD Dissertation.
- Elordieta, Gorka. 2014. The word in phonology. In Iraide Ibarretxe-Antuñano and José-Luis Mendívil-Giró (eds.), *To be or not to be a Word: New Reflections on the Definition of Word* 6-65. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Fortescue, Michael. 2006. The origins of the Wakashan classificatory verbs of location and handling. *Anthropological Linguistics* 48(3). 266-287.
- Gerdtz, Donna and Adam Werle. 2014. Halkomelem clitic types. *Morphology* 24. 245–281.
- Goodfellow, A. 1991. *Ganganangmasa Kwakwaka'wakw*. Alert Bay: Nimpkish Board of Education.

- Grainger, Sharon E. 2005. *Kayasa san's Galgalis*. Alert Bay: Umista Cultural Centre.
- Green, Antony D. 2008. Coronals and compounding in Irish. *Linguistics* 46. 403–437.
- Greene, Hannah. 2013. *Verb Classes in Kwak'wala*. MA Thesis, University of British Columbia.
- Grimes, Barbara. 2000. *Ethnologue*. 14th edn. SIL International. Dallas Texas, USA.
- Grubb, David McC. 1977. *A Practical Writing System and Short Dictionary of Kwakw'ala (Kwakiutl)*. National Museum of Man Mercury Series, Canadian Ethnology Service Paper no. 34. Ottawa: National Museums of Canada.
- Gussenhoven, Carlos and Haike Jacobs. 2005. *Understanding phonology*. 2nd edn. Understanding Phonology Series. Oxford University Press.
- Hall, Alfred. 1888. *A Grammar of the Kwagiutl language*. Transactions of the Royal Society of Canada 6. Montreal: Dawson Brothers.
- Hall, Alfred. 1897. *Yikā Qāyilelas Wūtlā sa Apostles. The Acts of the Apostles*. Translated into the Kwāgūtł Language, North of Vancouver Island. London UK: British and Foreign Bible Society.
- Hall, T. A., Hildebrandt Kristine A., Bickel Balthasar. 2008. Introduction theory and typology of the word. *Linguistics* 46. 183–192.
- Haspelmath, Martin. 2011. The indeterminacy of word segmentation and the nature of morphology and syntax. *Folia Linguistica* 45. 31–80.
- Howe, Darin. 2000. *Oowekyala segmental phonology*. University of British Columbia PhD Dissertation

- Ibarretxe-Antuñano, Iraide and José-Luis Mendiivil-Giró. 2014. *To be or not to be a Word: New Reflections on the Definition of Word*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Jamieson-McLarnon, Susan. 2005. *Native language centre planned* 33.
http://www.sfu.ca/archive-sfunews/sfu_news/archives/sfunews07070512.shtml
- Janzen, Jonathan. 2011. Phrase- and word-level prosody in Kwak'wala. Lyon, John and Joel Dunham (eds.), *Papers from the Forty-sixth International Conference on Salish and Neighbouring Languages* 101-107. UBCWPL.
- Janzen, Jonathan. 2015. A preliminary discourse analysis of Kwak'wala narratives: G̱waw̱ina and Dzunuḱwa. *CanIL Electronic Working Papers* 1.
<http://www.canil.ca/joomla/index.php/resources/electronic-working-papers/ewp-volume-1>
- Kager, René. 2007. Feet and metrical stress. In de Lacy, Paul (ed.) *The Cambridge Handbook of Phonology*, 195-227. Cambridge: Cambridge University Press.
- Kalmar, Michele. 2003. *Patterns of Reduplication in K'wákw'wala*. University of British Columbia MA Thesis
- Kari, Ethelbert E. 2002. Distinguishing between clitics and words in Degema, Nigeria. *African Study Monographs* 23. 177-192.
- Klavans, J.L. 1985. The independence of syntax and phonology in cliticization. *Language* 61. 95-120.
- König, C. 2012. *The grammaticalization of adpositions and case marking*. Oxford Handbooks Online. Retrieved November 18 2013.
<http://www.oxfordhandbooks.com/view/10.1093oxfordhb/9780199586783.001.0001/oxfordhb-9780199586783-e-41>.

- Kwakiutl Indian Band. 2012. *Our language*. Fort Rupert (T'sakis Village).
<http://www.kwakiutl.bc.ca/culture/language.htm>
- Levine, Robert D. 1977. Kwak'wala. Northwest coast texts. Carlson, Barry (ed.) *International Journal of American Linguistics Native American Texts Series* 2. 98-126. Chicago: The University of Chicago Press.
- Levine, Robert D. 1978. Apposition and relativization in Kwak'wala. *Papers for the 13th International Conference on Salish Languages* 298-331. University of British Columbia Working Papers in Linguistics.
- Levine, Robert D. 1980a. On the lexical origin of the Kwak'wala passive. *International Journal of American Linguistics* 46. 240-258.
- Levine, Robert D. 1980b. Passives and controllability in Kwakwala. *Papers for the 15th International Conference on Salish Languages* 37-71. University of British Columbia Working Papers in Linguistics. Republished 1981. *Glossa: An International Journal of Linguistics* 14. 139-167.
- Levine, Robert D. 1984. Empty categories, rules of grammar, and Kwakwala complementation. Cook, Eung-Do and Donna B. Gerds (eds.), *The Syntax of Native American Languages*, 215-245. Orlando: Academic Press.
- Lincoln, Neville, John Rath. 1980. *North Wakashan comparative root list*. Mercury Series 68. Ottawa: National Museum of Man.
- Littell, Patrick. 2010. *Mistaken Identity: Boas's Dilemma and the Missing Kwak'wala Copula*. University of British Columbia qualifying paper.
- Louwrens, Louis J. and G. Poulos. 2006. The status of the word in selected conventional writing systems – the case of disjunctive writing. *Southern African Linguistics and Applied Language Studies* 24. 389-401.

- Matthews, P.H. 2002. What can we conclude? In Dixon, R.M.W. and Alexandra Y. Aikhenvald (eds), *Word: A Cross-Linguistic Typology* 266-281. Cambridge: Cambridge University Press.
- Milwaukee Public Museum. 2015. *Kwakiutl ethnography*.
<http://www.mpm.edu/research-collections/artifacts/kwakiutl/ethnography>
- mmnationtalk. Accessed on: August 21, 2012.
<http://nationtalk.ca/story/harper-government-invests-in-the-nuyumbalees-societys-liqwalakwakwala-language-preservation-initiative/>
- Moreno-Cabrera, Juan-Carlos. 2014. From agglutination to polysynthesis: Towards a biological characterization of the spoken word. In Iraide Ibarretxe-Antuñano and José-Luis Mendiivil-Giró (eds.), *To be or not to be a Word: New Reflections on the Definition of Word*, 131-163. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Nicolson, Marianne & Werle, Adam. 2009. *An investigation of modern Kwak'wala determiner systems*. Ms. University of Victoria.
- Noguchi, Masaki. 2011. A preliminary study of intonation in Kwak'wala. Lyon, John and Joel Dunham (eds.), *Papers from the Forty-sixth International Conference on Salish and Neighbouring Languages* 321-350. University of British Columbia Working Papers in Linguistics.
- Sardinha, Katie. 2013. *Kwak'wala case markers*. Berkley University qualifying paper.
- Shapiro, Michael. 1967. Remarks on phonological boundaries in Russian. *The Slavic and East European Journal* 11. 433-441.
- Selkirk, Elizabeth. 1981. English compounding and the theory of word-structure. Van der Hulst, Moortgat and T. Hoekstra (eds.) *The Scope of Lexical Rules*, 229-278. Foris: Dordrecht.

- Selkirk, Elizabeth. 1995. *The prosodic structure of function words*. University of Massachusetts, Amherst.
- Shaw, P., Blake, S., Campbell, J., and Shepherd, C. 1999. *Stress in hən'q'əmin'əm' (Musqueam) Salish*. University of British Columbia Working Papers in Linguistics.
- Smith, Daisy, Lucy Smith. 1984. *Mary's colouring book*. British Columbia: School District Number 72.
- Spencer, Andrew & Ana R. Luís. 2012. *Clitics: An Introduction*. Cambridge: Cambridge Textbooks in Linguistics.
- Tomalin, Marcus. 2011. “And he knew our language”: *Missionary Linguistics on the Pacific Northwest Coast* 203. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Trask, Larry, 2004. *What is a Word?* Working Papers 11. University of Sussex:, Department of Linguistics and English Language
- Trommer, Jochen. 2008. “Case suffixes”, postpositions, and the phonological word in Hungarian. *Linguistics* 46. 403–437.
- Truth and Reconciliation Commission (TRC) of Canada. 2015. *Honouring the truth, reconciling for the future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada*. Library and Archives Canada.
- U'mista Cultural Society. 1981a. My village, my house. Powell, Jay, Vickie Jensen, Agnes Cranmer, and Margaret Cook (eds.), *Learning Kwak'wala Series, Book 1*. Alert Bay.
- U'mista Cultural Society. 1981b. The sounds of Kwak'wala. Powell, Jay, Vickie Jensen, Agnes Cranmer, and Margaret Cook (eds.), *Learning Kwak'wala Series, Book 5*. Alert Bay.

- Urbanczyk, Suzanne. 2013. *Double reduplications in parallel*. Rutgers Optimality Archive.
<http://roa.rutgers.edu/>
- Werle, Adam. 2002. The Southern Wakashan one-foot word. Gillon, Carrie, Naomi Sawai and Rachel Wojdak (eds.), *Papers for the 37th International Conference on Salish and Neighbouring Languages*, 382-397. University of British Columbia Working Papers in Linguistics.
- Windsor, Joseph W. 2011. *On the boundaries of Irish prosodic words*. University of Calgary.
- Wilson, Duff. 1964. The impact of the white man. *The Indian History of British Columbia, Volume 1*. BC Archives.
- Wilson, Peter, Henderson, James. 1980. *K^wa^kw^ala language lessons*. British Columbia: School District Number 72.
- Zec, Draga. 2005. Prosodic differences among function words. *Phonology* 22. 77-112.
- Zwicky, Arnold M. 1977. *On clitics*. Bloomington, IN: Indiana University Linguistics Club.
- Zwicky, Arnold M. 1985. Clitics and particles. *Language* 61. 283-305.
- Zwicky, Arnold M. 1994. What is a clitic? In Wanner, Joseph and A. M. Zwicky (eds.), *Clitics - A comprehensive bibliography 1892-1991*, xii-xx. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Zwicky, Arnold & Pullum, Geoffrey. 1983. Cliticization vs. inflection: English n't. *Language* 59. 502-513.