

# **Nominalization and Voice in Kwakwala**

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## Abstract

Kwákwala appears to give privileged status to the syntactic position of subject in the formation of several clause types that rely on extraction; that is to say, the subject is the only element which can be A'-extracted to form relative clauses, WH-questions, and cleft sentences. For this reason, it has been claimed that any constituent which is not the subject must first become the subject in order to be extracted. This is achieved by marking the predicate of the clause with one of several suffixes which have variously been termed passive markers, focus markers, and nominalizers.

This thesis argues that the supposedly unique behaviour of the subject is a result of restrictions against extraction of case-marked DPs, and shows that non-subject constituents which are not case-marked can extract without first being promoted to subject position. Furthermore, I argue that nominalization is the most satisfactory analysis of the suffixes which allow DPs that would otherwise be case-marked to surface as subjects. This account is particularly useful in accounting for the behaviour and distribution of the suffix *-nuk<sup>w</sup>*, which has what appear to be two different functions (indicating possession and indefinite objects), and which defies explanation according to both of the predominant theories of passive formation (Baker, Johnson & Roberts 1989; Collins 2005).

I further argue that, of the eight suffixes I consider, only seven display sufficient syntactic similarities to be considered a single class of affixes. The eighth is not only distinct in its behaviour, but is also the only one which targets non-subjects that are not case-marked.

Finally, I consider how my proposed structure for Kwākwala compares to analyses for Austronesian languages, and particularly Tagalog, which has been observed to have similar patterns of extraction.

## **Preface**

This thesis is original and unpublished work by the author, L. Sherer. The fieldwork presented within it was collected in accordance with UBC Ethics Certificate number H08-01182.

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## Index of Glosses

1INCL – first person inclusive

2POSS – second person possessive

3DIST – third person distal

3INVIS – third person invisible

3MED – third person medial

3VIS – third person visible

BEC – become (change of state)

C.POSS – co-referential third person possessive

FV – final vowel

INST – instrumental

LOC – location/goal/source

MTV – motive

NOM – nominalizer

OBT – obtained

ONG – ongoing state

O.POSS – oblique possessive

PST – past tense

RED – reduplicant

RES – result

SNS – sensory

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I am indebted to many people for their support and contributions to the work presented here. The help of my language consultants has been invaluable, and highly educational in more ways than one. I am particularly grateful to Ruby Dawson-Cranmer, the consultant with whom I worked most frequently, for many fun and educational hours spent in her living room. I must also express my appreciation for my two other consultants, Freda Shaughnessy and Mildred Child, for making time for me even when I had to make long trips to visit them.

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Numerous other members of the linguistic department also provided valuable support and useful information throughout the completion of my degree. My classmates questions and comments during class presentations often allowed me to see important flaws in my work, or to find the next direction my research should take. In particular, my fellow Kwakwala researchers, both currently and formerly of UBC, proved to be fonts of valuable information. Pat Littell was always able to answer my questions in detail, and the research done by Jon Janzen and Katie Sardinha opened many doors to data I otherwise never would have found.

Finally, I would be remiss if I didn't acknowledge the importance of my family for their unwavering support of me in all my goals and accomplishments, including this one. In particular, my husband Mike's calmness and understanding has kept me focused and determined, and enabled me to continue through my most difficult times to finally achieve what I wanted.

## 1. INTRODUCTION

The goal of this thesis is to analyze the morphology and syntax of a set of suffixes in Kwākwala that have been variously termed passive markers, focus markers, or nominalizers. These suffixes are quite common and highly important to the language, as they are obligatory in many clauses involving the A'-extraction of non-subject constituents. As a result, a variety of concepts can only be expressed via clauses that use these morphemes. I will examine eight such morphemes, and argue that seven of them show unified syntactic behaviour that is compatible with a nominalization account, while the eighth displays a different pattern. In the process of this analysis, I will also address issues including the role of the subject in Kwākwala syntax, the unusual versatility of the suffix *-nuk<sup>w</sup>*, and the relationship between case and possession marking.

The rest of chapter 1 describes the geographical and cultural setting of the language, and the methodology of the research reported in this thesis. Chapter 2 gives an overview of the grammar of the language, including aspects of its syntax that have been problematic for previous research. In particular, I discuss the apparently unique status of subjects in Kwākwala, and describe those constructions which appear to depend on distinguishing subjects from other sentence elements. These include the voice constructions on which my analysis is focused. Chapter 3 describes the uses of and distinctions among the various voice suffixes in more detail, elaborating on their semantics and other points of interest, and arguing that extraction is restricted by the status of case-marked DPs rather than by any uniqueness on the part of the subject. Chapter 4 shows why a nominalization analysis best suits the behaviour of the voice

suffixes. Chapter 5 implements a nominalization analysis of voice, and discusses why several other possible analyses are inadequate to explain the behaviour of Kwākwala's voice morphology. Chapter 6 discusses the implications of this research, both for Kwākwala and cross-linguistically, with particular emphasis on Austronesian languages such as Tagalog, which show similar patterns of extraction.

## 1.1 Language Setting

Kwākwala, known in early research as Kwakiutl (Boas 1893), is a member of the Northern Branch of the Wakashan language family, which also includes Haisla, Heiltsuk, and Oowekyala. The Southern Wakashan Branch, although demonstrably genetically related to the Northern Branch (Fortescue 2006), differs significantly. Several of these differences are discussed in Sardinha (2011): They include the fact that prepositions exist only in the Northern Branch (arguably; see Woo (2007)), with their functions in the Southern Branch largely taken over by a wider range of lexical suffixes and by locative predicates; and the fact that only the Northern Branch has a morphological case system to identify NPs within a sentence (with only Kwākwala having fully developed such a system), while the Southern Branch relies on such factors as word order, context, and optional elements to distinguish grammatical roles such as subject and object. The most well-researched and documented member of the Southern Wakashan family is Nuu-Chah-Nulth, also known as Nootka. Both branches of the Wakashan family are indigenous to Vancouver Island and most of the central coast of British Columbia; Kwākwala is spoken by populations within several reserves on the island, as well as on the adjacent mainland.

Speakers of Kwákwala are known as Kwákwaka'wakw, although this term identifies speakers of the language without reference to any further shared cultural connection. There are five dialects of Kwákwala: Kwákwala, Li̍kwala, T'la̍f̓laškwala, 'Na̍kwala, and Gu̍sala. This research is focused on the Kwákwala dialect (represented in orange in the figure below), as my primary consultant is a member of the Dzawada'enux Tribe of Kingcome Inlet. However, the dialects are quite consistent in most aspects and have a very high level of mutual intelligibility.

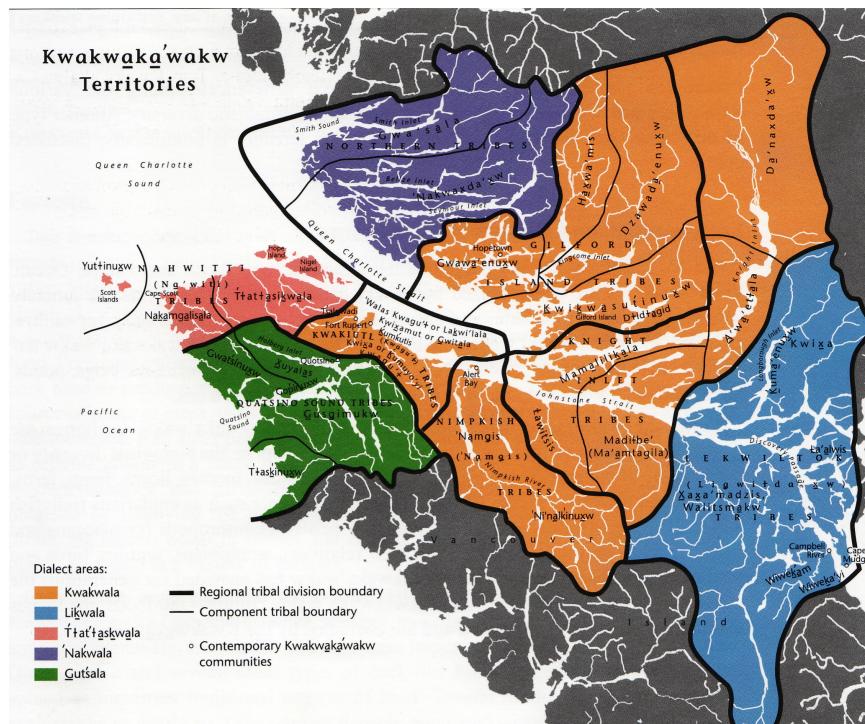


Figure 1. Map of Kwakwaka'wakw territories (Pasco et al, 1998)

According to the First People's Cultural Council survey, fewer than 200 fluent speakers of Kwa̱kwala remain (FPHLCC 2010), but many more members of the Kwa̱kwaka'wakw tribes are learning their language (FPHLCC 2010). Ethnologue (2014) has categorized the language as shifting; that is, moving toward extinction, although revitalization efforts do exist. One major contributor toward rebuilding the language is

the Um̓ista Cultural Centre, which, among other projects, provides language teaching for Kw̓akwala.

## 1.2 Methodology

This research is dependent upon elicitation of speaker grammaticality judgments, because it requires establishing patterns that are not textually available, including negative data in the form of ungrammatical utterances. In obtaining the data presented here, I have made every effort to ensure that my elicitation methods produce data that accurately represents speaker knowledge. To that end, I have elicited sentences with multiple speakers, in multiple contexts, and multiple times. The data were elicited from three different speakers, during in-person sessions conducted primarily at the speakers' homes. For some sessions, more than one researcher was present, but all sessions were limited to only one speaker. Most sessions were audio recorded. One speaker participated in many more sessions than the other two.

The most common elicitation technique used was to describe a context in English, often with accompanying illustrations, and ask the speaker to explain some aspect of the situation in Kw̓akwala. Another method of establishing context was to have two researchers act out a dialogue and have the speaker give what the characters would say in Kw̓akwala.

Alternatively, once a context was established, the speaker may have been offered a sentence in Kw̓akwala to describe it and ask for their judgement on the quality of the sentence in that situation. Sometimes multiple sentences were offered, with the speaker asked to give any preferences among them.

Contexts were often revisited during more than one elicitation session, with repetitions of the same scenario occurring anywhere from one week to several months apart. This was usually done when the speaker showed uncertain or inconsistent judgements or productions.

Because the data needed for this research often required very specific sentence structures (namely those which single out the subject by some syntactic process), it was sometimes necessary to rely on direct translation from English to ensure that the speaker would, for example, produce a cleft in Kwakwala rather than conveying focus through intonation or gesture (which speakers sometimes do when not prompted otherwise). To reduce the use of translation as much as possible, contexts were designed whenever possible to lend themselves to naturally eliciting the required structure; for instance, offering two similar objects that must be distinguished by describing them with relative clauses (e.g. “the one he saw” vs. “the one I saw”).

## 2. LANGUAGE OVERVIEW

Textual material in Kwāk̓wala dates back to the nineteenth century, famously compiled by Franz Boas (1893) who also published several major grammatical works in the first half of the twentieth century (1911, 1947); these works are still regularly consulted, although they are focused on documenting the uses of various morphemes and roots rather than offering syntactic analyses of complete utterances. Several more syntactically focused papers were written on the language in the 1980s, notably by Anderson (1984) and Levine (1980, 1984). Since that time, little syntactic work on Kwāk̓wala has been done, although recent years have produced something of a resurgence on this front (Chung 2007; Nicholson & Werle 2009; Black 2011; Sardinha 2011, 2013; Greene 2013; Littell 2013). Despite this, and despite the fact that Kwāk̓wala is still the best-documented of the Northern Wakashan languages, a great deal more work is needed on both documentation and analysis. In particular, many aspects of the language remain largely unanalyzed within contemporary theoretical frameworks.

The overview provided here is not intended to be a thorough explanation of Kwāk̓wala, but covers only that material which is relevant to understanding the research at hand.

### 2.1 Phonology

There are two orthographic methods used to represent Kwāk̓wala: APA (American Phonetic Alphabet) and the practical orthography developed by the U'mista Centre in Alert Bay, which is used by several Kwāk̓wala speech communities. This thesis uses both alphabets, in order to be maximally accessible to readers who may be

familiar with only one system. The phonological inventory of Kwâkwala is represented below. Where two symbols occur separated by a slash, the symbol on the left is APA, and the symbol on the right is U'mista.

	Bilabial	Alveolar	Lateral	Velar	Labialized Velar	Uvular	Labialized Uvular	Glottal
Stops	p b	t d		k g	k <sup>w</sup> g <sup>w</sup>	q/k G/g	q <sup>w</sup> /k <sup>w</sup> G <sup>w</sup> /g <sup>w</sup>	?/'
Ejectives	Ɂ' p	Ɂ' t		Ɂ' k	Ɂ' k <sup>w</sup>	Ɂ' q/k	Ɂ' q <sup>w</sup> /k <sup>w</sup>	
Affricates		c/ts d <sup>z</sup>	χ/tɬ χ/dɬ					
Ejective Affricates		Ɂ'/tɬ's	Ɂ'/tɬ					
Fricatives		s	ɬ/ɬ'	x	x <sup>w</sup>	χ/x	χ <sup>w</sup> /x <sup>w</sup>	h
Sonorants	m	n	l		w			
Glottalized Sonorants	ɬ/'m	ɬ/'n	ɬ/'l		ɬ/'w			

Table 1. Consonant Inventory

	Front	Central	Back
High	i		U
Mid	e	ə/a	O
Low	a		

Table 2. Vowel Inventory

One phonological process which is particularly relevant to this thesis is softening. This is a change triggered by certain suffixes, including the two instrumental suffixes, *-ayu* and *-əm*, as well as the result suffix *-ək<sup>w</sup>*, and affects the consonant preceding the affix by increasing its sonority. In the case of voiceless obstruents, they become voiced; for example, the root *Ɂita* “fish with rod and reel” becomes *Ɂidayu* “fishing rod.” In the case of the lateral fricative *ɬ*, it becomes the liquid *l*; for example, the root *?əmləm* “play” becomes *?əmləm* “toy.”

The opposite of softening is hardening, which results in a decrease of the sonority of the preceding consonant (e.g. voiceless stops become ejectives). However, this process is not triggered by any of the suffixes discussed in detail in this thesis.

## 2.2 Morphology

Kwakwala has a rich morphological inventory, described at length by Boas (1911, 1947), consisting of suffixes and enclitics with a wide variety of semantic and syntactic functions. The language has no prefixes or proclitics.

The one exception to the generalization that no morphological changes take place at the beginning of words is reduplication. Reduplicants in Kwakwala take the form [Ci-], where C is the onset of the first syllable of the word. A full account of reduplication in Kwakwala is given in Kalmar (2003); in this thesis, the only uses of reduplication that occur are those marking plural.

- (1) kiχida **bibibəgʷanəm** laχa **wiwasa**  
kitl=i-da            **bi**-**bi**-**bagʷanam**    la=χa            **wi**-**wa**=sa  
fish=3DIST=DET    RED-RED-man      PREP=ACC    RED-river  
“The men fished in the rivers.”

This example shows both basic plural reduplication, seen on *wiwa* “rivers,” and a variation which the primary consultant I worked with sometimes produces on words referring to people – that is, the double reduplication seen on *bibibəgʷanəm* “men.” This form is no different in meaning from single reduplication, but it does cause a phonological change; reduplicants normally cannot bear stress, but when two reduplicants occur, the main stress of the word will occur on the second one.

### 2.2.1 Structure of the DP

Argument clitics are a prevalent feature of Kwakwala morphology, as they occur on all argument NPs to indicate such features as person, possession, visibility, and case (Chung 2007, Nicholson & Werle 2009).

Function	1 <sup>st</sup> sing.	1 <sup>st</sup> inc.pl.	1 <sup>st</sup> ex.pl.	2 <sup>nd</sup> sing.	3 <sup>rd</sup>		
Subject	=ən	=əns	=ənoχ	= (e)s	Prox	Med	Dist
					=ga	=oχ	=i
Possession	=ən	=əns	=ənoχ	=u? s	Subj. possessor		Non-subj. possessor
					=is		=s(a)

Table 3. Person and possession-marking clitics

Distance	Prenominal Clitic	Postnominal Clitic
Proximate visible	=ga	=x
Medial visible	=oχ	=iχ, =eχ, =χ
Distal invisible	=i	=a/e?

Table 4. Visibility clitics

Accusative	Oblique
=χ(a)	=s(a)

Table 5. Case-marking clitics

As shown in Table 4, distance and visibility can be indicated by either prenominal or postnominal clitics, so called because of where they occur in relation to the NP to which they refer. Because these clitics attach to the prosodic word immediately to their left, prenominal clitics are prosodically associated with a constituent outside of NP, while postnominal clitics are associated with the first prosodic word within NP (Anderson 2005).

More than one clitic may modify a single NP (for example, if both case and possession are being indicated, as in (2), where =χ marks accusative case and =is marks possession).

- (2) ləm' qida bəg<sup>w</sup>anəmax<sup>is</sup> χ<sup>w</sup>ənuk<sup>w</sup>  
la'm            k=i=da            bag<sup>w</sup>anam=a=x=is            x<sup>w</sup>anuk<sup>w</sup>  
AUX=FOC      find=3DIST=DET      man=3INVIS=ACC=C.POSS      child  
“The man found his son.”

Argument clitics also function as pronouns, in that they can occur alone to stand for a DP. When the subject of a transitive verb is a clitic, Kwa̱kwala's VSO word order means that the sentence will contain a sequence of clitics which are not all associated with the same NP, as in (3b) below.

- (3) a) ix?aki Henryχa qəmdəm  
ix'ak=i     Henry=x<sub>a</sub>     kamdam  
like=3DIST Henry=ACC song  
“Henry liked the song.”
- b) ix?akiχa qəmdəm  
ix'ak=i=x<sub>a</sub>     kamdam  
like=3DIST=ACC song  
“He liked the song.”

In (3a), the distal clitic =i refers to the subject, “Henry,” while the accusative clitic =χa marks the object qəmdəm “song.” In (3b), the same is true, but due the absence of “Henry” from the clause, the two clitics both belong to the same prosodic constituent.

Whether or not sequences of clitics should be treated as independent prosodic words is an open question (Anderson 2005). I do not transcribe them here in that way, but I make no theoretical claims based on my assumptions about word boundaries.

Of particular relevance to this thesis are the contrasts between DPs which have case-markers, and those which do not, as I will argue that extraction restrictions which have been claimed to distinguish subjects from non-subjects are in fact conditioned by whether or not a given DP takes case-marking. DPs without case-marking are obligatorily marked for visibility; these DPs include grammatical subjects and the complements of some prepositions. Grammatical subjects are unique among visibility-

marked DPs in that they can also demonstrate agreement with their visibility clitics; in sentences which contain a prepredicative auxiliary element, both this element and the predicate will be marked with visibility clitics for the grammatical subject. In (4b), both the auxiliary *la* and the matrix predicate *ɬa?yu* take the distal marking clitic *=i*.

- (4) a) *ɬa?yu iχax is qəs?əne*  
           *tɬa'yu=i=xə=x=is*                            *kas'anə*  
           change=3DIST=ACC=ACC=C.POSS shirt  
           “He changed his shirt.”
- b) *ləm'i ɬa?yu iχax is qəs?əne*  
           *la='m=i tɬa'yu=i=xə=x=is*                            *kas'anə*  
           AUX=FOC=3DIST change=3DIST=ACC=ACC=C.POSS shirt  
           “He changed his shirt.”

Although agreement is important insofar as it shows that subjects do have morphological differences from other DPs, the phenomenon of agreement in and of itself is largely irrelevant to the discussion at hand; the more significant distinction is between DPs which are case-marked and those which are not (Black 2011).

In the data that follow, most sentences will contain only DPs that are marked for only one of case or visibility, and as a result, selecting one type of DP (i.e. case-marked or visibility-marked) is often in effect the same as excluding the other type. However, these two types of morphology are in fact *not* in complementary distribution; in (5), note that both the case-marker *=s* and the visibility clitic *=oχ* refer to *wáci* “dog” (the first occurrence of *=oχ* refers to the theme of *qəx?id* “bite” that is being questioned).

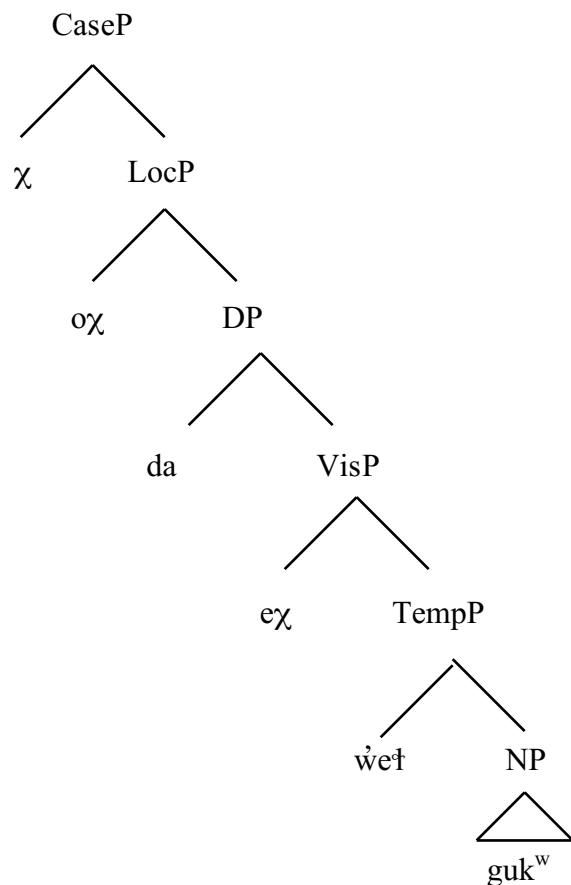
- (5) *?əng<sup>w</sup>oχ qəx?idsu?əsoχda wáci*  
           *'ang<sup>w</sup>=ox kax-'id-su'=s=oχ=da*                            *'wačsi*  
           who=3MED bite-BEC-NOM=O.POSS=3MED=DET dog  
           “Who did the dog bite?” (Lit. “Who was the bitten-person of the dog?”)

Thus, although contrasting the behaviour of case-marked and visibility-marked DPs is often descriptively sufficient for individual sentences, this fails to capture the larger

generalization: the syntactic contrast is in fact between case-marked and non-case-marked DPs, and although visibility-marked DPs are often a member of the latter group, they do not form a natural class relevant to this work.

Given the number of different types of NP-modifying clitics in Kwakwala, it is important to clarify the structure of the DP that I assume. For the sake of concreteness, I adopt the structure proposed by Chung (2007), which assigns each type of clitic to a different functional head.

- (6)  $\chi o\chi da \text{ guk}^w \dot{w}\text{e}\dot{\ell}\text{e}\chi$   
 $\underline{x}=\underline{o}\chi=\underline{da} \quad \underline{\text{gu}}\underline{\text{k}w}-\underline{\text{we}}\underline{\ell}=\underline{\text{e}}\chi$   
ACC=3MED house-PST=3VIS  
“that former house”



In order to derive the correct surface order of morphemes, Chung describes a movement process that raises NP within the DP constituent, but that process is not essential to this analysis. Of most significance are the functional projections above DP: CaseP (which contains case-marking morphology, described in 2.2.2 below) and LocP (which contains prenominal visibility clitics, described in 2.2.3 below, called “locative” in the tradition of Boas). The idea of functional projections above DP is not new; in particular, a functional projection devoted to case was postulated as far back as Lamontagne and Travis (1987). The feature of this structure which is most important to this research is the fact that CaseP, LocP, and DP are three different phrases, and so syntactic rules can and do apply to each one independently.

## 2.2.2 Case Marking

There are two case-marking clitics in Kwākwala, taking the morphological forms  $=\chi(a)$  and  $=s(a)$ , and they modify the majority of non-subject arguments. They were referred to by Boas (1911), and subsequently by Anderson (1984), as “objective” and “instrumental,” respectively. This reflects the fact that  $=\chi(a)$  commonly introduces objects and  $=s(a)$  commonly introduces instruments, but these descriptions fail to capture the full functions of either morpheme. I choose here to call these morphemes “accusative” and “oblique,” which has become more common terminology in recent work on Kwākwala (Littell 2012, Sardinha 2013, Greene 2013). However, in anticipation of my nominalization analysis, I gloss the  $=s(a)$  form not simply as “oblique” but as “oblique possessor.”

The distribution of case-markers in Kwa̱kwala has been most thoroughly documented by Davis & Sardinha (2011), several of whose conclusions I summarize here. They found that, although there do exist patterns and tendencies for case-markers to behave in a certain way, none of those patterns are absolute. Case-markers are versatile not only in their interpretation, but in their assignment and distribution.

Most verbs assign  $=\chi(a)$  to their theme, as in (7), but there are some which assign  $=s(a)$  instead, as in (8).

- (7) loχənχa wáči  
 lot'=an=x'a    'wafsi  
 get=1=ACC dog  
 "I got a dog."

- (8) qut'ida qʷə?stasa wáp  
 kut'=i=da                kwa'sta=sa    'wap  
 full=3DIST=DET cup=O.POSS water  
 "The cup is full of water."

Additionally, there is no direct correspondence between the morphological form of a case-marker and its obligatoriness. There is a tendency for  $=\chi(a)$ -marked entities to be obligatory while  $=s(a)$ -marked entities are optional, but, particularly with respect to ditransitive predicates, this tendency is weak. The most commonly attested combination of case-marking for ditransitive verbs to select is  $=\chi(a)$  and a prepositional phrase introduced by the preposition *la* (which always takes a  $=\chi(a)$ -marked complement), but all possible combinations are attested: *gəlsa* "paint" takes  $=\chi(a)$  and  $=s(a)$ ; *kəlxʷa* "buy" takes  $=\chi(a)$  and *la*; *čo* "give" takes  $=s(a)$  and *la*.

- (9) gəlsida čədaqχis GuGa?me?sa ḥi?na  
 gals=i=da                t'sadak=x=is                guga'me'=sa    tli'na  
 paint=3DIST=DET woman=ACC=C.POSS face=O.POSS grease  
 "The woman painted her face with grease."

- (10) kəlx<sup>w</sup>i Pate?xa ɬatə?makw lax Katie  
kalxw=i Pat=e'=xa kata'makw la=x Katie  
buy=3DIST Pat=3INVIS=ACC picture PREP=ACC Katie  
“Pat bought a picture from Katie.”

- (11) ɬoi Katiesa kilxilagils laxis ḥəmuk<sup>w</sup>  
tso=i Katie=sa kilxilagils la=x=is 'namuk<sup>w</sup>  
give=3DIST Katie=O.POSS car PREP=ACC=C.POSS friend  
“Katie gave her friend a car.”

The clearest syntactic asymmetry between the two different case-markers is that sentences strongly prefer to have only one  $=\chi(a)$ -marked constituent, but do not restrict the number of  $=s(a)$ -marked constituents. Yet even this is not absolute; there is one documented verb, *k<sup>w</sup>isa* “spit,” which can take two  $=\chi(a)$ -marked constituents.

- (12) k<sup>w</sup>isida babagwəmaxa ɬa?yaχa w̪ap  
k<sup>w</sup>is=i=da babag<sup>w</sup>am=a=x̄a t̄sa'ya=x̄a 'w̪ap  
spit=3DIST=DET boy=3INVIS=ACC younger.sibling=ACC water  
“The boy spat water at his little brother.”

Furthermore, some temporal adjuncts are introduced by  $=\chi(a)$ , which can result in two  $=\chi(a)$ -marked DPs in the same clause.

- (13) duχ<sup>w</sup>?aχi ɬədaqχis ɬa?wənəmχa Ganuχ  
duχ<sup>w</sup>,atł=i ɬsadak=x̄=is ɬa'wanam=x̄a ganutł  
see=3DIST woman=ACC=C.POSS husband=ACC night  
“The woman saw her husband at night.”

All of this suggests that assignment of case-marking is at least partially a lexical property of the verb rather than a reflection of syntax, and indeed this is the conclusion reached by Davis & Sardinha (2011).

### 2.2.3 Visibility Clitics

Third-person subjects take clitics that denote the visibility of their complements. However, in some cases, non-subjects take these clitics as well; therefore, the

generalization is that visibility clitics occur on all DPs that do not have case-marking and also on some that do.

For example, certain prepositions (including *qə?*, usually translated as “for” or “because of,” and *λu*, usually translated as “with” or “and”) select for complements introduced by visibility clitics.

- (14) *isaɻi Jane qə?e Mike*  
 isaɻ=i      Jane ka'=i      Mike  
 wait=3DIST Jane PREP=3DIST Mike  
 “Jane waited for Mike.”

- (15) *qasi Anne λui Tom*  
kas=i      Anne dɻu=i      Tom  
 walk=3DIST Anne PREP=3DIST Tom  
 “Anne and Tom went for a walk.”

The same is true of the complementizer *le?*, which usually translates as “when” or “while,” and introduces many temporal adjuncts.

- (16) *ləmən qax Jon le?e dɻəlxwida*  
la'm=an k-a=x      Jon le'=i      dɻalx'w-x'id-a  
 AUX=1 find=FV=ACC Jon PREP=3DIST run-BEC-FV  
 “I found Jon when he ran away.”

Being a complementizer, *le?* introduces CPs rather than DPs; thus the visibility clitics which adjoin to *le?* are actually marking the grammatical subjects of embedded clauses (e.g. in (16), the subject of *dɻəlxwida* “run” is the clitic =*i*, which is co-referential with “Jon”). However, these CPs pattern with non-case-marked DPs with respect to the syntactic phenomenon under discussion here (i.e. A'-extraction), and so they are also included in this discussion.

The visibility clitics most common in my data are =*i* and =*a/e?* (both distal invisible) and =*oχ* (medial visible), but others exist. These morphemes are discussed in more detail, including more phonological and phonetic detail, by Black (2011).

Black also presents an analysis of the determiner clitic *=da*. This clitic most commonly modifies subjects, appearing after the visibility marker, but can modify non-subject DPs as well. Example (17) below shows both of these uses.

- (17) ləm̥id̥a ?əbəmp ham̥i?ksilaxada ḡuxʷ Giwas  
 la=’m=i=da                        ’abamp ha’mi’ksil-a=x̥a=da    t̥luxʷ giwas  
 AUX=FOC=3DIST=DET              mother cook-FV=ACC=DET     ice      deer  
 “The mother cooked the frozen venison.”

The surface distributions of this clitic, and the others which I have described, are relatively well understood. However, the issue of what they contribute semantically to the sentences in which they occur remains unclear (for further discussion, see Nicholson & Werle 2009; Black 2011).

## 2.3 Syntax

### 2.3.1 Clausal Word Order

The basic word order of Kwakwala is VSO, although an SVO word order occurs frequently when an auxiliary element appears in sentence-initial position. I define the term “auxiliary” here in Kwakwala-internal distributional terms; that is, as any element in a clause which precedes the main predicate and attracts subject inflection (i.e. visibility clitics, demonstratives and determiner elements). The class of auxiliaries includes certain intransitive motion verbs (e.g. *la* “go,” *ga* “come”), “adverbs” (including *?ugʷaq* “also”), and strong quantifiers (including *higa?* “only”).

- (19) ləmi Lucy ćoxa kukwəla laxa ćədaq  
 la=’m=i                        Lucy t̥so=x̥a    kukwala la=x̥a            t̥sadak  
 AUX=FOC=3DIST Lucy give=ACC bracelet PREP=ACC woman  
 “Lucy gave the bracelet to the woman.”

- (20) ?ug<sup>w</sup>aqəm̥χoχda wāči kax?idχən x<sup>w</sup>ənuk<sup>w</sup>  
     'ugwak-’m=x=ox=da           'watiši ka-x’id=x=an   x<sup>w</sup>anukw  
     also-FOC=ACC=3MED=DET dog   bite-BEC=ACC=1 child  
     “The dog also bit my son.”
- (21) higa?əmi Lucy duχ<sup>w</sup>?aχiχa plawas  
     higa'=m=i           Lucy duχ<sup>w</sup>,atl=i=x a   plawas  
     only=FOC=3DIST Lucy see=3DIST=ACC flower  
     “Only Lucy saw the flower.”

Note that the change in constituent order also changes which elements various clitics attach to: In a VSO sentence, the subject-modifying clitic(s) attach to the verb, while the object-marking clitic(s) attach to the subject, whereas in an AuxSVO sentence, the subject clitic(s) occur on the sentence-initial auxiliary, and object clitic(s) on the matrix verb.

### 2.3.2 Prepositional *La*

The word *la* has three syntactically distinct functions. Besides the auxiliary usage just described, it also functions as a predicate meaning “go,” shown in (20), and as a preposition introducing goals, sources, or locations, shown in (21).

- (20) laxdi Jonχa qaqułaa?as  
     l-a-xd=i           Jon=x a   kakutł-a-’as  
     go-FV-PST=3DIST Jon=ACC learn-FV-LOC  
     “Jon went to school.”
- (21) gəluł?idi čačadaGəm laxa babag<sup>w</sup>əm  
     galuł-’id=i      čsačagam la=x a   babag<sup>w</sup>am  
     steal-BEC=3DIST girl       PREP=ACC boy  
     “The girl stole from the boy.”

As different as these two uses are syntactically, they are semantically similar in that they both indicate movement in a general way. This reflects the fact that they are historically related (Sardinha 2011).

The prepositional usage of *la* is more common than its use as a main predicate (although its use as an auxiliary is extremely common), and is also more relevant to the present research. Because complements of prepositional *la* are always marked for accusative case, they syntactically pattern with the other case-marked DPs with respect to A'-extraction. In this way, *la* differs from the words mentioned above (*qə?*, *λu*, and *le?*) which select for complements that are not marked for case, either accusative or oblique.

### 2.3.3 Possession and *-nuk<sup>w</sup>*

Kwakwala uses the denominal suffix *-nuk<sup>w</sup>* to indicate possession. It affixes to a nominal predicate to indicate that the predicate is possessed by the subject of the clause.

- (22) ḡačinuk<sup>w</sup>ən  
      'wat'si-nuk<sup>w</sup>=an  
      dog-have=1  
      "I have a dog."

- (23) guk<sup>w</sup>inuk<sup>w</sup>i Pat  
      gukw-nukw=i      Pat  
      house-have=3DIST Pat  
      "Pat has a house."

Sardinha (2013) provides a detailed description of the various uses of *-nuk<sup>w</sup>*, both systematic and idiomatic. She also describes the semantics of the suffix, stating that the presence of *-nuk<sup>w</sup>* both indicates possession and asserts the existence of a thing; that is, "Y exists and X has Y, where X denotes a possessor subject and Y denotes a non-specific member (or members) of the set denoted by the nominal predicate" (p 160).

Possession as indicated by *-nuk<sup>w</sup>* is not necessarily permanent; Sardinha shows that *-nuk<sup>w</sup>* can be used to describe, for example, something which the speaker has borrowed.

### 2.3.4 Defining Subjects and Non-Subjects

This thesis illustrates a syntactic contrast among three types of constituents: grammatical subjects, case-marked DPs, and non-case-marked adjuncts (which also includes CPs introduced by *le?*). A DP may fall into no more than one of these three categories. The relevant generalizations to identify them types are summarized below. Note that the morphemes listed in the table, although obligatory, do not preclude the possibility of other morphemes occurring on the same DPs; for example, the determiner clitic *=da* may occur on any DP type, and, as has already been described, case-marked DPs may also be marked for visibility.

DP Type	Obligatory Morphology	Directly Extractable?
Grammatical Subject	Visibility clitic (w/ possible agreement)	Y
Case-marked DP	Case-marking clitic	N
Non-case-marked adjuncts	Visibility clitic (no agreement possible)	Y

Table 6. DP Types

Although I have hitherto used the terms “subject” and “object” freely for reasons of exposition, there is in fact a great deal of uncertainty as to how the latter concept applies to Kwakwala. Clear evidence of syntactic distinctions among non-subject nominals is lacking; that is to say, distinctions between different types of internal

arguments have never been effectively demonstrated, and it has also been difficult to establish the distinction between adjuncts and complements.

Conversely, identifying the position of subject has never been controversial, as the distribution and behaviour of subjects is consistent language-internally and is also in keeping with cross-linguistic patterns. However, for the purposes of this research it is necessary to distinguish between two different uses of the term: *grammatical subject* and *external argument*. The two are not unrelated, and in many cases (specifically, those which do not contain voice morphology, which I will refer to as unmarked clauses), the grammatical subject will also be the external argument. In voice-marked clauses, however, they are not the same DP.

The defining traits of a grammatical subject in Kwakwala are as follows:

- (a) It is the only DP obligatory in all clauses.
- (b) i) It takes a visibility-marking clitic when it is third person.
  - ii) Its visibility-marking clitic will show agreement with the auxiliary, if one is present.
- (c) It is the leftmost DP in the clause, and the only DP which can precede the predicate.
- (d) It can be A'-extracted.

Only (a), (b) ii) and (c) are exclusive to grammatical subjects; both (b) i) and (d) are true of non-case-marked adjuncts as well. However, the grammatical subject is the only DP which exhibits all of these qualities.

I assume that a grammatical subject in Kwa̱kwala surfaces in Spec, TP<sup>1</sup> after raising from a lower position in which it is base generated. However, there is more than one possible position in which a grammatical subject can be base generated; specifically, grammatical subjects of voice-marked clauses will not be base generated in the same position as grammatical subjects of unmarked clauses. I will further discuss the syntactic procedures by which a DP raises to grammatical subject position in chapter 5, where I discuss the syntactic effects of voice morphology.

The thematic subject, by contrast, is identified by its thematic relation to the predicate; I use the term here for expository reasons, to refer to the DP which is assigned the theta role that a predicate assigns to its grammatical subject in an unmarked clause. In voice-marked clauses, the thematic subject will surface (if it surfaces at all) as an oblique-marked adjunct. Most Kwakwala transitive predicates have an agent (or, in the case of psychological predicates, an experiencer) as thematic subject.

Grammatical subjects are never morphologically marked for case, and are distinct from case-marked DPs in the formation of several different clause types, as I describe in the next section.

## 2.4 Role of Subjects and Voice Morphology

The generalization which was formulated by Anderson (1984), and also discussed by Levine (1980), is that only grammatical subjects can be extracted through

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<sup>1</sup> Although I use the term “TP,” I do not intend to reflect any assumptions regarding tense. The term refers to whichever inflectional head hosts the subject.

<sup>2</sup> Although I argue that all voice morphemes are nominalizers, I do not preclude the possibility

A'-movement. This means that only grammatical subjects can be relativized, questioned, or focused.

Because of this restriction, a variety of suffixes are used to regulate which argument may occur in the grammatical subject position of a clause. These suffixes attach to verbs and cause a DP which would normally surface as a case-marked non-subject to become the grammatical subject, which is then able to undergo A'-movement. I term these suffixes “voice morphemes.” I am using this term in its extended sense, to denote the set of grammatical constructions which regulate the mapping of thematic roles to subject position. As I will show, Kwa̱kwala instantiates voice with nominalization.

The use of the term “voice” in this more general sense is also in keeping with its use in the literature on Austronesian languages, despite the fact that the voice systems of these languages have been analyzed in a number of different ways (see, among others, Kroeger 1992; Schachter 1976, 1977; Carrier-Duncan 1985; Richards 1998; Kaufman 2009; and Legate 2012). These languages pattern similarly to Kwa̱kwala with respect to extraction, in that the predicate of every sentence is marked for a particular argument of the verb, and this argument is the only one which can be A'-extracted. I will further discuss the parallels between Austronesian and Kwa̱kwala with respect to voice in section 6.2.

I now describe those contexts in which voice morphemes are necessary in Kwa̱kwala. Chapter 3 will describe the diagnostics that I have used to classify suffixes as voice morphemes, and elaborate on the distribution and behaviour of each of the seven voice suffixes I have found; for the time being, I present a summary only of their

forms, general meanings, and the cases of the DPs they target. Notice that all of the voice morphemes do select for case; there are none which target non-case-marked DPs. This means that which voice morpheme occurs in a given sentence will be determined not only by the theta role of the promoted DP, but also the case which introduces that DP in an unmarked clause.

<b>Form</b>	<b>Gloss</b>	<b>Meaning</b>	<b>Targeted Case</b>
<i>-su?</i>	NOM	Default, usually theme	$=\chi(a)$ , $=s(a)$ , $lax(a)$
<i>-ayu</i>	INST	Instrument	$=s(a)$
<i>-əm</i>	INST	Instrument	$=s(a)$
<i>-?as</i>	LOC	Location, goal, or source	$lax(a)$
<i>-ənəm</i>	OBT	Obtained goods	$=\chi(a)$
<i>-ək<sup>w</sup></i>	RES	Result of action	$=\chi(a)$
<i>-t</i>	SNS	Sensory stimulation	$=\chi(a)$

Table 7. Voice Suffixes

In addition to being determined by morphological properties of the DP, the appropriate voice morpheme in a given clause is also partially determined by the lexical semantics of the predicate (as I will discuss in chapter 3, some verbs select for certain voice morphemes; for example, verbs describing ways of obtaining something select for *-ənəm*). The most productive affix, however, is *-su?*. In anticipation of my nominalization analysis, I gloss *-su?* as a nominalizer.<sup>2</sup>

In identifying possible candidates for voice morphemes, I use relative clauses, WH-questions, and focus constructions. These sentence types, as described below, show alternations in the morphological form of the predicate which correspond to patterns of A'-extraction.

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<sup>2</sup> Although I argue that all voice morphemes are nominalizers, I do not preclude the possibility that other nominalizing morphemes of other types (i.e. ones which do not affect argument structure in the same way) exist.

### 2.4.1 Relative Clauses

A morphologically unmarked relative clause, in which the DP that is both thematic and grammatical subject is relativized, consists simply of the head followed by the clause (Anderson 1984). Kwa̱kwala lacks relativizing morphology and relative pronouns and complementizers; relative clauses are distinguished from matrix clauses only by the positioning of the head at the left edge of the clause, i.e. before the verb.

- (24) †awisənχa [wac̪i [qəx?iχən χʷənukʷ]]  
 †awis=an=x̄a 'wačsi kax-’id=x=an      xʷanukʷ  
 angry=1=ACC dog    bite-BEC=ACC=1      child  
 “I am angry at the dog that bit my son.”

Unmarked relative clauses can also be headless.

- (25) (ki,) hedida [qasa] duχw?ačaχa Giwas  
 (ki)    hed=i=da                kas-a            duχw’atł-a=x̄a giwas  
 (NEG)    FOC=3DIST=DET    walk-FV    see-FV=ACC    deer  
 “(No,) the one who was walking saw a deer.”  
*Context: Answer to, “Did the man who was hunting see a deer?”*

However, unmarked headless relative clauses are often ungrammatical or dispreferred, particularly in out of the blue contexts. At this point, it is unclear why this is the case.

Relativization of any case-marked DP requires the presence of a voice morpheme.

- (26) humoɬida babagʷəmaχa [Giwas [hanačasu?(øs bəgʷanəm)]]  
 humoɬ=i=da                babagʷam=a=x̄a    giwas...  
 watch=3DIST=DET    boy=3INVIS=ACC    deer...  
 ...hanatł-a-su’(=s                bagwamam)  
 ...hunt-FV-NOM(=O.POSS    man)  
 “The boy watched the deer that was being hunted (by the man).”

Optionally, the thematic subject of the embedded clause may be included as well, marked as oblique by the case enclitic =s(a); this is the constituent in parentheses in (26) above. The oblique case-marker =s(a) may also occur alone, without the following

noun (e.g. *bəgʷanəm* above), in which case it is interpreted pronominally (i.e. “by him/her/it/them”).

Voice-marked headless relative clauses are also possible, and generally speaking are acceptable in more contexts than unmarked headless relative clauses.

- (27) *kixwida* [qasu?]  
       *kixw=i=da*            *k-a-su'*  
       run.away=3DIST=da find-FV-NOM  
       “What was found ran away.”

Why it should be the case that voice-marked headless relative clauses are more common than their unmarked counterparts is an open question, but it may reflect the fact that, generally speaking, subject relative clauses are less common cross-linguistically than non-subject relatives, or may be a garden path effect (i.e. unmarked verbs can easily be mistaken for the beginning of a new sentence).

#### 2.4.2 WH-Questions

WH-questions involve a WH-predicate (such as *?əngʷ* “who,” *miač(at)* “what,” and *wid* “where”) followed by a (usually headless) relative clause (Anderson 1984).

- (28) *?əngʷida ix?akaxa babagʷəm*  
       *'angʷ=i=da*      *ix'ak=a=xə*      *babagʷam*  
       who=3DIST=DET like=FV=ACC boy  
       “Who likes the boy?” (Lit. “Who is the one who likes the boy?”)

- (29) *?əngʷi ix?aksu?əs babagʷəm*  
       *'angʷ=i*      *ix'ak-su'=s*      *babagʷam*  
       who=3DIST like-NOM=O.POSS boy  
       “Who does the boy like?”

Since WH-questions contain relative clauses, the pattern of voice marking is identical between the two: there are no voice morphemes in sentences questioning the thematic

subject of a sentence, as in (28), but these suffixes are required to question DPs that would otherwise be case-marked, as in (29).

#### 2.4.3 Focus

The third form of A'-movement which requires voice morphology to extract a non-subject is clefting (Littell 2011). Subjects may be directly clefted; voice morphology must be employed to promote a case-marked DP to subject, from which position it may be clefted.

- (30) hedí Jane nə́p̥a qə?es wáči  
 hed=i        Jane nə́p̥-a        ka'=is                  'wat'si  
 FOC=3DIST   Jane throw-FV   PREP=C.POSS        dog  
 "It was Jane who threw [something] for her dog."
- (31) hedí χaq nə́p̥is u?əs qə?eda wáči  
 hed=i        xak    nə́p̥i-su'=s                  ka'=i=da                  'wat'si  
 FOC=3DIST   bone throw-NOM=O.POSS   PREP=3DIST=DET        dog  
 "It was a bone that was thrown to the dog."

There are several focus elements which trigger this pattern; besides *hed*, there are also *yum'* and *gem'*; these three forms indicate distance and visibility with respect to the speaker, analogously to *=i*, *=ox*, and *=ga*, respectively (Littell 2011, Stewart 2011).

Another focus element which occurs in sentence-initial position is the quantifier *higa* “only.” This element also requires voice morphemes to focus case-marked DPs.

- (32) higa?əmí sasəm ix?ak=i kukis=əs  
 higa'='m=i        sasam              ix'ak=i        kukis=s  
 only=FOC=3DIST   own.children   like=3DIST   cookies=O.POSS  
 "Only her children like her cookies."
- (33) higa?əm hanχas u?χida gəla  
 higa'='m        hantɬ-a-su'-tɬ=i=da                  gala  
 only=FOC        hunt-FV-NOM-FUT=3DIST=DET        bear  
 "Only bears will be hunted."

Example (33) also shows an instance of an optionally omitted thematic subject.

The above three constructions demonstrate how voice morphemes are used with A'-movement, but it is also possible (and in fact quite common) to find voice morphemes without A'-movement. I turn now to these instances.

#### 2.4.4 Indefinite Readings

##### 2.4.4.1 Indefinite Subjects

If the thematic subject of an action is unknown, the affixation of a voice morpheme allows it to be omitted by making another sentence element the subject. This construction serves as an alternative to indefinite pronouns, which Kw̓əkwałala lacks.

- (34) duχwaɬasu?i Katie  
duxwatl-a-su'=i Katie  
see-FV-NOM=3DIST Katie  
“Katie was seen.” / “Someone saw Katie.”

However, since there is nothing in a sentence like (34) that specifically indicates an indefinite subject (or indeed any thematic subject at all), it could also be used in a context where the thematic subject is known; for example, (34) could be used when the speaker knows who saw Katie, but considers it less relevant to the context than the mere fact of Katie’s having been seen. An oblique-marked thematic subject can also be added as a stylistic choice.

- (35) duχwaɬasu?i Katieøs Pat  
duxwatl-a-su'=i Katie=s Pat  
see-FV-NOM=3DIST Katie=O.POSS Pat  
“Katie was seen by Pat.”

I translate the above sentences as passives, and the resemblance to a passive construction is undeniable: the theme is the grammatical subject, and the thematic

subject occurs as an optional oblique. Indeed, the suffixes which I have termed voice morphemes have been called passivizers by various researchers over the last century (Boas 1911, Anderson 1984, Kalmar 2003, Davis & Sardinha 2011, Littell 2012). However, I restrict my use of this term in order to avoid drawing unwelcome comparisons between the voice system of Kwa̱kwala and the more familiar systems seen in English and similar languages.

#### 2.4.4.2 Indefinite Objects

Voice morphemes are also used to express unknown objects, when they co-occur with the suffix *-nuk<sup>w</sup>* (Levine 1980, Sardinha 2013).

- (36) laχəlasu?nuk<sup>w</sup>i Laura  
lax-al-a-su'-nuk<sup>w</sup>=i                   Laura  
sell-ONG-FV-NOM-have=3DIST Laura  
“Laura sold something.”

As shown above, these constructions are translated into English with indefinite objects.

Sentences like (36) are unusual because, unlike other uses of voice morphology, their grammatical subject is also the thematic subject; note that the agent is not an oblique phrase in the above sentence. This is typical of an anti-passive, rather than a passive, construction. I will discuss the behaviour of *-nuk<sup>w</sup>*, in both this and its possessive usage, further in section 4.3.

#### 2.4.5 Possessives

Anderson (1984) also shows that third person possessive marking clitics show an asymmetry between grammatical subjects and non-subjects. Although this asymmetry does not specifically relate to voice morphemes, since it does not condition

either their presence or absence, it is relevant to the related discussion of oblique thematic subjects, and to the broader discussion of the unique status of the grammatical subject.

When a possessor of an overt DP is co-referential with the grammatical subject of the sentence, it is indicated in a manner morphologically different from that used to indicate possession by an entity that is not the grammatical subject. Subject possessors are indicated with the clitic *=is*, which accompanies case-marking in adjoining to the prosodic word preceding the possessed entity. This word is often the possessor, as in (37), but not always, as in (38).

- (37) ix<sup>w</sup>aki Jona<sub>x</sub>is kut<sub>ə</sub>la  
       ix'ak=i     Jon=a=x=is                                   kut<sub>ə</sub>la  
       like=3DIST Jon=3INVIS=ACC=C.POSS                   salmon  
       “Jon<sub>i</sub> likes his<sub>i</sub> (own) fish.”

(38) ?əng<sup>w</sup>ida yəlk<sup>w</sup>a<sub>x</sub>is uxsə?yape?  
       'ang<sup>w</sup>=i=da        yalkw-a=x=is                   uxsa'yape  
       who=3DIST=DET    hurt-FV=ACC=C.POSS           shoulder  
       “Who<sub>i</sub> hurt his<sub>i</sub> (own) shoulder?”

This construction resembles the English prenominal possessive construction, in that possession indicated on a functional head forms part of the possessed DP (assuming the structure in (6), that head is presumably D).

When the possessor is non-coreferential with the grammatical subject, it is marked with the clitic  $=s(a)$ , which encliticizes to the word preceding the possessor. Typically, this is the possessed entity.

- (39) ix<sup>?</sup>aki Jone<sup>?</sup>χa Ɂutəlas (Pat)  
       ix'ak=i     Jon=e'=xa                      Ɂutala=s                      (Pat)  
       like=3DIST Jon=3INVIS=ACC                      salmon=O.POSS      (Pat)  
       “Jon<sub>i</sub> likes his<sub>j</sub>/Pat’s fish.”

The question predicate *?əŋg<sup>w</sup>* “who” can also take the non-coreferential marker, in order to ask about possession.

- (40) *?əŋg<sup>w</sup>əsoxda kawayu ?əχəlasu?əs le?e ke*  
'ang<sup>w</sup>=s=ox=da                    kawayu 'ax-al-a-su'=s...  
who=O.POSS=3MED=DET knife     AUX-ONG-FV-NOM=O.POSS...  
...le'=i                            ke  
...PREP=3DIST                    carve  
“Whose knife does he carve with?”

The non-coreferential possession construction resembles the English postnominal possessive construction. Note that the non-coreferential possessive marker is also homophonous with the oblique case-marker used to introduce thematic subjects in voice-marked sentences. I will claim that these oblique DPs are possessive constructions as well, more analogous to English *of*-phrases than the *by*-phrases seen in passives.

#### 2.4.5.1 Possessives and Subject Types

One thing which has not been noted before on the topic of Kwakwala subjecthood is the fact that grammatical subjecthood does not exclusively condition the form of possessive morphology, as Anderson (1984) describes; thematic subjecthood can do so as well. This parallels another pattern which I will show, namely that the extraction constructions described above, which seem to be conditioned by grammatical subjecthood, are actually conditioned by another factor.

Because the grammatical and thematic subjects may or may not be the same in any given clause, a DP can have one of four states with respect to its subjecthood:

- a) both grammatical and thematic subject
- b) grammatical but not thematic subject

- c) thematic but not grammatical subject
- d) neither grammatical nor thematic subject.

In cases (a) or (b), possessive marking is straightforwardly either co-referential or non-co-referential, as explained above. However, when there is an asymmetry (i.e. the (b) and (c) cases), either morphology is possible.

<b>Subjecthood</b>	<b>Co-referential?</b>	<b>Non-co-referential?</b>
Grammatical/thematic	Y	N
Grammatical only	Y	Y
Thematic only	Y	Y
None	N	N

Table 8. Possibilities for possessive morphology

Examples of sentences containing DPs that are asymmetrical in their subjecthood are shown below. In (41), the possessor *ump* “father” is the grammatical but not thematic subject, and can be indicated with either the co-referential marker, as in (41a), or the non-co-referential one, as in (41b)

- (41) a) qasu?ida Giwasəs ump duχw?aχasu?əsis χʷənukʷ<sup>w</sup>  
k-a-su'=i=da                       giwas=s               ump...  
 find-FV-NOM=3DIST=DET   deer=O.POSS   father...  
 ...duxw'atɬ-a-su'=s=is               x<sup>w</sup>anukʷ<sup>w</sup>  
 ...see-FV-NOM=O.POSS=C.POSS   child  
 “The deer was found by the father<sub>j</sub> that was seen by his<sub>j</sub> son.”
- b) qasu?ida Giwasəs ump duχw?aχasu?əs χʷənukʷəs  
k-a-su'=i=da                       giwas=s               ump...  
 find-FV-NOM=3DIST=DET   deer=O.POSS father...  
 ...duxw'atɬ-a-su'=s               x<sup>w</sup>anukʷ=s  
 ...see-FV-NOM=O.POSS   child=O.POSS  
 “The deer was found by the father<sub>j</sub> that his<sub>j</sub> son saw.”

Conversely, in (42), the possessor *čaʔya* “younger sibling” is an oblique thematic subject; yet it, too, can be referred to with either the co-referential marker, as in (42a), or the non-co-referential, as in (42b).

- (42) a) ḡosuʔida didalasa ḡa?ya laχis ?əbəmp  
     t'so-su'=i=da                  di-dala=sa  
     give-NOM=3DIST=DET RED-money=O.POSS...  
     ...t'sa'ya                  la=x=is                  'abamp  
     ...younger.sibling    PREP=ACC=C.POSS    mother  
     “The money was given by the little brother<sub>i</sub> to his<sub>i</sub> mother.”
- b) ḡosuʔida didalasa ḡa?ya laχa ?əbəmpəs  
     t'so-su'=i=da                  di-dala=sa  
     give-NOM=3DIST=DET RED-money=O.POSS...  
     ...t'sa'ya                  la=xa                  'abamp=s  
     ...younger.sibling    PREP=ACC    mother=O.POSS  
     “The money was given by the little brother<sub>i</sub> to his<sub>i</sub> mother.”

Because potentially ambiguous constructions of this nature are relatively uncommon, this phenomenon has not been examined closely, but it is a potential area of interest for further investigation into the nature of the subject in Kwākwala.

#### 2.4.6 Implicit Subjects

It has been observed in other languages that sentences which do not contain overt thematic subjects may behave as though they do (Baker, Johnson & Roberts 1989, Collins 2005). Kwākwala features structures of this nature as well, i.e. ones in which a modifier referring to a thematic subject can appear only when the predicate is marked. In (43), the adverb *hufəmala* “easy” can only be grammatically added to the sentence if the predicate *kuxsən* “break” is marked with the voice morpheme *-su?*. Thus only the voice-marked form behaves as though it contains a thematic subject which the adverb can modify.

- (43) a) kuxsənoχda tebəl  
     kuxsan=ox=da    tebal  
     break=3MED=DET table  
     “The table broke.”

- b) hułəmala kuxsənsu?oxda tebəl  
 hułamala kuxsan-su'=ox=da tebal  
 easy break-NOM=3MED=DET table  
 “The table was broken easily.”

- c)\*hułəmala kuxsənoxda tebəl  
 hułamala kuxstan=ox=da tebal  
 easy break=3MED=DET table  
 Intended: “The table broke easily.”

Furthermore, the causative morpheme *-mas*, which adds a causer thematic subject to the predicate (Davis & Sardinha 2011), can, when the thematic subject is not overt, occur only on voice-marked predicates. This shows that at some point in the derivation, the voice-marked sentence does contain the thematic subject triggered by *-mas*.

- (44) a) kuxsənmasu?oxda tebəl  
 kuxsan-su'-mas=ox=da tebal  
 break-NOM-CAUS=3MED=DET table  
 “The table was broken.”
- b)\*kuxsənmasoхda tebəl  
 kuxstand-mas=ox=da tebal  
 break-CAUS=3MED=DET table  
 Intended: “The table broke.”

These implicit subjects have been used to argue in favour of various passive analyses, as I will discuss in section 5.2. However, this pattern would also be expected if these are instances of nominalization taking place at a high enough level to incorporate a full argument structure, including the external argument. This is the case that I argue for.

### 3. VOICE MORPHEMES

Due to the prevalence of voice-marked clauses, voice morphemes are often easy to identify based on their distribution. That is, if a suffix occurs on the predicate of a clause involving A'-extraction, and is not known to serve some other function (such as marking aspect or causation), it is a possible candidate for a voice morpheme. However, there are some marginal cases, in which it is not immediately clear if a given morpheme is in fact a voice suffix or not. Because of this, it is necessary to determine diagnostic behaviours for voice morphemes. To do so, I use the behaviour of the voice suffix *-su?* as a baseline against which to judge other candidates; this suffix is by far the most productive, as it is possible on every predicate that I have tried, and is able to target any of the three types of case-marked DPs ( $=\chi(a)$ -marked,  $=s(a)$ -marked, and  $l\alpha\chi(a)$ -marked). Using this method, I have identified four diagnostic behaviours for voice morphemes.

A. *Oblique Subject*: The thematic subject of a voice-marked sentence is introduced by the oblique clitic  $=s(a)$ . This case-marker is interpreted pronominally when it occurs without an R-expression; that is to say, it refers to someone or something contextually established. Alternatively, it is possible to omit any overt thematic subject.

- (45) a) hedí Matt yølkwamasu?øs Mike  
hed=i Matt yalkwa-mas-su'=s Mike  
FOC=3DIST Matt hurt-CAUS-NOM=O.POSS Mike  
“It was Matt that got hurt by Mike.”
- b) hedí Matt yølkwamasu?øs  
hed=i Matt yalkwa-mas-su'=s  
FOC=3DIST Matt hurt-CAUS-NOM=O.POSS  
“It was Matt that got hurt by him.”

c) hedí Matt yəlkwamasu?

hed=i Matt yalkwa-mas-su'  
FOC=3DIST Matt hurt-CAUS-NOM  
“It was Matt that got hurt.”

B. *Indefinite Subject:* If the thematic subject is unknown, being neither morphologically represented nor contextually salient, a clause marked with voice morphology will be used to indicate this. Such sentences are usually translated with an indefinite grammatical subject, i.e. “someone” or “something.”

- (46) təpʔidsu?oxda qʷə?sta  
tap-’id-su’=ox=da                    kʷa’sta  
break-BEC-NOM=3MED=DET      cup  
“Something/someone broke the cup.”

These sentences contrast with sentences containing a pronominal grammatical subject, in that they cannot be used to refer to a contextually established thematic subject. That is to say, (46) cannot be produced in answer to “Did he break the cup?” or “What did he do?” Rather, (47) would occur; note that no voice marking is present, and the theme *qʷə?sta* is accusative-marked (i.e. not the grammatical subject).

- (47) təpʔidiχa qʷə?sta  
tap-’id=i=xa                    kʷa’sta  
break-BEC=3DIST=ACC      cup  
“He broke the cup.”

C. *Indefinite Object:* When a voice morpheme precedes the suffix *-nukʷ*, the sentence is interpreted as having an implicit object, represented in translation with an indefinite pronoun.

- (48) laxəlasu?nukʷən  
laxal-su’-nukʷ=an  
sell-NOM-have=1  
“I sold something.”

If a clause contains an indefinite object construction, its predicate will not be able to take an overt object. That is to say, a non-subject DP that can occur with a predicate in its unmarked form cannot occur when that predicate is marked with the combination of *-nuk<sup>w</sup>* and a voice-morpheme that selects for that DP's position. In (30), the voice morpheme *-su?* selects for the theme, and so the overt theme *ninəxwəne?* "blankets" cannot appear, hence the ungrammaticality of (49a). Conversely, in the grammatical (49b), neither *-nuk<sup>w</sup>* nor a voice morpheme is present.

- (49) a) \*laxəlasu?nuk<sup>w</sup>ənxa ninəxwəne?  
 lax-al-a-su'-nuk<sup>w</sup>=an=xa ni-nax'wane'  
 sell-ONG-FV-NOM-have=1=ACC RED-blanket  
 Intended: "I sold blankets."
- b) laxəlenxa ninəxwəne?  
 lax-al=an=xa ni-nax'wane'  
 sell-ONG=1=ACC RED-blanket  
 "I sold blankets."

D. *Substitution:* Any other voice morpheme can be replaced by *-su?* without changing the argument structure of the clause. That is, if *-su?* can be substituted for a given morpheme, then it is a voice morpheme.

I have compared *-su?* and seven other suffixes according to these four diagnostic

Morpheme	Oblique Subject	Indefinite Subject	Indefinite Object	Substitution
-su?	✓	✓	✓	N/A
-ayu	✓	✓	✓	✓
-əm	✓	✓	✓	✓
-?as	✓	✓	✓	?
-ənəm	✓	✓	✓	✓
-ək <sup>w</sup>	✓	✓	✓	✓
-†	✓	✓	✓	✓
-gi†	?	✗	?	✗

Table 9. Summary of morpheme behaviours

properties, and found that six of them do subscribe to the standard of behaviour established for a voice morpheme, and one does not. The results are summarized in Table 9, including the anomalous behaviour of *-git*.

All of these affixes have been discussed by previous researchers, most notably Boas (1911, 1947), who provides the most comprehensive overviews of Kwakwala morphology to date. However, while researchers do typically assume them to have a single or similar functions, and have provided analyses that support this assumption (cf. Anderson (1984), Davis and Sardina (2011), and others who call them passivizers), no analyses have thoroughly described their behaviour, or explicitly compared them to determine what traits they share as a natural class of affixes. This is the data and analysis which I now provide.

It is possible that my list here is not comprehensive; some voice suffixes have very restricted usages (for example, only two predicates that I know of can be marked with *-f*), and so it is possible that there are other suffixes which I have not discovered due to the fact that I have not elicited A'-extraction clauses for every predicate that exists in Kwakwala.

### 3.1 Instrument: *-ayu* and *-əm*

These two suffixes are similar in both syntax and semantics. Boas (1911, 1947) describes *-ayu* as being a passive, the same in function as *-su?*, although targeting a different thematic role, namely the instrument rather than the theme or patient (Boas 1911, p 508). He also claims there is a suffix of the form *-əm* which denotes instruments, and which is homophonous with, but not the same as, a nominalizing suffix

*-əm* (Boas 1947, p 230). The exact meaning of *-əm* is unclear, but it frequently creates a nominal from a verb to refer to an object used in the performance of that action, making it similar to *-ayu*. I gloss both of these affixes as instrumental markers, because this is their most common use, but as many of my examples below will show, it can also target entities that are not instruments. The trait shared by all DPs targeted by *-ayu* and *-əm* is not their theta role, but the fact that in unmarked clauses, they are introduced by *=s(a)*. For example, *ńəp?id* becomes *ńəp?idayu* and *q̥iqe?eqəla* becomes *q̥iqe?eGəm*; these two predicates do not assign the same theta roles, but do both assign oblique case-marking.

- (50) a) *ńəp?id*:      Agent      Instrument  
                       $=ga/ =oχ/ =i$      $=s(a)$
- b) *q̥iqe?eqəla*: Experiencer Theme  
                       $=g/ =oχ/ =i$      $=s(a)$

The instrumental voice suffixes are noteworthy for their prevalence in lexicalizations; there are many words with fixed, non-compositional meanings that are derived by combining a voice suffix with a predicate, and possibly the most common two voice suffixes occurring in such forms are *-ayu* and *-əm*. Examples include *subayu* “axe” and *?əmləm* “toy.” Levine (1980) claims that it is impossible to predict whether a given verb will take *-ayu* or *-əm*, and cites this as evidence that all forms containing these affixes are lexicalized rather than syntactically generated; although it is true that the alternation between these affixes seems to be unpredictable (that is, in most cases, verbs select for one and cannot grammatically take the other), I will show in section 3.1.1 that there is contrastive behaviour between lexicalized and syntactically-generated forms containing either *-ayu* or *-əm*, proving that Levine’s proposal cannot be generalized to all cases.

In their productive uses, both suffixes can occur in all three types of A'-extraction clauses, making them candidates to be analyzed as possible voice morphemes.

Relative Clause:

- (51) ix<sup>w</sup>?aki Jonaχus tək<sup>w</sup>i?̥s hənλayuχa Giwas  
 ix'ak=i Jon=a=x=us tək<sup>w</sup>i's hantl-ayu=x̥a giwas  
 like=3DIST Jon=3INVIS=ACC=2 bow shoot-INST=ACC deer  
 “Jon likes the bow you shot the deer with.”
- (52) qoχam̥ənχa ma?yuλəmes ləq<sup>w</sup>a  
 kotla='m=an=x̥a ma'yutl-am=e?̥=s 'lak<sup>w</sup>a  
 know=FOC=1=ACC give.birth-INST=3INVIS=O.POSS wood  
 “I know what wood gives birth to.”

WH-Question:

- (53) m'ačałi čoyues Charlieaχ Lucy  
 'ma'čał=i t'so-ayu=e?̥=s Charlie=a=x Lucy  
 what=3DIST give-INST=3INVIS=O.POSS Charlie=3INVIS=ACC Lucy  
 “What did Charlie give Lucy?”
- (54) m'asi keləmes Charlie  
 'mas=i keł-am=e?̥=s Charlie  
 what=3DIST fear-INST=3INVIS=O.POSS Charlie  
 “What is Charlie scared of?”

Focus:

- (55) hedida plawas čoyues Charlieaχ Lucy  
 hed=i=da plawas t'so-ayu=e?̥=s Charlie=a=x Lucy  
 be=3DIST=DET flower give-INST=3INVIS=O.POSS Charlie=3INVIS=ACC Lucy  
 “It was a flower that Charlie gave Lucy.”
- (56) sum' keləms Charlie  
 su='m keł-am=s Charlie  
 2=FOC fear-INST=O.POSS Charlie  
 “It's you that Charlie's scared of.”

Both suffixes also exhibit the diagnostic behaviours of voice morphemes.

A. *Oblique Subject*: Basic alternations showing this pattern are common for both *-ayu* and *-əm*. In both of the example below, the thematic subject, which is obligatory and agreement-marked in the unmarked (a) sentences, becomes an optional oblique when the instrument marker is added to form the (b) sentences.

- (57) a) nəpʔidida gənanəmχa t̪isəm

nap-’id=i=da      gananam=xa      t̪isam  
throw-BEC=3DIST=DET boy=ACC      rock  
“The boy threw a rock.”

- b) nəpʔidayuda t̪isəm(sa gənanəm)

nap-’id-ayu=da      t̪isam(=sa      gananam)  
throw-BEC-INST=DET rock(=O.POSS boy)  
“A rock was thrown (by the boy).”

- (58) a) q̪iqeʔeqəla Rubyχa yəwistaχe

kike’ek-ala Ruby=x<sub>a</sub> ya’wistatłe  
worry-ONG Ruby=ACC storm  
“Ruby is worried about the storm.”

- b) yəwistaχe q̪iqeʔeGəm(sa Ruby)

y<sub>a</sub>’wistatłe kike’ek-am(=sa      Ruby)  
storm      worry-INST(=O.POSS Ruby)  
“The storm is what (Ruby) is worried about.”

Below, (59) shows the interaction of multiple oblique-marked DPs in a single voice-marked clause. Specifically, (59b) shows that the presence of another oblique does not affect the occurrence of the oblique thematic subject. This is perfectly typical of Kwak'wala; there is no restriction on the number of oblique-marked DPs in a clause.

- (59) a) təpʔidoχda gənanəməχa q̪ʷəʔstasa t̪isəm

tap-’id=o<sub>x</sub>=da      gananam=e’=x<sub>a</sub> kʷa’sta=sa      t̪isam  
break-BEC=3MED=DET boy=ACC      cup=O.POSS rock  
“The boy broke the cup with a rock.”

- b) yum’ təpʔidayusa q̪ʷəʔstasa gənanəm

yu=’m      tap-’id-ayu=sa      kʷa’sta=sa      gananam  
DEF=FOC broke-BEC-INST=O.POSS      cup=O.POSS      boy  
“This is what the boy broke the cup with.”

Notice also that the accusative-marked DP *qʷəʔsta* “cup” in (59a) is oblique-marked in (59b). Although I have not been able to gather enough data to demonstrate that this alternation of accusative- and oblique-marking is systematic for all predicates (due to the fact that predicates which take both accusative- and oblique-marked objects and select for *-ayu* when voice-marked are comparatively rare), a change in case-marking is a reasonable possibility to reflect the difference in relationship between theme and instrument, as opposed to between theme and agent.

B. *Indefinite Subject*: The thematic subject in instrument-marked sentences can be freely omitted. This yields an indefinite subject interpretation.

- (60) nəpʔidayuoχda t̪isəm  
nəp-’id-ayu=ox=da                      t̪isam  
 throw-BEC-INST-3MED=DET      rock  
 “Someone threw a rock.”

- (61) q̪iʔeʔeGəmida yəwistaħe  
 kiʔe’ek-am=i=da                      ya’wistatħe  
 worry-INST=3DIST=DET      storm  
 “Someone is worried about the storm.”

Furthermore, the oblique theme in an *-ayu*-marked sentence can be omitted and interpreted as indefinite as well.

- (62) yum’ təpʔidayusa gənanəm  
 yu=’m        təp-’id-ayu=sa                      gənanam  
 DEF=FOC      broke-BEC-INST=O.POSS      boy  
 “This is what the boy broke something with.”

I have yet to find any verbs which take *-əm* and multiple oblique-marked entities (verbs taking *-əm* are in general less common than those taking *-ayu*), but I would expect them to allow the same alternation.

C. *Indefinite Object*: As predicted, combining an instrument-marker with *-nukʷ* yields an indefinite object interpretation.

- (63) nəp<sup>w</sup>?idayunuk<sup>w</sup>ida gənanəm  
 nap-'id-ayu-nuk<sup>w</sup>=i=da                    gananam  
 throw-BEC-INST-have=3DIST=DET      boy  
 “The boy threw something.”

- (64) q̥i<sup>w</sup>qe?eGəmnuk<sup>w</sup>ən  
 ki<sup>w</sup>ke'ek-am-nuk<sup>w</sup>=an  
 worry-INST-have=1  
 “I’m worried about something/someone.”

As the two possible interpretations of (64) show, indefinite objects are syntactically and morphologically represented the same way whether or not they are animate or human.

D. *Substitution*: It is also possible to substitute *-su?* for both *-ayu* and *-əm* without changing the argument structure of the sentence; (65) below is analogous with (60) above.

- (65) nəp<sup>w</sup>?idsu?ida t̥isəm  
 nap-'id-su'=i=da                    t̥isam  
 throw-BEC-NOM=3DIST=DET      rock  
 “Someone threw a rock.”

This is also the case for indefinite object constructions; (66) below is analogous with (64) above.

- (66) q̥i<sup>w</sup>qe?eqəlasu?nuk<sup>w</sup>ən  
 ki<sup>w</sup>ke'ek-ala-su'-nukw=an  
 worry-ONG-NOM-have=1  
 “I’m worried about something/someone.”

Given that both of these suffixes are instrumental, we might expect to be able to alternate between them with relative freedom as well; however, this proves to be a complicated issue, due to the frequent lexicalization of instrument-marked forms.

### 3.1.1 Lexicalization of Instruments

Although claiming that it is a passive morpheme analogous to *-su?*, Boas (1911) also classifies *-ayu* as a nominal suffix (p 507). Nouns referring to instruments commonly take the form verb+*ayu*; for example, *subayu* “axe” is derived from *supa* “chop,” and *kadayu* “pen/pencil” is derived from *kata* “write.” Many of these forms have lost their compositional meanings, and can refer only to specific tools rather than encompassing any instrument used to perform an action.

- (67) #subayunuk<sup>w</sup>i kis subayu

sup-ayu-nuk<sup>w</sup>=i            kis       sup-ayu  
chop-INST-have=3DIST NEG      chop-INST

Intended: “He’s chopping with something, but it’s not an axe.” or “He has a chopping-instrument, but it’s not an axe.”

Actual: “He has an axe, but it’s not an axe.”

*Context: A man is cutting down trees with a lightsaber.*

- (68) kadayunuk<sup>w</sup>oxda cədaq

kata-ayu-nuk<sup>w</sup>=ox=da            t'sadak  
write-INST-have=3MED=DET woman  
“The lady has a pencil/pen.”  
\*“The lady has a typewriter/computer.”  
\*“The lady wrote with something.”

In order to recapture this more general sense, it is sometimes possible to substitute *-su?* for *-ayu*, but because *-su?* does not specifically designate instruments, it may or may not capture the intended vagueness accurately; (69) was volunteered as an alternative to (67), and (70) as a way to clarify that what is being played with is not a proper toy (which would be referred to by the lexicalized form *?əmləm*).

- (69) supasu?doxda q<sup>w</sup>ax kis subayu

sup-a-su'=ox=da            k<sup>w</sup>ax kis       sup-ayu  
chop-FV-NOM=3MED=DET tree NEG      chop-INST

“Trees are being chopped, but not with an axe.” (NOT: “Trees are being chopped with something...”)

- (70) ?əmɬasu?nuk<sup>w</sup>ox  
 'amɬ-a-su'-nukw=ox  
 play-FV-NOM-have=3MED  
 "He's playing with something."

I have never found a case where it is possible to substitute *-əm* for *-ayu* to achieve a compositional meaning, leading me to conclude that *-əm* is no longer productive in the language. Conversely, I have found cases where substituting *-ayu* for *-əm* yields a compositional meaning. The verb *kiɬa* "fishing with a net" derives the nominal *kiɬəm* "fishing-net," but this word cannot refer to an object originally meant for another purpose, such as a shirt, being improvised into a fishing-net.

- (71) kiɬəmnuk<sup>w</sup>i Mike  
 kitɬ-am-nukw=i Mike  
 net.fishing-NOM-have=3DIST Mike  
 "Mike has a fishing-net."  
 \*"Mike is net-fishing with something."

By substituting *-ayu*, however, we can get this more abstract reading.

- (72) kiɬayunuk<sup>w</sup>i Mike  
 kitɬ-ayu-nukw=i Mike  
 net.fishing-INST-have=3DIST Mike  
 "Mike is net-fishing with something."  
 \*"Mike has a fishing-net."

There is clearly more to be described on the respective distributions and usages of these morphemes, particularly with respect to individual predicates. For my purposes, however, it will suffice to conclude that they behave in a manner characteristic of voice morphemes.

### 3.1.2 Identifying -əm

Part of the challenge of analyzing the morpheme -əm is determining whether any given instance of the sequence [əm] is actually an occurrence of the instrumental voice morpheme, as opposed to a homophonous suffix or simply a root ending in the same sequence of phonemes. This is more of a problem for -əm than other voice morphemes due to the fact that it is phonologically the smallest of them; given how easily a schwa can be phonologically reduced, virtually any word ending in [m] can sound as though it contains the voice morpheme -əm.

One pattern that can help to distinguish the particular instance of -əm that is relevant to this discussion is the fact that it exhibits a phonological pattern of weakening, described in section 2.1, which is a trait characteristic of certain affixes in Kwakwala (and in fact is exhibited by -ayu as well). This means that when voice-marking -əm occurs after an obstruent, the preceding consonant becomes more sonorant. This pattern proves that, for example, the word *ÿax?mutəm*, “something that is disliked,” which apparently derives from the verb *ÿax?muta*, “to dislike something,” is in fact not an occurrence of the relevant morpheme. If it were, it would take the form *ÿax?mudəm* instead.

There are also forms containing -əm which do not appear to be derived from any other verb. For example, *nuyəm* refers to a traditional myth (and can be expanded to refer to other fictional stories), but there is no verb of the form *nuya* or anything similar to describe the action of telling or writing such a story.

Boas (1911) describes a second morpheme which also takes the form -əm, and co-occurs with reduplication to serve a diminutive purpose (p 230). This morpheme

creates words such as *čačadaGəm* “girl” from *čadaq* “woman”. Although this usage also demonstrates phonological weakening, the difference in meaning makes it unlikely that this is the same *-əm* I am discussing. In this, my analysis agrees with Boas, who, rather than categorizing it as a nominal suffix, calls it one of the suffixes “denoting degrees judgments regarding size, intensity, and quality” (p 493).

For the purposes of this analysis, I limit my discussion to forms which are clear examples of a productive use of *-əm*. That is to say, they trigger phonological weakening, they do not trigger reduplication, and there is a corresponding non-derived verb with related meaning and phonology.

### 3.2 Location: *-?as*

Boas (1911) describes the meaning of *-?as* to be “place of,” and classifies it as a nominal suffix (p 509). Davis & Sardinha (2011) call it a passive used to promote goals and sources. I have found both of these analyses to be accurate insofar as they describe what is targeted by *-?as*; it can extract any location, goal, or source, whether that entity is adverbial or selected for by the verb.

What these types of DPs share, besides a general semantic connection to the idea of location, is that they are introduced by the preposition *la*.

- (73) *mixi laχa d<sup>z</sup>ə?lał*  
mix=i      la=χa      d<sup>z</sup>a'lał  
 sleep=3DIST PREP=ACC      lake  
 “She took a nap at the lake.”

- (74) *kəlxʷənχa laχu?s nəmukʷəs*  
kalxw=an=χa    la=x=u's      'namukw=s  
 buy=1=ACC      PREP=ACC=2POSS friend=O.POSS  
 “I bought it from your friend.”

Of the seven voice morphemes I discuss, *-?as* is the only one which targets DPs which are introduced by a preposition. However, since *la* always selects for an accusative marked DP complement, the location-marking suffix still subscribes to the pattern of only selecting for case-marked entities.

Like other voice morphemes, *-?as* is possible in all three type of A'-extraction constructions.

Relative Clause:

- (75) *kisi Lucy ɬoɬa gayuɬa?asxa plawas*  
       kis=i           Lucy ɬotɬ-a    gayutɬ-a-'as=x<sub>a</sub>       plawas  
       NEG=3DIST Lucy know-FV be.from-FV-LOC=ACC flower  
       “Lucy doesn’t know who the flower is from.”

WH-Question:

- (76) *m'ačaɬox humoco?as Shannon*  
       'ma'čaɬ=o<sub>x</sub> humotso-'as   Shannon  
       what=3MED look-LOC       Shannon  
       “What is Shannon looking at?”

Focus:

- (77) *hedi laxa ham'iksi?la?as ale?as Henry qə?e Pat*  
       hed=i       la=x<sub>a</sub>       ha'mi'ksi'la-'as ale-'as       Henry ka'=i       Pat  
       be=3DIST PREP=ACC cook-LOC       search-LOC Henry PREP=3DIST Pat  
       “It was in the kitchen that Henry was looking for Pat.”

Although none of these clauses contain *la*, this is not always the case. If the entire DP containing the relative clause in which a location has been promoted is itself a locative adjunct, it will be *la*-marked, as in (78); *-as?* shows that *ɬəmə?is* is promoted to grammatical subject as the location of the embedded verb *qasi* “walk,” but the occurrence of *laxa* shows that it is also an adjunct as the location of the matrix verb *duɬw?ax* “see.”

- (78) duχw?aχəsu?ida gʷəyump laχa ḡəma?is qasi?asəs gicingənanəm  
 duxw'atɬ-su'=i=da gʷayump la=xə tɬama'is...  
 see-NOM=3DIST=DET whale PREP=ACC beach...  
 ...qasi-'as=qasi-as gi-gin-gananam  
 ...walk-LOC=O.POSS RED-RED-child

“A whale was seen at the beach where the kids walked.”

Conversely, if the location appears as grammatical subject of the matrix clause, the preposition does not appear. This is the case in (79), where “China” is the location of the matrix verb *kəlx<sup>w</sup>*.

- (79) hed-i China kəlxʷ?asəs Crystalaχ ɺatə?makʷ  
 hed=i China kalxʷ-'as=s Crysta=a=x ɺata'makʷ<sup>w</sup>  
 FOC=3DIST China buy-LOC=O.POSS Crysta=3INVIS=ACC picture  
 “It was in China that Crystal bought the picture.”

This shows that the presence or absence of *la* is not itself sufficient to prove whether or not a location has been promoted.

Aside from its uniqueness in selecting for a DP introduced by a preposition as well as case-marking, the behaviours of -?as is typical of a voice morpheme, fulfilling all four the diagnostic behaviours.

A. *Oblique Subject*: Both of the above examples show that thematic subjects in clauses marked by -?as are oblique; observe *gicingənanəm* in (78) and *Crysta* in (79). These sentences would be equally grammatical if their thematic subjects were omitted, as in (80) and (81) below.

- (80) duχw?aχisu?ida gʷəyump laχa ḡəma?is qasi?as  
 duxw'atɬi-su'=i=da gʷayump la=xə tɬama'is qasi-'as  
 see-NOM=3DIST=DET whale PREP=ACC beach walk-LOC  
 “A whale was seen at the beach that was walked to.”

- (81) hed-i China kəlxʷ?asəχ ɺatə?makʷ<sup>w</sup>  
 hed=i China kalxʷ-'as=s=x ɺata'makʷ<sup>w</sup>  
 FOC=3DIST China buy-LOC=O.POSS=ACC picture  
 “It was in China that the picture was bought.”

In this, the behaviour of *-?as* is precisely what is expected of a voice morpheme.

B. *Indefinite Subject*: Also as expected, an absent thematic subject can be interpreted as indefinite.

- (82) gəlułʔidʔasida čədaq  
galuł-’id-’as=i=da                      čədaq  
steal-BEC-LOC=3DIST=DET      woman  
“Someone stole from the woman.”

This sentence shows the importance of distinguishing *-?as* from *-su?*; if *-?as* were replaced by *-su?* here, the sentence would mean that the woman was kidnapped (a theme), not the victim of a robbery (a source). The meaning of the verb also contributes to determining the theta role, since *gəluł* cannot have a goal (unlike, for example, *čo* “give”).

C. *Indefinite Object*: When a predicate is marked with both *-?as* and *-nuk<sup>w</sup>*, it will be interpreted with an indefinite non-subject.

- (83) gəlułʔidʔasnuk<sup>w</sup>ida gənanəm  
galuł-’id-’as-nuk<sup>w</sup>=i=da                      gənanəm  
steal-BEC-LOC-have=3DIST=DET      boy  
“The boy stole from someone.” / “The boy stole somewhere.”

Although this sentence is ambiguous, both possible meanings are locative.

D. *Substitution*: Given instances such as (82), in which the distinction between *-?as* and *-su?* is central to the interpretation of the sentence, we might expect it to be impossible to ever interchange the two, and in some cases this is true; compare (84) with (83) above.

- (84) gəlułʔidsuʔnuk<sup>w</sup>ida gənanəm  
galuł-’id-su’-nuk<sup>w</sup>=i=da                      gənanəm  
steal-BEC-NOM-have=3DIST=DET      boy  
Intended: “The boy stole from someone.” / “The boy stole somewhere.”  
Actual: “The boy stole something.”

However, in cases where a location, goal, or source interpretation is the clearest one possible, it can occur.

- (85) ix?aki Lucy<sub>xa</sub> babag<sup>w</sup><sub>əm</sub> nəp̪isu?<sub>sa</sub> ball  
 ix'ak=i Lucy=xa babag<sup>w</sup>am nəp̪-'id-su'=sa ball  
 like=3DIST Lucy=ACC boy throw-BEC-NOM=O.POSS ball  
 “Lucy likes the boy she threw the ball to.”

Here, because the idea of *babag<sup>w</sup><sub>əm</sub>* being the theme of *nəpid* (i.e. “the boy that she threw”) is nonsensical, not to mention because of the presence of the overt theme *ball*, a goal interpretation of *-su?* is all that remains.

As these examples show, substituting *-su?* for *-?as* is not as straightforward as substituting it for other morphemes, but it is possible. In combination with the other three tests, this makes it sufficiently clear that *-?as* is in fact a voice morpheme.

### 3.3 Obtained: *-ənəm*

Like *-ayu*, *-əm* and *-?as*, Boas (1911) calls *-ənəm* a nominal suffix (p 508). It refers to obtained items, and is used when they are being described by the means through which they were obtained. It therefore can only affix to words with which it is lexically compatible; that is, words referring to methods of obtaining (such as hunting, stealing, buying, etc.). Although it is thus rather semantically restricted, its syntax shows the same behaviour as the other voice morphemes. It is possible in the three A'-extraction constructions.

Relative Clause:

- (86) ix?aki Shannon<sub>xa</sub> kate?<sub>mak<sup>w</sup></sub><sub>as</sub> Crystal kəlx<sup>w</sup><sub>ənəm</sub>  
 ix'ak=i Shannon=xa kata'mak<sup>w</sup>=a=s Crystal kəlx<sup>w</sup>-anam  
 like=3DIST Shannon=ACC picture=3INVIS=O.POSS Crystal buy-OBT  
 “Shannon likes the picture that Crystal bought.”

WH-Question:

- (87) mǎcaṭi hənχənəmχa gəla  
'maṭsał=i hantl-anam=xa gala  
what=3DIST shoot-OBT=ACC bear  
“What was the bear shot with?”

Focus:

- (88) hedı kəlxʷənəm laχu?s ńəmukʷəs  
hed=i kalxʷ-anam la=x=u's ńəmukʷ=s  
be=3DIST buy-OBT PREP=ACC=2POSS friend=O.POSS  
“It was from your friend that it was bought.”

It also shows the four diagnostics of voice morphemes.

A. *Oblique Subject*: Like the other suffixes which have been discussed so far, *-ənəm* causes a verb’s thematic subject to be marked as oblique.

- (89) ḡoi Lucyxa kukwela kəlxʷənəməs Patty laχa ḡacadaGəm  
tso=i Lucy kukʷala kalxʷ-anam=s Patty la=χa ḡsaṭsadagam  
give=3DIST Lucy bracelet buy-OBT=O.POSS Patty PREP=ACC girl  
“Lucy gave the bracelet that Patty bought to the girl.”

Here, the presence of the oblique thematic subject is necessary in order to clarify that it is not co-referential with the matrix subject, but this is not always the case. Sentences in which the oblique thematic subject is completely optional are common.

- (90) gəluṭənəmda dala(sa gənanəm)  
galuł-anam=da dala(=sa gananam)  
steal-OBT=DET money(=O.POSS boy)  
“The money was stolen (by the boy).”

Since the action of obtaining always requires agency, the thematic subject of a verb which takes *-ənəm* will always be an agent.

B. *Indefinite Subject*: Omitted thematic subjects are interpreted as indefinite in sentences with *-ənəm*.

- (91) hanχənəmoxda gəla  
 hantɬ-anam=ox=da      gala  
 shoot-OBT=3MED=DET bear  
 “Someone shot the bear.” / “This bear is what was shot.”

The exact nature of the distinction between the two possible readings here is unclear, but seems to be largely pragmatic; the former reading would be assumed out of the blue, the latter in answer to a question such as “What was hunted?” or “Did anyone catch anything?” Indeed, the distinction is a matter of translation to English rather than an ambiguity of meaning in the original Kwakwala.

C. *Indefinite Object*: Constructions with *-nuk<sup>w</sup>* are interpreted with an indefinite object reading.

- (92) kəlx<sup>w</sup>ənəmnuk<sup>w</sup>ən laχu?̥s nəmuk<sup>w</sup>əs  
 kalx<sup>w</sup>-anam-nuk<sup>w</sup>=an   la=x=u’s      ’namuk<sup>w</sup>=s  
 buy-OBT-have=1      PREP=ACC=2POSS   friend=O.POSS  
 “I bought something from your friend.”

This sentence does not entail that I still own the “something” which I bought, demonstrating the abstractness of the possession indicated by *-nuk<sup>w</sup>*.

D. *Substitution*: Since both *-ənəm* and *-su?* select for themes, they are among the most easily interchangeable of all the voice suffixes. Compare (93) below to the analogous (90) above.

- (93) gəluɬisu?ida dalasa gənanəm  
 galuɬi-su’=i=da      dala=sa      gananam  
 steal-NOM=3DIST=DET   money=O.POSS   boy  
 “The money was stolen by the boy.”

There is, however, an aspectual distinction between the two affixes. The use of *-ənəm* is restricted to contexts in which the action of obtaining is complete; otherwise, *-su?* must occur. Note that *-su?* is also grammatical when the action is complete, showing that it conveys no aspectual information.

- (94) a) hanaχasu?nuk<sup>w</sup>i  
hanatɬ-a-su-nuk<sup>w</sup>=i  
hunt-FV-NOM-have=3DIST  
“They are hunting something.”  
“They hunted something.”
- b) hanaχənəmnu?nuk<sup>w</sup>i  
hanatɬ-anam-nuk<sup>w</sup>=i  
hunt-OBT-have=3DIST  
\*“They are hunting something.”  
“They hunted something.”

This is not the only voice morpheme with an aspectual entailment; the same pattern is also seen with -ək<sup>w</sup>.

### 5.3.1 Homophonous Morphemes

The obtaining suffix *-ənəm* exhibits full and partial homophony with other morphemes, which I discuss here in the interest of giving a more complete picture of the position of *-ənəm* within Kwa̱kwala grammar.

#### 5.3.1.1 Full Homophony

Boas (1911) also describes a homophonous nominal suffix *-ənəm* which “designat[es] animate beings” (p 511). It occurs on words such as *bəg<sup>w</sup>anəm* “man” and *gənanəm* “boy” or “child.” Although there may be a historical connection between these forms, there does not seem to be any semantic connection between them today, making it unlikely that they are underlyingly the same morpheme.

One possible counterargument to this claim can be seen in words referring to marriage. The verb which means “to marry a man” is *ṭawadəx?id*, and “to marry a woman” is *Gagadəx?id*; the word for “husband” is *ṭawənəm*, and “wife,” *Gənəm*. These

nouns may be an instance of the morpheme referring to a living thing, or they may designate a husband or wife as being something obtained by marriage.

### 5.3.1.2 Partial Homophony

The latter half of *-ənəm* is homophonous with the voice suffix *-əm*, which has already been discussed. Given the semantic function of *-ənəm*, it is possible that it is morphologically complex, with a meaning such as “affected by an instrument.” Although I am not aware of a suffix taking the form *-ən* and serving this purpose, I do not rule out the possibility of a historical development along these lines.

## 5.4 Result: *-ək<sup>w</sup>*

Because it describes the result of a change, *-ək<sup>w</sup>* is only compatible with those verbs which describe a change of state. Additionally, like *-ənəm*, it can only refer to results of events that are complete; Boas describes it as a “passive past participle” (1911, p 507), and as meaning “beforehand” (1947, p 230). Unlike the other suffixes I have discussed in this work, Boas never referred to *-ək<sup>w</sup>* as a nominalizer; nevertheless, this suffix does occur in A'-extraction clauses, suggesting that it is also a voice morpheme.

Relative Clause:

- (95) iksuk<sup>w</sup>eda gəlsa?ək<sup>w</sup> katə?mak<sup>w</sup>  
iksuk<sup>w</sup>=i=da      gals-a-ak<sup>w</sup>      kata'mak<sup>w</sup>  
pretty=3DIST=DET paint-FV-RES picture  
“The painted picture is beautiful.”

WH-Question:

- (96) m̄asida subək<sup>w</sup>sa bəg<sup>w</sup>anəm  
'mas=i=da sup-ak<sup>w</sup>=sa bag<sup>w</sup>anam  
what=3DIST=DET chop-RES=O.POSS man  
“What did the man chop?”

Focus:

- (97) hedı Dawn λiχs?ə?ək<sup>w</sup>es Ruby  
hed=i Dawn d̄lixs'a'-ak<sup>w</sup>=s Ruby  
be=3DIST Dawn educate-RES=O.POSS Ruby  
“It’s Dawn that is educated by Ruby.”

Furthermore, its behaviour shows all the diagnostics of voice morphology.

A. *Oblique Agent*: While sentences formed using the other voice morphemes discussed here frequently contain thematic subjects that are realized as oblique =s(a) phrases, thematic subjects are more frequently omitted entirely in sentences using -ək<sup>w</sup>. Nevertheless, they can be overt.

- (98) yum' ləq<sup>w</sup>a xəldək<sup>w</sup>sa bəg<sup>w</sup>anəm  
yu='m 'lak<sup>w</sup>a xalt-ak<sup>w</sup>=sa bag<sup>w</sup>anam  
DEF=FOC wood saw-RES=O.POSS man  
“This is the wood sawed by the man.”

As this example shows, when thematic subjects do occur, they are oblique-marked.

B. *Indefinite Subject*: Because -ək<sup>w</sup> sentences are usually easy to interpret as impersonal, indefinite subject readings of such sentences can be unclear. However, in some contexts, such interpretations are possible.

- (99) λiχs?ə?ək<sup>w</sup>i Dawn  
d̄lixs'a'-ak<sup>w</sup>=i Dawn  
educate-RES=3DIST Dawn  
“Dawn is educated.” / “Someone educated Dawn.”

As the translation shows, in both this example and (94),  $-\partial k^w$ -marked verbs are often represented in English with past participles. This reflects the aspectually complete nature of  $-\partial k^w$ .

C. *Indefinite Object*: In keeping with the expectations of a voice suffix,  $-\partial k^w$  combines with  $-nuk^w$  to yield an indefinite object reading.

- (100) sub $\partial k^w$ nuk $^w$ oxda b $\partial g^w$ anəm  
 sup-ak $^w$ -nuk $^w$ =ox=da      bag $^w$ anam  
 chop-RES-have=3MED=DET      man  
 “The man chopped something.”  
 \*“The man is chopping something.”

Note once again that this reading cannot refer to an action in the process of taking place, only one that has finished.

D. *Substitution*: Both  $-su?$  and  $-\partial k^w$  are readily volunteered on the same verbs in very similar contexts, and are also readily accepted as alternatives to each other in many contexts; in fact, my primary consultant described the difference between these forms as being a matter of pronunciation. The only firm exception to this generalization is that  $-\partial k^w$  cannot be used to describe actions that are ongoing or incomplete.

- (101) yumən xəldisu?oxda ləq $^w$ a  
 yu=’m=an    xalt-su’=ox=da      ’lak $^w$ a  
 DEF=FOC=1    saw-NOM=3MED=DET      wood  
 “This is the wood I sawed.”

Yet, as (101) shows, the choice between  $-\partial k^w$  and  $-su?$  is not a basic distinction according to aspect or tense;  $-su?$  is indifferent to aspect, and therefore can also refer to complete, past-oriented events.

Distinctions between  $-\partial k^w$  and  $-su?$  are also conditioned by the fact that some forms containing  $-\partial k^w$  are lexicalized.

- (102) a) həm?x?idən ḡačiχən katisu?  
ham'x'id=an 'waťsi=χ=an kata-su'  
eat=1 dog=ACC=1 write-NOM  
“My dog ate what I wrote.”

- b) həm?x?idən ḡačiχən kадək<sup>w</sup>  
ham'x'id=an 'waťsi=χ=an kata-ak<sup>w</sup>  
eat=1 dog=ACC=1 write-RES  
“My dog ate my letter.”

These two sentences are not interchangeable; *kadək<sup>w</sup>* can only refer to a letter, not any other product of writing. This is not the only example of a lexicalization formed with *-ək<sup>w</sup>*; for example, the word *Gaλək<sup>w</sup>* “doily” is derived from *Gaλa*, meaning “crochet.”

## 5.5 Senses: -*t*

Levine (1980) describes the suffix *-t* as being selected by “a class of stems expressing mental functions or activities of the senses” (p 242). Boas (1911) also called it a “passive of words denoting sense experiences and emotions” (p 503). However, I have only ever found it on two verbs, both of them sensory: *duχwał* “see” (the same verb which Levine cites as an example) and *wəł* “hear.” Moreover, my speakers never produce or accept it on psychological predicates such as *kətəla* “fear,” *?əχ?eχsd* “want,” or *ničiqəla* “think/believe.” Regardless of this, its occurrence is clearly selected for by semantic properties of the verb; it is analogous in this way to *-ənəm* and *-ək<sup>w</sup>*. Despite its limited distribution, it occurs in all three types of A'-extraction clauses.

Relative Clause:

- (103) kəlx<sup>w</sup>i Joneχa katə?mak<sup>w</sup> duχ<sup>w</sup>?ačəłəs Lucy  
kalx<sup>w</sup>=i Jon=e?=xa kata'mak<sup>w</sup> dux<sup>w</sup>,atł-l=s Lucy  
buy=3DIST Jon=3INVIS=ACC picture see-SNS=O.POSS Lucy  
“Jon bought the picture that Lucy saw.”

WH-Question:

- (104) mǎcałida duχ<sup>w</sup>?aλət̥esa cədaq  
'mačsał=i=da duχ<sup>w</sup>'atł-ł=sa t'sadak  
what=3DIST=DET see-SNS=O.POSS woman  
“What did the woman see?”

Focus:

- (105) higa?əmida plawas duχ<sup>w</sup>?aλət̥es Lucy  
higa'='m=i=da plawas duχw'atł-ł=s Lucy  
only==FOC=3DIST=DET flower see-SNS=O.POSS Lucy  
“Lucy only saw the flower.”

Additionally, its behaviour when it does occur is the same as the other voice morphemes.

A. *Oblique Subject*: As predicted, *-t̥* takes an optional and oblique-marked thematic subject; given the restriction of the verbs on which *-t̥* can occur, this DP will always have an experiencer theta role.

- (106) ḡakałida čačadaGəm qas duχw?aλał(əsis niñəmuk<sup>w</sup>)  
ṅakał=i=da t'sačsadagam kas...  
expect=3DIST=DET girl COMP...  
...duχw?atła-ł(=s=is 'ni-'namuk<sup>w</sup>)  
...see-SNS(=O.POSS=C.POSS RED-friend)  
“The girl expected to be seen by her friends.”

B. *Indefinite Subject*: When the oblique experiencer is absent from a sentence marked with *-t̥*, an indefinite subject interpretation results.

- (107) duχw?aλət̥əns  
duχw'atł-ł=ans  
see-SNS=1INCL  
“Someone saw us.”

C. *Indefinite Object*: By combining with *-nuk<sup>w</sup>*, *-t̥* can also give an indefinite object interpretation.

- (108) wəλəθ̣nuk<sup>w</sup>ən  
wədł-ł-nuk<sup>w</sup>-an  
 hear-SNS-have-1  
 “I heard something.”

D. *Substitution*: Finally, substituting *-su?* does not change the argument structure of a sentence containing *-t*.

- (109) wəλasu?nuk<sup>w</sup>ən  
wədł-a-su’-nuk<sup>w</sup>-an  
 hear-FV-NOM-have-1  
 “I heard something.”

Thus, other than its highly restricted usage, the behaviour of *-t* is perfectly typical of a voice suffix.

### 5.6 Motive: *-git*

As mentioned above, previous research (Anderson 1984, Levine 1980) has claimed that only grammatical subjects can A'-extract. For many sentences, this generalization is descriptively accurate; since most sentences contain only two types of DPs, grammatical subjects and case-marked DPs, a generalization that selects one type as uniquely privileged is the same in effect as one which restricts the behaviour of the other types. However, some sentences contain a third type of constituent, that is, non-case-marked non-subjects, and these pattern with grammatical subjects rather than with case-marked DPs in that they can directly extract. This shows that the generalization that grammatical subjects alone can A'-extract does not accurately capture the facts of the language; rather, the generalization is that case-marked DPs are unable to extract.

The clearest examples of this pattern that I have seen are DPs introduced by the preposition *qə?*; these are DPs which do not directly cause an action, but inspire or are

affected by it. Davis & Sardinha (2011) gloss these DPs as benefactive, but this terms is too specific; although one of my speakers does limit it to this usage, my primary consultant readily volunteers and accepts forms using *qə?* to introduce something which serves as motivation for an action without being a benefactive.

- (110) ?kilaxgi<sup>ti</sup> Tom<sup>χ</sup> Lily qə?e Harry  
kilax-gi<sup>t</sup>=i      Tom=χ      Lily ka'=i      Harry  
kill-MTV=3DIST   Tom=ACC   Lily PREP=3DIST   Harry  
“Tom killed Lily because of Harry.”  
*Context: Lily is Harry’s mother, and Tom killed her to get to him.*

To encompass this broader meaning, I use the term “motive.” I do not use the term “cause,” due to the existence of the unrelated causative morpheme *-mas*.

In the (b) sentences below, motives are directly extracted. This is reflected syntactically in the fact that the thematic subject is visibility marked, not oblique-marked, as thematic subjects are when voice-marking occurs. This shows that it is in the grammatical subject position, and therefore the motive cannot have been promoted.

Relative Clause:

- (111) a) ka<sup>k</sup>adəx<sup>w</sup>sili Patty qə?eda gicingənanəm  
ka<sup>k</sup>adəx<sup>w</sup>sil=i Patty ka'=i=da      gi-gin-gananam  
read=3DIST   Patty PREP=3DIST=DET   RED-RED-child  
“Patty was reading to children.”
- b) ɿo<sup>χ</sup>i Lucy<sup>a</sup>x<sup>a</sup> gicingənanəm ka<sup>k</sup>dəx<sup>w</sup>siləgi<sup>ti</sup> Patty  
ɿot<sup>t</sup>=i      Lucy=a=x<sup>a</sup>      gi-gin-gananam ka<sup>k</sup>adəx<sup>w</sup>sil-gi<sup>t</sup>=i   Patty  
know=3DIST   Lucy=3INVIS=ACC   RED-RED-child   read-MTV=3DIST   Patty  
“Lucy knows the children Patty was reading to.”

WH-question:

- (112) a) kəlx<sup>w</sup>ida cədaqe<sup>?χ</sup>a k<sup>w</sup>əmd<sup>z</sup>ə?yu qə?es nəmuk<sup>w</sup>  
kalx<sup>w</sup>=i=da      t<sup>ʃ</sup>adak=e'=x<sup>a</sup>      k<sup>w</sup>əmd<sup>z</sup>a'yu ka'=is      'namuk<sup>w</sup>  
buy=3DIST=DET   woman=3INVIS=ACC   dress      PREP=C.POSS   friend  
“The woman bought a dress for her friend.”

- b) ?əng<sup>w</sup>i kəlx<sup>w</sup>əgiłida cədaqe?χa k<sup>w</sup>əmd<sup>z</sup>ə?yu  
   'ang<sup>w</sup>=i      kalx<sup>w</sup>-gił=i=da      t'sadak=e'=xa      k<sup>w</sup>əmd<sup>z</sup>a'yu  
   who=3DIST buy-MTV=3DIST=DET woman-3INVIS=ACC dress  
   “Who did the woman buy a dress for?”

Focus:

- (113) a) dənχəli Pat qə?e Ruby  
       danx-al=i      Pat ka'=i      Ruby  
       sing-ONG=3DIST Pat PREP=3DIST Ruby  
       “Pat sang to Ruby.”
- b) hedı Ruby dənχəlagihi Pat  
       hed=i      Ruby danx-al-a-gił=i      Pat  
       FOC=3DIST Ruby sing-ONG-FV-MTV=3DIST Pat  
       “It was Ruby that Pat sang to.”

Note that the (b) sentences above all contain the motive-marking suffix *-gił*. Boas (1911) classifies *-gił* as a nominal suffix, and says that it denotes something that is a reason (p 508). Although it is obligatorily present in sentences involving A'-extraction of a motive, *-gił* is not a voice morpheme. In fact, there are minimal pairs in which sentences containing *-gił* alone that can be contrasted with sentences containing *-gił* and the voice morpheme *-su?*.

- (114) a) ɿoχi Lucyaχa gicingənanəm kākdəx<sup>w</sup>siləgiłi Patty  
       kotł=i      Lucy=a=xə      gi-gin-gananam kākadax<sup>w</sup>sil-gił=i Patty  
       know=3DIST Lucy=3INVIS=ACC RED-RED-child read-MTV=3DIST Patty  
       “Lucy knows the children Patty was reading to.”
- b) ɿoχi Lucyaχa gicingənanəm kākadəxwsiləgiłsu?s Patty  
       kotł=i      Lucy=a=xə      gi-gin-gananam...  
       know=3DIST Lucy=3INVIS=ACC RED-RED-child...  
       ...kākadax<sup>w</sup>sil-gił-su'=s      Patty  
       ...read-MTV-NOM=O.POSS      Patty  
       “Lucy knows the children read to by Patty.”

This pair shows that *-gił* alone does not cause voice alternations, since the characteristic traits of a voice-marked sentence (e.g. an optional, oblique-marked thematic subject)

occur only when *-su?* does, not when *-gič* occurs alone. It also suggests that *-su?* may be able to promote even DPs which are not case-marked, and that although motives are not required to promote in order to extract, they may optionally be promoted anyway.

Speaker judgements are in general less certain for sentences containing *-gič* than any other suffix I have examined, and these inconsistencies make it difficult to draw many strong conclusions about the syntax of *-gič*. Yet this fact in and of itself is evidence that *-gič* serves a different, less common function than the voice morphemes, since all seven of the voice morphemes differ from *-gič* in that they yield quite consistent grammaticality judgements, both within a single speaker's knowledge and across different speakers.

Not all speakers readily accept sentences containing *-gič* which do not involve A'-extraction (such as (110) above), but the fact that they are not clearly rejected suggests that the situation is not as simple as for *-su?* and the voice morphemes, for which such grammaticality judgments are never uncertain. I hypothesize that the reason sentences such as this are dispreferred to unmarked forms is that the presence of an overt motive constituent introduced by *qə?* makes the use of *-gič* redundant, as it does not contribute to either the semantics or the syntax of the sentence.

In addition to these differences, *-gič* also does not exhibit any of the diagnostic traits of voice morphemes.

A. *Oblique Subject*: Unlike those in voice-marked sentences, thematic subject in sentences containing *-gič* are not always oblique. Instead, as (40-42) show, the thematic subject takes the same visibility morphology as a grammatical subject, suggesting that it is in fact occupying this position.

Although this pattern is fairly consistent in declaratives, it is less certain in questions.

- (115) a) ?əŋg<sup>w</sup>i d<sup>z</sup>əl<sup>w</sup>agiłəs Lucy  
          'ang<sup>w</sup>=i      d<sup>z</sup>al<sup>w</sup>-a-gił=s      Lucy  
          who=3DIST run-FV-MTV=O.POSS Lucy  
          “Who does Lucy run for?”
- b) ?əŋg<sup>w</sup>i d<sup>z</sup>əlwəgiłox Lucy  
          'angw=i      d<sup>z</sup>al<sup>w</sup>-gił=ox      Lucy  
          who=3DIST run-MTV=3MED Lucy  
          “Who does Lucy run for?”

Speakers do, at different times, choose either forms such as (a) or forms such as (b) to be preferable. Although this is odd, it nevertheless stands in contrast with the other extraction morphemes, for which forms such as (b) are never deemed grammatical. It also provides further evidence that promotion may still be possible for motives.

B. *Indefinite Subject*: Indefinite subject readings are not possible with *-gił* alone. The form which does give such a reading contains *-su?*.

- (116) a) isałagiłi Jane  
          isała-gił=i      Jane  
          wait-MTV=3DIST Jane  
          Intended: “Someone is waiting for Jane.”  
          Actual: “Jane is waiting for someone/something.”
- b) isałasu?i Jane  
          isała-su'=i      Jane  
          wait-NOM=3DIST Jane  
          “Someone is waiting for Jane.”

It is possible to get something like an indefinite agent reading when *-gił* is accompanied by the preposition *qə?*, but in this case, the visibility morphology shows that the motive is not the grammatical subject. There are visibility clitics for both entities: one on the verb, for the experiencer, and one on the preposition, for the motive.

- (117) isałagiłi qə?e Jane  
 isała-gił=i            ka'=i            Jane  
 wait-MTV=3DIST PREP=3DIST Jane  
 “Someone is waiting for Jane.”

This suggests that (117) should in fact be interpreted as containing a pronominal subject, and indeed it is preferred in contexts where the experiencer is contextually salient rather than unknown (i.e. “(S)he is waiting for Jane”). Such pronominal interpretations are not possible for voice-marked clauses without thematic subjects.

*C. Indefinite Object:* A very similar pattern occurs for indefinite object readings. Such readings are sometimes possible (speaker judgements vary), but always dispreferred to forms containing *-su?*

- (118) a)?isałagiłnuk<sup>w</sup>i Jane  
 isała-gił-nuk<sup>w</sup>=i            Jane  
 wait-MTV-have=3DIST Jane  
 Intended: “Jane is waiting for someone.”
- b) isałasu?nuk<sup>w</sup>i Jane  
 isała-su'-nuk<sup>w</sup>=i            Jane  
 wait-NOM-have=3DIST Jane  
 “Jane is waiting for someone.”

A possible explanation for this difference is that the semantics of the various components of (118a) are appropriate for an indefinite object interpretation, since the presence of *-gił* indicates that the predicate does have a motive, and *-nuk<sup>w</sup>* suggests the presence of a nominal in the sentence to take this role, but their syntax is not, since there actually is no nominal to which *-nuk<sup>w</sup>* can refer.

Furthermore, note that (117a), which contains *-gił* without *-nuk<sup>w</sup>*, does give an indefinite object interpretation. This further shows that *-gił* does not combine with *-nuk<sup>w</sup>* in the same way that the voice morphemes do.

D. *Substitution*: As the examples above have shown (particularly (116) and (118)), alternations between *-gił* and *-su?* do change the argument structure of a sentence. This can also be seen in sentences where the two co-occur, as it is only those sentences which contain both morphemes which exhibit the changes associated with voice morphemes (i.e. something that is not the thematic subject behaving as the grammatical subject).

- (119) a) kilaxgiłi Toməx Lily qə?e Harry  
 kilax-gił=i Tom=x Lily ka'=i Harry  
 kill-MTV=3DIST Tom=ACC Lily PREP=3DIST Harry  
 “Tom killed Lily for Harry.”
- b) kilaxgiłsu'i Lily qə?e Harry  
 kilax-gił-su'=i Lily ka'=i Harry  
 kill-MTV-NOM=3DIST Lily PREP=3DIST Harry  
 “Lily was killed for Harry.”

Furthermore, speakers volunteer sentences in which *-gił* co-occurs with *-su?*, but never volunteer any combinations of more than one voice morpheme.

- (120) c̥oi Dianneχis həm̥egiłasu? qə?e Chris lax Laura  
 t̥so=i Dianne=x=is ha'me-gił-a-su'...  
 give=3DIST Dianne=ACC=O.POSS cook-MTV-FV-NOM...  
 ...ka'=i Chris la=x Laura  
 ...PREP=3DIST Chris PREP=ACC Laura  
 “Dianne gave what she cooked for Chris to Laura.”

This is further evidence that the two morphemes are not redundant in their functions, since speakers do not simply accept their combination, but sometimes feel it is the best way to express a given concept.

Finally, my speaker who least frequently volunteered *-gił* in any form also did not substitute *-su?* in its place, even when she was unable to determine a better way to produce a requested sentence.

- (121) kelx<sup>w</sup>anuk<sup>w</sup>ən qəʔe...  
 kelx<sup>w</sup>-a-nukw=an ka'=i...  
 buy-FV-have=1 PREP=3DIST...  
 Intended: "I bought a present for someone."  
*Speaker Comment: "You'd just have to trail off."*

The fact that the speaker resorts to an incomplete utterance rather than choosing a substitution of *-su?* suggests that the construction being attempted is not the same as one in which *-su?* could occur.

### 3.6.1 Possible Analyses for *-git*

An analysis like Anderson (1984), which assumes that extraction restrictions are dictated by the privilege of the subject position, predicts that motives should pattern with case-marked DPs with respect to extraction. Conversely, because motives are not case-marked DPs but agreement-marked ones, my analysis does not predict that they should be unable to extract, and therefore does not predict that an affix which selects for them would serve to enable extraction. A full examination of the possible functions of *-git* is beyond the scope of this thesis, but there are several possibilities.

One possible explanation is that *-git* modifies the semantics of the verb such that it expresses the existence of some entity which motivates the action. This is similar to the function often served by applicative morphology, and so another possibility is that *-git* is in fact an applicative, and does not simply add semantic content to the verb but changes the argument structure of a clause by adding another argument to it. It is also possible that *-git* is a nominalizing morpheme of some kind as well, although one that does not form a natural class with the voice affixes.

### 3.6.2 Extraction of Other Non-Case-Marked Constituents

Motives are not the only constituents which can directly extract. A similar pattern is seen for temporal adjuncts introduced by the complementizer *le?*

- (122) *duxʷ?aχi Jonχa ḡači le?e χumałəla*  
        $\underline{du}$ xʷ'atł=i   Jon=a=x<sub>a</sub>           'wačsi   le'=i           xumał-al-a  
       see=3DIST   Jon=3INVIS=ACC   dog      COMP=3DIST   fight-ONG-FV  
       “Jon saw the dog while it was fighting.”

In these cases, however, there is no additional morpheme which refers to the temporal adjunct in the same way that *-giʃ* refers to a motive. Note that the verb *duxʷ?aχ* “see” in (123a) contains no additional morphology that is absent in (122). Furthermore, the thematic subject “Jon” in (123a) is not oblique, showing that it is still the grammatical subject; whereas in (123b), containing voice morphology, the thematic subject is omitted and the theme *ḡači* “dog” is the only DP in the clause, meaning that it must be the grammatical subject.

- (123) a) *hedi le?e χumałəla duxʷ?aχi Jonaχa ḡači*  
       hed=i       le'=i           xumał-al-a    $\underline{du}$ xʷ'atł=i   Jon=a=x<sub>a</sub>           'wačsi  
       be=3DIST   COMP=3DIST   fight-FV      see=3DIST   Jon=3INVIS=ACC   dog  
       “It was while it was fighting that Jon saw the dog.”
- b) *hedi le?e χumałəla duxʷ?aχaɬida ḡači*  
       hed=i       le'=i           xumał-al-a    $\underline{du}$ xʷ',atł-i=da       'wačsi  
       be=3DIST   COMP=3DIST   fight-FV      see-SNS=3DIST=DET   dog  
       “It was while it was fighting that the dog was seen.”

This minimal pair also shows that the presence or absence of voice morphology on the predicate (i.e. the sensory suffix *-f*) does not affect whether or not a temporal adjunct can be clefted. Similarly, no voice morpheme occurs in WH-questions asking about temporal adjuncts; the form of the predicate *duxʷ?aχ* in (124) is identical to the form seen in (122) and (123a).

- (124) ḡilakʷi duχʷaχi Jonaχa ḡači  
       'wilakw=i   duχw'atɬ=i   Jon=a=x<sub>a</sub>              'wat'si  
       when=3DIST see=3DIST Jon=3INVIS=ACC dog  
       “When did Jon see the dog?”

Temporal adjuncts with *le?* thus show the same pattern as grammatical subjects, in that they can be directly extracted without the addition of any morphology.

Another preposition which selects for a complement that is not case-marked is  $\lambda u$ . This preposition is often translated as “with” or “and,” and is used to indicate a second participant in the action who takes the same theta role as another participant. Complements of  $\lambda u$  are never introduced by case-markers.

- (125) a) ?əχili Katie λui Pateχa gʷigʷiłgʷela  
       'ax-il=i                   Katie   dłu=i              Pat=e'=x<sub>a</sub>              gwi-gwiłgwela  
       AUX-make=3DIST Katie   PREP=3DIST Pat=3INVIS=ACC RED-clothing  
       “Katie and Pat make clothes.”
- b) bagʷənsu?i Rubyes Jon λu(\*s) Pat  
       bagwən-su=i           Ruby=e?=s              Jon dłu(\*=s)              Pat  
       visit-NOM=3DIST Ruby=3INVIS=O.POSS Jon PREP(\*=O.POSS) Pat  
       “Ruby was visited by Jon and Pat.”

Because there are always two different event participants to which  $\lambda u$  can refer, many A'-extraction constructions can be created by simply changing which participant is introduced by  $\lambda u$  and extracting the other; in (126), note that the complement of  $\lambda u$  is “Katie” rather than “Pat.”

- (126) ?əngwi ?əχilaχa gʷigʷiłgʷela λu Katie  
       'angw=i       'ax-il-a=x<sub>a</sub>              gʷi-gʷiłgʷela   dłu      Katie  
       who=3DIST AUX-make-FV=ACC RED-clothing   PREP     Katie  
       “Who makes clothes with Katie?”

Alternatively, the complement of  $\lambda u$  can be extracted through the addition of the word *wəʔokʷ*. At this point, it is unclear what the exact function *wəʔokʷ* is, but its distribution and morphology suggest that it is a nominal.

- (127) ?əng<sup>w</sup>i wə?ok<sup>w</sup>is Katie ?əχilaxa g<sup>w</sup>ig<sup>w</sup>iłg<sup>w</sup>ela  
          'angw=i      wa'ok<sup>w</sup>=is Katie    'ax-il-a=x<sub>a</sub>                g<sup>w</sup>i-g<sup>w</sup>ilg<sup>w</sup>ela  
          who=3DIST   ?=C.POSS    Katie    AUX-make-FV=ACC    RED-clothing  
          “Who does Katie make clothes with?”

The presence of the possessive marker on *wə?ok<sup>w</sup>* suggests that it denotes to some real world entity which is syntactically possessed by the event participant with which it has the same theta role; it may simply be a noun meaning “partner” or “companion.”

At this time, I have very little data containing *wə?ok<sup>w</sup>*, since speakers generally prefer to produce structures like (126), using  $\lambda u$ , rather than those like (127). However, its existence in lieu of the existence of a voice morpheme selecting for complements of  $\lambda u$  shows that complements of  $\lambda u$ , like other non-case-marked non-subjects, do not use voice alternations in their extraction. In fact, it appears that complements of  $\lambda u$  are not able to extract at all. Why this should be is unclear, but I hypothesize that it is because they are not adjuncts of the clause (as motives and temporal adjuncts are), but form a constituent with another DP (whether coordinated or subordinated).

## 4. REASONS FOR A NOMINALIZATION ANALYSIS

The affixes I am discussing have been referred to as being used for passivization (Anderson 1984), and focus (Levine 1980). In much earlier work by Boas (1911), however, several of them were called nominalizers, and it is this insight which I will pursue. An analysis in terms of nominalizations explains several patterns of the language, which do not fall out from either a “passive” or “focus” analysis, in a relatively straightforward way. I here describe the patterns that lead me to conclude that voice morphemes in Kwákwala are nominalizers; in the following chapter, I present the structure of voice-marked nominalizations, and discuss its implications.

### 4.1 Lexicalization

Over time, many common combinations of verbs and affixes have become lexicalized, and these lexicalizations always refer to entities (rather than actions, descriptions, etc.). For example, *kiλəm* “fishing net” is derived from combining *kiλ* “net-fishing” with the instrumental suffix *-əm*. Similarly, *kadayu* “pen/pencil” is derived from *kata* “write” and the instrumental suffix *-ayu*, and *qaquλaʔas* or *qaquλas* “school” from *qaqoλa* “learn” and the locative suffix *-ʔas*.

These forms can lose their compositional meanings with frequent use, and, instead of referring to a given thematic relation to the verb, can refer only to a specific item which bears that relation. For instance, *kadayu* can no longer apply to any writing instrument, but only a pen or pencil; a device such as a typewriter cannot be called a *kadayu*. This phenomenon was also discussed in section 3.1.1, describing the lexicalization patterns of instruments, which are the most common lexicalized forms.

Not all lexicalizations are so firm. Speakers differ, for example, on whether the word *?əmləm* (formed from the word *?əmt* “play” with the instrumental *-əm*) can be used to describe only toys, or can also refer to something being playing with that shouldn’t be used for that purpose (e.g. a knife that a child has gotten hold of); however, all speakers limit possible interpretations to things being used for play, whether use for that purpose is appropriate or not. This shows that, while there is gradience to the lexicalization of words formed with these affixes, they are always nominal. It therefore seems logical to believe that the more productive uses of the same affixes are also nominalizing.

#### 4.1.1 Speaker Interpretation

Lexicalized forms are not the only voice-marked predicates which refer exclusively to entities. When speakers hear voice-marked forms with little to no context, they will invariably translate them as nominals.

- (128) hanχa?asoχ  
hantɬ-a-’as=o<sub>x</sub>  
hunt-FV-LOC=3MED  
“This is the hunting grounds.”

This is a complete sentence, in which the clitic =o<sub>x</sub> is the subject, referring to a nearby place being indicated by the speaker; i.e. “this” rather than “that.” The only interpretation of this sentence, whether out of the blue or in context, is as a nominalized reference to the location in which it is spoken. It does not describe the location of a person or thing (i.e. (128) cannot mean, “He is at the hunting grounds.”)

Even when such forms occur in isolation rather than as part of a grammatical utterance, speakers will reliably describe them as nominals, usually offering an English

noun as a first translation and using relative clauses when no suitable noun exists or to clarify that a broader definition is possible.

- (129) *kakadəx<sup>w</sup>silasu?*  
*kakadax<sup>w</sup>sil-a-su'*  
read-FV-NOM  
Speaker comment: "A book. Anything you read."

- (130) *wəλət̪*  
*wədł-ł*  
hear-SNS  
Speaker comment: "That means 'what you heard.'"

This is the case even for forms with which they are unfamiliar.

- (131) *kakadəx<sup>w</sup>sila?as*  
*kakadax<sup>w</sup>sil-a-'as*  
read-FV-LOC  
Speaker comment: "*kakadəx<sup>w</sup>sila?as* would be a library, I guess."

Similarly, speakers will sometimes explain such forms by placing them in English sentences, in which case they show the syntax of English nouns (e.g. determiners, in sentences such as, "That's a *Gaλək<sup>w</sup>*.").

This pattern of interpretation does not hold for *-gił*, a suffix which also shows different syntactic behaviours than the other affixes I discuss.

- (132) *həmgiła*  
*ha'm-gił-a*  
food-MTV-FV  
Speaker comment: "*Həmgiła* is 'to cook for someone.'"

If *-gił* were also a nominal affix, I would expect the speaker to volunteer the interpretation of "someone you cook for." This example is also useful to show that speakers do not simply default to interpreting all words as nominals when there is no surrounding context.

## 4.2 Adjective Distribution

Concepts such as “noun” and “nominal” as they apply to Kwakwala have long been uncertain, due to the fact that differences among word classes in general are often not clear (see, among others, Sapir 1911; Boas 1911, 1947); for example, many words whose meanings might lead one to consider them nouns can also be used as the predicates of clauses. Thus, predicate status is not an appropriate test of nounhood in Kwakwala.

- (133) gənanəmoχda kax?idsu?x  
gananam=ox=da ka-x'id-su'=x  
boy=3MED=DET bite-BEC-NOM=3VIS  
“The boy was bitten.”

One test for nounhood, presented by Littell (2013), is that nouns alone can take preceding adjectives, as in (134).

- (134) kətələnχa ḡalad<sup>z</sup>iχ wāči  
kał-al=an=xə      'walas=ix    'waťsi  
fear-ONG=1=ACC big=3MED dog  
“I’m scared of the big dog.”

However, this same pattern holds as well for forms derived through voice-marking, both when those forms are lexicalized, as in (135), and when they are not, as in (136).

- (135) kətələnχa ḡalad<sup>z</sup>iχ kawayu  
kał-al=an=xə      'walas=ix    ke-ayu  
fear-ONG=1=ACC big=3MED carve-INST  
“I’m scared of the big knife.”

- (136) kətələna waladziχ kakadəx<sup>w</sup>silasu?  
kał-al=an=xə      'walas=ix    kakadax<sup>w</sup>sil-a-su'  
fear-ONG=1=ACC big=3MED read-FV-NOM  
“I’m scared of the big book.”

Given the morphological complexity and compositional meaning of words such as *kakadəx<sup>w</sup>silasu?* (which is not lexicalized, and can apply to anything that is read),

considering preceding adjectives to be a distinctive trait of nouns is apparently too specific; rather, it is a trait of nominalizations in general.

#### 4.3 Relation of Functions of *-nuk<sup>w</sup>*

Recall that, as described in chapter 2, there are apparently two different uses of the suffix *-nuk<sup>w</sup>* which vary according to the category to which the suffix affixes.

When it occurs without voice morphology, *-nuk<sup>w</sup>* affixes to a noun to give a possessive reading.

- (137) ḡačinuk<sup>w</sup>ən  
'wat'si-nuk<sup>w</sup>=an  
dog-have=1  
“I have a dog.”

When it occurs with voice morphology, *-nuk<sup>w</sup>* affixes to a verb to give an indefinite object reading.

- (138) laχəlasu?nuk<sup>w</sup>i Laura  
lax-ala-su'-nuk<sup>w</sup>=i                   Laura  
sell-ONG-NOM-have=3DIST           Laura  
“Laura sold something.”

Indefinite object constructions are unusual in that they are the only instances in which the grammatical subject and thematic subject of a voice-marked clause are the same DP. This reflects the fact that grammatical relations in voice-*nuk<sup>w</sup>* sentences are the same as their unmarked counterparts, with one exception: The constituent for which the voice morpheme selects cannot be present in a voice-*nuk<sup>w</sup>* clause.

- (139) laχəli Lauraχa ninəxwəne?  
lax-al=i                   Laura=xə       ni-nax'wane'  
sell-ONG=3DIST           Laura=ACC      RED-blanket  
“Laura sold blankets.”

(140) *	laχəlasu?nuk <sup>w</sup> i	Lauraχa	ninəxwəne?
	lax <u>-al-a-su'</u> -nuk <sup>w</sup> =i	Laura=χa	ni-nax'wane'
	sell-ONG-FV-NOM-have=3DIST	Laura=ACC	RED-blanket
	"Laura sold blankets."		

This difference between (139) and (140) shows that the theme of *laχəl* is prevented from being overtly expressed by the presence of voice morphology and *-nuk<sup>w</sup>*.

The morpheme *-nuk<sup>w</sup>* thus appears to have two functions which differ according to syntactic context: to indicate possession, and to indicate an indefinite object. Any attempt to explain this construction must therefore assume some version of one of the following:

- a) There are two suffixes taking the phonological form *-nuk<sup>w</sup>*, one indicating possession and the other indicating an indefinite object. The two are syntactically unrelated, and coincidentally homophonous. Structural parallels between sentences containing the two forms are also coincidental.
- b) There is a single suffix *-nuk<sup>w</sup>* which performs a single function, both in those contexts where it indicates possession, and in those where it indicates an indefinite object.

For the sake of parsimony, it would be preferable to find an analysis which assumes, if not (b) precisely, then something more similar to this than to (a). Using Sardinha's (2013) description of the function of *-nuk<sup>w</sup>* and a nominalization analysis of voice morphology, such a middle ground is possible, through an analysis which assumes that two disparate uses of *-nuk<sup>w</sup>* are diachronically but not synchronically related.

In order to claim that *-nuk<sup>w</sup>* serves a single function (from which two different structures are derived), it is necessary to establish what this function is. Although the syntax of *-nuk<sup>w</sup>* differs in its two uses (e.g. targeting different arguments in the

sentence), there is a clear semantic connection between the two versions: both express a transitive relationship between two arguments, and give a variable over this relationship.

This semantic unity can be seen in the fact that indefinite object readings can be interpreted as a type of possessive reading. The paired translations of (141) and (142) below are all accurate, but not in the same contexts.

- (141) ?əmləmnuk<sup>w</sup>i  
'amł-am-nuk<sup>w</sup>=i  
play-INST-have=3DIST  
“He is playing with something.” / “He has a toy.”

- (142) kəlxwənəmnuk<sup>w</sup>ən  
kəlxw-anam-nukw-an  
buy-OBT-have=1  
“I bought something.” / “I have a bought-thing.”

The sentences above show examples of indefinite instrument and indefinite theme sentences, and *-nuk<sup>w</sup>* can yield indefinite readings with other theta roles as well; (143) exemplifies this with the use of the locative voice-marker *-?as*.

- (143) gəluł?id?asnuk<sup>w</sup>ida gənanəm  
galuł-'id-'as-nuk<sup>w</sup>=i=da                    gananam  
steal-BEC-LOC-have=3DIST=DET      boy  
“The boy stole from someone.” / “The boy stole somewhere.”

Indeed, the two possible indefinite meanings of (143) are more clearly related if understood as a single expression of a relationship between agent and location: “The boy has a stolen-from person/place.”

Although related, these paired translations are not interchangeable, because they are not truth-conditionally equivalent. Though they are historically related and homophonous, I assume for the purposes of this thesis that they are in fact separate morphemes.

On the other hand, the behaviour of indefinite object constructions and their corresponding voice-marked constructions without *-nuk<sup>w</sup>* are identical. For example, any idiosyncrasy seen in the former is exactly mirrored in the latter. For example, if an argument of a particular verb can be promoted to subject using either of two voice suffixes, then the same two suffixes can be used in an indefinite object construction. In (144) and (145) below, for example, *duχwəɬ* “see” can take either *-su?* or *-t* whether or not *-nuk<sup>w</sup>* is also present. The sentences are otherwise identical.

- (144) a) *duχwaɬasu?*i Katie                    b) *duχwaɬati* Katie  
*duχwatl-a-su’=i*    Katie                    *duχwatl-a-t=i*    Katie  
 see-FV-PASS=3DIST Katie                    see-FV-SNS=3DIST Katie  
 “Katie was seen.”                            “Katie was seen.”

- (145) a) *duχwaɬasu?*nuk<sup>w</sup>ida ?əbəmp  
*duχwatl-a-su’-nukw=i=da*    ’abamp  
 see-FV-PASS-have=3DIST=DET mother  
 “The mother saw something.”
- b) *duχwaɬa?*nuk<sup>w</sup>ida ?əməmp  
*duχwatl-a-t-nukw=i=da*    ’abamp  
 see-FV-SNS-have=3DIST=DET mother  
 “The mother saw something.”

All this suggests that indefinite object *-nuk<sup>w</sup>* originally derived from possessive *-nuk<sup>w</sup>*, and that the two constructions still share a “nominal” core, though they are sufficiently differentiated in the contemporary language that they cannot be treated as realizations of a single morpheme.

### 4.3 Oblique Possessive Markers

When the thematic subject of a voice-marked verb occurs, it appears as an optional oblique-marked phrase. Oblique case-marking also occurs in unmarked sentences on other DPs, such as instruments and themes.

As mentioned in section 2.4.5, the form of the oblique-marking clitic, *=s(a)*, is identical to one of the possessive-marking clitics, namely, the one which indicates possession by an entity who is not co-referential with the grammatical subject of the sentence.

One possible conclusion to take from this pattern is that oblique and possessive markers are not homophones, but are in fact a single morpheme. Rather than being equivalent to a passive *by*-phrase, thematic subjects in voice-marked clauses are taking a possessor role. The parallel between thematic subjects and possessors is attested cross-linguistically in nominalization constructions. It is seen in English *-ing* nominalization (e.g. “They dove” becomes “Their diving”); it is part of a nominalization analysis for Tagalog voice alternations (argued by Kaufman (2009), and to be discussed further in section 6.2.1); and it is also apparent in the various possible uses of Salish *s*-nominalization (e.g. *kʷ sʔiħtəls* “his food” or “what he ate/will eat” or “that/when/because he eats/will eat”) (Thompson 2012).

This analysis of *=s(a)* also follows from the same reasoning which motivates the interpretation of *-nuk<sup>w</sup>* sentences explained in 4.3; the possessive marker, like *-nuk<sup>w</sup>*, expresses a relationship between the thematic subject and another event participant.

- (146) ?əŋgʷox qəx?idsu?əsoχda ḫači  
'angʷ=ox kax-'id-su'=s=oχ=da 'wafsi  
who=3MED bite-BEC-NOM=O.POSS=3MED=DET dog  
“Who did the dog bite?” (Lit. “Who was the bitten-person of the dog?”)

The parallels in the syntax of the two constructions reflect the similarity of their meaning. Like the one expressed by *-nukw*, the possessive relationship expressed by *=s(a)* is not necessarily one of literal ownership, but a more abstract one which encapsulates a broader range of meanings.

- (147) λiχs?ə?ək<sup>w</sup>i Dawnes Ruby  
dħixs'a'-ak<sup>w</sup>=i Dawn=e'=s Ruby  
educate-RES=3DIST Dawn=3INVIS=O.POSS Ruby  
“Dawn is educated by Ruby.”

In (147), for example, neither Dawn nor her education are actually the property of Ruby, but Ruby is the source of the education.

Considering thematic subject adjuncts to be possessors raises the question if whether or not the same is true for all uses of the oblique case marker. I do not think it is necessary to claim that this is the case; although all uses of *=s(a)* are realized in the same way, they do not all express the same type of relationship between predicate and argument. Rather, the meaning of *=s(a)* is flexible, comparable to the English preposition “of,” which likewise can express possession but is not limited to that function.

## 5. POSSIBLE STRUCTURES OF VOICE-MARKING

Cross-linguistically, nominalization of verbs can happen at several levels. Even the same morpheme can create different levels of nominalization; for example, Abney (1987) discusses this aspect of *-ing* nominalization in English, and Thompson (2012) discusses it in Salish. The higher the nominalization takes place, the more verbal structure is included within it (Harley 2006). Therefore, simply demonstrating that Kwākwala voice alternations involve nominalization provides very little insight as to the syntax of voice-marked sentences. In this chapter, I examine several different possible ways to analyze voice in Kwākwala, including two theoretically-based theories of passivization and one Kwākwala-specific analysis of lexicalization.

I posit that there are at least two different levels of nominalization derived by voice morphology. Those forms which are lexicalized, as described in section 4.1, have fixed, non-compositional denotations, meaning that they must be heads rather than phrases. Conversely, the productive and compositional uses of voice morphology must take place at a higher level, since they alter the argument structure of a predicate. It is these constructions with which the following discussion is concerned.

### 5.1 Voice and Existential Closure

As discussed in the preceding chapter, there are two types of constructions involving voice morphology which, though different in several ways, are clearly structurally related: basic voice-marked clauses (in which the DP that surfaces as the grammatical subject is not the thematic subject), and indefinite object constructions using the suffix *-nuk<sup>w</sup>* (in which the grammatical subject is also the thematic subject).

Because indefinite object constructions involve the suppression of some internal argument, they can be accurately described as anti-passives, and so I will adopt this term to refer to them. Similarly, because they suppress an external argument, basic voice-marked clauses can be considered a type of passive, albeit one that differs significantly from the construction seen in English and similar languages.

An accurate analysis of Kwakwala voice should predict the structural parallels of these two sentence types. However, it does not seem feasible to derive the indirect object construction by simply combining the voice construction and the *-nuk<sup>w</sup>* construction. Doing so would mean positing that voice-marking suppresses the grammatical subject in some way, allowing another DP to move to the subject position, and that *-nuk<sup>w</sup>* then inverts this process, suppressing the DP that has moved to grammatical subject position and allowing the formerly suppressed thematic subject to appear as the grammatical subject in the same way that it would in an unmarked clause. Although such an analysis could be developed, it would be undesirably lacking in parsimony, mechanically complicated, and without independent motivation.

An alternative which maintains a derivational relationship between passive and anti-passive constructions without deriving one from the other would be to have both take a the same type of input, yielding different but parallel outputs for the two constructions.<sup>3</sup> Here, I develop such an analysis, which pursues the idea that passive and anti-passive are both derived by applying parallel operations to a nominalized input.

The basic semantic ingredients are as follows:

- (i) Nominalization, involving (possibly vacuous) abstraction over either argument of a transitive predicate.

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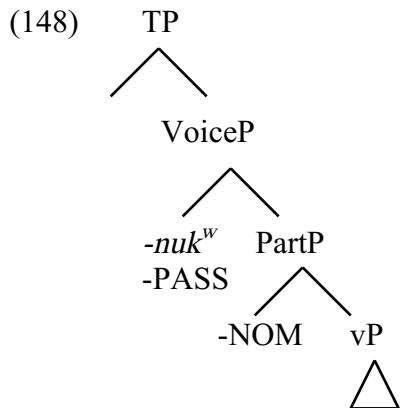
<sup>3</sup> This analysis develops ideas of my supervisor, Henry Davis, on the subject of *-nuk<sup>w</sup>*.

- (ii) An operation of existential closure, which applies to either one of the open argument slots created by predicate nominalization, depending on whether passive (existential closure over the external argument) or anti-passive (existential closure over the internal argument) is involved.

The syntactic structures and operations which complement this semantic account are:

- (i) Nominalizers (i.e. voice morphemes), generated as the head of a Part(icipial) Phrase (cf. Collins 2005) which takes vP as its complement. Their most important syntactic effect is the suppression/absorption of a designated case, with the particular case being lexically specified by individual morphemes.
- (ii) Existential quantification, introduced in a Voice head which takes PartP as its complement (cf. Legate 2010). I assume that passive (i.e. existential quantification over the external argument) is represented by a phonologically null instantiation of Voice, while anti-passive (i.e. existential quantification over a case-less internal argument) is overtly represented by *-nuk<sup>w</sup>*.

The syntax of these components is shown in (148) below.



Using these tools, two parallel derivations are possible, by combining -NOM with either *-nuk<sup>w</sup>* or the phonologically null -PASS to existentially close over one of the two arguments (the other having already been saturated through normal function composition). The lexical entries of these three components are listed below.

- (149) a)  $[-\text{NOM}] = \lambda x \lambda y (\text{Rx}, y)$   
where R is of type  $\langle e, \langle e, t \rangle \rangle$
- b)  $[-\text{PASS}] = \exists y (\lambda y (\text{Rx}, y))$
- c)  $[-\text{nuk}^w] = \exists x (\lambda x (\text{Rx}, y))$

For a passive, the external argument is abstracted over by nominalization, and then existentially closed by the null passive morpheme in Voice. The designated case-less internal argument raises to Spec TP to get (abstract) nominative Case. For an anti-passive, the internal argument is abstracted over by nominalization, and existentially closed by *-nuk<sup>w</sup>* in the Voice head. The external argument raises into Spec TP as in a typical sentence without voice morphology.

So far, however, nothing in this analysis determines which argument in a given sentence should be saturated and which left unsaturated before existential closure applies, a distinction which is key in differing between passive and anti-passive constructions. However, following Chung & Ladusaw (2004), there is possible derivation which can leave either unsaturated. As they put it, “Let us therefore adopt the notational assumption that when an argument is targeted by a composition operation, it is possible to demote it from the top of the lambda prefix to a position just above the

event argument” (p 10). This means it is possible to optionally switch (150a) and (150b).<sup>4</sup>

- (150) a)  $\lambda R \lambda x \lambda y \lambda e (Rx, y, e)$
- b)  $\lambda R \lambda y \lambda x \lambda e (Rx, y, e)$

In fact, this analysis is even cleaner with respect to Kwakwala than the original English to which Chung & Ladusaw applied it, given the presence of an overt morpheme (the nominalizing suffix) in Kwakwala which can allow this procedure. The required modification to lexical entry of a nominalizer is simple.

- (151)  $[[\text{-NOM}]] = \lambda x \lambda y (Rx, y). \{\lambda x, \lambda y\} (Rx, y)$   
where R is of type  $\langle e, \langle e, t \rangle \rangle$   
(I interpret  $\{\lambda x, \lambda y\}$  as ‘free order of lambda prefixes’)

This version of nominalization optionally switches the order in which the arguments are saturated, according to the needs of the construction (either passive or anti-passive) that the speaker wishes to derive.

However, it is important to recognize that, though this analysis captures the fundamental properties of both passive and anti-passive, there are a number of residual issues which remain outstanding. Perhaps the most important is that because predicate nominalization applies to syntactically constructed constituents, both nominalization and existential closure must apply in the syntax rather than the lexicon. Classic arguments involving the interaction of raising and passive can be constructed for Kwakwala, following Anderson (1984). Observe in (152) the operation of raising to object, in which

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<sup>4</sup> For the purposes of this analysis, I largely ignore the role of the event variable, beyond asserting that the effects of Voice take place below the level at which the event variable is existentially closed.

the thematic subject/external argument of a subordinate clause appears as the case-marked object of a main clause predicate.

- (152) hiłq?alənčaxa busi hamx?idaχa kutəla  
hiłk-al=antla=x<sub>a</sub> busi ham-x'id-a=x<sub>a</sub> kutala  
allow-ONG=1=ACC cat eat-BEC-FV=ACC fish  
“I let the cat eat the fish.”

Furthermore, as (153) shows, raising can feed passive, and the resulting structure can in turn feed A'-movement.

- (153) yum'ən hiłq?aləm hamx?idaχa kutəla  
yu='m=an hiłk-al-am ham-x'id-a=x<sub>a</sub> kutala  
DEF=FOC=1 allow-ONG eat-BEC-FV=ACC fish  
“That's who I let eat the fish.”

This shows that nominalization cannot be a lexical operation on argument structure, because its input can include arguments that have been raised from a lower argument position, and iterations of raising and passive can create a (potentially) unbounded dependency. This in turn creates a problem for the operation of existential closure, which in cases of raising must target the original argument position of the embedded predicate, rather than the derived (non-thematic) object position of the main predicate. For the purposes of this thesis, I will set this issue aside for future research, while recognizing that it creates a non-trivial challenge for the current analysis.

## 5.2 Previous Passive Analyses

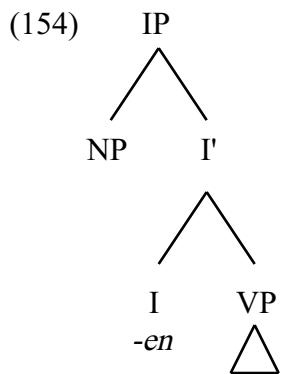
Most modern theories of the syntax of passive sentences are based on one of two ideas. The first, developed by Baker, Johnson, and Roberts (1989) argues that passive morphemes are arguments themselves; the second, developed by Collins (2005), claims that passive sentences have the same argument structure as their active counterparts. As

I will show, neither of these analyses can adequately account for all occurrences of voice morphology in Kwákwala. However, the problems discussed here should not prevent Kwákwala from being discussed as a type of passivization, as I have done above; they demonstrate only that any analysis which necessarily assumes passive formation according to one if these theories cannot accurately apply to Kwákwala.

### 5.2.1 Passive Morphology as an External Argument

Baker, Johnson, and Roberts (1989) present what they claim to be a universal theory of passive formation that consists of a single principle around which other syntactic forces operate, subject to cross-linguistic variation. That principle is that a language's passive morpheme (or, as would be the case in Kwákwala, set of passive morphemes) is in fact an external argument. This, they claim, can account for the cross-linguistic variation seen in passive sentences with respect to syntactic phenomena such as binding, Case-marking, and the theta criterion.

The syntactic structure they posit features a passive morpheme (that is, according to their theory, a passive argument) base generated under Infl or I, as in (154). I will adopt the same notational convention as the authors by using *-en* as a general term referring to any language's passive morpheme/argument.



They also discuss the formation of passives using auxiliary verbs, such as those in English; however, since Kwakwala does not use auxiliaries in this way, that discussion is largely irrelevant here.

However, there are several reasons why this analysis is problematic for Kwakwala. First of all, theta role assignment of *-en* is much more complex for Kwakwala than for a language with a single passive morpheme. If *-en* must receive an external theta role, Baker, Johnson, and Roberts assert that the only role this can be is that of logical subject (what I have called the thematic subject). There is no other appropriate candidate, as the passivized argument may take one of many different theta roles; there are examples from English of passivization of agent, theme, goal, experiencer, and arguably location. All, however, take the same passive morphology. The same is not true in Kwakwala, which has a greater versatility than languages like English in terms of which arguments can occur in the subject position of a supposedly passive sentence, a diversity reflected in Kwakwala's rich inventory of voice morphemes. Moreover, the variations in these morphemes are conditioned not according to any property of a sentence's thematic subject, but according to properties of the promoted DP (for example, both *-ayu* and *-əm* represent a promoted instrument; and *-ʔas* represents a promoted goal, source, or location). According to the Baker, Johnson and Roberts analysis, passivization is an operation that only directly affects subjects, and the promotion of the object is a by-product of the assignment of accusative case to *-en*; thus there is no reason for passive affixes to be sensitive to properties of the promoted DP.

Another problem with the Baker, Johnson, and Roberts analysis with respect to Kwākwala is the fact that voice morphemes in Kwākwala sometimes do co-occur with overt external arguments (that is, grammatical subjects which are also thematic subjects, and therefore were presumably base-generated in external argument position). This structure occurs in sentences containing voice with *-nuk<sup>w</sup>*, i.e. anti-passive constructions.

- (155) hə̃̄apsu?nuk<sup>w</sup>oxda bə̄g<sup>w</sup>anəm  
ha'map-su'-nuk<sup>w</sup>=ox=da      bag<sup>w</sup>anam  
eat-NOM-have=3MED=DET      man  
“The man is eating something.”

In these cases, Baker, Johnson, and Roberts would not be able to claim that Case and theta role features have been assigned to the “passive” morpheme, since they must be available to be assigned to the overt grammatical subject; if these features were assigned to *-su?* in sentences like (155), Baker, Johnson and Roberts’ analysis would have to claim that *-nuk<sup>w</sup>* allows VP to assign Case and a theta role twice, to two different external arguments, which problematizes the theoretical basis of their proposed structure.

Since both the morphological forms and syntactic distribution of passive morphemes in Kwākwala constitute evidence against the idea that such morphemes are external arguments, the basic principle upon which the Baker, Johnson, and Roberts analysis depends cannot be said to hold in Kwākwala.

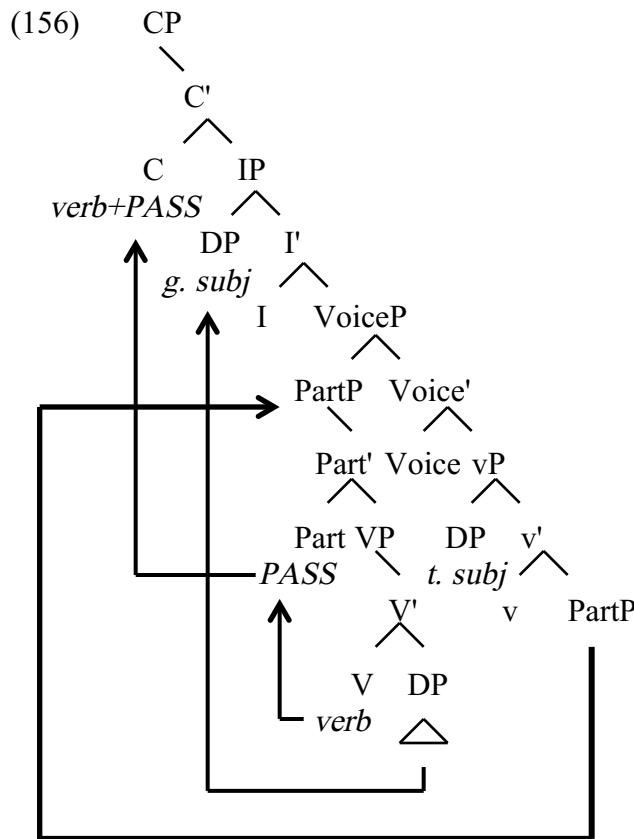
#### 4.2.2 Derivation of Passives through Smuggling

Collins (2005) attempts to reconcile the formation of active and passive sentences using a theory that is reminiscent of transformational theories of passive as

elucidated in the Standard Theory of Chomsky (1965). He derives passive sentences by moving arguments from their base-generated positions, which are the same in both active and passive sentences. This consistency allows for a natural connection between equivalent active and passive sentences; if the two forms are underlyingly identical in their argument structure, it explains why verbs reliably have the same selectional restrictions regardless of voice. Because it uses movement in this way, Collins's derivation is in opposition to the theory espoused in Principles and Parameters (Chomsky 1982) and developed by Baker, Johnson and Roberts, according to which the thematic subject of a passive sentence is base generated as an adjunct (and, in English, as complement to the preposition *by*). Unlike Baker, Johnson, and Roberts, Collins intends to explain passive formation only in English, but many of the principles underlying his theory, such as UTAH, are claimed to be universally applicable.

To be executed properly, Collins' theory must explain how the *by*-phrase of a passive could be merged into Spec vP, and he accomplishes this by introducing a participle phrase (PartP) and voice phrase (VoiceP); the full structure involving these is shown in (156) below. VoiceP is the complement of the auxiliary VP, and takes vP as its complement. PartP is in turn the complement of vP; its head is *-en*, and its complement is the matrix VP. First, PartP raises out of vP; this is necessary to ensure that the PartP moves up to Spec VoiceP, taking with it the verb and object which it dominates. The object DP then A-moves up to Spec IP. This derivation differs from an active sentence in that V doesn't raise to v, because it raises to Part instead, where it combines with *-en* to form the complete passive participle.

With minimal modification, this structure can carry over to Kwakwala. A basic difference between English and Kwakwala is that the latter has a VSO word order, but it is possible to derive this order within Collins' framework by raising the verb from Part<sup>0</sup> (under Spec VoiceP) to C<sup>0</sup>, as shown below in (156).



However, whether or not this is actually possible depends on how much “freezing” limits movement. The basic concept of freezing is that once a constituent moves, no part of it can be individually moved again. Stated this way, it should apply to any part of any moved constituent, yet violations of freezing are fundamental to the execution of Collins' smuggling concept.

In essence, smuggling is a form of movement that allows some element XP to move past something which should block it from establishing a syntactic relationship

with a higher element; this is achieved by not moving XP alone, but by moving a larger constituent that contains XP. In the case of passives, this means moving the internal arguments of the sentence above the external argument by moving the entire constituent PartP. That is to say, PartP *smuggles* the internal argument DP past the external argument DP.

If we assume that smuggling allows freezing to be violated by establishing a new syntactic relationship between two sentence elements (which is, after all, the motivation for allowing smuggling at all), it would still only permit the moved DP to move, not the verb under Part<sup>0</sup>. Thus Collins' analysis cannot derive a VSO word order without redefining either smuggling or freezing.

Another theoretical problem underlying Collins' analysis is a lack of independent motivation. That is, he gives no reason why the language should choose to raise PartP, beyond the fact that it produces the attested word order. Although he does discuss why other possible derivations are a less desirable, it is only within the context of comparing other ways to derive the correct word order, not by comparing other ways of deriving the necessary syntax.

Additionally, Collins' description of his analysis as a passive is not truly accurate; as discussed by Legate (2012), the procedure as he formulates it is in fact closer to an object voice analysis in the style of Austronesian languages rather than a true passive. The difference between the two is that the former does not involve demotion of a subject. This is true of the smuggling analysis, which opts to achieve the lower status of the subject in the tree by raising various elements above it.

A problem to which Collins does present a solution is the fact that English *by*-phrases are optional, but under the assumption that all sentences must have an external argument, generating an argument in Spec vP is mandatory; this problem is also applicable to Kwākwala =*s(a)*-phrases. However, as was also claimed by Baker, Johnson, and Roberts, even passive sentences without *by*-phrases treat the implicit logical subject as structurally present, by allowing modifiers to refer to it. Collins can therefore claim that logical subjects are in fact always present in the syntax.

Collins' analysis also solves one of the difficulties of applying Baker, Johnson, & Roberts (1989) to Kwākwala; without the passive morpheme being considered an external argument, it can co-occur with an external argument. However, the basic issue that Kwākwala voice alternations are sensitive to properties of the object rather than the subject remains unaddressed. Since this is not a trait of English passives, Collins makes no attempt to account for it. His analysis, and indeed any analysis developed to account for English-type passives, would have to be expanded in some way to account for this fact. Nominalization, on the other hand, avoids the problem entirely; there is no reason why a nominalization should not be reflective of the properties of an internal argument.

Finally, like that of Baker, Johnson, and Roberts, Collins's theory is not equipped to explain the indefinite object construction. His analysis depends on passive morphology changing the syntax of the external argument, and on the presence of the preposition "by" to mark these external arguments as different; this cannot be the case in indefinite object sentences, since the external argument occurs in the same position and with the same morphology as it does in active sentences. Thus, Collins' analysis of passives is also a poor candidate to explain Kwākwala.

### **5.3 Lexicalization of Voice-Marking**

Levine (1980) rejects the idea that the morphemes discussed in this thesis are passives, and instead takes them to be elements of “focus,” although he does not give a concrete definition of what he means by this term. He also claims that words containing these affixes are lexically rather than syntactically derived. His argument to this end is based on his opposition to a particular version of the late 1970’s extended standard theory of transformational syntax, and therefore his position is argued mainly from the point that so-called passive sentences in Kwākwala cannot be derived from their active counterparts effectively; that is, in such a way that only and all grammatical outputs are predicted by the grammar. However, many of the problems he describes exist only within this particular transformation framework, and thus if we discard the assumptions underlying such a transformational syntax the difficulties which Levine faces in accounting for the syntax of Kwākwala disappear. For example, he points out that there is no way to prevent a demoted subject from being promoted again, yielding a passive-marked sentence with a grammatical subject that is also the thematic subject; this is only a problem for an analysis which demotes the grammatical subject as the first step in the formation of passives (as opposed to promoting an internal argument first, as most contemporary analyses of voice do). He also claims that WH-movement cannot take place in Kwākwala relative clauses due to the fact that they do not have a WH-element, but this can easily be remedied by assuming that such an element is phonologically null (see Littell 2011 for an analysis along these lines).

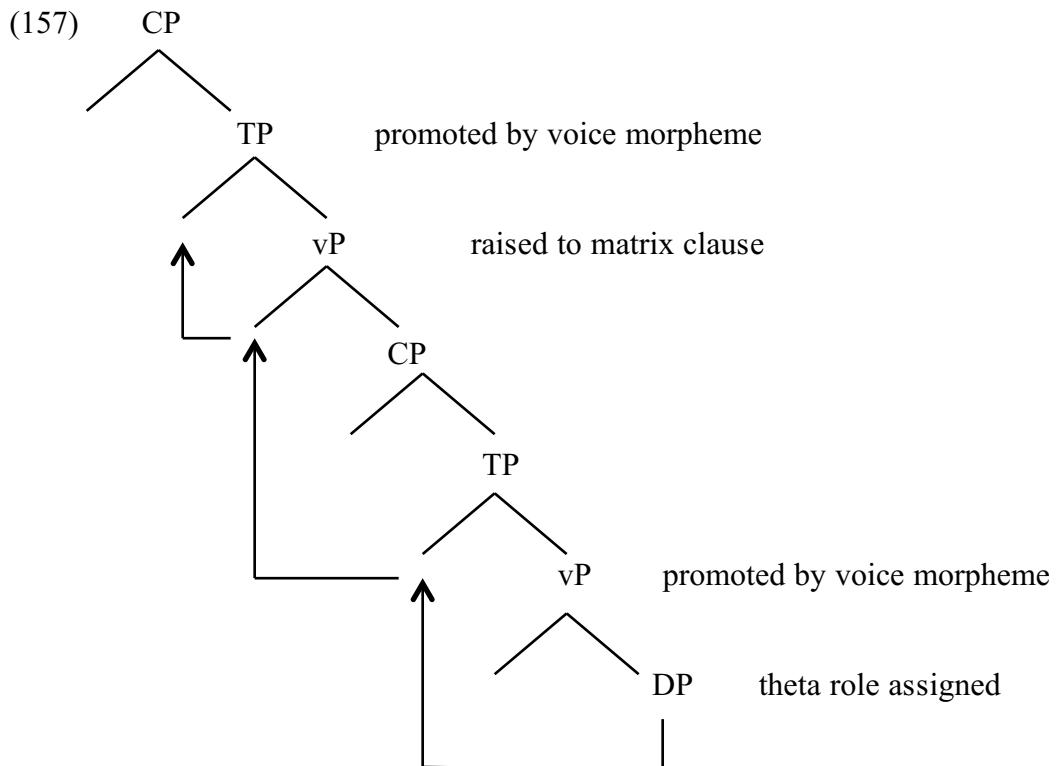
Aside from these points arguing against a syntactic derivation of voice-marked elements, Levine makes few points in favour of his lexicalization analysis. First, he points out that *-ayu* and *-əm* are frequently used to form nominals, generally instruments, and second, that there is no clear way to predict which predicates will take which suffix. He also claims that even those suffixes which do have a clear semantic function may appear in forms that do not keep with their supposed pattern of meaning.

At face value, these arguments do demonstrate an absence of, or at least irregularities in, the sort of pattern that a syntactic process would create, and therefore do support the idea that some words containing voice morphology are lexical. However, the fact that exceptions to a pattern exist is not sufficient to disprove the existence of that pattern entirely. The existence of multiple levels of nominalization is well-attested cross-linguistically, and the existence of lexicalized nominalizations in no way precludes the existence of syntactically derived ones. This is seen in English participles formed with the suffix *-ing*; for example, “writing” can take plural morphology normally reserved for nouns, to become “writings,” but is still clearly derived from a regular syntactic process. Other participles, such as “diving,” do not show the same morphological pattern (i.e. “divings” is ungrammatical). Moreover, Levine’s own example of an idiomatic form that does not follow a regular pattern of meaning is not a strong one; *kʷanas* “smoke-hole,” is derived from *kʷax* “smoke,” through the addition of the suffix *-?as*, used to refer to places, and it is understandable that “smoke-hole” could be understood as “place for smoke.”

Overall, Levine’s argument reflects the problem with his view of the syntax-morphology interface, according to which a syntactic process cannot be tied to lexical

properties. If this were the case, it would render all NP-movement processes (passive, raising to subject, raising to object, etc.) impossible, because they are all sensitive to lexical properties of the predicates which undergo them. This issue is not specific to Kwákwala, but is a general problem with Levine's version of transformational grammar.

Raising provides further evidence against the notion that all voice-marked forms are lexicalized; voice-marking can be used to raise a DP, even over a great (in principle, unbounded) distance. The clearest example I have seen of this involves raising from locative adjunct of an embedded clause to subject position of the matrix clause.



ňiksú?i qáquňa?as qá gëwala?asəs Tomáx Harry  
 'nik-su'=i        kakatla-'as ka        ga'wala-'as=s...  
 say-NOM=3DIST learn-LOC COMP help-LOC=O.POSS...  
 ...Tom=a=x                      Harry  
 ...Tom=3INVIS=ACC              Harry  
 “The school was where Tom was told to help Harry.”

The tree shows a simplified representation of the positions through which the raised constituent has moved, and its syntactic effects at each of these positions; it can grammatically surface in each of these intermediate stages as well.

This sentence was judged to be a valid possible answer to asking about where Tom will help Harry, as opposed to asking where Tom was given the instruction to help Harry. This means that there is no thematic relation between the matrix predicate *nik* “say” and the matrix subject *qaquλa?as* “school,” and therefore raising must have taken place. Such a derivation would be impossible if the voice-marked forms (*niksu?* and *gə?wala?as*) were both lexicalized, because the output of each raising step is the input of the next, recursively, in a process that is by definition syntactic.

## 5.4 Motivation for Extraction Restrictions

One issue which has not been addressed by any of the preceding analyses of voice is the question of why such syntactic modification is necessary. That is, why are case-marked DPs unable to extract, while non-case-marked non-subjects can do so freely. There are several possible approaches to explaining the extraction pattern: by appealing to some attribute of case-marked DPs that prevents them from being extracted, by appealing to some attribute of non-case-marked adjuncts that makes it possible to extract them, or by appealing to some property of the relationship between the elements of the clause which dictates whether or not any given constituent can be extracted. It is the latter idea which yields a possible explanation; specifically, that extraction is restricted by minimality.

Simply put, minimality states that only the closest candidate to the target of movement can move (see e.g. “attract closest” in Chomsky 1995). In the case of Kwakwala, this would mean that any argument that occurs below the grammatical subject is blocked from A'-extracting by the presence of the grammatical subject, which is higher in the clause and therefore a closer candidate for movement. In effect, this blocks all internal arguments from A'-extracting when an external argument is present.

However, non-case-marked non-subjects (temporal and motive adjuncts) must not be blocked by the grammatical subject, since they can be A'-extracted. That is to say, they must be just as high in the sentence as grammatical subjects (i.e. equidistant from the position to which they would raise by extraction), since both are possible candidates for movement. This would mean, assuming that argument structure is represented inside vP, that temporal and motive adjuncts are not part of the argument structure of any predicate, which does seem to be the case, given that there are no predicates which obligatorily select for either one. Although there are some predicates which select for *qə?* to introduce DPs taking certain thematic relations (for example, the verb *dənχəla* “sing” introduces the person being sung to with *qə?*), such thematic relations are never obligatorily realized. Conversely, there are numerous predicates which obligatorily require one or more of = $\chi(a)$ , = $s(a)$ , and *lax*-marked DPs (for example, *kelxʷa* “buy” requires = $\chi(a)$ , *nəp̪id* “throw” requires = $s(a)$ , and *humoco* “look at” requires *lax*).

Crucially, it is not external argument status which determines whether or not a given DP can extract, but grammatical subject status, which includes internal arguments

promoted by voice-marking. Such DPs block other internal arguments from raising, but do not block temporal or motive adjuncts.

- (158) a) \*hedi Lucy 'coayuida plawas

hed=i Lucy tso-ayu=i=da plawas  
be=3DIST Lucy give-INST=3DIST=DET flower

Intended: “It was Lucy that the flower was given to.”

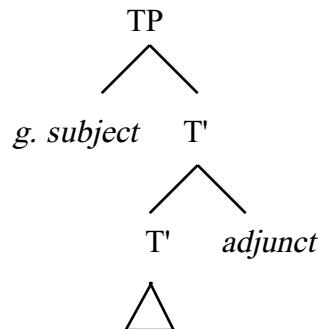
- b) hedí le?e xumałəla duxʷ?aƛaɬida wáči

hed=i le'=i xumał-al-a duxʷ,atɬ-ɬ=i=da 'waťsi  
be=3DIST COMP=3DIST fight-FV see-SNS=3DIST=DET dog

“It was while it was fighting that the dog was seen.”

This means that these adjuncts must be equidistant not from external arguments base-generated in Spec vP, but from grammatical subjects where they ultimately surface in Spec TP. The necessary structure is shown below.

- (159)



This account may also explain why speakers are sometimes uncertain in their judgments of *-git*-marked sentences; if speakers were to analyze a motive constituent as an adjunct modifying the VP, then they would treat its extraction as being restricted by being lower than the grammatical subject. This also accurately predicts that DPs introduced by  $\lambda u$  should be unable to extract, since they are not adjuncts of the clause.

## 6. IMPLICATIONS AND CONCLUSIONS

### 6.1 Implications for Kwākwala

As corollaries of my main nominalization analysis, I have made several other claims regarding the grammar of Kwākwala.

- (a) Extraction is not exclusive to subjects, but rather, is restricted by minimality.
- (b) Both passive and anti-passive constructions may be derived from a common core involving a nominalized verb.
- (c) Voice suffixes are in fact nominalizers.
- (d) Certain “nominal” features of the voice construction (e.g. the use of *-nuk<sup>w</sup>* “have” as an anti-passive morpheme, the homophony between oblique case-marker and the non-coreferential possessive-marker, the distribution of adjectives, and the lexicalization of voice construction as nouns) all fall out from a nominalization analysis of Kwākwala voice construction.

My claim regarding restrictions on extraction is in defiance of what has been claimed for many years. This claim derives from the fact that all voice morphemes select for case-marked DPs, and non-case-marked adjuncts do not require voice morphemes in order to A'-extract.

### 6.2 Subject Status in Austronesian Languages

The nature of extraction in Kwākwala raises questions about the nature of grammatical subjects as a unique syntactic entity, and about contrasts among DPs which are not subjects; the same issues are also raised by similar extraction patterns shown by the Austronesian languages. However, while analyses of Kwākwala have taken the

position of the grammatical subject as a clearly defined and important grammatical feature, there has been ongoing debate as to whether or not grammatical subjects exist in Austronesian languages, and if so, which arguments should be considered to belong to this category (Kroeger 1992).

The Austronesian languages pattern similarly to Kwa̱kwala with respect to the relation between argument structure, extraction, and morphology. Like Kwa̱kwala, Austronesian clauses are morphologically marked for one of several voices which correspond to the arguments of the predicate, and only the argument for which the sentence is marked can be A'-extracted to form WH-questions, relative clauses, or focus constructions. The biggest difference between Austronesian and Kwa̱kwala is that the former does not have any morphologically unmarked clauses, which creates difficulties in determining an unmarked default mapping of argument structure to syntactic configuration (e.g. one featuring an agent external argument and theme internal argument). In Kwa̱kwala, there are unmarked sentences in which a predicate will predictably assign a particular theta role (usually agent or experiencer) to the grammatical subject.

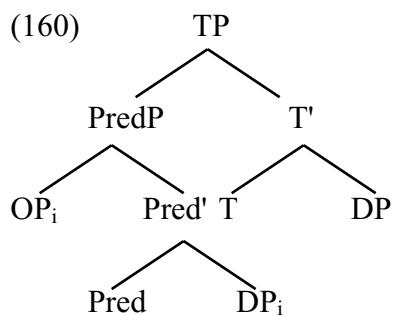
Possible answers to questions about argument structure in Austronesian, unlike the more limited research on Kwa̱kwala in this area, have not been restricted to syntax. Kroeger (1992) offers an analysis of Tagalog that is similar to Anderson's (1984) of Kwa̱kwala in that it is non-configurational, thus lacking a syntactic asymmetry between the privileged position that can extract and all other DPs in the clause. Other researchers look outside of syntax; for instance, Schachter (1976, 1977) and Carrier-Duncan (1985) use concepts based in semantics and discourse roles, such as topic and actor, to explain

grammatical relations in Austronesian. However, nominalization has also been argued as a possible explanation.

### 6.2.1 Nominalization in Tagalog

Kaufman (2009) presents an analysis to account for the grammar of Tagalog through nominalization. The essence of his claim is that what have been termed voice markers in Tagalog are in fact nominalizers which produce nPs, the nominal equivalent of vPs. This means that Tagalog does not have a verbally-based predicative system, like that found in English and other more familiar languages, but a nominally-based one; since all predicates are marked with one of the four possible voices, all contain nPs rather than vPs. I will not argue here for or against Kaufman's analysis with respect to Austronesian; however, I do find several reasons why it is unlikely to apply to Kwakwala.

One problem with Kaufman's analysis is not directly related to his claims about how voice is instantiated, but his proposal for Tagalog's base-generated sentence structure. He argues for a syntax that is radically different from what is usually assumed in Minimalist or even GB frameworks, consisting of a PredP which contains everything except the marked argument, and which is base-generated in Spec TP.



In addition to predicting the correct word order, this structure allows Tagalog's

extraction restrictions to fall out naturally, as extraction of anything other than the DP located under T' would be extraction from within another DP (the complement of Pred), which is cross-linguistically a highly marked behaviour.

Part of the reason why Kaufman proposes the structure in (160) is that he finds no evidence that the predicate-initial VOS word order of Tagalog is derived through movement of any element, and so he assumes it to be base-generated. However, the same is not true of Kwākwala; the existence of two possible word orders (VSO and AuxSVO) shows that movement must take place, on the assumption that VSO is derived from a base SVO word order and blocked when an auxiliary is present (see McCloskey 1991 on Irish). There is therefore no reason to assume such a drastic departure from the more familiar concept of a syntactic spine containing constituents such as an external argument subject, below which the predicate and its internal arguments are base generated. Moreover, since A'-extraction restrictions in Kwākwala can be motivated by minimality, a ban on movement out of DPs need not be invoked.

Another key difference between Tagalog and Kwākwala is that only the former has voice-marking in all sentences. There is a four-way voice distinction in Tagalog, with markers for agent, patient, location, and conveyance, and Kaufman claims that these markers cause the root to which they attach to merge with n instead of v. Because all Tagalog sentences are marked for some argument, including the agent, the syntax he proposes does not allow for the possibility of an unmarked form. He therefore claims that the language lacks v altogether.

Since unmarked forms do exist in Kwākwala, however, we must posit that v also exists, and must suggest some reason why certain sentences would merge with n

instead. There is nothing in Kaufman's analysis that would prohibit a language from using v and n in different contexts, but neither is there anything to motivate such an asymmetry, or predict patterns within it.

Although syntactic structures containing n and v are largely parallel, the differences Kaufman attributes to them are as follows:

"n properties:

- (i) A Possessor is projected [Spec, n]
- (ii) Association with genitive case
- (iii) No inherent capacity for an event variable

v properties:

- (i) An Agent is projected in [Spec, v]
- (ii) Assignment of accusative case to object
- (iii) Inherent capacity for an event variable" (p 32)

As points (i) and (ii) show, the distinction between n and v relies on the possessive relationship. I have argued that the possessive relationship is important for Kwakwala voice alternations as well, but its structure does not fit well with Kaufman's description of nP, particularly as regards (i).

Recall that Kwakwala has two different ways of forming possessive constructions, which alternate depending whether or not the possessor is co-referential with the grammatical subject of the sentence. However, neither appears to have the construction in (a), i.e. with a possessor projected as specifier of the possessed entity. Co-referential possessives do not contain overt possessors, but only a possessive clitic that is the determiner of the possessed entity, as seen in (38), repeated here as (161).

- (161) ?əng<sup>w</sup>ida yəlk<sup>w</sup>aχis uxsə?yape?  
       'ang<sup>w</sup>=i=da      yalkw-a=x=is      uxsə'yape'  
       who=3DIST=DET    hurt-FV=ACC=C.POSS    shoulder  
       “Who<sub>i</sub> hurt his<sub>i</sub> (own) shoulder?”

The possessor is overt only in non-co-referential possessives; this is the construction used for agents in voice-marked sentences, but in these cases, the possessor is an oblique adjunct rather than a specifier.

- (162) kelx<sup>w</sup>asu?ida kuk<sup>w</sup>əlasa čedaq  
       kelx<sup>w</sup>-a-su'=i=da      kuk<sup>w</sup>ala=sa      tsadak  
       buy-FV-NOM=3DIST=DET bracelet=O.POSS woman  
       “The bracelet was bought by the woman.”

Since voice-marked predicates do not project their agents/possessors into a specifier position, it seems unlikely that voice-marked predicates in Kwakwala are nPs as per Kaufman.

Although these issues do highly limit the probability that Kaufman’s Tagalog analysis can be extended to apply to Kwakwala, none of the objections apply to the basic concept of nominalization itself. In fact, one aspect of Kaufman’s analysis which is central to defining nominalization, namely that the role of the possessor is analogous to the role of the agent, is the aspect which is most accurately applicable to Kwakwala. This is part of the larger pattern that properties of nominalization have their origins in nominal properties (such as possession) being extended to categories other than nouns. Thus, while nominalization may be employed by languages to avoid being limited by extraction restrictions, the details of how a nominalization applies to such languages will be subject to cross-linguistic variation.

### 6.3 Conclusion

I have argued here that the syntax of Kwākwala depends on a process of nominalization to allow a full range of linguistic expression. Specifically, I claim that the supposedly unique behaviours of grammatical subjects as the only entities which can undergo A'-movement is in fact a reflection of the fact that case-marked DPs are restricted in their behaviour by a minimality constraint. Voice morphology allows these entities to extract by raising them to grammatical subject position; Voice heads (passive and anti-passive) take nominalized complements which target particular internal arguments of the predicate.

Although passivization has been claimed previously to explain extraction patterns in Kwākwala, the major passivization theories in contemporary syntax are inadequate to explain core properties of Kwākwala voice morphology. A particular anomaly is the fact that the combination of Kwākwala voice morphemes with the suffix *-nuk<sup>w</sup>* yields an anti-passive rather than a passive construction.

Nominalization, on the other hand, is supported by several types of evidence, including the use of *-nuk<sup>w</sup>* “have” in anti-passive constructions, the homophony of oblique and possessive morphology, and patterns of lexicalization and speaker intuition.

I have documented seven voice suffixes which follow this pattern of behaviour, by comparing them to the most productive suffix of this type, *-su?*. These suffixes all function the same way with respect to oblique subjects, indefinite subjects and objects, and substitution of other suffixes. I have also shown that an eighth suffix, *-gil*, which appears to belong to this class, in fact does not.

This analysis has implications for any Kwākwala research which relates to argument structure, but also for languages beyond the Wakashan family. Most obviously, it invites a systematic comparison with voice systems Austronesian languages, such as Tagalog.

Although Kwākwala is better documented than other members of the North Wakashan family, it is by no means well-documented overall, and much of its grammar remains unexplained. It is my hope that the analysis presented here, which describes processes that are both common and productive in Kwākwala, will enable future researchers to make progress toward a deeper understanding of the language in general. It is my further hope that progress toward this end will prevent the language of the Kwakwaka'wakw from being lost.

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