The Semantics of Kʷakʼʷala Object Case

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Abstract

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In this dissertation, I investigate factors underlying the distribution of object case in Kʷakʼʷala, an endangered Northern Wakashan language of British Columbia, Canada. Kʷakʼʷala has two types of objects, instrumental (=*s*) and accusative (=*x̌*). To account for their distribution, I develop a semantic theory of object case that is grounded in event structure. The first central claim of this theory is that instrumental case marks internal arguments which participate in *initiating* subevents (*Co-initiators*), while accusative case marks internal arguments which participate in *non-initiating* subevents (*Non-initiators*). Concomitantly, any internal argument which participates in both the *initiating* and *non-initiating* subevents of an event can undergo instrumental/accusative case alternation. The second central claim of this theory is that instrumental case adds semantic value, while accusative case is a meaningless default.

Supporting evidence for these claims comes from field data. On the one hand, object case realization is constrained by verb meaning, as shown by the existence of correlations between particular semantic verb classes and particular case frames. On the other hand, evidence that case realization is determined by event structure comes from data showing that modifying event structure affects case realization. Three types of event structure modification which license case alternation include the Direct Manipulation Alternation, the Caused Motion Alternation, and semantic incorporation with the affixal verb *-(g)ila* 'make'. The event-structural basis of object case is also revealed in the vicinity of weak verbs (Ritter & Rosen 1996) where the semantic value of object case is communicated independently of lexical entailments.

This analysis allows us to see how Kʷakʼʷala's object case system manifests a wider cross-linguistic tendency for languages to grammaticalize a link between object-encoding and event structure. I illustrate this by showing that Kʷakʼʷala's object case system is semantically the mirror image of the object case system in Finnish, in which the *final* bound of events is grammaticalized as an interpretable accusative case (Leino 1982, Heinämäki 1984, 1994, Kratzer 2004). Taking an even wider view, Kʷakʼʷala fits squarely within the event-structural typology proposed in Ritter & Rosen (2000), where languages are divided according to whether they grammaticalize the *initial* or *final* bound of events. Kʷakʼʷala's object case system thereby fits into existing cross-linguistic patterns while also expanding our notions of what a possible case system looks like.

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Abbreviations

Kʷakʷala data

-	Affix boundary
=	Clitic boundary
~	Reduplicant boundary
1	First person singular
1OBJ	First person object, instrumental or accusative
1EXCL	First person plural exclusive
1EXCL.OBJ	First person plural exclusive object, instrumental or accusative
1INCL	First person plural inclusive
1INCL.OBJ	First person plural inclusive object, instrumental or accusative
1POSS	Possessed by first person
1EXCL.POSS	Possessed by first person plural exclusive
1INCL.POSS	Possessed by first person plural inclusive
2	Second person
2OBJ	Second person object, instrumental or accusative
2POSS	Possessed by second person
3DIST	Third person distal
3POSS	Possessed by third person
3MED	Third person medial
3PROX	Third person proximal
3REFL.POSS	Possessed by third person, coreferent with subject or topic
A	Default vowel, miscellaneous functions
ABIL	Ability modal
ACC	Accusative case
ACC.PASS	Accusative passive, voice suffix targeting accusative-marked arguments
APPOS	Appositive
AUG	Augmentative
AUX	Auxiliary
be.1	First person copula
be.2	Second person copula
be.3DIST	Third person distal copula
be.3MED	Third person medial copula
be.3PROX	Third person proximal copula
BEC	Become operator, momentaneous aspect, inchoative; I list the base form for this suffix as *-xʔid*, though it has the following realizations: (i) on stems with no lexical suffixes *-xʔid*, *-xʔi*, *-ʔid*, *-ʔi*; on stems with lexical suffixes *-d*, *-nd*, *-ud* (*-xʔid*, *-d*, *-nd*, *ud*)
BEC.SOUND	Become operator, momentaneous aspect, inchoative; used for describing events involving emissions of sound
CAUSE	Causative
COND	Conditional
CONN	Connector; used as an enclitic host or separator after the first person enclitic
CONT	Continuative aspect
CONJ	Conjunction

DET	Determiner, existential deictic category (Black 2011)
DIM	Diminutive
DIM.PL	Diminutive plural
DIST.PAST	Distant past tense
DO	Dummy verbal root
EMBED	Embedding vowel
EXCLAM	Exclamatory
FUT	Future tense
GRAD.ADV	Gradual advancement
HORT	Hortative
HYP	Hypothetical
INDEF	Indefinite root
INST	Instrumental case
INST.PASS	Instrumental passive, voice suffix targeting instrumental-marked arguments
INVIS	Invisible; I use this as a blanket gloss for the following more specific deictic categories: third person distal invisible (*=eʔ*, *=aʔ*, *=a*); third person medial invisible (*=aǩ*, *=aq̇*); third person proximal invisible (*=ga*)
IMP	Imperative
JF	Judged form
LOC	Locative root
LOC.PASS	Locative passive
MEANS	Means case, an inherent instrumental case assigned to the complement of a covert preposition
MOD	Modal
NEG	Negation
NEG.EXIST	Negative existential
NMZ	Nominalizer
O.POSS	Oblique possessor, marks third person Agents in passives
OST	Ostensive determiner (Black 2011)
PASS	Passive
PEJ	Pejorative
PL	Plural
PART	Participle, result nominalizer
PREP	Preposition
QUES	Question
REC.PAST	Recent past tense
RECIP	Reciprocal
REDUP	Reduplicant
REPORT	Reportative
STAT	Stativizer
VER	Verum focus (Littell 2016)
VF	Volunteered form
VIS	Visible; I use this as a blanket gloss for the following more specific deictic categories: third person distal visible (—); third person medial visible (*=ǩ*, *=iǩ*, *=q*); third person proximal visible (*=(i)x*, *=(i)k*)
WH	Generic wh element

Finnish data

1	First person
3	Third person
ACC	Accusative case
M	Masculine
PART	Partitive case
PL	Plural
PST	Past tense
SG	Singular

Nuu-chah-nulth data

∅	Dummy root
3.IND	Third person, indicative mood
PL	Plural

Acknowledgments

An extraordinary aspect of writing this dissertation has been getting to experience the feeling of being on the brink which separates the known from the unknown. It's a feeling which I feel fortunate to have experienced, and I could not have had it without the support, encouragement, and effort of many people around me.

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Prologue: Language and Territory

Kʷak̓ʷala is the language of the Kʷakʷəkəw̓akʷ, the 'Kʷak̓ʷala-speaking peoples', an indigenous people of coastal British Columbia. The language is also known as Bakʷəmkala, from the root *bkʷ-* which means 'person', specifically a First Nations person from the Northwest coast cultural area. Some may know the language as 'Kwakiutl', though this word properly only refers to the tribe at Fort Rupert (Kʷaguʔɬ).

The traditional territory of the Kʷakʷəkəw̓akʷ encompasses the lands and waters within a broad area of coastal British Columbia, including the northwestern part of Vancouver Island from the Scott Islands in the northwest to Cape Mudge near Campbell River, the adjacent mainland of British Columbia northward to Smith sound, and the islands around Johnstone Straight and Queen Charlotte Straight.

The intergenerational transmission of Kʷak̓ʷala was disrupted by the residential school system. This was a system of religious schools, sponsored by the Canadian government, that was created with the purpose of separating Aboriginal children from their families in order to weaken cultural and linguistic ties and assimilate Aboriginal peoples to settler culture. Many Kʷakʷəkəw̓akʷ children attended St. Michael's Residential School in Alert Bay which operated from the 1920s to the 1970s, where speaking Kʷak̓ʷala was strictly prohibited and subject to punishment. Though a great deal of damage was done, the language and culture did not disappear.

Today Kʷak̓ʷala is spoken as a first language by fewer than 200 Kʷakʷəkəw̓akʷ (First Peoples' Cultural Council 2014), but an increasing number of people are learning to speak the language as adults. Kʷak̓ʷala is also being taught in regional high schools to younger learners, and community interest in revitalizing the language is strong in some areas, and appears to be growing. As part of this trend, a dedicated group of indigenous community members are actively pursuing certificates and degrees in native education with the goal of advancing revitalization efforts. There is hope for the future of the language, but lots of hard work ahead.

I entered this world in the autumn of 2009, when I enrolled in a field methods class at the University of British Columbia taught by Henry Davis. The language we were working on that year was Kʷak̓ʷala. At the time, I didn't know anything in particular about the language or its people. I didn't foresee how much learning about these things would open my mind and change my life.

Something my Kʷakʷəkəw̓akʷ teachers and friends have taught me is that in order to understand what Kʷak̓ʷala words refer to, you have to be acquainted with the land, the waters, and the relationships that exist and evolve within Kʷakʷəkəw̓akʷ territory. Then, when taken as a whole, the lexical resources of the Kʷak̓ʷala language can be seen to represent the total set of ontological categories that divide the Kʷakʷəkəw̓akʷ universe. In this sense, words, and pieces of words, can be seen as encapsulating culture and history. Understanding and documenting words, and pieces of words, is therefore very important.

This dissertation takes as one of its core assumptions the idea that grammar is very important too. If Kʷak̓ʷala words refer to the places, people, and relationship that carve up the Kʷakʷəkəw̓akʷ universe, then Kʷak̓ʷala grammar is like a living web which weaves these ideas into strands of thought about this universe. This creative web allows for the history and culture within words to be put together in *infinitely new ways*, thereby continually making these ideas relevant to the present moment. This dissertation aims to try and untangle one part of this web, to understand how it weaves so it can be woven anew.

Reading Notes

Readers who would like a non-technical introduction to the content of the dissertation are encouraged to read Appendix A, "A plain language overview of The Semantics of Kʷakʷala Object Case", prior to reading the rest of the dissertation. This essay has been written with the intention of being accessible to readers without background in linguistics.

Other than Appendix A which may be read first, the dissertation is best read from beginning to end.

Kʷakʷala examples in Appendix A are written in two orthographies: U'mista and NAPA (University of Victoria variety). Throughout the rest of the dissertation, Kʷakʷala examples are written in the NAPA (University of Victoria variety) orthography only. An orthography chart is provided in Appendix B comparing these orthographies as well as four additional orthographies which have been used to represent Kʷakʷala in past works.

Terms which have been coined within the dissertation (e.g. *Co-initiator*) are defined in the Glossary. Terms which appear in the Glossary are introduced in **bold** at the point(s) where they first appear in the text.

1
Introduction

1.1 The puzzle

Kʷaḵʷala has two object case markers, =*s* 'instrumental' and =*x̌* 'accusative'. When we take into account the relationship between (i) these two case markers, (ii) particular verbs, and (iii) particular internal semantic arguments of verbs, we find that there are three kinds of relations instantiated within the language.

The first kind of relation is one in which a verb takes a semantic argument in the instrumental case (=*s*), as exemplified in (1). I'll refer to this type of relation as **strict-instrumental**.

(1) Strict-instrumental (=*s*) relations

a. kəlxʷʔid**s**a dala
kəlxʷ-xʔid =**s**=a dala
buy-BEC =**INST**=DET money
'to buy with money (**INST**)'

b. bəw**s**ən ṅəmukʷ
bəw =**s**=ən ṅəmukʷ
leave =**INST**=1POSS friend
'to leave my friend (**INST**)'

c. maẏuƛ**a**sa babaǧʷəm
maẏuƛa =**s**=a babaǧʷəm
give.birth =**INST**=DET little.boy
'to give birth to a little boy (**INST**)'

d. ʔiʔkila**s**a c̓əxq̓uləm
ʔiʔkila =**s**=a c̓əxq̓uləm
heal/bless =**INST**=DET illness
'to heal from an illness (**INST**)'

e. ʔiʔkila**s**a wałdəm
ʔiʔkila =**s**=a wałdəm
heal/bless =**INST**=DET word
'to bless with words (**INST**)'

f. ǧəlsa**s**a ƛ̓iṅa
ǧəlsa =**s**=a ƛ̓iṅa
paint =**INST**=DET eulachon.grease
'to paint with eulachon grease (**INST**)'

g. kəɬəla**s**a loli̓nuǩ
kəɬ-la **=s**=a loli̓nuǩ
scared-CONT **=INST**=DET ghost
'to be scared of ghosts (**INST**)'

The second kind of relation is one in which a verb takes an argument in the accusative case (=*x̌*), as in (2). I'll refer to this type of relation as **strict-accusative**.[1]

(2) Strict-accusative (=*x̌*) relations

a. t̓usʔid**ǩ**a kʷənikʷ
t̓us-xʔid **=ǩ**=a kʷənikʷ=x̌
cut-BEC **=ACC**=DET bread=VIS
'to cut bread (**ACC**)'

b. ləmxʷʔid**ǩ**a q̓əmdzəkʷ
ləmxʷ-xʔid **=ǩ**=a q̓əmdzəkʷ
dry-BEC **=ACC**=DET salmonberry
'to dry salmonberries (**ACC**)'

c. məxʔid**ǩ**ada t̓əxəla
məx-xʔid **=ǩ**=a=da t̓əxəla
punch-BEC **=ACC**=DET=OST door
'to punch the door (**ACC**)'

d. ğəlsa**ǩ**a gukʷ
ğəlsa **=ǩ**=a gukʷ
paint **=ACC**=DET house
i. 'to paint (on) a house (**ACC**)'
ii. 'to paint a house-image (**ACC**)'

e. ʔiʔkila**ǩ**a c̓ədaq
ʔiʔkila **=ǩ**=a c̓ədaq
heal/bless **=ACC**=DET woman
'to heal/bless a woman (**ACC**)'

f. duqʷəla**x̌**a bədi
duqʷ-la **=ǩ**=a bədi
see-CONT **=ACC**=DET cougar
'to see a cougar (**ACC**)'

[1] We will in fact see in Chapter 5 that many apparently strict relations are not strict in particular semantic environments. Part of the problem to solve, then, is how to explain the conditions under which these otherwise strict mappings may be violated.

The third kind of relation, shown in (3), is one in which a verb allows the same semantic argument to appear in either case. I will refer to a relation of this sort as an **alternating instrumental-accusative** relation, or an **alternating** relation for short.

(3) Alternating instrumental-accusative {=*s*, =*x̌*} relations

a. ǧix̌^{w}ʔid{**s**a, **x̌**a} ǧ^{w}iɬǧ^{w}ela
gix̌^{w}-xʔid {=**s**=a , =**x̌**=a} ǧ^{w}iɬǧ^{w}ela
hang-BEC {=**INST**=DET , =**ACC**=DET} clothes
'to hang clothes {**INST**, **ACC**}'

b. muk^{w}a{**s**a, **x̌**a} dənəm
muk^{w}a {=**s**=a , =**x̌**=a} dənəm
tie {=**INST**=DET , =**ACC**=DET} rope
'to tie rope {**INST**, **ACC**}'

c. ʔəmła{**s**a, **x̌**a} yaci
ʔəmła {=**s**=a , =**x̌**=a} yaci
play {=**INST**=DET , =**ACC**=DET} Yahtzee
'to play Yahtzee {**INST**, **ACC**}'

d. hənxƛənd{**s**a, **x̌**a} digiɬ̓ac̓i
hənxƛənd {=**s**=a , =**x̌**=a} digiɬ̓ac̓i
hollow.container.upright.on.fire {=**INST**=DET , =**ACC**=DET} teapot
'to set a teapot {**INST**, **ACC**} down on the stove'

e. huq^{w}a{**s**a, **x̌**a} həm̓eʔ
huq^{w}a {=**s**=a , =**x̌**=a} həm̓eʔ
vomit {=**INST/=ACC** , =**ACC**=DET} food
'to vomit food {**INST**, **ACC**}'

f. ƛ̓iq̓a{**s**, **x̌**} Mabel
ƛ̓iq̓a {=**s** , =**x̌**} Mabel
jealous-a {=**INST** , =**ACC**} Mabel
'to be jealous of Mabel {**INST**, **ACC**}'

Taking as our starting point the existence of the three kinds of relations above, the central empirical problem this dissertation sets out to solve is the problem of how to predict and explain, for any given internal argument, why that argument is expressible as an instrumental, accusative, or potentially alternating object.

My solution for capturing the distribution of object case will centre on the claim that the distribution of object case in K^{w}ak̓^{w}ala is grounded in an event-structural distinction between *initiating* and *non-initiating* subevents. Later in this chapter I'll provide a short preview of this solution. Before this, however, I will provide some background on instrumental and accusative objects (Section 1.2), followed by an overview of what has previously been said about object case in K^{w}ak̓^{w}ala in order to contextualize the novel contribution made by this dissertation

(Section 1.3). I'll then preview my semantic solution (Section 1.4) and will finish by providing a chapter-by-chapter overview of the dissertation (Section 1.5).

1.2 Background on objects

The purpose of this section is to delineate the set of case-marked nominals that this dissertation aims to provide a theory for and introduce their basic morphological and syntactic properties.

Instrumental and accusative objects are morphologically distinct only in the third person, where case is realized by the enclitics *=s* ('instrumental') and *=x̌* ('accusative'). These case markers appear as the leftmost elements within noun phrases and as such, tend to form a prosodic constituent with the syntactic constituent to their immediate left, resulting in a mismatch between prosodic and syntactic phrasing that is characteristic of noun phrases in Kʷakʷala (Boas 1911: p. 528; Boas 1947: p. 252; Anderson 2005: p. 19, Janzen 2015: p. 40-42). This mismatch can be observed in the first line of examples (4)-(5), where objects have been indicated in **bold**. Here we can see the case marker prosodically associating with the constituent to its left, while an accompanying nominal (when one is present) forms a separate prosodic word.

(4) Examples of third person instrumental (*=s*) objects

a. lən q̓iq̓əʔeqəla**s Abbi**
lə =ən q̓i~q̓a-ʻeq-la **=s** **Abby**
AUX =1 REDUP~worried-in.mind-CONT **=INST** **Abby**
'I'm worried about **Abby** (**INST**).' (VF)

b. *Context: Hope is navigating her house in the dark during a power-outage, and has just picked up a flashlight.*

ləʔəmlʼawis q̓ʷəx̌ʔidə**s**
lə=ʔm=lʼa=wis q̓ʷəx̌-xʔid **=s**
AUX=VER=REP=and go.on-bec **=INST**
'Then she turned **it** [**the flashlight**] (**INST**) on.' (VF)

(5) Examples of third person accusative (*=x̌*) objects

a. cəxamasuǩ Jamesi**x̌uǩda ʔəwiʼnaʔgʷiɬ**
cəx-a-mas =uǩ James=x̌ **=x̌=uǩ=da** **ʔəwiʼnaʔgʷiɬ**
slippery-A-CAUS =3MED James=VIS **=ACC=3MED=OST** **floor.in.house**
'James made **the floor** (**ACC**) slippery.' (VF)

b. gax̌i Katie ləmxʷa**x̌ən səy̓a**
gax̌ =i Katie ləmxʷ-a **=x̌=ən** **səy̓a**
come =3DIST Katie dry-A **=ACC=1POSS** **hair**
'Katie came to dry **my hair** (**ACC**).' (VF)

When an overt nominal argument is expressed as an object, its case marker may appear alone (as in (4a)), or as the first element in a string of prenominal enclitic determiners which

have possessive and locative meanings (Chung 2007) or which indicate a category which Black (2011) refers to as 'ostension', a kind of linguistic pointing gesture. For instance, a nominal meaning 'this (proximal, visible) writing utensil' could be expressed as an instrumental object as *=s=ga=da kadayu=k* (=INST=PROX=OST writing.utensil=PROX.VIS[2]). The prenominal deictic clitic strings that I have encountered for objects in my fieldwork are presented in Table 1.1, excluding possessives.[3]

Deictic category	**Instrumental**	**+OST**	**Accusative**	**+OST**
proximal	*=sga*	*=sgada*	*=x̌ga*	*=x̌gada*
medial	*=sux̌*	*=sux̌da*	*=x̌ux̌*	*=x̌ux̌da*
medial existential	—[4]	—	*=x̌^{w}a*	*=x̌^{w}ada*
distal	*=si*	*=sida*	*=x̌i*	*=x̌ida*
existential[5]	*=sa*	*=sada*	*=x̌a*	*=x̌ada*

Table 1.1: Prenominal deictic forms for instrumental and accusative objects

In modern K^{w}ak̓^{w}ala, the prenominal clitic strings in Table 1.1 can appear without a following nominal and thereby function as pronouns. Alternatively, there is a separate set of third person pronominal object forms. These forms are listed in Table 1.2, where they have been adapted from a table in Boas (1947: p. 252). These separate pronominal forms never include ostensive *=da*.

	Instrumental	**Accusative**
proximal, visible	*=sək*	*=qək*
proximal, invisible	*=sgaʔ*	*=x̌gaʔ*
medial, visible	*=sux̌*	*=q^{w}*
medial, invisible	*=suʔ*	*=q̓^{w}, =quʔ*
distal, visible	*=s*	*=q*
distal, invisible	*=si*	*=qi*

Table 1.2: Third person enclitic pronominal objects in Boas (1947: p. 252)

[2] Within noun phrases, the first prosodic word is also followed by postnominal clitics which mark, among other things, whether the nominal is visible or invisible (Chung 2007). I discuss postnominal (i.e. second-position) enclitics in Chapter 2, Section 2.3.

[3] The system of possessive enclitics is complicated in that some possessives are prenominal clitics, some are postnominal clitics, and some can appear either in prenominal position or in both positions at once (Boas 1947: p. 254-255; Littell 2016: p. 575-578, 579, 581-583).

[4] A phonological constraint preventing the realization of labialized alveolar fricatives (*=*s^{w}a*) might help explain the gap in the paradigm here.

[5] This label comes from Black (2011) who proposes that *=a* marks a fourth locative determiner category with an existential meaning.

I have not encountered all of the forms in Table 1.2 in my fieldwork. This suggests that use of the prenominal forms in Table 1.1 as pronouns is gradually replacing use of the separate pronominal forms in Table 1.2.

First person and second person instrumental and accusative objects are expressed by the syncretic forms listed in Table 1.3 and Table 1.4. The first person forms in Table 1.3 are derived historically from constructions involving the motion verb *gaǩ-* 'come' (Anderson 1984: p. 25, Sardinha 2011a: p. 390, Rosenblum 2013: p. 234) which are no longer semantically transparent (Davis & Sardinha 2011). In modern Kʷakʷala, I have observed second person pronouns expressed by the two alternative forms listed in Table 1.4. More research is needed to map out their distribution the in modern language.

Form	**Gloss**
gaǩən	1st singular, instrumental or accusative
gaǩənʔs	1st plural inclusive, instrumental or accusative
gaǩənuʔxʷ	1st plural exclusive, instrumental or accusative

Table 1.3: First person object forms

Form	**Gloss**
loƛ ~ loɬ	2nd instrumental or accusative
qus ~ ǩus ~ ƛus	2nd instrumental or accusative

Table 1.4: Second person object forms

Since instrumental and accusative objects are not distinct in the first and second person, examples containing these forms are rarely made use of in this dissertation.

Within the clause, *=s* marked nominals and *=ǩ* marked nominals appear in the same surface syntactic position. The basic word-order of monotransitive clauses in Kʷakʷala is VSO. Whether the object is an *=s* object (6) or a *=ǩ* object (7), it must immediately follow the subject ('a' examples), unless the subject has raised to a position preceding the main verb, in which case it must immediately follow the verb ('b' examples).

(6) <u>*=s* objects</u>

a.

V	S		**O**	
həɬaq	=uǩ	Ted	**=sida**	**ləqʷa**
həɬaq	=uǩ	Ted	**=s=i=da**	**ləqʷa**
pay	=3MED	Ted	**=INST=3DIST=OST**	**firewood**

'Ted is paying/paid **with firewood** (**INST**).' (VF)

b.

AUX	S	V	**O**	
ləʔəm	=s	ʔəǩc̓u	**=sida**	**c̓uǧʷayu**
lə=ʔm	=s	ʔəǩ-c̓u	**=s=i=da**	**c̓uǩʷ-ˌʷayu**
AUX=VER	=2	DO-inside	**=INST=3DIST=OST**	**wash-INST.PASS**

'Then you put in **soap** (**INST**).' (VF)

(7) =*x̌* objects

a.

V	S		O		
kəlxʷ	=ox̌da	babağʷəmeǩ	**=x̌ʷa**	**dzastu**	**ƛ̓ətəmɬ**
kəlxʷ	=oǩ=da	babağʷəm=x̌	**=x̌=ʷ=a**	**dzastu**	**ƛ̓ətəmɬ**
buy	=3MED=OST	little.boy=VIS	**=ACC=3MED=OST**	**blue.colour**	**hat**

'The little boy bought **a blue hat** (ACC).' (JF)

b.

AUX	S	V	O		
ləm̓is	=əs	c̓uǩʷa	**=x̌ida**	**n̓axʷa**	**hishəm̓ac̓iya?**
lə=ʔm=is	=s	c̓uǩʷ-a	**=x̌=i=da**	**n̓axʷa**	**hishəm̓ac̓i=aʔ**
AUX=VER=and	=2	wash-A	**=ACC=3DIST=OST**	**everything**	**dishware=INVIS**

'Then you wash **all the dishware** (ACC) .' (VF)

I will refer to the clausal position these case-marked nominals occur in as **canonical object position**. Its position in clausal syntax is schematized in (8).

(8) Canonical object position

i.		V	S	**O**	PP*[6]
ii.	Aux	V	S	**O**	PP*
iii.	Aux	S	V	**O**	PP*

Wherever English translations are provided for Kʷak̓ʷala sentences, a nominal in canonical object position is indicated by the label '(INST)' if it is instrumental (as in (6)) or '(ACC)' if it is accusative (as in (7)).

In this dissertation, I will only be concerned with =*s* nominals and =*x̌* nominals which are realized in canonical object position. I refer to these nominals as instrumental objects and accusative objects, respectively. In the chapters to come, my aim is to provide a theory that explains when it is grammatically possible to realize an instrumental object, an accusative object, or an object in either case.

The reason that this delineation of instrumental and accusative objects is important is that it excludes a set of =*s* marked and =*x̌* marked nominals which can appear to the right of this position, which my analysis does not attempt to account for. First off, it excludes =*s* marked nominals like the one in (9) which appears outside of canonical object position, following a prepositional phrase.

(9) ğəlsida c̓ədaq laǩis ğuğəm̓eyə**sa ƛ̓in̓a**

ğəls	=i=da	c̓ədaq	la	=x̌=is	ğuğəmeʔ
paint	=3DIST=OST	woman	PREP	=ACC=3REFL.POSS	face
	=s=a	**ƛ̓in̓a**			
	=MEANS=DET	**eulachon.grease**			

'The lady is painting on her face **with eulachon grease**.' (JF)

[6] The Kleene star here indicates that there may be zero or more PPs (prepositional phrases) in the position indicated. It's also possible for more than one auxiliary to be present, but I've left out details regarding their ordering aside here, since this topic is complicated, and unrelated to the clausal positioning of objects. For more information on the positioning of auxiliaries relative to the subject, the reader is referred to Littell (2012) and Littell (2016: 587-590).

The set of *=s* initial phrases which can appear outside of canonical object position tend to be adjunct-like in their semantics, denoting Instruments or Means, while the set of *=s* initial phrases which appear in canonical object position can also denote Instruments or Means, but may in addition possess a wider range of thematic meanings than this (as I will shown in chapters to come; see also the data in (1)). My assumption is that the *=s* marked nominals which appear outside of canonical object position, in the domain of PPs, are PPs themselves, headed by a covert preposition which assigns its nominal complement inherent case (Woolford 2006, Legate 2008). To avoid terminological confusion, I will refer to this inherent case as 'means case', and will gloss the *=s* in these contexts as MEANS.[7] The analysis I assume is summarized in (10).

(10) **Means-PP Analysis ($\varnothing_P$=*s*)**
=s marked phrases which appear to the right of canonical object position are Means PPs headed by a covert preposition which assigns inherent means case.

Nominals denoting Instruments or Means can be realized either as *=s* objects in canonical object position (as in (6a)) or in *=s* initial Means PPs (as in (9)), so it will sometimes be impossible to tell whether a given nominal is an instrumental object or a Means PPs on account of these constituents' identical surface morphology. Empirical evidence supporting the analysis in (10) is discussed in Appendix C.[8]

There is in addition a set of *=x̌* marked nominals which may appear outside of canonical object position which are excluded from my analysis. These *=x̌* marked nominals include relative clauses (11), temporal adverbial phrases (12), and appositives (13).

(11) Masaki, haga ʔəʔedaqasa keʔgəs **x̌uʔs gəluɬʔicəẇuʔs**
Masaki, haga ʔə~ʔit-$_w$aqa =s=a keʔgəs **=x̌=uʔs**
Masaki, HORT REDUP~again-go =INST=DET cake **=ACC=2POSS**
gəluƛ-xʔid-sẇ=uʔs
steal-BEC-ACC.PASS=2POSS
'Masaki, return the cake (INST) **that you stole**.' (Littell 2016, p. 603)

(12) ɬawisox̌da ʔəbəmpx̌a ṅəmuk^w**x̌a ɬənswəɬ**
ɬawis =ox̌=da ʔəbəmp =x̌=a ṅəm̓-uk^w
angry =3MED=OST mother =ACC=DET one-person
=x̌=a **ɬənswəɬ**
=ACC=DET **yesterday**
'The mother was angry at her friend (ACC) **yesterday**.' (VF)

[7] Alternatively, this case could be referred to as an inherent instrumental case. However, since at this point in the exposition I have not yet shown the reader why the object instrumental case is not *itself* an inherent case, I have chosen not to adopt this label.

[8] If the Means-PP Analysis turned out to be wrong, the one claim that would be seriously affected is the syntactic analysis of instrumental case assignment presented in Chapter 6, Section 6.4.2. Semantically-speaking, the set of *=s* marked nominals which can appear outside of canonical object position are a subset of the *=s* marked nominals which can appear in canonical object position; therefore, the semantic analysis I propose in Chapter 4 for determining the distribution of object case would be largely unaffected if (10) turned out to be wrong (outside of any connection to the syntactic realization of case, that is).

(13) li ʔəx̌ʔids lax̌is ʔəy̓əʔsu, **x̌is pət̓eʔ**

lə	=i	ʔəx̌-xʔid	=s	la	=x̌=is
AUX	=3DIST	DO-BEC	=INST	PREP	=ACC=3REFL.POSS
	ʔəy̓əʔsu	**=x̌=is**			**pət̓=eʔ**
	hand/arm	**=ACC=3REFL.POSS**			**take.medicine=NMZ**

'Then he puts it (INST) on his arm, **his medicine**.' (VF)

I assume that accusative case is assigned as a default case in these phrases, and do not discuss them further below.

One final property to be aware of in relation to instrumental and accusative objects in Kʷak̓ʷala is their correspondence with a set of suffixes which have been variously referred to as *passives* (Boas 1947, Anderson 1984, Rosenblum 2013), *focus suffixes* (Levine 1980, 1981, 1984), *nominalizers* (Boas 1911, Sherer 2014), and *voice suffixes* (Sherer ibid.). These suffixes are used to "regulate the mapping of thematic roles to subject position" (Sherer 2014: p. 23) through the formation of passive-like predications, wh-questions, relative clauses, and clefts. Two voice suffixes in particular are relevant to this study due to their intimate connection with object case: the instrumental passive *-ayu* (INST.PASS)[9] and the accusative passive *-səẃ* (ACC.PASS).[10] The voice suffix *-ayu* is used to promote nominals which in active clauses are expressed as instrumental (*=s*) objects. Thus is shown in (14): (14a) shows an active clause with an *=s* object, and (14b) shows a corresponding passive clause with *-ayu* on the same verb, where the internal argument is realized as the subject. The voice suffix *-səẃ* is used to promote accusative (*=x̌*) objects; this is shown in (15): (15a) shows an active clause with a *=x̌* object, and (15b) shows a corresponding passive clause with *-səẃ* on the same verb, where the internal argument is realized as the subject. Concomitantly, nominals which undergo object case alternation can be promoted to subject by either *-ayu* or *-səẃ*. This is shown in (16), where an argument which undergoes case alternation in an active clause (16a) is shown being questioned using sentences containing either voice suffix (16b)-(16b).

(14) <u>*=s* objects covary with *-ayu*</u>

a. walasən kəɬʔi**sa wa:ladzi ẃac̓i**

walas	=ən	kəɬ-xʔid	**=s=a**	**walas-dzi**	**ẃac̓i**
big/very	=1	scared-BEC	**=INST=DET**	**big/very-AUG**	**dog**

'I got really scared by **the big dog** (**INST**).' (VF)

b. kəɬʔid**ayu**woxda lol̓inox̌(əsox̌ Keti)

kəɬ-xʔid-**ayu**	=ox̌=da	lol̓inox̌	(=s=ox̌	Katie)
scared-BEC-**INST.PASS**	=3MED=OST	ghost	(=3POSS=3MED	Katie)

Literally: 'A ghost **is what was gotten scared of** (***-ayu***) (by Katie).' (VF)

[9] The suffix *-ayu* can appear in two positions within the verb stem (Littell 2016: pg. 509-518). When it attaches to the left of derivational aspectual morphology it weakens the preceding consonant, and when it attaches to the right of this morphology, it does not. I follow Littell in parsing the former use as *-ʷayu* and the latter use simply as *-ayu*, while glossing both uses as INST.PASS.

[10] This suffix is typically represented as *-su?*, though Littell (2016: p. 519) establishes that its underlying form is *-sẃ* and that it is realized as either *-səẃ* or *-su?* depending on whether a vowel follows it (*-səẃ*) or does not follow it (*-su?*). I assume Littell's analysis here, though I have left the schwa in glosses of this suffix to maintain consistency with the conventions I've adopted for representing this vowel.

(15) =*x̌* objects covary with *-sə̓w̓*

a. təp̓idi Karen**x̌a k̓ʷəʔsta**
təp-xʔid =i Karen **=x̌=a** **k̓ʷəʔsta**
broken-BEC =3DIST Karen **=ACC=DET** **cup**
'Karen broke **the cup** (ACC).' (VF)

b. təp̓id**səw̓**oxda k̓ʷəʔsteʔ(**s** Pat)
təp-xʔid-**səw̓** =ox̌=da k̓ʷəʔst=eʔ (**=s** Pat)
broken-BEC-**ACC.PASS** =3MED=OST cup=INVIS (**=O.POSS** Pat)
'The cup **is what was broken** (***-sə̓w̓***) (by Pat).' (VF)

(16) {=*s*, =*x̌*} objects covary with {*-ayu*, *-sə̓w̓*}

a. ğix̌ʷʔidi Mabele{**sa, x̌a**} **nəxʷəneʔ** laxa ğix̌ʷdən̓a
ğix̌ʷ-xʔid =i Mabel=i {**=s=a** , **=x̌=a**}
hang-BEC =3DIST Mabel=VIS {**=INST=DET** , **=ACC=DET**}
nəxʷ-(k̓)ən=eʔ la =x̌=a ğix̌ʷdən̓a
wrap-body-NMZ PREP =ACC=DET clothesline
'Mabel was hanging/hung **the blanket** {**INST**, **ACC**} on the clothesline.' (VF, JF)[11]

b. m̓asi ğix̌ʷʔid**ayu**weʔsux̌ Hopix̌
m̓as =i ğix̌ʷ-xʔid-**ayu**=eʔ =s=ux̌ Hope=x̌
what =3DIST hang-BEC-**INST.PASS**=NMZ =O.POSS=3MED Hope=VIS
'What is Hope hanging?' or 'What did Hope hang?' (VF)
Literally: '**What Hope is hanging/hung (*-ayu*)** is what?'

c. m̓asi ğix̌ʷʔid**suw̓**eʔsux̌ Hopix̌
m̓as =i ğix̌ʷ-xʔid-sə̓w̓=eʔ =s=ux̌ Hope=x̌
what =3DIST hang-BEC-ACC.PASS=NMZ =O.POSS=3MED Hope=VIS
'What is Hope hanging?' or 'What did Hope hang?' (VF)
Literally: '**What Hope is hanging/hung (*-sə̓w̓*)** is what?'

The distribution of *-ayu* and *-sə̓w̓* is in correspondence with the distribution of =*s* objects and =*x̌* objects, in the way summarized in Table 1.5.

Case	**Voice suffix**
INST (=*s*)	*-ayu*
ACC (=*x̌*)	*-sə̓w̓*
{INST (=*s*), ACC (=*x̌*)}	{*-ayu*, *-sə̓w̓*}

Table 1.5: Correspondences between object case and voice suffixes

[11] The annotation '(VF, JF)' is ordered, and indicates that this sentence was volunteered with =*sa*, the first choice within the brackets in the Kʷak̓ʷala translation line, and judged grammatical and felicitous with =*x̌a*, the second choice within the brackets in Kʷak̓ʷala translation line. The annotations (JF, VF), (VF, VF), and (JF, JF) will be encountered in future examples and are meant to be interpreted in a similar fashion.

The significance of these correspondences lies in the fact that they enable Kʷakʼʷala data involving *-ayu* and *-səẇ* to inform us indirectly about the distribution of *=s* and *=x̌*. Thus, even though I am not specifically concerned here with the formation of passives, questions, clefts, and relative clauses, I have made extensive use of these voice suffixes to investigate case frames and will occasionally make use of data containing them when illustrating empirical arguments.

1.3 Previous work on object case

Very little previous work has focused on Kʷakʼʷala object case, and what has been said about object case raises some significant problems to be solved.

To begin with, no semantic factors have yet been identified which can explain, in unified terms, the difference between *=s* objects and *=x̌* objects. I discuss what previous researchers have said regarding the semantics of object case in Section 1.3.1.

Secondly, even though the case alternation in (3) is widespread in modern Kʷakʼʷala, it is not discussed in the extensive early descriptive work on Kʷakʼʷala (Boas 1911, 1947) or in any work published since. I discuss this apparent empirical gap in Section 1.3.2.

1.3.1 Semantic factors in case distribution

The distribution of object case markers in Kʷakʼʷala is outlined in Boas (1900: p. 713-714), Boas (1911: p. 528, 544), and Boas (1947: p. 251-254, 281, 284-286), in works which lay the foundation for all subsequent work on object expression in this language. On the whole, Boas' descriptions of object case are surprisingly brief, and are notable for the challenges they pose for defining a semantic theory of object case.

Boas (1911) clearly identifies instrumental (*=s*) as a semantic case for Instruments,[12] a fact which is reflected in the following remark.

> "Whenever an action can be interpreted as performed with an instrument, the instrumental is used, for which the Kwaguł has a great predilection." (Boas 1911: p. 544)

In Boas (1947), the labels 'instrumental' for *=s* and 'objective' for *=x̌* appear without comment, with the apparent intention being to allow these labels to speak for themselves. Thus, *=s* is taken to be a case for introducing semantic Instruments, while *=x̌* is taken to introduce most arguments we might expect to be direct objects on the basis of what we see in familiar Indo-European languages. Nevertheless, Boas' few explicit comments about *=s* indicates that he was puzzled by its distribution, which is wider than expected. This attitude is apparent, for instance, in the following passage from Boas (1947):

> "The number of cases in which the object used in an action is expressed by the instrumentalis [*=s*] is very large. In most of these [instances where the instrumental is used] we rather conceive of the action as done **to** the object. We say, 'I pour water into the dish.' The Kwakiutl prefers 'I pour with water into the dish'." (Boas 1947: 285; emphasis added)

[12] Thematic role labels are capitalized throughout the dissertation for easy recognition. Thematic roles are used here for discussing semantic categories, stating semantic generalizations, and representing the entailed semantic arguments of particular verbs. I do not take a stand here about whether thematic roles have any causal role within the grammar.

In this quote, Boas observes that many instrumental-marked arguments in Kʷakʷala don't fall naturally into the category of what a speaker of a Germanic language might intuitively classify as an Instrument. In the following quote he develops this thought further, observing that many instrumental-marked arguments closely resemble accusative marked arguments (referred to here simply as 'objects') in their thematic properties.

> "In a limited number of cases the instrumental appears alone, without object. These agree in part with our concept of instrumentality: *qaʔx̌s kiʔsəi məqas̲əs wəłba* 'for he had not let go of his lance C 26:15.123; *gax̌s̲a qasa* 'he came with sea otters' C II 102.24; *lə mənsʔits̲a kʷax̌ƛawi* 'then he measured with a cedar stick' R 64.68. **In other cases we should expect an object**: *lə hənłʔits̲is hanaƛəm* 'then he shot him (with) his arrow' C 26:136.69; *lə nəpas̲a tisəm* 'then he threw (him with) a stone' C 26:136:71;" (Boas 1947:285; emphasis added)

Boas clearly believed *=s* to be a semantic case for Instruments. What surprised him about the distribution of *=s* was how broad the semantic category 'Instrument' seemed to be in the mind of Kʷakʷala speakers. In other words, the distribution of instrumental case was puzzling to Boas because it suggested to him that Kʷakʷala speakers were more likely to conceptualize objects as Instruments than, for instance, speakers of a Germanic language. When we cast Boas' problem in the light of modern linguistic theory, the distribution of instrumental case in Kʷakʷala can be seen as a thematic role problem: all Instruments are marked with *=s*, but so too are many semantic arguments which are *not* obviously Instruments, and which seem intuitively to have something 'done *to*' them. Instrumental case, then, has a wider distribution than what we might expect on the basis of an intuitive notion of what an Instrument is, so that there is a mismatch between the label 'instrumental' and the class of arguments marked by *=s*. The problem we inherit from Boas' early descriptions, then, is that they only partially enable us to predict the distribution of *=s* objects and *=x̌* objects.

Boas' observation that there is an association between *=s* marking and Instruments is supported by Sardinha's (2011a) analysis of the diachronic origins of *=s* marking. Sardinha (ibid.) argues that instrumental *=s* developed out of constructions involving the Proto Northern Wakashan preposition ***his*, a marker that was used historically to introduce semantic Instruments.[13] While this finding is consistent with Boas' view that instrumental case is a semantic case, it does not help explain why some *=s* objects are not Instruments, and thus Boas' puzzle remains.

From the time of Boas' descriptions to the publication of work leading up to this dissertation (Sardinha 2016b), no published research has focused on the distribution of object case in Kʷakʷala. When we look at the glossing conventions of different researchers, however, we see that the labels which have been applied to *=s* have taken on a syntactic flavour over time. In Table 1.6 I give a representative list of the labels assigned to object case markers in the literature on this language.

[13] Sardinha (2011a) also proposes that prepositional ***his*** introduced third person genitives and oblique agents, which in modern Kʷakʷala are also introduced by the enclitic *=s*. I take these other uses of *=s* to be synchronically distinct from *=s* as an instrumental object marker.

Source	Label for =*x̌*	Label for =*s*
Hall (1888)	objective	—[14]
Boas (1947)	objective	instrumental
Levine (1980)	object	oblique
Anderson (1984)	objective	instrumental
Davis & Sardinha (2011)	accusative	oblique
Rosenblum (2013)	primary object	secondary object
Greene (2013)	accusative	oblique
Sherer (2014)	accusative	oblique possessor
Janzen (2015)	accusative	oblique
Littell (2016)	accusative	oblique

Table 1.6: Examples of labels used to refer to K^{w}ak̓^{w}ala object markers

Levine (1978: p. 9), Anderson (1984: p. 24) and Rosenblum (2013: p. 271) explicitly assume the distribution of object case to be syntactically determined, while Davis & Sardinha (2011) suggest that object case may be determined lexically. Other researchers have continued to cite Boas' description of object case markers without committing to any particular theory about what determines their distribution (e.g. Littell 2016: p. 566-7).

In short, Boas' description of object case in K^{w}ak̓^{w}ala drew attention to an obvious association between =*s* marking and Instruments, and indeed, all Instruments are predictably =*s* marked. However, this semantic generalization is not sufficient for predicting the distribution of =*s* objects, since many =*s* objects are not obviously Instruments. An adequate theory of object case in K^{w}ak̓^{w}ala will therefore need to explain two things: first, why the semantic notion of an Instrument is partially, though not wholly, able to account for the distribution of instrumental case; and second, why many =*s* objects are not Instruments.

1.3.2 Case alternation, or lack thereof

Something that stands out about Boas' grammatical descriptions of K^{w}ak̓^{w}ala is that there is no unambiguous mention of the {=*s*, =*x̌*} case alternation observed in (3).[15] Rather, one gets the impression from reading Boas (1911) and Boas (1947) that the alternation in question was either rare or non-existent in the speech of his consultants. Unfortunately however, this impression is very hard to verify. For instance, Boas (1911) seems to be discussing object case alternation when he states that "In many cases, however, both instrumental and objective can be used,

[14] Hall (1888) lists 'possessive' as a case associated with =*s*; however, he appears to be referencing a synchronically distinct use of the enclitic =*s* as a postnominal genitive, rather than the use of =*s* to introduce direct objects under discussion here.

[15] An approximate estimate, produced on the basis of my own fieldwork corpus, is that around 1/4 of all verb-argument pairs are strict-instrumental, 1/2 are strict-accusative, and 1/4 are alternating. These estimates characterize my corpus only, and should be taken with a grain of salt. Regardless of how accurate these estimates are, what is important to note is that each type of relation is well-attested. Case alternation, in particular, is far from a marginal phenomenon in the modern language.

according to the point of view taken" (p. 544). However, the examples following this statement involve only instrumental objects, and no further commentary is given. Another place where Boas appears to discuss case alternation is cited below, in a quote where he is discussing how the addition of the suffix *-d/-nd-/ud*[16] to stative stems produces 'active' (that is, eventive as opposed to stative) forms. He states:

> "When the concept contained in the suffix is conceived of as locative, or generally adverbial, they are active and the object is expressed by the objective **or** the instrumental (see p. 284). Sometimes they appear without object in a generalized meaning. When the suffix is conceived of as nominal they appear without object." (Boas 1947, pp. 273; emphasis added)

A problem arises in trying to interpret Boas' comment here because the 'or' that is bolded in the quote is ambiguous between being an inclusive or exclusive disjunction. If 'or' is meant here to have an inclusive reading, then Boas is indeed discussing the semantic conditions under which case alternation can occur. However, if 'or' is meant to have an exclusive reading, Boas is not making any statement about case alternation at all. In fact, the examples that Boas lists immediately following this comment suggest that this latter interpretation is the intended one: all of the examples he gives with *=s* objects involve stems with the meaning of 'put' (17), while all of the examples with *=x̌* objects involve verb stems which in the modern language can only take *=x̌* objects (18).[17] In other words, none of the examples Boas gives to illustrate his point provide evidence for case alternation being possible with the *same* verb stem. (The translations of these examples are Boas', while the labels used in glossing are my own; Boas did not gloss most of the examples in his grammars.)

(17) <u>With instrumental (*=s*)</u>

a. qaʔs ʔəx̌ƛənde**s**
qa =is ʔəx̌-xƛ-xʔid=i **=s**
PREP =3REFL.POSS DO-on.fire-BEC=NMZ **=INST**
'and he puts **it** (**INST**) on the fire.' (Boas 1947: p. 273)

b. ʔəx̌əgən**ts** laxa q̇ulaċi
ʔəx̌-(g)ega-xʔid **=s** la =x̌=a q̇ulaċi
do-inside.hollow.object-BEC **=INST** PREP =ACC=DET steaming.box
'he puts **it** (**INST**) on the rim of the steaming box' (Boas 1947: p. 273)

c. ʔəx̌stən**ts**
ʔəx̌-ʔsta-xʔid **=s**
DO-in.water-BEC **=INST**
'he puts **it** (**INST**) into water' (Boas 1947:p. 273)

[16] I analyze the suffix *-d/-nd/-ud* as an allomorph of the momentaneous aspect suffix *-xʔid* (Greene 2013). Specifically, the set of forms *-d/-nd/-ud* are found attached to stems containing lexical suffixes.
[17] In Boas' era, the pronominal forms of accusative objects contain *=q*, rather than *=x̌*. In the modern language, *=q* is almost always spirantized to *=x̌*.

d. le q̓uẍc̓udl̓aʔənts giy̓asis gic̓olasi
le q̓uẍ-c̓u-xʔid=l̓a =ənʔs giy̓a **=s=is**
AUX wear-inside-BEC=IMP =1INCL.POSS lady **=INST=3REFL.POSS**
gi-c̓u-la =s=i
LOC-inside-CONT =3POSS=3DIST
'then put on our lady **hers that she had on** (INST)' (Boas 1947: p. 273)

(18) With accusative (=*x̌*)

a. qaʔs cəxsʔəndə**q**
qa =is cəx-(x)sʔ-xʔid **=q**
PREP =3REFL.POSS chop-across-BEC **=ACC**
'and he chops **it** (ACC) off' (Boas 1947: p. 273)

b. sup̓əx̌odə**q**
sup-$_h$x̌u-xʔid **=q**
chop-neck-BEC **=ACC**
'she chops **it** (ACC) off at the neck (butt of tree)' (Boas 1947: p. 273)

c. ʔic̓ənd paxsʔəndx̌**a ʔəpsoliła**
ʔit-(x)sʔ-xʔid pa-(x)sʔ-xʔid **=x̌=a ʔəpsoliła**
again-across-BEC split.wood-across-BEC **=ACC=DET other.side**
'again (off) she splits off **the other side** (ACC)' (Boas 1947: p. 273)

d. qaʔs k̓iʔse ƛiǧʷəłtudəx̌ **wałdəmasis n̓in̓əmukʷe**
qa =is k̓iʔs=i ƛiǧʷəłtud **=x̌** **wałdəm**
PREP =3REFL.POSS NEG=NMZ miss **=ACC** **words**
=s=is n̓i~n̓əmukʷ=i
=3POSS=3REFL.POSS REDUP~friend=VIS
'and he did not miss (disobey) **the words of his friends** (ACC)' (Boas 1947: p. 273)

e. le k̓ʷaṣǧəmdx̌**is bolx̌sday̓i**
le k̓ʷə-sǧəm-xʔid **=x̌=is** **bolx̌sday̓i**
AUX sit-round-BEC **=ACC=3REFL.POSS** **muskbag**
'then he sat on **his muskbag** (ACC)' (Boas 1947: p. 273)

The impression one gets from reading Boas (1911, 1947) is that case marking was generally strict in the late 19th and early 20th century, the historical period he was working in. For instance, many of the example forms Boas cites, such as *c̓os* (*c̓o=s*) 'he gives it (INST)', and *c̓ənkʷəs* (*c̓ənkʷ=s*)'he was angry with him (INST)' (both of which are listed on Boas 1947, p. 285), can undergo case alternation in the modern language.[18] This suggests that some verb-argument pairs which alternate in the modern language may have been mostly, and perhaps solely, strict-instrumental relations in Boas' era. Moreover, there is a pattern of speaker variation in the modern language which provides at least tentative support for the hypothesis that case alternation

[18] It's worth nothing that the modern speakers I have consulted do have a noticeable bias towards volunteering instrumental objects with these stems.

has increased in frequency since Boas' time relative to strict-instrumental relations. While all consultants I have worked with allow case alternation with a large core set of verbs, one consultant disallows it specifically with verbs of giving (e.g. *c̓o* 'give', *yaqʷ-* 'gift in Potlatch'). This consultant treats these verbs as strict-instrumental, a pattern which is in line with what was reported in Boas (1911, 1947).

When we search within the Boas and Hunt text corpus (Boas & Hunt 1902a, 1902b, 1902c), however, we do find instances of case alternation. Such instances appear to be relatively rare and may be specific to certain regional variants of Kʷakʷala, though more research is needed to verify this impression. One text that was found to contain numerous instances of case alternation with 'put' verbs is a text called Bək̓us (The Wood-Man), a text which originates from the Qʷiqʷəsut̓inuxʷ of Gilford Island.[19] Two examples from this text involving 'put' verbs are shown in (19). The relevant verb stem in both examples is *ʔəxʔəlx̣-* 'put (something) outside (somewhere)'. The fact that this verb takes an accusative object in (19a) and an instrumental one in (19b) shows that case alternation was indeed possible with the *same* verb stem in Boas' era.

(19) Excerpts from Bək̓us (The Wood-Man) (Boas & Hunt 1902a)

a. lal̓ai ʔəxʔəlsa**q** lax nəqamal̓asas ƛ̓aqulayuǧʷa lax k̓ʷac̓inay̓as
lə=l̓a =i ʔəx-ʔls **=q** la =x nəqama-la-ʔas
AUX=REP =3DIST DO-outside **=ACC** PREP =ACC front-CONT-LOC.PASS
=s ƛ̓aqulayuǧʷa la =x k̓ʷə-ɬs-inay̓ =s
=3POSS Calling-Tribes PREP =ACC sit-on.ground-abstract =3POSS
'They put **it** (**ACC**) down in front of the place where Calling-Tribes was sitting.'
(p. 254, lines 37 — 39)

b. lal̓ai ǧʷała ləʔas ʔəxʔəlsa**sa q̓uyaʔakʷi c̓aqəms** laxa ʔəwin̓ak̓usi
lə=l̓a =i ǧʷał-a lə-ʔas ʔəx-ʔls-a
AUX=REP =3DIST finish-A AUX-LOC.PASS DO-outside-A
=s=a **q̓uyaʔakʷ=i** **c̓aqəms** la
=INST=DET **softened=VIS** **cedar.bark** PREP
=x=a ʔəw̓in̓ak̓us=i
=ACC=DET ground=VIS
'And after she had finished, she put **the soft cedar-bark** (**INST**) on the ground.'
(p. 253, lines 15 — 17)

More research is ultimately needed to know to what extent case alternation existed in Boas' era, requiring meticulous comparison of modern data with the vast body of textual materials assembled by Franz Boas and George Hunt. For our purposes, we are left to simply wonder why Boas did not draw more attention to the phenomenon of case alternation, especially given that it was present (though seemingly rare) in the data he collected.

Since the time of Boas' writing, no subsequent research has brought attention to the case alternation in (3). To my knowledge then, this dissertation and lead-up work to its publication (Sardinha 2016b) are the first works to discuss {*=s*, *=x̌*} case alternation as a phenomenon in the

[19] I am very grateful to Halia DeWeese for helping me hunt for instances of case alternation in the Boas and Hunt corpus.

modern language.[20] Any solution to the empirical puzzle described in Section 1.1 must be able to predict when case alternation both is and is not possible.

1.4 Preview of a semantic theory of object case

As a solution to the empirical puzzle outlined in Section 1.1, I will pursue a semantic theory of object case that is grounded in event structure. This theory will be referred to as the **Initiating Subevent Theory** of object case. It consists of two main claims, which are previewed here and developed in detail in Chapter 4.

The first claim of the Initiating Subevent Theory is that object case distinctions in K^{w}ak̓^{w}ala are grounded in event structure. An event is an entity which consists of up to two linguistically relevant internal parts, which in the literature are referred to as subevents (e.g. Dowty 1979, Parsons 1990, Tenny 1994, Pustejovsky 1995, Rappaport-Hovav & Levin 1998, Rothstein 2004, Ramchand 2008, Tatevosov 2008, and many others). For the purpose of capturing object case patterns in K^{w}ak̓^{w}ala, we can think of events as each consisting of up to two linguistically relevant subevents, the nature of which can be intuitively grasped in terms of two sorts of oppositions. The first opposition is a temporal opposition between the initial bound (or beginning) of an event and the final bound (or end) of an event. The second opposition is a causal opposition between the cause of an event and the effect or result of an event. If an event has a linguistically encoded initial and/or causal part, I will say it has an ***initiating*** **subevent**. If an event has a linguistically encoded final part consisting of some kind of result or effect, I will say it has a ***non-initiating*** **subevent**. These subevental categories are summarized in Figure 1.1.

	Initiating **subevent**	***Non-initiating*** **subevent**
Temporal dimension:	initial bound / beginning	final bound / end
Causal dimension:	cause	effect / result

Figure 1.1: *Initiating* versus *non-initiating* subevents

The first claim of the Initiating Subevent Theory is that internal arguments which participate in *initiating* subevents are expressed with instrumental (*=s*) case, while internal arguments which

[20] In addition, while a fair bit of research has been done on the voice suffixes introduced at the end of Section 1.2, none of the researchers cited in that section appear to have been aware of the correspondence between alternating {*=s*, *=x̌*} objects and the ability to use either *-sə̓w̓* or *-ayu* to promote them. This is significant because this unawareness seems to have led these researchers to posit more irregularity in the voice system than there actually is. For instance Anderson (1984), summarizing Levine (1980, 1981), notices that there are more than one passive counterpart for a given active sentence; however, rather than connecting this voice suffix alternation with the phenomenon of case alternation, as I do here, he cites this pattern as evidence for particular passive morphemes being lexically-selected rather than syntactically regular (pg. 22-23). In a similar vein, Sherer (2014) claims that *-sə̓w̓* has become a default voice morpheme in the modern language, seemingly in order to account for the observation that it *-sə̓w̓* is used in more contexts than we might expect on the basis of patterns reported in Boas (1911, 1947). While I agree with Sherer that there is a sense in which *-sə̓w̓* is a default (namely, because *-sə̓w̓* is in correspondence with accusative, and accusative is a default case), I've also found the distribution of *-sə̓w̓* to be more restricted than what Sherer (p. 42) reports. My field data suggest that *-sə̓w̓*'s distribution can be straightforwardly accounted for once we acknowledge the correspondences in Table 1.5.

participate in *non-initiating* subevents are expressed with accusative (=*x̌*) case.[21] This generalization can also be stated in terms of the two event roles that these internal arguments instantiate: instrumental (=*s*) objects instantiate a novel event role I refer to as ***Co-initiator***, while accusative (=*x̌*) objects instantiate an event role I refer to as ***Non-initiator***.[22] These correspondences are summarized in Figure 1.2.

Semantics:	participant in *initiating* subevent	participant in *non-initiating* subevent
Syntax:	=*s* object	=*x̌* object
Event role:	*Co-initiator*	*Non-initiator*

Figure 1.2: Correspondences underlying Claim-I of the Initiating Subevent Theory

To account for case alternation, all we need to do is recognize that arguments which undergo case alternation are precisely those which simultaneously meet the semantic conditions for being both *Co-initiators* and *Non-initiators*. This is stated as the Alternation Condition in (20).

(20) ***Alternation Condition*:**
An argument which satisfies the conditions for being both a *Co-initiator* and a *Non-initiator* may appear in either instrumental (=*s*) or accusative (=*x̌*) case.

The three relations introduced in Section 1.1 can then be explained as follows: internal arguments which only qualify as *Co-initiators* are strict-instrumental; internal arguments which only qualify as *Non-initiators* are strict-accusative; and internal arguments which instantiate both event roles simultaneously are alternating.

The second claim of the Initiating Subevent Theory concerns the manner in which semantic value is encoded in Kʷakʷala grammar. In particular, I will argue that only instrumental case is **interpretable**, while accusative case is an **uninterpretable** default case.[23] Thus while the notions of *Co-initiator-hood* and *Non-initiator-hood* are both relevant for predicting the distribution of object case, my claim here is that only the former notion is grammaticalized in Kʷakʷala.

The remaining chapters of this dissertation are devoted to establishing these two claims, both with the intention of explaining the distribution of object case in Kʷakʷala (Chapters 3-5, 7) and of assessing how Kʷakʷala's object case system fits into wider cross-linguistic patterns (Chapter 6).

[21] What it means to 'participate' in an *initiating* or *non-initiating* subevent will be fleshed-out in Chapter 4, Section 4.2.3 in terms of two sets of semantic conditions.
[22] Event roles are consistently capitalized and italicized throughout the dissertation.
[23] Strictly-speaking, what I will propose is interpreted by the grammar is not instrumental case itself, but the syntactic head which is responsible for instrumental case assignment — a proposal which I discuss in Chapter 6, Section 6.4.2. To simplify exposition, however, I will refer to instrumental case as an 'interpretable' case, by which I simply mean that instrumental case is associated with semantic value. I will also refer to accusative case as 'uninterpretable', by which I mean that it is not associated with semantic value.

1.5 Chapter overview

The remainder of the dissertation is organized into six chapters.

- Chapter 2 provides background on the Kʷakʷala language and on the empirical basis of the research. I begin by orienting the reader to the scholarly tradition on Kʷakʷala, and then give an introduction to basic features of the language that will be useful for understanding glossed examples. After this, I introduce my research methodology, and discuss the data which serves as the empirical basis for the study. I finish the chapter by discussing inter-speaker variation and the implications different types of variation have for my analysis of object case.

- In Chapter 3, I present three empirical arguments for the distribution of object case in Kʷakʷala being semantically-determined. First, I show that verbs with strict-instrumental relations, verbs with strict-accusative relations, and verbs with alternating relations fall into semantically coherent verb classes. After this, I show that with certain verbs, there is a correlation between the object case(s) available for a given internal argument, and the semantic perspective that is lexicalized by the verb. Finally, I show that object case constrains the semantic interpretation of monotransitive and ditransitive predicates formed with the 'dummy' root *ʔəx̌-* 'do' and the indefinite interrogative root *ẃy-*.

- In Chapter 4, I present my semantic analysis of object case in Kʷakʷala, the Initiating Subevent Theory. First, I defend the claim that object case is semantically grounded in an event-structural distinction between *initiating* and *non-initiating* subevents, such that participants in *initiating* subevents (*Co-initiators*) take instrumental case, and participants in *non-initiating* subevents (*Non-initiators*) take accusative case. I then discuss the conditions under which case alternation is possible. Next, I defend the claim that only instrumental case is semantically interpretable while accusative case is an uninterpretable default, and outline a proposal for how this case system is implemented in Kʷakʷala grammar. Following this, I show that while the distribution of object case can be predicted in semantic terms, syntactic case features are nevertheless necessary for the grammar to ensure the existence of strict-instrumental relations. In the course of illustrating these claims, I propose an analysis of what it means for an internal argument to participate in an *initiating* subevent (i.e. be a *Co-initiator*) and participate in a *non-initiating* subevent (i.e. be a *Non-initiator*), and illustrate how my semantic analysis accounts for the semantic generalizations reported in Chapter 3. I finish the chapter with a reflection on Boas' perceptions of instrumental case.

- In Chapter 5, I provide new evidence in support of the claim that object case is grounded in event structure. I show in particular that modifying event descriptions leads to changes in object case-marking possibilities through a discussion of three types of case alternations: the Direct Manipulation Alternation, the Caused Motion Alternation, and semantic incorporation with *-(g)ila* 'do, make'.

- In Chapter 6, I zoom out and consider what Kʷakʷala's object case system tells us about language in general. I begin by showing that Kʷakʷala's object case system is a mirror

image of the object case system in Finnish as analyzed in Leino (1982), Heinämäki (1984, 1994), Vainikka (1989), and Kratzer (2004). While Kʷakʷala grammaticalizes an interpretable object case associated with the *initial* bound of events, Finnish grammaticalizes an interpretable object case associated with the *final* bound of events — a pattern which explains differences in the two languages in how telic interpretations arise. I develop a syntactic analysis of instrumental case which is modelled directly off of Kratzer's (2004) analysis of accusative case in Finnish. I then discuss how Kʷakʷala fits into Ritter & Rosen's (2000) event-structural typology of I(nitiator)-Languages and D(elimiting)-Languages.

- Chapter 7 provides a bird's eye view of the theory presented in previous chapters and discusses directions for future research. In particular, I present preliminary evidence for two particular pragmatic strategies speakers use in choosing between instrumental (=*s*) case and accusative (=*x̌*) case in contexts where case alternation is possible.

In addition to the main content of the dissertation, there are five appendices containing supporting materials.

- Appendix A provides an overview of the major findings of the dissertation in plain, non-technical language. This essay is suitable for anyone who would like an intuitive grasp of what the dissertation is about, and is recommended reading for anyone with little or no background in linguistics.

- Appendix B contains a chart comparing six different orthographies which have been used to represent written Kʷakʷala.

- Appendix C provides preliminary empirical support for the Means-PP Analysis referenced in Section 1.2.

- Appendix D answers a question that arises out of the discussion in Chapter 6 regarding ways in which telicity is encoded in Kʷakʷala.

- Appendix E integrates the Initiating Subevent Theory developed in this dissertation with the analysis of lexical aspect classes in Kʷakʷala proposed in Greene (2013), thereby showing the compatibility of these two analyses.

2
Kʷakʷala Orientation and Methodology

2.1 Introduction

Kʷakʷala is a Wakashan language spoken on the central coast of British Columbia, Canada, in communities located on northwestern Vancouver Island, the adjacent mainland and intervening islands, and in urban centres such as Victoria and Vancouver. The Wakashan language family consists of two branches, Northern and Southern (Sapir 1911). Kʷakʷala is a member of the Northern branch, which also includes three more closely-related languages, Haisla, Heiltsuk, and Oowekyala (Lincoln & Rath 1980, Rath 1984), while the Southern branch includes Nuu-chah-nulth, Ditidaht, and Makah (Haas 1969, Jacobsen 1969, Jacobsen 2007). Kʷakʷala is spoken within the Pacific Northwest Coast linguistic area and as such, shares a number of areal features with nearby language families such as Salish and Chemakuan (Thompson & Kinkade 1990, Beck 2000).

Kʷakʷala has five dialects (Anonby 1997) which are distributed geographically as shown in Figure 2.1. The northernmost dialect is ’Nakʷala, which is spoken today in C’əlgʷadi. Two of the six speakers I have consulted with speak this dialect. The northwestern dialect is ƛaƛəsiqʷəla, which is reported to have few, if any, speakers. The southeastern dialect is ǧuċala (also known as ǧuċa), which is spoken in Quatsino. The central dialect is Kwakʷala, which is spoken in Kingcome Inlet, Fort Rupert, Hopetown, and Alert Bay. Four of the six speakers I have consulted speak this dialect, and it is this dialect which I am most familiar with. Finally, the western dialect is Liq̇ʷala, which is spoken around Campbell River.

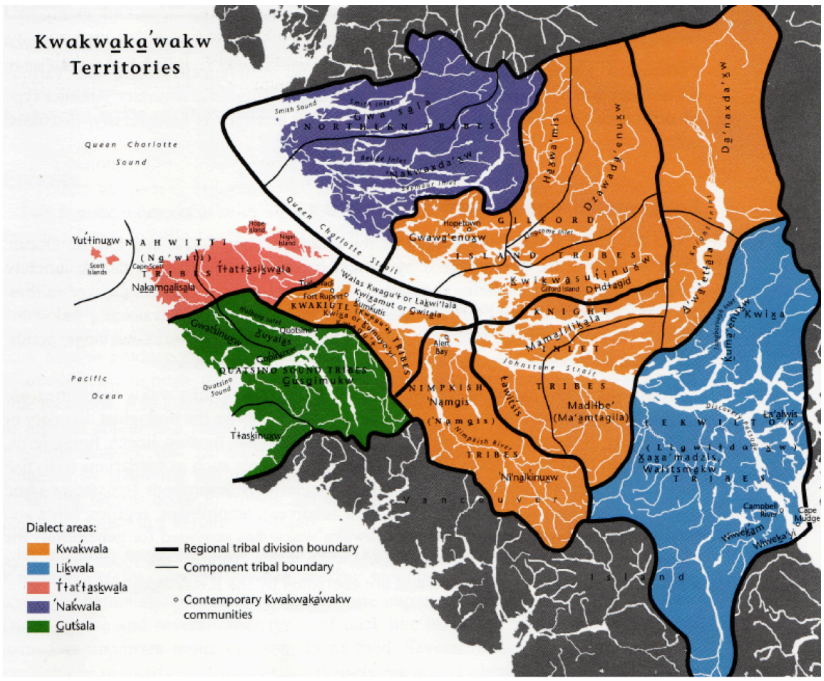


Figure 2.1: Map of Kʷakʷakəwakʷ Territory (Pasco, Compton & Hunt 1998: p. 3)

The purpose of this chapter is to orient the reader to basic features of the Kʷakʼʷala language and the empirical basis of the study. The chapter is organized as follows:

- In Section 2.2 I provide an overview of previous scholarship on Kʷakʼʷala, introducing the sources I've drawn upon in the course of my research.
- In Section 2.3 I provide an orientation to the basic features of Kʷakʼʷala one should be familiar with to understand the details of glossed examples in the rest of the dissertation.
- In Section 2.4 I discuss the fieldwork methodology I've employed in the course of my research.
- In Section 2.5 I discuss features of the linguistic data and their mode of presentation in this dissertation.
- Finally, in Section 2.6 I discuss inter-speaker variation and the issue of how my analysis is positioned relative to this variation.

By the end of the chapter, the reader should have an understanding of how the findings in this dissertation fit in with what's already known about this language, and should be familiar enough with the project's empirical basis to be able to make sense of glossed examples in subsequent chapters.

2.2 Sources

Compared to other Northwest Coast languages, Kʷakʼʷala is relatively fortunate in terms of its existing documentation, though this documentation has several limitations. Notably, most of the extensive descriptive work on this language focuses on the central dialect (Kʷakʼʷala), and in particular on the way this dialect was spoken around the turn of the 20th century. This work is also skewed heavily towards the description of phonology and morphology, while syntax, semantics, pragmatics, and variation have received less overall attention. Recently however, this has begun to change.

Scholarship on Kʷakʼʷala can somewhat arbitrarily be divided into three major periods (early, middle, recent), to which we can add the existence of a steady current of community-generated documentation produced outside of the academic sphere. In the course of my research I've made use of materials from each of these four domains, each of which I'll now introduce in turn.

2.2.1 Early scholarship (1890s — 1940s)

Perhaps the earliest sources on the Kʷakʼʷala language come from the missionary Rev. Alfred J. Hall. In addition to producing Bible translations in the language, Hall published its first short grammar (Hall 1888).

The most extensive early documentation of the Kʷakʼʷala language was carried out by Franz Boas and his assistant George Hunt, whom Boas collaborated with in the collection of

vocabulary, songs, narratives and myths (e.g. Boas 1983, Boas 1910, Boas 1969[1925], Boas & Hunt 1902a, 1902b, 1902c). These and other ethnographic materials served as the basis for a series of sketches and grammars on the language, beginning with a short impressionistic sketch (Boas 1900), followed by the two sources which have served as standard references on the language ever since: Boas (1911), a shorter and more accessible grammatical introduction, and Boas (1947), a grammar and glossary of suffixes which was compiled and published posthumously from Boas' extensive notes. In the year following the publication of this second grammar, a dictionary was also published posthumously (Boas 1948).

2.2.2 Middle scholarship (1970s — 1990s)

Following several decades hiatus of work on Kʷakʷala, the 1970s saw renewed interest in the language. This interest in linguistic analysis continued steadily throughout the 1990s.

In the realm of phonology, Grubb (1974) discusses the status of /ə/ in Kʷakʷala, and proposes a practical writing system for the language that is much simpler than the more phonetically-inspired orthography employed by Boas. Other work on phonology from this period includes work on vowels and stress (Bach 1975), glottal assimilation and hardening (Wilson 1977), syllable structure (in Heiltsuk and Kʷakʷala) (Wilson 1978), and metrical structure in Wakashan (Wilson 1986).

In the realm of syntax, work in this period focuses on the behaviour of a set of passive-like suffixes in Kʷakʷala (Levine 1978, 1980, 1981, 1984) and on the subject-oriented nature of Kʷakʷala grammar (Anderson 1984). In the domain of morpho-semantics, Berman (1990) discusses the nature of shape classification in Kʷakʷala. The role of discourse markers and auxiliaries is taken up in Berman (1982, 1983).

Documentation of the language for pedagogical and revitalization purposes also resumes in this period, with the publication of a new dictionary (Grubb 1977) and a glossed Kʷakʷala text (Levine 1977). Anonby (1997) discusses language revitalization and dialect variation.

Work on other languages from the Northern Wakashan language branch proceeded during this period as well. Lincoln and Rath (1980) produced a comparative Northern Wakashan root list, and Rath (1984) discusses word classes in what he termed the Upper Northern Wakashan languages: Haisla, Heiltsuk, and Oowekyala. Work on Haisla during this period includes grammatical description and dictionary work (Bach & Bates 1970, Lincoln & Rath 1986), textual material (Lincoln, Rath, & Windsor 1986), and work on stem extension (Bach 1990). A grammatical description and dictionary of Heiltsuk was also published during this period (Rath 1981).

2.2.3 Recent scholarship (2000s to present)

Research on Kʷakʷala has increased since the 2000s, both in terms of output and in terms of the range of topics covered. This seems to be in part due to an increase in the number of students, as well as faculty, who have become involved in research on First Nations languages of British Columbia, especially at British Columbia's three major coastal universities: University of Victoria, University of British Columbia, and Simon Fraser University.

In the realm of phonetics and phonology, work in this period focuses on reduplication (Kalmar 2003, Kirchner 2007), epenthesis and moraicity (Bach, Howe, & Shaw 2005), voice onset time (Mayer 2010), and intonation (Noguchi 2011).

In the realm of syntax and semantics, specific work has targeted the structure of the nominal domain (Chung 2007), the syntax and semantics of the demonstrative predicates or copulas (Stewart 2011, Littell 2010), argument structure (Davis & Sardinha 2011), continued work on passives, referred to recently as voice suffixes (Rosenblum 2013, Sherer 2014), the syntax and semantics of *-nuk*^{w}, a suffix associated with possession and the expression of indefinite objects (Sardinha 2013), causatives (Sardinha 2015a), weather predicates (Sardinha 2016a), and the realization of focus (Littell 2016). Of particular relevance to this thesis, Greene (2013) explores lexical aspect classes in Kwakwala and proposes three classes: states, processes, and transitions. I discuss how Greene's analysis of aspectual classes aligns with my theory of object case in Appendix E. Greene (2013, 2014) also demonstrates the existence of non-culminating accomplishments in Kwakwala, which is a finding I return to discuss in Chapter 6, Section 6.3.1.3.

One of the things Kwakwala is known for is its elaborate system of clitic determiners. Aspects of their prosody have been the focus of studies by Anderson (2005), Janzen (2011) and Janzen (2015). The syntax of subject-marking clitics is investigated in Littell (2012), while the semantics of determiners is investigated in Nicholsen & Werle (2009) and Black (2011).

In the realm of documentation, Rosborough (2012) provides a lucid perspective on current language revitalization efforts and the experience of being indigenous. There is also a compilation of texts from this period circulated in manuscript form (Cranmer & Janzen 2014), and a morphemically glossed text from the Boas-Hunt corpus is published by Frim (2015).

Comparative work on Northern Wakashan during this period includes work by Fortescue (2006) on differences between Northern and Southern Wakashan, work comparing argument structure patterns on the Northwest Coast (Mithun 2007), a comparison between determiner systems in Northern Wakashan (Bach 2006), and a Wakashan comparative dictionary (Fortescue 2007). The historical development of various *=s* forms in Kwakwala from the Proto-Northern Wakashan preposition **his* is discussed in Sardinha (2011a).

Targeted research on Northern Wakashan languages other than Kwakwala slowed down and came to a halt early on in this period. Some general questions about language are discussed in relation to data from Haisla in Bach (2002), and work on Oowekyala includes work on segmental phonology (Howe 2000) and syllabic obstruents (Howe 2001).

2.2.4 Community documentation

In addition to the academic sources just mentioned, members of the Kwakwakəwakw community and their allies have for decades been actively creating language materials for pedagogical and community purposes. Some language materials have been published through community institutions, such as the U'mista cultural centre in Alert Bay, while other language materials have been produced locally and circulated informally. In my own research, I've made use of a series of textbooks for young learners (Powell, Jensen, Cranmer, & Cook 1981), a book on plants an animals of the Kwakwakəwakw world (Pasco, Compton, & Hunt 1998), and a book of Kwakwala hymns entitled "Jesus Saves: Kwa Kwa La Hymns", compiled by Harry James Webber (Webber 1990). The FirstVoices Online dictionary (FirstVoices 2009) has also been a valuable and accessible resource.

2.3 Basic grammatical features

In order to understand the Kʷakʷala examples in this dissertation, it is important to have knowledge of some of the basic features of the language's phonology, morphology, and nominal deictic system.[1]

Kʷakʷala is perhaps most well known for its phonology and morphology, a fact which is unsurprising given the presence of a number of typologically interesting features in these linguistic subdomains. Kʷakʷala's sound system is in keeping with the general Northwest Coast pattern, with a large consonant inventory containing many typologically rare segments, such as lateral affricates, as well as an abundance of glottalized segments (Thompson & Kinkade 1990). Kʷakʷala's consonants are summarized in Table 2.1.

	Bilabial	Alveolar	Lateral	Palatalized Velar	Labialized Velar	Uvular	Labialized Uvular	Glottal
Stops	p b	t d		k g	kʷ gʷ	q ǧ	qʷ ǧʷ	ʔ
Ejectives	p̓	t̓		k̓	k̓ʷ	q̓	q̓ʷ	
Affricates		c dz	ƛ λ					
Ejective Affricates		c̓	ƛ̓					
Fricatives		s	ɬ	x	xʷ	x̌	x̌ʷ	h
Sonorants	m	n	l	y	w			
Glottalized Sonorants	m̓	n̓	l̓	y̓	w̓			

Table 2.1: Kʷakʷala consonants

Though Kʷakʷala has many phonetic surface vowels, only six vowels are represented in modern Kʷakʷala orthographies: /i/, /e/, /a/, /o/, /u/, and /ə/. These vowels are summarized in Table 2.2.

	Front	Central	Back
High	i		u
Mid	e	ə	o
Low		a	

Table 2.2: Kʷakʷala vowels

[1] For a more extensive introduction to Kʷakʷala grammar, a good place to start is Appendices A-B in Littell (2016).

Littell (2016) notes that it may be possible to reduce the number of phonemic vowels to just /i/, /a/, and /u/, and Bach (1975) proposes reducing this even further, to just /a/ and /ə/. In what follows I won't take a stand on which vowels are phonemic. In the gloss line of examples, I maintain schwa (ə) in the representation of roots, clitics, and suffixes, but omit schwa where it is epenthetic between roots, clitics, and suffixes. Otherwise, I follow the conventions established in Littell (2016) regarding vowel realization, which means that certain vowels are taken to arise through regular phonological processes (e.g. */CyC* → [*CiC*], */CayC/* → [*CeC*]). For an overview of phonological processes of this sort, the reader should consult Littell (2016).

Throughout its written history, Kʷak̓ʷala has been represented by numerous orthographies. The orthographic conventions I adopt for presenting data in this dissertation are based on the North American Phonetic Alphabet (NAPA), and in particular on a variant which Littell attributes to Prof. Thom Hess and his students at the University of Victoria (Littell 2016: pg. 32). The only difference between the orthography I adopt and the one just referenced is that I've chosen to represent the voiced alveolar affricate as a digraph ('dz') instead of a single character ('dᶻ'). A summary of six of the most commonly encountered Kʷak̓ʷala orthographies is provided in Appendix B.

With respect to its morphology Kʷak̓ʷala is exclusively suffixing, though it does make use of a large number of reduplication patterns at the beginning of words, some of which are triggered by particular suffixes (Boas 1947, Kalmar 2003, Kirchner 2007). Kʷak̓ʷala possesses a large class of 'lexical suffixes' — suffixes, that is, which resemble open class items in terms of the semantic content they convey. Two examples of lexical suffixes are *-p̓ala* 'smell (of)' (21) and *-(g)ila* 'make, do' (22). The suffix *-p̓ala* incorporates a root describing the evaluation of a smell (21a) or a smell's quality (21b). The suffix *-(g)ila* can appear on the dummy root *ʔəx̌-* (glossed here as 'do') (22a), or it can incorporate its logical object (22b). I'll return to discuss the case-marking potential of predicates formed using *-(g)ila* in Section 5.4.

(21) a. ʔixp̓alox̌da lum
ʔik-p̓ala =ox̌=da lum
good-smell.of =3MED=OST room
'The room smells good.' (JF)

b. ʔabəlsp̓alox̌da ham̓iksilaʔas
ʔabəls-p̓ala =ox̌=da həm̓-i-ksi-la-ʔas
apple-smell.of =3MED=OST eat-NMZ-occupy-CONT-LOC.PASS
'The kitchen smells like apples.' (VF)

(22) a. ʔəx̌ʔilida c̓ədaqex̌a q̓əngax̌tola
ʔəx̌-(g)ila =i=da c̓ədaq =x̌=a q̓əngax̌tola
DO-make =3DIST=OST woman =ACC=DET button.blanket
'The woman is making/made a button blanket (ACC).' (VF)

b. k̓ʷəʔstagilox̌da c̓ədaq
k̓ʷəʔsta-gila =ox̌=da c̓ədaq
cup-make =3DIST=OST woman
'The woman is making/made a cup.' (VF)

Lexical suffixes are used to encode many spatial and locative concepts. In (23) for instance, the body part suffix *-(ğ)əm* 'face' adds information about the Path of Monica's spitting, while in (24), the suffix *-$_w$iɬ* 'in house' adds information about where Eddie is walking (24a) and where something is spilled (24b).

(23) kʷisəmdux̌ Monica waxx̌is c̓ay̓a, ləm̓isux̌ ƛiqʷa
kʷis-(ğ)əm-xʔid =ux̌ Monica wax =x̌=is
spit-face-BEC =3MED Monica try =ACC=3REFL.POSS
c̓ay̓a lə=ʔm=is =ux̌ ƛiqʷ-a
younger.sibling AUX=VER=and =3MED miss-A
'Monica tried to spit in her younger sibling's face (ACC), and she missed.' (VF)

(24) *Context*: *Eddie comes home. As soon as he walks through the door, he sees some white liquid spilled all over the floor.*

a. gax̌ux̌ Eddiyəx̌ qadziɬ lax̌is gukʷ
gax̌ =ux̌ Eddie=x̌ qas-$_w$iɬ la =x̌=is gukʷ
come =3MED Eddie=VIS walk-in.house PREP =ACC=3REFL.POSS house
'Eddie walked into his house.' (VF)

b. m̓a:sux̌da qəbiɬix̌ lax̌ʷa gukʷix̌
m̓as =ux̌=da qəp-$_w$iɬ=x̌ la =x̌=ʷ=a gukʷ=x̌
what =3MED=OST spill-in.house=VIS PREP =ACC=3MED=DET house=VIS
[Then he said] 'What's that spilled on the floor here!?' (VF)

Lexical suffixes are listed in Boas (1911: p. 446-527) and Boas (1924), and are discussed more extensively alongside lists of examples in Boas (1947: p. 301-377).

The addition of a lexical suffix to a stem can trigger a range of systematic phonological changes, including reduplication,[2] vowel lengthening, consonant weakening (lenition), consonant hardening (glottalization), and segment deletion. These processes are triggered by particular suffixes, and are lexically specified. I indicate these processes in glosses using the conventions in Table 2.3.

Phonological change	**Indication in glosses**	**Example**
reduplication	'$_r$'	*-$_r$əm* 'small, diminutive'
vowel lengthening	'$_l$'	*-$_l$əm* 'true, genuine'
consonant weakening	'$_w$'	*-$_w$iɬ* 'in house'
consonant hardening	'$_h$'	*-$_h$eq* 'in mind'
consonant deletion	'(*deleted segment*)'	*-(g)ila* 'do, make'

Table 2.3: Phonological changes triggered by suffixes

[2] Reduplication can also signal non-lexical information, such as plurality. In glosses, reduplicants are separated from the base with the symbol '~'.

For an overview of the specific changes brought about through the addition of lexical suffixes, the reader should consult Boas (1947: p. 225-234) and Littell (2016: p. 37-39, 459-488).

Kʷakʷala also possesses an elaborate system of clitic determiners, all of which are enclitics meaning that they form a prosodic constituent with the element to their left. The subject pronominal clitics from Boas (1947: p. 252) are summarized in Table 2.4. The object pronominal forms were introduced in Section 1.2. Looking at this paradigm, we can begin to get a feel for the complexity of the deictic system in which distinctions are made between three persons, three spatial categories, and (in)visibility.

Form	**Gloss**
=ən	1st person
=ənʔs	1st person plural inclusive
=ənuʔx̌	1st person plural exclusive
=s	2nd person
=k	3rd person proximal visible
=gaʔ	3rd person proximal invisible
=ux̌	3rd person medial visible
=uʔ	3rd person medial invisible
=iq	3rd person distal visible
=iʔ	3rd person distal invisible

Table 2.4: Subject pronominal enclitics

Nominal arguments, when expressed, are accompanied by two sets of clitic determiners: prenominal determiners, and postnominal determiners. Prenominal (i.e. pre-NP) determiners encode deixis, possession, and a category related to specificity and definiteness which is referred to as 'ostension' in Black (2011), realized by the presence of the morpheme *=da*. Postnominal (i.e. NP-internal) determiners encode visibility, deixis, and possession, and are realized in second position within the noun phrase.[3] The basic prenominal and postnominal deictic forms encountered in my fieldwork are summarized in Table 2.5, excluding possessive forms. The examples in (25)-(27) illustrate argument phrases with proximal, medial, and distal prenominal deictics, respectively. All three examples contain postnominal visibility deictics corresponding to the category 'visible'.

pre-NP			**NP-internal**	
location	**- ostension**	**+ ostension**	**visible**	**invisible**
PROX	*=ga*	*=gada*	*=(ə)x*	---
MED	*=ux̌/=ox̌*	*=ux̌da/=ox̌da*	*=(e)x̌*	---
DIST	*=i*	*=ida*	*=i, =∅*	*=aʔ, =eʔ, =oʔ*

Table 2.5: Third person determiners

[3] This means that if the noun is preceded by an adjective, for instance, these clitics attach to the adjective. For this reason, 'NP-internal' is a more accurate way of describing these clitics than 'postnominal'.

(25) k̓iʔs ʔiʔak**gada ʔabəlsix**, lən c̓əx̌ʔids laxada ƛ̓asanoy̓i
k̓iʔs ʔi(k)ʔak **=ga=da** **ʔabəls=x** lə =ən c̓əx̌-xʔid
NEG like **=3PROX=OST** **apple=VIS** AUX =1 discard-BEC
=s la =x̌=a=da ƛ̓asanoy̓i
=INST PREP =ACC=DET=OST outside
'**This apple** [**PROX**, **VIS**] wasn't liked, so I threw it (INST) outside.' (VF)

(26) mənxʷ**oǩ Staciyəx̌** gaxən
mənxʷ **=oǩ** **Stacey=x̌** gaxən
smile **=3MED** **Stacey=VIS** 1OBJ
'**Stacey** [**MED**, **VIS**] is smiling at me (ACC).' (VF)

(27) kəłəl**i Pat**esa siłəm
kəł-la **=i** **Pat=i** =s=a siłəm
scared-CONT **=3DIST** **Pat=VIS** =INST=DET snake
'**Pat** [**DIST**, **VIS**] is afraid of snakes (INST).' (VF)

Third person pronominal subjects can also be expressed by prenominal deictics alone, in lieu of the full pronoun forms listed in Table 2.4. An example in which a prenominal deictic functions as a pronoun is shown in (28).

(28) ğəls**i**x̌a ƛ̓isəla laxa gukʷ
ğəls **=i** =x̌=a ƛ̓is-la la =x̌=a gukʷ
paint **=3DIST** =ACC=DET sun.shine-CONT PREP =ACC=DET house
'**She** [**DIST**] is painting a sun (ACC) onto the house.' (VF)

A more thorough introduction to the topic of various determiners in Kʷak̓ʷala is offered in Boas (1947: p. 251-259), Bach (2006), Nicholsen & Werle (2009), and Littell (2016: p. 558–561, 563-565, 568-577, 579-583).

In addition to its system of clitic determiners, Kʷak̓ʷala possesses a variety of predicate-modifying and sentential-level clitics which mark categories such as questionhood, tense, modality, polarity, and contrast (Littell 2016: p. 549-558, 561-563). These clitics attach to the right of lexical suffixes, farther from the root. Many of these clitics exhibit second-position effects, which means that they attach to the first word within whichever syntactic domain they are realized in, and some clitics can appear in multiple positions simultaneously in a single sentence (Littell 2012). The example in (29) illustrates this latter possibility using the future tense clitic *=ƛ̓*. In this example the future tense clitic attaches to three elements in the same sentence: the main verb *miƛ̓ʔid* 'tease', the auxiliary verb *lə-* 'now, then', and the adverbial predicate, *ʔuğʷaqa* 'also, too'.

(29) laƛ̓ux̌ Monicax̌ miƛ̓ʔidƛ̓ ʔuğʷaqaƛ̓x̌us n̓ulax̌, Simon
lə=ƛ̓ =ux̌ Monica=x̌ miƛ̓-xʔid=ƛ̓ ʔuğʷaqa=ƛ̓
AUX=**FUT** =3MED Monica=VIS tease-BEC=**FUT** also=**FUT**
=x̌=us n̓ula=x̌ Simon
=ACC=3REFL.POSS older.sibling=VIS Simon
'Monica's gonna go tease her older brother back (ACC), Simon.' (VF)

Kʷakʷala is a language with nominative-accusative alignment in both its morphology and syntax. Morphologically, the subject of both intransitive and transitive matrix clauses take nominative case, which in Kʷakʷala is zero-marked. Objects of transitive clauses, on the other hand, are marked with one of the language's two morphological case-markers if they are in the third person — either *=s* 'instrumental' or *=x̌* 'accusative' — or with distinct syncretic forms in the first person and second person (as described in Section 1.2). Syntactically, subjects of both intransitive and transitive clauses pattern distinctly from case-marked objects (Anderson 1984, Sherer 2014).

Features of the language introduced in this section should become clearer as more examples are encountered.

2.4 Methodology

The set of methodologies employed in the course of my research falls broadly into the category of 'linguistic fieldwork' or 'linguistic elicitation', and the particular methodological framework I draw upon is described in Matthewson (2004) and expanded upon in a volume edited by Bochnak & Matthewson (2015). Linguistic fieldwork basically involves gathering linguistic data through focused interviews with native speakers of a language, called elicitation sessions, which are typically audio recorded. An elicitation session is somewhat like a teaching session, where the speaker is the teacher and the linguist is the student. However, it's a special kind of teaching session, since it is typically the student/linguist who guides the overall trajectory of the session by asking targeted questions or invoking topics for discussion; in this respect, it is somewhat like an interview.[4] Since elicitation sessions involve a unique style of interaction, it's useful to describe them with distinct terminology. For this reason, the speaker is referred to as the language consultant or consultant, a label which highlights the speaker's role as an expert in his or her language. The person who facilitates the session (linguist or otherwise) is referred to as an elicitor. An elicitation session can involve one or more language consultants, and one or more elicitors. While the majority of the elicitation sessions I've been involved in have been one-on-one, a fair number have also involved multiple elicitors and/or multiple language consultants.

The language under investigation in an elicitation session is referred to as the object language. In the project described here, the object language is Kʷakʷala. In the course of most of my research, English was used as a metalanguage to introduce tasks and engage in metalinguistic discussions with the consultant. In my own research, Kʷakʷala was used as the sole language of elicitation relatively rarely, and only at times where I felt my competence in the language to be high enough to avoid introducing confounds.

A variety of different tasks can be carried out in the course of an elicitation session, and the nature of tasks can vary considerably, from constrained question-answer paradigms to tasks which invite the language consultant to be creative with their language. It can be useful to think of elicitation tasks as dividing into two types: tasks which elicit positive data — data regarding what is possible in the language — and tasks which elicit negative data — data about what is *not* possible in the language.

In what follows, sentences that are volunteered by the consultant are referred to as volunteered forms (VF), while sentences that are judged by the consultant are referred to as judged forms (JF). In the rest of this section, I'll briefly introduce the tasks I used in the course

[4] Elicitation sessions are also similar to teaching sessions in the Master-Apprentice framework, in that the learner generally plays an active role in guiding the session (Hinton 2002).

of my research. Tasks which are used to elicit volunteered forms include translation tasks (2.4.1), description tasks (2.4.2), question-answer tasks (2.4.3), storyboards (2.4.4), semi-elicited narratives (2.4.5), story-builder (2.4.6), concept-cued narrative (2.4.7), and free narration (2.4.8). Tasks which are used to elicit judged forms include judgment tasks (2.4.9), preference judgment tasks (2.4.10), and contradiction judgment tasks (2.4.11). A task which elicits both types of data in quick succession is the combined translation-judgment task (2.4.12).

2.4.1 Translation task

In a translation task, the elicitor presents the language consultant with a context, and produces an English sentence which is semantically felicitous in that context. The language consultant's task is to then translate the English sentence into Kʷakʷala, all the while making sure that the Kʷakʷala sentence is felicitous in the given context. Translation tasks are a straightforward way to elicit positive data in the object language.

An example involving two back-to-back translation tasks is shown in (30).

(30) **KS:** "Let's say yesterday, you saw me. I was on the road, and I was…"
Speaker: "*ʔəm.*" ['Yeah']
KS: "…with someone else, with some other person. We were pushing the car.[5] How would you ask, 'Who is Katie pushing the car with?'"
Speaker: [*Volunteers* (a)]

a. ʔəngʷuǰ wəʔokʷes Katie ƛaqʷaǰʷa kəlkəlxsiʔsəlaǰ

ʔəngʷ =uǰ	wəʔokʷ	=s	Katie	ƛaqʷ-a
who =3MED	companion	=3POSS	Katie	push-A
=ǰ=ʷ=a		kəlkəlxsiʔsəla=ǰ		
=ACC=3MED=DET		car=VIS		

'Who is the one Katie's pushing the car (ACC) with?' (VF)

KS: "So let's say you look a little closer, and we're using some sort of, uh, like weird contraption…"
Speaker: "Uh…"
KS: "…to do the pushing."
Speaker: "Uh-huh."
KS: "How would you ask, 'What are they using to push the car?'"
Speaker: [*Volunteers* (b)]

b. ṁasuǰ ʔəǰəleʔs qəs ƛaqʷeʔǰʷada kəlkəlsiʔsəla

ṁas =uǰ	ʔəǰ-la=eʔ	=s	qa	=s	
what =3MED	DO-CONT=NMZ	=O.POSS	PREP	=3REFL.POSS	
ƛaqʷ=eʔ	=ǰ=ʷ=a=da		kəlkəlsiʔsəla		
push=NMZ	=ACC=3MED=DET=OST		car		

'What are they using to push the car (ACC)?' (VF)

[5] The car mentioned here is one that is familiar from earlier in the elicitation discourse.

In the fragment in (30), the elicitor leads the consultant through a made-up story, asking for translations of sentences along the way. This is a particularly efficient way to collect positive data in the object language.

If a consultant is asked to translate a sentence for which no prior context has been given, we say that the translation task is done *out-of-the-blue*. In such cases, the elicitor must keep in mind that in the absence of context, speakers will be compelled to imagine their own context to fill the void. This imagined context has the potential to influence the translation in ways that are impossible to control. For this reason, data from out-of-the-blue translation tasks should be interpreted with care.

2.4.2 Description task

A description task is very similar to a translation task, except that instead of being provided with an English sentence to translate, the language consultant is presented with a situation or representation of a situation in the world and is asked to describe it in Kʷaḵʷala. For example, the elicitor may show the consultant a photograph and ask her to describe some feature of it; or, the elicitor may act something out, or point to something in the environment, and ask the language consultant to describe whatever's being indicated.

An example of a description task is given in (31). The context for this example is that the language consultant and KS are sitting in a position where they could both see out onto the consultant's porch. While in this position, KS and the consultant looked out and saw two crows interacting in an interesting way on the porch. KS asked the language consultant if she'd like to describe what they were seeing. The description in (31) is excerpted from the consultant's response.

(31) Description task fragment: *kikəx̌əlağa* 'crows'

a. ʔo:, duxʷʔidaʔsx̌ʷa kikəx̌əlağax̌
ʔo duqʷ-xʔid-a =s =x̌=ʷ=a ki~kəx̌əlağa=x̌
EXCLAM see-BEC-A =2 =ACC=3MED=DET REDUP~crow=VIS
'Oh, look at the crows (ACC).'

b. wa:las naqux̌da waladzid… yuʔəmx̌ənt ʔəbəmpsux̌da ʔəmeʔbidux̌
walas naq =ux̌=da walas-dzi-d? … yu=ʔm=x̌ənt
big/very drink =3MED=OST big/very-AUG-?[6] be.3MED=VER=MOD
ʔəbəmp =s=ux̌=da ʔəmeʔ=bidu=x̌
mother =3POSS=3MED=OST little=DIM=VIS
'The big one's really drinking… it must be the mother of the little one.'

c. k̓iʔsux̌ hiɬq̓alax̌ naqax̌ʷa ẇapix̌
k̓iʔs =ux̌ hiɬq̓ala =x̌ naq-a =x̌=ʷ=a ẇap=x̌
NEG =3MED allow =ACC drink-A =ACC=3MED=DET water=VIS
'She's not letting her [the little crow] (ACC) drink any of the water (ACC).'

[6] This 'd' is probably the initial segment of a word which the speaker stopped saying.

d. higaṁuǰ həṁapuǰda ʔəbəmpiǰ, y̓eʔxc̓əǰsis xʷənukʷbidu
higa=ʔm =uǰ həṁap =uǰ=da ʔəbəmp=ǰ
only=VER =3MED eat =3MED=OST mother=VIS
y̓eʔxc̓əǰ =s=is xʷənukʷ=bidu
stingy =INST=3REFL.POSS child=DIM
'The mother's the only one eating, she's being stingy with her little child (INST).'

Description tasks are not limited to the visual modality; the language consultant can also be asked to describe what she hears, tastes, smells, or feels. What distinguishes this task from a translation task is that there is no direct translation from the metalanguage into the object language.

Oftentimes in my own research, I'll combine a translation task with a description task. For instance, I'll carry out an action such as reaching for a hat that's sitting on the table, and then I'll ask the speaker how to say 'Katie is reaching for the hat'. Technically this is a translation task, but with the visual modality employed as an additional constraint on what the speaker is being asked to translate.

2.4.3 Question-answer task

In a question-answer task, the elicitor asks a question in Kʷak̓ʷala and the consultant answers it in Kʷak̓ʷala. The question itself serves as the immediate linguistic context for the consultant's volunteered form. This type of task is exemplified in (32).

(32) **KS:** "And what if I asked, *ṁasus k̓atəmdayuwus*?" ['What are you taking a picture with?']
Speaker: "*O.*" [*Volunteers* (a)]

a. heṁən k̓atəmdayuwi k̓atəmakʷesi Willi
he=ʔm =ən k̓at-əm-xʔid-ayu =i
be.3DIST=VER =1POSS write-NMZ-BEC-INST.PASS =3DIST
k̓at-əm-$_{w}$kʷ =s=i Willy
write-NOM-PART =3POSS=3DIST Willy
'I took the picture with Willy's camera.' (VF)
Literally: 'My picture-taker was Willy's camera.'

KS: "And what does that mean?"
Speaker: "I, 'I took the picture with Willy's camera'."

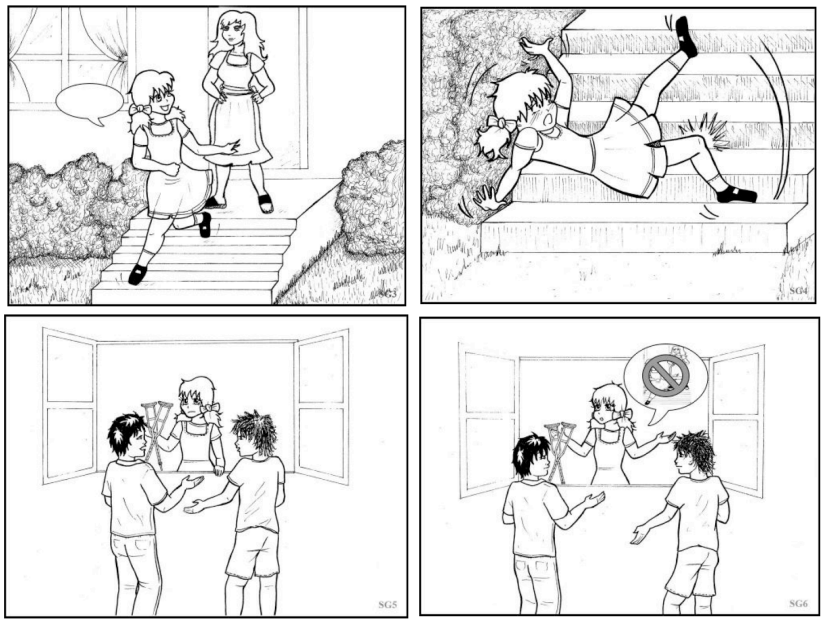
2.4.4 Storyboard task

Storyboards are visual stories — stories that have been adapted from a written text into a set of associated images. Their use in fieldwork is discussed in Burton & Matthewson (2015). First, the language consultant is shown a storyboard, image-by-image, while simultaneously hearing the story told aloud in the metalanguage. After the consultant has seen the storyboard and heard the story as many times as necessary to remember it, she is shown the storyboard again and

asked to tell the story back in the object language, this time making use of the storyboard images as cues for remembering.

In my research, I've elicited a several of the storyboards published online at www.totemfieldstoryboards.org/. A fragment taken from the storyboard 'Sick Girl' (TFS Working Group 2011) is shown in (33). The main construction targeted by this part of the story is the ability modal in line 6.

(33): 'Sick Girl', Images 3, 4, 5, 6



a. Image 3

ləm̓i Mari dzəlxʷəl̓sa
lə=ʔm =i Mary dzəlxʷ-ʔls-a
AUX=VER =3DIST Mary run-outside-A
'Then Mary ran outside.' (VF)

b. Image 4

kʷəxʔil̓soǩ Mariyəǩ, ləm̓isoǩ kuǩʷʔiduǩ gugʷəy̓uǩʔs
kʷəx-ʔls =oǩ Mary=ǩ lə=ʔm=is =uǩ
trip-outside =3MED Mary=VIS AUX=VER=and =3MED
kuǩʷ-xʔid =uǩ gugʷəy̓u=ǩ =s
snap-BEC =3MED leg/foot=VIS =3POSS
'Mary tripped and her leg got broken.' (VF)

c. Image 5

gaǩi ṅiṅəmukʷəs ƛiḷala qa leʔs ʔəmɬeʔ
gaǩ =i ṅi~ṅəmukʷ =s ƛiḷa-la
come =3MED REDUP~friend =3POSS invite-CONT
qa la=iʔ =s ʔəmɬ=eʔ
PREP go=NMZ =3POSS play=NMZ
'Then her friends came to invite her to go play.' (VF)

d. Image 6

ḳiʔsən weɬ lawəlsa
ḳiʔs =ən weɬ la-ʔls-a
NEG =1 ABIL go-outside-A
[Mary said] 'I can't go outside.' (VF)

Storyboards are useful for collecting naturalistic data that is targeted towards particular constructions. For instance, storyboards can be constructed for eliciting topics like modality, tense, and contrastive focus. In addition, because narrating a storyboard does not involve direct translation, it lessens the likelihood that the structure of the metalanguage (e.g. English) is influencing the data in any significant way (Burton & Matthewson 2015).

2.4.5 Semi-elicited narrative

Semi-elicited narratives are similar to storyboards, except that the consultant is not presented with a visual version of a story. The elicitor tells a story aloud in English, and the language consultant is asked to tell it back in Kʷakʷala from memory. Because this task is memory intensive, the story should be designed so that it's short and easy to remember. To make the task more feasible, the consultant is also invited to embellish parts of the story she doesn't remember. Even if the Kʷakʷala story ends up being quite different from the English prompt, it will still tend to share much of its content.

A fragment of a semi-elicited narrative from my fieldwork is given in (34) as an example of this method. The English prompt was designed with the intention of eliciting verbs of forgetting, remembering, and realizing.

(34) Semi-elicited narrative: *ƛ̓iweʔ* 'forgetting'

English prompt:

> So last time James went fishing, he forgot to bring his jacket and he got really cold out on the water. Now this time, James didn't want to forget his coat. So he left it by the door to help him remember to bring it. Sure enough, when it was time to leave, James didn't forget to bring his coat. He went and he fished until lunchtime, when he started to feel hungry. When he looked in his bag, he realized that he had forgotten his lunch. So suddenly he remembered that he had left it on the table in the kitchen. And that made James feel really silly.

Kʷaḵʷala response:

a. luǩ James kiƛa
lə =uǩ James kiƛ-a
AUX =3MED James fish.with.net-A
'James went fishing.' (VF)[7]

b. luǩ James, ʔo: ḵiʔsƛən ƛəwileʔƛǩən dadaċəẇakʷ
lə =uǩ James ʔo ḵiʔs=ƛ =ən ƛəwileʔ=ƛ
AUX =3MED James EXCLAM NEG=FUT =1 forget=FUT
=ǩ=ən dadaċəẇakʷ
=ACC=1POSS jacket
'And James was like, 'Oh, I'm not going to forget my jacket (ACC).' (VF)

c. ƛu:mən ḵənaʔisʔiḍ la leʔgən ḵəyosən dadaċəẇakʷaʔ
ƛum =ən ḵənaʔis-xʔid la l=a=iʔ=g=ən
really =1 cold.in.body-BEC go AUX=EMBED=NMZ=3PROX=1POSS
ḵəyos =ən dadaċəẇakʷ=aʔ
NEG.EXIST =1POSS jacket=INVIS
'I got really cold when I didn't have my jacket.' (VF)

d. ləm̓ən ḵiʔs ƛəwileʔƛəǩ
lə=ʔm =ən ḵiʔs ƛəwileʔ=ƛ =ǩ
AUX=VER =1 NEG forget=FUT =ACC
'I'm not going to forget it (ACC).' (VF)

e. ləm̓is ʔəǩʔids qa ḵiʔseʔs ƛəwileʔǩ laǩada həm̓xdəm̓iɬ
lə=ʔm=is ʔəǩ-xʔid =s qa ḵiʔs=eʔ =s
AUX=VER=and DO-BEC =INST PREP NEG=NMZ =3POSS
ƛəwileʔ =ǩ la =ǩ=a=da həm̓xdəm̓iɬ
forget =ACC PREP =ACC=DET=OST table
'And he put it (INST) so he wouldn't forget it (ACC) on the table.' (VF)

f. ləm̓is la, ləm̓is kiƛʔida, ləʔəm pusq̓a
lə=ʔm=is la lə=ʔm=is kiƛ-xʔid-a
AUX=VER=and go AUX=VER=and fish.with.net-BEC-A
lə=ʔm pusq̓a
AUX=VER hungry
'Then he went, and he fished, and he was hungry.' (VF)

g. ʔo:la ƛəwileʔǩis həm̓eʔ
ʔwa-la ƛəwileʔ =ǩ=is həm̓=eʔ
so-CONT forget =ACC=3REFL.POSS eat=NMZ
'Oh, he forgot his food (ACC).' (VF)

[7] The line-by-line translations of this text are my own.

h. ʔo:la ẏaksaṁis noqeʔ, ʔoləḳala la pusq̇a.
ʔwa-la ẏaksaṁ =is noqeʔ ʔwa-la-ḳal-a
so-CONT bad =3REFL.POSS heart.mind so-CONT-very-A
lə-a pusq̇a
AUX-A hungry
'His heart really soured, he was really hungry.' (VF)

i. ḳəyo:s həṁeʔs
ḳəyos həṁ=eʔ =s
NEG.EXIST eat=NMZ =3POSS
'He didn't have any food.' (VF)

j. ʔo: hiɬʔaǎa dadaċəẇakʷnukʷṁeʔe waxa
ʔwa hiɬʔa =x̌=a dadaċəẇakʷ-nukʷ=ʔm=a=i wax-a
so suffice =ACC=DET jacket-have=VER=EMBED=VIS try-A
Hypothesized translation: 'He tried to be feel satisfied with having his jacket.' (VF)

k. ləʔəm ʔoʔəm pusq̇axʔida
lə=ʔm ʔwa=ʔm pusq̇a-xʔid-a
AUX=VER so=VER hungry-BEC-A
'He just got really hungry.' (VF)

l. ʔoʔəmƛ̓i la neṅakʷƛ̓
ʔwa=ʔm=ƛ̓ =i la neṅakʷ=ƛ̓
so=VER=FUT =3DIST go home=FUT
'He was just going to go home.' (VF)

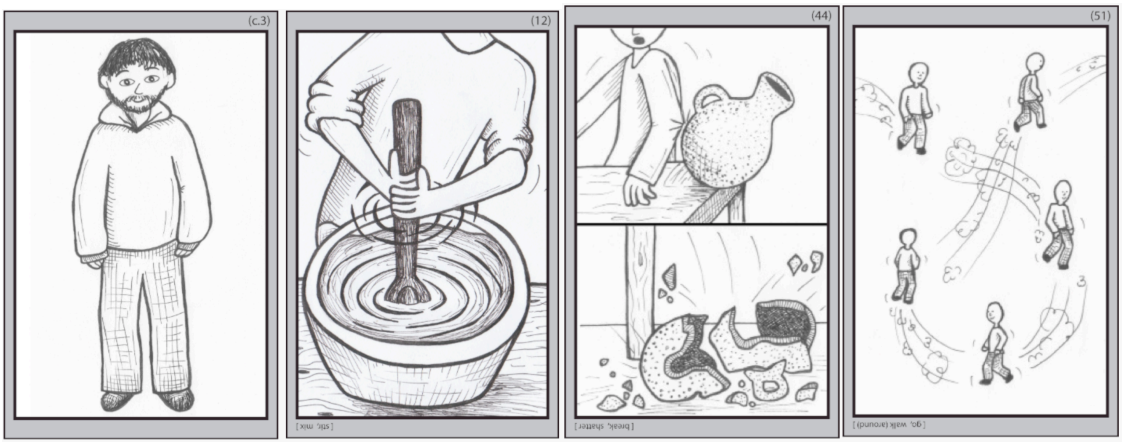
Like storyboards, semi-elicited narratives are useful for eliciting data that are both naturalistic and somewhat constrained. For instance, it's quite possible to write English prompts that target particular verb classes as in (34), or particular topics such as conditionals. Semi-elicited narratives are like storyboards in that they eliminate the need for direct translation from the metalanguage into the object language.

2.4.6 Story-builder

Story-builder is an adaptable set of picture cards designed for language activities and published online under an open license (Sardinha 2011b). There are two types of cards: 'action cards' depicting various kinds of events, and 'character cards' depicting various people. The action cards can be arranged in a sequence to construct a visual story, which can then be told about a character, or set of characters, which are depicted by the character cards. When this task is carried out, it's called 'story-building'.

A short example of story-building is shown in (35) below, taken from a game called 'Pick-3'. In this game, the language consultant picks three action cards randomly from the deck and uses them to make up a short story about some character. This particular example revolves around an adult male character, and makes use of the cards for 'stir, mix' (*xʷit-*), 'break' (*təp̓id*), and 'walk' (*qas-*).

(35) Story-builder 'Pick-3' Example Story



a. yum̓oǩ **xʷita**x̌us keʔgəsila

yu=ʔm	=oǩ	**xʷit**-a	=x̌=us	keʔgəs-(g)ila
be.3MED=VER	=3MED	**stir**-A	=ACC=3REFL.POSS	cake-make

'He was **stirring** the cake he was making (ACC).' (VF)

b. ləʔəm ʔəx̌ʔaƛ̓əli ʔux̌səy̓ap̓es lax̌ada ẇap̓c̓ol̓as

lə=ʔm	ʔəx̌-ʔaƛ̓-la	=i	ʔux̌səy̓ap̓e	=s
AUX=VER	DO-on-CONT	=3DIST	shoulder	=3POSS
la	=x̌=a=da	ẇap-c̓o-la-ʔas		
PREP	=ACC=DET=OST	water-inside-CONT-LOC.PASS		

'Then his shoulder was on the bowl.' (VF)

c. ləm̓is tiqax̌ʔalis qəs **təp̓ideʔ**

lə=ʔm=is	tiq-ax̌-a-la-ɬs		qa	=is
AUX=VER=and	fall-down-A-CONT-on.ground		PREP	=3REFL.POSS
təp-xʔid=eʔ				
broken-BEC-NMZ				

'And it [the bowl] fell on the ground and **got broken**.' (VF)

d. ləm̓is ʔoʔəm n̓ix qəs leʔ **qasʔid**a qəs ƛ̓iweʔəx̌a təp̓i

lə=ʔm=is	ʔwa=ʔm	n̓ik	qa	=is	la=eʔ	**qas-xʔid**-a	
AUX=VER=and	so=VER	say	PREP	=3REFL.POSS	go=NMZ	**walk-BEC**-A	
qa	=is	ƛ̓iweʔ	=x̌=a	təp-xʔid			
PREP	=3REFL.POSS	forget	=ACC=DET	broken-BEC			

'So he decided to go for a **walk** to forget about what he broke (ACC).' (VF)

The story-builder deck is designed to include action cards depicting events from a wide variety of semantic verb classes listed in Levin (1993). For this reason, it's useful for eliciting basic eventive sentences with a diverse array of argument structures. More information on the cards and their potential uses can be found at www.story-builder.ca, where the cards are available for download.

In addition to using story-building cards to build visual stories, I've made frequent use of the character cards as fictional characters to talk about during elicitation (Sardinha 2015b). Each character depicted on a card has a name, and is associated with other characters through a web of imagined relationships. In this way, the characters come to embody a mini-universe of fictional referents. The intention behind this is to allow the characters to become familiar to language consultants over time, so that we can refer to them again and again. The character cards are especially useful for talking about topics that could be taboo or inappropriate to talk about in relation to real people, thereby increasing the range of topics that can be discussed in elicitation. For instance, in a session with two language consultants, I played a game called *nanilel̓a* 'tell around, gossip'. One consultant would first be told a secret backstory about two fictional characters. She would then have a conversation with the other consultant where they engaged in *nanil̓ela* about the characters. For instance, in one episode of the game, consultants engaged in *nanilel̓a* about a fictional character who had committed adultery. The fact that we're talking about fictional people, and not real people, makes it possible to talk about things like adultery in a recorded elicitation session.

The reader will find that the following names come up frequently in volunteered examples, since they are names assigned to particular character cards: Karen, Scott, Elsa, Shelly, Eddie, Monica, Simon, Mabel, Vicky, James, Hope, Ted, Bill, Betty, Abby, Norman, Dennis, and Toby.

2.4.7 Concept-cued narrative

In a concept-cued narrative task, the elicitor brings up a concept — typically a K^{w}ak̓^{w}ala word — and the language consultant is invited to create a short narrative which involves the concept in some way. If the K^{w}ak̓^{w}ala word is not known in advance, an English word can be used as a cue instead. A succinct example of a concept-cued narrative is shown below in (36).

(36) **KS:** "Um, I wanted to talk about the word, um, like, to be 'embarrassed' about something."
Speaker: […] "*maxč̓a.*"
KS: […] "So let's make up some stories with these people."[8]
Speaker: [*Volunteers* (a) *and* (b)]

a. ƛu:muǰ maxč̓uǰ Tediǰ ǰus n̓əmuk^{w}iǰ
ƛum =uǰ maxč̓ =uǰ Ted=ǰ
really =3MED ashamed =3MED Ted=VIS
=ǰ=us n̓əmuk^{w}=ǰ
=ACC=3REFL.POSS friend=VIS
'Ted is really ashamed of his friend (ACC).' (VF)

b. luǰ gəluɬʔiǰa dala laǰada guk^{w}eʔsuǰ ʔəniseʔs
lə =uǰ gəluɬ-xʔid =ǰ=a dala la =ǰ=a=da
AUX =3MED steal-BEC =ACC=DET money PREP =ACC=DET=OST
guk^{w}=eʔ =s=uǰ ʔənis=eʔ =s
house=INVIS =3POSS=3MED aunt=INVIS =3POSS
'He stole money (ACC) from his aunt's house.' (VF)

[8] KS is referring to character cards that have been placed on the table in front of the consultant.

This type of task is particularly useful for exploring the prototypical meanings of particular words, as well as associations between concepts. I've made extensive use of this method in exploring the meaning of psych verbs.

2.4.8 Free narration

In free narration, the language consultant is invited to tell any story of their choosing. The story can be a traditional narrative, a personal anecdote, or an entirely made-up story.

A personal story shared by a language consultant is shown in (37).[9] The consultant is recalling a time that she drove to her daughter's house and had a surprising encounter with some dogs that came up to the car to greet her.

(37) Narrative fragment: The Encounter

a. lən kəlxʔid laǩ gukʷes Suzie
lə =ən kəlx-xʔid la =ǩ gukʷ =s Suzie
AUX =1 drive-BEC PREP =ACC house =3POSS Suzie
'I drove over to Suzie's house.' (VF)

b. lən ʔəǩstuǩa ṯəxəla laǩən kəlkəlxʔsisəla
lə =ən ʔəǩ-stu =ǩ=a ṯəxəla la
AUX =1 DO-round.opening =ACC=DET door PREP
=ǩ=ən kəlkəlxʔsisəla
=ACC=1POSS car
'And I opened the door (ACC) on my car.' (VF)

c. lən ʔo:, ḳiʔsən q̇oƛ̓əla ṁasida gaǩ!
lə =ən ʔo ḳiʔs =ən q̇oƛ̓-la ṁas =i=da gaǩ
AUX =1 EXCLAM NEG =1 know-CONT what =3DIST=OST come
'Then o:h, I didn't know what had come!' (VF)

d. ləʔəm ṗixʷʔidəǩ həbəsa
lə=ʔm ṗixʷ-xʔid =ǩ həbəsa
AUX=VER feel-BEC =ACC furry
'I felt something furry (ACC).' (VF)

e. ləṁe: wa:lasuǩ ǧʷaƛ̓əgiłaʔ
lə=ʔm =a=i walas =uǩ ǧʷaƛ̓-ʰgał=aʔ
AUX=VER =EMBED=3DIST big/very =3MED scream-BEC.SOUND=INVIS
'And the scream was colossal.' (VF)

f. ʔuǧʷaqasṁida ẇəʔoċi kəłʔida λəẇ Suzie
ʔuǧʷaqa-s=ʔm =i=da ẇəʔoċi kəł-xʔid-a λəẇ Suzie
also-?=VER =3DIST=OST dog.PL scared-BEC-A CONJ Suzie
'The dogs also got scared, along with Suzie.' (VF)

[9] The translations of each sentence in this narrative are my own, based off of the storyteller's discussion of the story.

g. ʔoʔəm la dəxdəxstoɬi Susan, kəɬəmała
ʔo=ʔm lə dəx~dəx-ʔstu-ał
so=VER AUX REDUP~eyes.wide.open-round.opening-STAT
=i Susan kəɬ-(ğ)əm-ała
=3DIST Susan scared-face-STAT
'Susan's eyes were just wide, her face looked terrified.' (VF)

h. lida ẇaċiğas dzidzəlxʷʔida
lə =i=da ẇaċi=ğas dzi~dzəlxʷ-xʔid-a
AUX =3DIST=OST dog=poor.thing REDUP~run-BEC-A
'And the poor dogs ran away.' (VF)

i. ṅiḵeʔqələnaǩ he ƛ̓eẏi
ṅik-ɦeq-la =ən =ǩ he ƛ̓eẏi
say-in.mind-CONT =1 =ACC be.3DIST bear
'I had thought it was a bear.' (VF)

Free narratives provide extremely rich, naturalistic linguistic data, and are a place where marked constructions tend to show up. Given their nature, they are not typically targeted towards any particular construction the linguist may be after.

2.4.9 Judgment task

Since both syntactic and semantic judgment tasks were employed in the course of my research, I'll describe both types of judgments in turn.

In a syntactic judgment task, a sentence is presented to the language consultant, and she is asked to judge whether the sentence is grammatical. An example of a syntactic judgment task is shown in (38).

(38) **KS:** "And then if I didn't want to mention the tripping part, could I just say anything like, *hinumuǩ Annaǩ təṗidamasǩuǩ Dennisǩa kʷ̓əʔsta* [(a)]…?"

a. * hinumuǩ Annaǩ təṗidamasǩuǩ Dennisǩa kʷ̓əʔsta
hinum =uǩ Anna=ǩ təp-xʔid-a-mas =ǩ=uǩ
on.purpose =3MED Anna=VIS broken-BEC-A-CAUS =ACC=3MED
Dennis =ǩ=a kʷ̓əʔsta
Dennis =ACC=DET cup
Intended: 'Anna made Dennis (ACC) break the cup (ACC) on purpose.' (JF)

Speaker: "I don't know if you could, it doesn't sound… sounds like broken English when you phrase it like that."

Speakers' comments are often very helpful in interpreting syntactic judgments. Language consultants often describe ungrammatical sentences as sounding 'broken', 'wrong', or 'funny-sounding', or will comment that a form is not something they would ever say.

In a semantic judgment task, the speaker is presented with a context and a grammatical sentence, and is asked to judge whether the sentence is felicitous in that context. An example of a semantic judgment task resulting in a 'felicitous' judgment is shown in (39b); the lead up to this example including (39a) is also shown, since it provides the context necessary to understand the example.

(39) *Context*: *It's late at night, and Katie is sitting in the living room reading and waiting for Hannah to come over, when she hears the door opening. She goes over to it and no one's there, so she gets scared that it's a ghost, and goes and hides under a blanket. A few minutes later Hannah arrives at the door…*

KS: "And I'm so excited to see that it's her and not a ghost, and I say, 'The door didn't open itself! You opened it!'"
Speaker: [*Volunteers* (a)]

a. ḳ̇iʔs q̇ʷəlisṁida t̓əxəla ʔəx̌studа, suʔəm ʔəx̌studəx̌

ḳ̇iʔs	q̇ʷəlisṁ	=i=da	t̓əxəla	ʔəx̌-ʔstu-xʔid-a
NEG	by.oneself	=3DIST=OST	door	DO-round.opening-BEC-A
	su=ʔm	ʔəx̌-ʔstu-xʔid		=x̌
	be.2=VER	DO-round.opening-BEC		=ACC

'The door didn't open all on its own, it was you who opened it (ACC).' (VF)

KS: "And could I ever just say, *ḳ̇iʔs ʔəx̌studida t̓əxəla. suʔəm ʔəx̌studəx̌* [(b)]…?"
Speaker: "Yup."

b. ḳ̇iʔs ʔəx̌studida t̓əxəla, suʔəm ʔəx̌studəx̌

ḳ̇iʔs	ʔəx̌-ʔstu-xʔid	=i=da	t̓əxəla	
NEG	DO-round.opening-BEC	=3DIST=OST	door	
	su=ʔm	ʔəx̌-ʔstu-xʔid		=x̌
	be.2=VER	DO-round.opening-BEC		=ACC

'The door didn't open, it was you who opened it (ACC).' (JF)

When one case marker is substituted into a sentence for the other case marker, and the speaker is asked to judge the sentence containing the substitution, the task can also be referred to as a *substitution test*.

2.4.10 Preference judgment task

Preference judgment tasks are similar to judgment tasks, except that the language consultant is asked to compare two sentences and judge which one she prefers. Preference judgment tasks are therefore a kind of *forced choice* task.

Semantic preference judgments involve asking the language consultant which of two grammatical sentences is more felicitous in a given context. An example of a semantic preference judgment task is shown in (40). Both (40a) and (40b) are possible in the relatively sparse context provided, but (40a) with an accusative object is preferred to (40b) with an instrumental one.

(40) *Context: Eddie has just put on a green hat; now he's taking it off.*

KS: "How would we say 'He took off the […] green hat'…?"
Speaker: "Green hat." [*Volunteers* (a)]

a. ƛətuduǰ Eddiyəǰ **ǰ**^{w}a łənǰa ƛətəmł
ƛət-u-xʔid =uǰ Eddie=ǰ **=ǰ**=^{w}=a
overhang-off/out-BEC =3MED Eddie=VIS **=ACC**=3MED=DET
łənǰ-a ƛətəmł
green-A hat
'Eddie took off the green hat (**ACC**).' (VF)

KS: "Can I say, *ƛətuduǰ Eddiyəǰ SA łənǰa ƛətəmł* [(b)]...?"
Speaker: "Mhm ['Yes']. It sounds legal."

b. ƛətuduǰ Eddiyəǰ**s**a łənǰa ƛətəmł
ƛət-u-xʔid =uǰ Eddie=ǰ **=s**=a
overhang-off/out-BEC =3MED Eddie=VIS **=INST**=DET
łənǰ-a ƛətəmł
green-A hat
'Eddie took off the green hat (**INST**).' (JF)

Speaker: "Well I think it sounds legal. *ƛətuduǰ Eddiyəǰ sa…* I guess that sounds okay."
KS: "Yeah. Do you like either of them better?"
Speaker: "Hm?"
KS: "Do you like it better with *ǰ*^{w}*a łənǰa ƛətəmł*?"
Speaker: "Mhm ['Yes']."

Syntactic preference judgments can also be elicited, where the language consultant judges which of two sentences is more grammatical than the other. Data of this sort can, however, be difficult to interpret (Schütze 1996) and I have not made much use of them in my research.

2.4.11 Contradiction judgment task

Contradiction judgment tasks can be used to test whether a sentence A entails another sentence B. The two target sentences A and B are conjoined, such that sentence is B introduced by a wide scoping negative element; then, the consultant is asked to judge whether the conjoined sentence is a contradiction. In the case that the sentence is judged *not* to be contradiction, the consultant is then asked to think up a hypothetical situation in which the conjoined sentence would be true.

The rationale behind this task goes as follows: because it is not possible to express both a proposition A and the negation of a proposition B which is entailed by A, if the consultant judges the conjoined sentence to be a contradiction, this means that sentence A entails sentence B. This was the consultant's judgment for the example in (41), where the same semantic argument of *q̓iq̓eʔqəla* 'worry' is introduced with instrumental (*=s*) case in the first conjunct, and the preposition *qa* in the second (negated) conjunct. Upon reflection of the conjoined sentence in (41), the consultant could not think of a situation in which the whole sentence could be true.

(41) # ḍiḍeʔqəluǰ Mabelǰsis ʔump, ḳiʔsṭuǰ Mabelǰ ḍiḍeʔqəla qeʔis ʔump

ḍiḍeʔq-la	=uǰ	Mabel=ǰ	=s=is	
worry-CONT	=3MED	Mabel=VIS	=INST=3REFL.POSS	
ʔump	ḳiʔs=ṭa	=uǰ	Mabel=ǰ	ḍiḍeʔq-la
father	NEG=but	=3MED	Mabel=VIS	worry-CONT
PREP	=3REFL.POSS	father		
qa	=is	ʔump		

Literally: 'Mabel is concerned about her dad (INST), but Mabel isn't concerned for her dad.' (JF)

Speaker: "She's concerned about her dad, but she's not concerned about her dad."

Sometimes, however, the conjoined sentence is judged as contradictory not because sentence A entails sentence B, but just because it can be very difficult to think of a hypothetical situation in which the conjoined sentence would be true. For this reason, care must be taken in drawing strong conclusions from judgments of contradictions until they have been thoroughly investigated.

In example (42), in contrast, the consultant judged the sentence to *not* be a contradiction. Here, the internal argument of the verb *kəɬ-* 'afraid' is expressed in instrumental (*=s*) case in the first conjunct, and introduced by the preposition *qa* in the second (negated) conjunct. The consultant also judged the hypothetical context paraphrased below this example to be one where it would be possible to truthfully say (42).

(42) kəɬəluǰ Mabelǰsa bədi, ḳiʔstuǰ Mabelǰ kəɬəla qeʔeda bədi

kəɬ-la	=uǰ	Mabel=ǰ	=s=a	bədi	ḳiʔs=ṭa
afraid-CONT	=3MED	Mabel=VIS	=INST=DET	cougar	NEG=BUT
=uǰ	Mabel=ǰ	kəɬ-la	qa	=i=da	bədi
=MED	Mabel=VIS	afraid-CONT	PREP	=3DIST=DET	cougar

'Mabel is afraid OF cougars (INST), but Mabel isn't afraid FOR cougars.' (JF)

Possible context: Mabel is afraid of encountering cougars, but she is not afraid of cougars getting hunted to extinction.

Whenever a hypothetical situation can be thought up where a conjoined sentence of the type just discussed would be true, we can conclude that sentence A does not entail sentence B.

2.4.12 Combined translation-judgment task

In a combined translation-judgment task the language consultant is prompted to produce a volunteered form in a particular context, and then subsequently asked whether a different form (the judged form) would be felicitous in that same context.

An example of this task is shown in (43). First, the speaker volunteers a translation of a simple sentence (43a). Following this, KS offers a similar sentence to be judged in that context, and the speaker rejects it (43b).[10]

[10] The point of (43) was to test if *=s* headed phrases can be substituted for prepositional *la* phrases when the intended interpretation is that of a locative Source. This and other tests show that the substitution is not possible.

(43) **KS:** "Um, another question I had was, um, 'to fall down from something'. Um, I think you taught me before, *tiqa*, *tiqaǩa*?"
Speaker: "Mhm. ['Yes']"
KS: "*tiqaǩa*. So, maybe a cup falls down."
Speaker: "Mhm ['Yes']."
KS: "From the table."
Speaker: "Mhm. ['Yes']"
KS: "How do you say, 'The cup fell down from the table'…?"
Speaker: "Fell off the table."
KS: "Fell off the table, yeah."
Speaker: [*Volunteers* (a)]

a. tiqaǩuǩda k̓ʷəʔsta laǩʷa həm̓ədzuǩ
tiq-aǩ =uǩ=da k̓ʷəʔsta la =ǩ=ʷ=a
fall-down =3MED=OST cup PREP =ACC=3MED=DET
həm̓-dzu=ǩ
eat-flat.surface=VIS
'The cup fell off the table.' (VF)

KS: […] "Can I say, *tiqaǩuǩda k̓ʷəʔstaǩsuǩ həm̓əʔdzuǩ* [(b)]...?"
Speaker: "*ki.*" ['No.']

b. * tiqaǩuǩda k̓ʷəʔstaǩsuǩ həm̓ədzuǩ
tiq-aǩ =uǩ=da k̓ʷəʔsta=ǩ =s=uǩ həm̓-dzu=ǩ
fall-down =3MED=OST cup=VIS =INST=3MED eat-flat.surface=VIS
Intended: 'The cup fell off the table (INST).' (JF)

KS: "Kay. Does it sound like anything? is it weird?"
Speaker: "*ʔidzaqʷalaʔs*." ['Repeat it.']
KS: "Mhm ['Yes']. *tiqaǩuǩda k̓ʷəʔstaǩsuǩ həm̓əʔdzuǩ.*" [Same as (b)]
Speaker: "*k̓i.* ['No.']

Combined translation-judgment tasks are a particularly efficient way to collect data, since they generate both a volunteered form and a judged form in quick succession.

The twelve elicitation tasks just outlined constitute the core set of methodologies I have used in my research on Kʷak̓ʷala.

2.5 Data

The purpose of this section is to introduce features of the linguistic data and their mode of presentation in this dissertation.

The empirical basis of this dissertation is linguistic data from elicitation sessions, which are typically audio-recorded and later transcribed. The purpose of doing transcriptions is to create a written record of the session which can then be analyzed in-depth. Especially in the later years of my research, I've opted for doing close transcriptions of the data where I transcribe everything

that is said in the session, including speech errors and spoken rehearsal. Altogether, the set of transcriptions created during the course of my research constitutes my fieldwork corpus.

Each piece of linguistic data in the corpus consists of the following five components: a Kʷakʷala sentence (2.5.1); an English translation (2.5.2); a context description (2.5.3); a grammaticality rating (2.5.4); and a felicity rating (2.5.5). In addition to these mandatory components, some data is also accompanied by metalinguistic commentary (2.5.6). In the remainder of this section, I'll outline some of the conventions I've adopted for representing these components of the data.

2.5.1 Kʷakʷala sentences

Kʷakʷala sentences are typically presented exactly as they were elicited. This means that when it would not affect readability, instances of phenomena like code-switching have been left as-is. In examples containing minor speech errors or interjections, these have been indicated using square brackets '[ ]', while code-switching is indicated using *italics*. Words of English origin that are pronounced according to the rules of Kʷakʷala phonology are, however, not italicized. Non-Kʷakʷala names on the other hand have also not been italicized, regardless of how they are pronounced. In cases where it would affect readability, pauses, minor speech errors, and false starts have been edited out of examples. Examples with more significant speech errors have simply been omitted.

2.5.2 English translations

English translations for Kʷakʷala sentences have been assigned in a way which gives priority to a language consultants' own translation (their 'volunteered gloss'). If a language consultant has translated a sentence into English, her translation is the one that is provided.

If the language consultant has not provided her own English translation, but her Kʷakʷala sentence is the direct translation of a particular English sentence (e.g. in a translation task), then that English sentence is provided as the translation.

If neither of the previous two cases holds, I have provided my own translation for the sentence. Where there is doubt about the proper translation, I have provided my best hypothesis for it along with the qualifier '*Hypothesized translation*: …'.

If a sentence also has a more literal translation than the one provided by the language consultant, and the more literal translation is relevant to whatever point the data is being used to make, the literal translation is also provided along with the qualifier '*Literally*: ….' In judged forms, I have also occasionally (where it seems useful) used the qualifier '*Intended*: …' to indicate an hypothesis about what the approximate literal meaning of the judged sentence is.

Something to keep in mind whenever one is studying examples is that translations always leave something to be desired, because translations are rarely, if ever, able to exhaustively capture the meaning of a sentence in the object language. This is because Kʷakʷala and English differ substantially in the categories that must be expressed in every utterance. For instance, in Kʷakʷala the location and status of the subject as visible or invisible is indicated in every utterance, while this is not the case in English. In English on the other hand, tense and aspect marking conspire in every utterance to communicate whether an event has culminated or not, while in Kʷakʷala many sentences are ambiguous between a telic and atelic reading (I discuss this topic more in Chapter 6 and Appendix D). Where it's necessary to the point being made and

consultants have approved multiple translations for a Kʷakʷala sentence, I've provided more than one translation. In general, translations should always be considered approximations rather than exact renderings.

2.5.3 Context descriptions

Every Kʷakʷala sentence is uttered in some context or other. Sometimes, this context is one that has been presented linguistically; other times it is one that has been presented visually, as in the form of a picture or storyboard; and other times, it is some aspect of the elicitation situation that can be pointed to. This means that every sentence can, in principle, be paired with a description of the context in which it was said.

That being said, it's not always crucial to whatever point is being made to know details about the context of an example. This is often the case, for instance, when we're concerned only with a sentence's literal meaning. In cases where the context description is irrelevant to the point being made, it is omitted here.

In other cases, where the context is important, I've adopted three conventions for representing it.

In some cases I've provided verbatim transcriptions in order to illustrate how a context was presented to the language consultant. This is possible when the context description is relatively short and uninterrupted. I've sometimes edited these verbatim transcriptions to improve readability and omit pauses and rehearsals, in which case I've used ellipses in square brackets '[…]' to indicate that something has been omitted. The language consultant is referred to in these dialogues as 'Speaker', and the elicitor as 'KS' (my initials).

In other cases, especially when the context description would be too long or contains numerous interruptions, I've provided a paraphrase of it instead. Paraphrases are indicated in italics and labelled '*Context*: …'. When a sentence is presented out-of-the-blue — that is, as the start of its own discourse — and when this fact is relevant, I have indicated this as '*Context*: *Out-of-the-blue.*'

Paraphrases and verbatim transcription are sometimes combined within a single example (e.g. see (40) above).

2.5.4 Grammaticality ratings

Four levels of (un)grammaticality are recognized here. Sentences which are unmarked are grammatical; sentences marked with a single question-mark ('?') are ones which sound mildly iffy, but would be possible to accommodate; sentences marked with a double question-mark ('??') are ones which sound moderately iffy, and are at best marginally acceptable; and sentences with a star ('*') are ungrammatical. Following what I perceive to be standard practice in linguistic fieldwork, these four levels of grammaticality derive essentially from my own judgment regarding how strongly a language consultant likes or dislikes a sentence. Where it's seemed necessary, I've included speakers' comments in order to justify particular ratings.

When doing research on a language in which one is not fluent, as I am here, it isn't always possible to tell whether a sentence is ill-formed for syntactic, semantic, or pragmatic reasons. Oftentimes, speakers will clearly reject a sentence in a context, but will not be able to say why they reject the sentence. In some of these instances, the choice between '*' or '#' can presuppose an analysis in a way that's unwarranted. Therefore, even though the primary use of the '*'

symbol here is to indicate that a sentence is syntactically ill-formed, in practice this symbol is also used to indicate that a sentence is ill-formed in those instances where it isn't clear, on the basis of a speaker's response, *why* the sentence is ill-formed.

2.5.5 Felicity ratings

I recognize only two levels of semantic and pragmatic (in)felicity here. Sentences which are unmarked are felicitous, while sentences marked with a hash ('#') are infelicitous. I haven't found it possible to identify more than two degrees of (in)felicity, except in a very instances where the speaker has made explicit comments to this effect. In these few instances I've marked the example with a hash and a question mark ('#?') and have included the consultant's comments.

When a sentence is judged to be ill-formed but it is not possible to tell whether this is due to infelicity or ungrammaticality, the '*' symbol is used to indicate general ill-formedness.

2.5.6 Metalinguistic commentary

Speakers' often have valuable insights into the nature of their language, especially in cases where a sentence is ungrammatical or infelicitous. Transcripts of speakers' comments are provided in many examples, where they are available. When comments arises in dialogue, the language consultant is referred to as 'Speaker', and the elicitor as 'KS' (my initials).

2.6 Variation

In the course of my fieldwork I've worked with six first-language speakers of Kʷak̓ʷala, all of whom are fluent in both Kʷak̓ʷala and English. In this section I discuss the inter-speaker variation I've encountered, and explain what implications this variation has for the analysis of object case presented in this dissertation.

The Kʷak̓ʷala speakers I've worked with originate from two of the five dialect zones outlined in Anonby (1997). The vast majority of data in my fieldwork corpus are from four speakers of the central Kʷak̓ʷala dialect spoken in Alert Bay, Hopetown, Kingcome Inlet, and Fort Rupert, while the remaining data come from two speakers of the northern Nak̓ʷala dialect spoken in C'əlǧʷadi.

The most significant differences between these dialects show up in two domains: lexical items, and the form of deictic determiners. In the lexical domain, some roots are completely different in the two dialects; for instance, the word for 'night' in central Kʷak̓ʷala is *ǧaɲuƛ̓*, while in 'Nak̓ʷala it is *nigəkʷ*. In the determiner domain, I've observed that speakers of Nak̓ʷala, but not central Kʷak̓ʷala, occasionally drop the final consonant of the third person medial deictic, resulting in variation between *=uǩ* and *=u*, among other slight differences. This dialectal variation is interesting in its own right, but does not impinge upon the analysis of object case in this dissertation.

Speakers also vary individually in terms of vowel quality, especially in the vowels realized in determiners and prepositions. For instance, I've observed speakers to differ in whether they pronounce the third person medial deictic as *=oǩʷ* or *=uǩ*, and in whether they pronounce the preposition meaning 'for' as *qa* or *qe*. I have left variation of this sort as-is in my transcriptions,

so the reader will see various pronunciations represented. In any case, individual variation of this sort does not impinge upon my analysis of object case.

One type of variation which may exist, and which *would be* significant for my analysis of object case if proven to exist, is variation in the interpretability of instrumental (=*s*) case. One of the core claims of my analysis is that instrumental (=*s*) case adds semantic meaning to an utterance. Direct evidence for this particular claim, which I present in Chapters 3-5, comes from three (out of four) of the speakers of the central Kʷakʷala dialect whose case data I have found to be consistent. It is these speakers' variety of Kʷakʷala which motivates the interpretability claim advanced in Chapter 4, and which informs the theoretical implications of this claim discussed in Chapter 6. However, when I began to analyze the data from my final fieldwork season, I also came across data from one speaker — the fourth speaker of the central Kʷakʷala dialect — which suggests that this speaker possesses a distinct grammar in which instrumental (=*s*) case is *un*interpretable. If this is true, then my semantic analysis of object case does not capture the grammar of this speaker. The reason that I am hedging my claim about grammatical variation here is that while the data I have from the fourth speaker is suggestive of grammatical difference, it is not conclusive; moreover, I have not been able to do follow-up tests with this speaker.[11] At this point in time, then, all I can do is acknowledge the possibility that there exists a distinct variety of Kʷakʷala in which instrumental (=*s*) case does not add semantic value. I leave it as a topic for future research the task of verifying whether or not this grammatical variation exists, and proceed here to develop an analysis which captures the Kʷakʷala variety in which instrumental case is interpretable.

It's important to note, however, that even despite the possibility of variation in the semantic value of instrumental case, the vast majority of Kʷakʷala data in my corpus are consistent across all language consultants. This is because the contexts in which grammatical variation of this sort would manifest are relatively confined: specifically, it's only in contexts where instrumental case has the potential to add *non-redundant* meaning that speakers potentially vary in their case behaviour. Whenever I encounter such contexts in this dissertation, I only make use of data from the three Kʷakʷala speakers who speak the variety of Kʷakʷala in which I've been able to verify that instrumental case is interpretable. Outside of these contexts, however, the semantic value associated with instrumental case is redundant, by which I mean that the semantic value associated with instrumental case just reiterates meaning that's already present (i.e. via lexical entailments). In these contexts it's impossible to tell whether instrumental case is adding semantic value or not, which means that it's also impossible to tell which hypothesized variety of Kʷakʷala is being spoken. For this reason, whenever I discuss contexts in which potential variation is neutralized, I make use of data from all six language consultants. This allows me to make use of data from all language consultants, though strictly-speaking my analysis only captures the variety of Kʷakʷala spoken by those (at least) three speakers of the language for whom instrumental (=*s*) case is semantically interpretable.

With an introduction to the language and project now complete, we're now ready to explore the semantic underpinnings of object case.

[11] I have also not done the specific tests needed with the 'Nakʷala speakers to see whether instrumental (=*s*) case is interpretable or not for them. I leave this as a topic for future research.

3
The Semantic Basis of Object Case

3.1 Introduction

Previous research on Kʷakʼʷala has uncovered one clear semantic generalization about the distribution of object case — namely, that instrumental (*=s*) case is used to encode semantic Instruments (Boas 1911: p. 544). Otherwise, there have not been any attempts to define a semantic theory for predicting the distribution of object case, and the default assumption within much of the modern Kʷakʼʷala literature appears to be that the distribution of object case is syntactically determined.

In this chapter I'll present three lines of empirical evidence to support the claim that the distribution of object case in Kʷakʼʷala is in fact semantically determined, in line with early intuitions expressed in Boas (1911: p. 544). This discussion will serve both to motivate the semantic analysis I present in Chapter 4, and provide some initial clues about what shape this analysis will take.

The rest of this chapter is organized into four sections, as follows.

- In Section 3.2, I demonstrate the existence of correlations between verbs' lexical semantics and their case frames. In particular, I show that verbs which take strict-instrumental (*=s*) arguments, verbs which take strict-accusative (*=x̌*) arguments, and verbs which take an alternating instrumental-accusative {*=s*, *=x̌*} argument fall into semantically coherent classes. The finding that the lexical semantics of verbs can be used to predict their case frames suggests that object case is semantically determined.

- In Section 3.3, I examine correlations between particular facets of verbs' meaning and their case frames. Specifically, I investigate case marking on Theme arguments in two types of verb pairs: perspectivally-opposed verb pairs, such as *lax̌-* 'sell' versus *kəlxʷ-* 'buy', and reverse-action verb pairs, such as *ʔəx̌ʔalił-* 'put down in house' versus *da-* 'pick up, take in hand'. I show that the case which appears on Theme objects is predictable on the basis of two semantic factors: whether the Theme is possessed (in an abstract sense) by the *Initiator*, and whether this relation of possession holds at the *initial* or *final* bound of an event. The finding that object case is predictable on the basis of these particular semantic factors suggests that case is semantically determined.

- In Section 3.4, I show that the interpretation of transitive predicates formed using weak verbs (verbs which possess few, if any, lexical entailments) differs depending on whether the object is instrumental (*=s*), accusative (*=x̌*) or alternating {*=s*, *=x̌*}. In predicates headed by the dummy root *ʔəx̌-*, the following patterns emerge: (i) monotransitive predicates containing *=x̌* objects can be interpreted as 'using', 'wearing', 'taking', 'getting', and 'doing to' events; (ii) monotransitive predicates containing *=s* objects can be interpreted only as 'using' or 'wearing' events; ; (iii) ditransitive predicates containing an instrumental argument and a prepositional *la* phrase are interpreted as 'putting' events; and (iv) ditransitive predicates containing a *=x̌* object and a prepositional *la* phrase are

interpreted either as 'putting' events or as 'taking from' events. Applying ideas proposed in Ritter & Rosen (1996), I argue that since *ʔəx̌-* possesses no entailments of its own, these semantic constraints on *ʔəx̌-* predicates' interpretation must be contributed by object case itself. Thus, in addition to providing evidence that object case is semantically determined, the *ʔəx̌-* predicate data reveals that object case is semantically interpretable. A similar interpretive pattern is then shown to arise with another weak verb, interrogative *ẇigila* 'do what'.

- Finally, in Section 3.5 I summarize the evidence presented in the previous three sections, and reiterate why this evidence motivates a semantic theory of case. I then provide an overview of what a semantic analysis of object case will need to account for.

By the end of the chapter the reader will be familiar with three new types of empirical evidence motivating a semantic theory of object case, and will have a clear idea of what a theory of object case must explain.

3.2 Evidence from verb classes

A first type of empirical evidence for case being semantically determined comes from looking at correlations between verbs' lexical semantics and case frames.

In Section 1.1, I introduced three types of relations between verbs, internal arguments, and case markers: strict-instrumental (=*s*) relations, strict-accusative (=*x̌*) relations, and alternating instrumental-accusative {=*s*, =*x̌*} relations. In this section, I show that there are consistent and regular correlations between verbs' lexical semantics and their case frames. In particular, I show that verbs which take a strict-accusative argument fall into semantically coherent classes (Section 3.2.1), as do verbs which take a strict-instrumental argument (Section 3.2.2), and or alternating argument (Section 3.2.3). The existence of this general pattern, together with the fact that it appears to lack exceptions, strongly suggests that there is a semantic basis to case marking (Section 3.2.4).

In the following sections, I provide lists of verb stems arranged into classes based on similar meaning. The classes themselves are inspired by the classification of English verb classes in Levin (1993). I have not included all of the classes (let alone all of the verb stems) that I've encountered in my fieldwork, only the ones I have sufficient data for to be confident in their classification. In particular, the set of strict-instrumental relations listed below is comparatively small, for reasons I discuss below. Along with each verb class, I also provide a Thematic Role label which describes the relevant internal argument's semantic role, in order to facilitate comparison across classes. I also provide one or two example sentences for each class.

3.2.1 Verbs with strict-accusative relations

Verbs which take strict-accusative (=*x̌*) objects fall into at least the following eleven semantic verb classes: Creation Verbs, Change Verbs, Ingestion Verbs, Contact Verbs, Obtain Verbs, Transfer Verbs, Communication Verbs, Admire Verbs, Know Verbs, Forget Verbs, and Perception Verbs.

Creation Verbs describe events in which an Agent engages in some action in order to bring about the creation of an object. The internal argument of a Creation Verb, when expressed, is

strict-accusative (44).[1] I refer to this argument as an Incremental Theme, following Dowty (1991: p. 567-571).

Creation Verbs[2]	**=*x̌* argument**
ʔəx̌ila 'make', *gukʷil-* 'build', *ǧaƛ̓-* 'crotchet', *ǧəls-* 'paint', *həm̓iksila* 'cook', *q̓ən-* 'sew', *yəq-* 'knit', *xʷəlt-* 'create an artwork, draw'	Incremental Theme

(44) q̓ənxʔidənx̌ʷa q̓ux̌ʷc̓oy̓ix̌
q̓ən-xʔid =ən =x̌=ʷ=a q̓ux̌ʷc̓oy̓=x̌
sew-BEC =1 =**ACC**=3MED=DET dress=VIS
'I'm sewing a dress (**ACC**) / I sewed a dress (**ACC**).' (VF)

Change Verbs describe events in which some change occurs. The object of a Change Verb, when expressed, is semantically a Patient which undergoes some change, the nature of which is determined by the verb. This change can be a change in some property of the object (e.g. *yax̌ʔid* 'melt'), a change in the object's location (*lux̌ʷax̌-* 'roll down'), a change in the spatial configuration of the object (e.g. *yəƛ̓-* 'bundle'), or a change in the object's physical integrity (e.g. *sup-* 'chop'). Regardless of what type of change is involved, the object is strict-accusative (45).

[1] Some Creation Verbs can also be used as Change Verbs, and thus are cross-listed there. For example, the verb *q̓ən-* 'sew' may describe an event of sewing a new dress (a creation event), or an event of repairing a dress by sewing it (i.e. an event in which the dress undergoes change).
[2] Creation verbs are also formed productively, with *-(g)ila* 'do, make'. With the exception of stems that have been conventionalized, such as *gukʷila* 'build' (literally: 'house-make') and *həm̓iksila* 'cook' (literally: 'food-make'), the objects of stems formed through noun incorporation with *-(g)ila* undergo case alternation. This phenomenon is discussed in Chapter 5, Section 5.4.

Change Verbs	**=x̌ argument**
ʔəx̌stud ‘open’, *ʔixʷʔid* ‘clear’, *ʔiʔkil-* ‘heal, bless’, *gʷix-* ‘awaken’, *ǧəlx̌stud* ‘shut’, *ǧʷiǧʷəɬc̓a* ‘separate, take apart’, *ham̓iksil-* ‘cook, make food’, *hənƛ-* ‘shoot’,[3] *hix̌ʔid* ‘burn’, *ḥiɬ-* ‘fix, repair’, *kaxƛənd* ‘fry’, *kisʔid* ‘light’, *kux̌ʷʔid* ‘snap, split’, *kʷəs-* ‘peel’, *kəlx̌ʔid* ‘turn on, light up’, *kəp-* ‘cut hair’, *kəẇaq-* ‘chop wood’, *kit-* ‘mow’, *ləmxʷʔid* ‘dry’, *ləʔsta-* ‘bathe’, *lix-* ‘flip, turn over’, *lux̌ʷax̌-* ‘roll down’, *mədəlkʷ-* ‘boil’, *m̓əkʷ-* ‘iron’, *nəqałaʔid* ‘straighten’, *nix̌-* ‘pull’, *papudiẏa* ‘pretty up’, *pəx̌sʔəm-* ‘flatten (something round)’, *qʷap̓id* ‘rip, tear’, *qʷiɬ-* ‘unscrew’,[4] *q̓isʔid* ‘smooth’, *q̓ʷəx̌-* ‘turn off, put out’, *q̓ʷiɬ-* ‘smash, grind up’, *səlt̓-* ‘calm’, *sup-* ‘chop’, *təkʷc̓a* ‘crack’, *təp̓id* ‘break’, *t̓əmxʷ-* ‘curl’, *t̓us-* ‘cut, chop’, *wənsʔid* ‘sink, drown’, *wəx-* ‘bend’, *xəlt-* ‘saw’, *x̌əq-* ‘comb’, *x̌ul̓-* ‘shuffle cards’, *x̌ʷaƛ-* ‘fillet’, *yaẇix-* ‘move’,[5] *yax̌ʔid* ‘melt’, *yəƛ-* ‘bundle’, *y̓axʔid* ‘spoil, ruin’, *c̓asʔid* ‘stretch’, *c̓əlx̌ʷʔid* ‘heat’, *c̓ət-* ‘crack’, *c̓ux̌ʷ-* ‘wash’ *c̓ux̌ʷit-* ‘wash away shame [metaphorical]’, *ƛaqʷ-* ‘push; knead (dough)’, *ƛix̌ʷ-* ‘move, relocate’, *ƛ̓ax̌ʷstud* ‘close’, *ƛ̓ux̌ʷʔid* ‘freeze’	Patient

(45) ləmxʷʔidi Hannah**x̌**ən sə̓ya
ləmxʷ-xʔid =i Hannah **=x̌**=ən sə̓ya
dry-BEC =3DIST Hannah **=ACC**=1POSS hair
‘Hannah dried my hair (**ACC**).’ (VF)

Ingestion Verbs describe events of eating and drinking. The object of these verbs is consumed in the course of the event; when expressed, it is strict-accusative (46).

Ingestion Verbs	**=x̌ argument**
həm̓ap- ‘eat’, *həm̓xʔid* ‘eat’, *naq-* ‘drink’, *q̓aq̓ixkən-* ‘overeat’	Incremental Theme

(46) walas naxʔidida ẇac̓i**x̌**ada ẇap
walas naq-xʔid =i=da ẇac̓i **=x̌**=a=da ẇap
big/very drink-BEC =3DIST=OST dog **=ACC**=DET=OST water
‘The dog really drank the water (**ACC**).’ (VF)

Speaker: “Cuz he’s so thirsty, he’s drinking lots.”

Contact Verbs describe events in which an Agent either comes into contact with a Patient, or merely approaches the point of contacting the Patient without actually doing so. Because

[3] This verb also has a use as a Verb of Obtaining (‘hunt for’).
[4] With a strict-accusative argument, this verb assumes the meaning of ‘unscrew (using a tool)’; with an alternating argument, this verb means ‘unravel, untie’ (hence, it is cross-listed as a Manipulation/Change Verb). This latter use is an instance of the Direct Manipulation Alternation, discussed in Chapter 5, Section 5.2. The discussion in Section 7.3.2 may be related to why this verb has two case frames.
[5] I have encountered the verb *yaẇix-* in use as a Change Verb (‘move’), a Verb of Contact (‘touch’), and a Verb of Perception (‘feel’), and have placed it in all three lists. I don’t know at this time whether this variation arises due to this root being semantically underspecified, or because speakers vary in their lexical representation of it.

contact is not always achieved, I refer to the argument of these verbs contact as a Patient/Goal. Note the two possible translations for (47).

Contact Verbs	**=x̌ argument**
ʔəmɬ- 'play (a musical instrument)', *dagit-* 'molest', *dix-* 'wipe', *dzək-* 'rub', *k̓əp-* 'hug, embrace', *k̓ilak-* 'beat up, kill', *kʷix̌-* 'pound, beat', *məx-* 'strike with fist', *miċ-* 'kiss', *nəp-* 'hit the mark; get right [metaphorical]', *q̓ap-* 'hit the mark',[6] *q̓əy̓ak-* 'kick',[7] *qʷix-* 'hit', *q̓ʷəlqʷ-* 'tickle', *q̓ʷəɬ-* 'scratch', *təkʷ-* 'pick, pluck, scratch', *t̓ip-* 'step on', *xʷəs-* 'smack, whip', *x̌ay̓-* 'swipe', *yaẇix-* 'touch'	Patient/Goal

(47) xʷəsʔidən ƛax̌ʷa həm̓əʔdzux̌ʷasa k̓adayu
xʷəs-xʔid =ən ƛa =x̌=ʷ=a həm̓-ʷdzu=x̌
smack-BEC =1 CONN =ACC=3MED=DET eat-flat.surface=VIS
=s=a k̓at-ʷayu
=MEANS=DET write-INST.PASS
i. 'I'm smacking the table (ACC) with a writing utensil'
ii. 'I'm smacking at/towards the table (ACC) with a writing utensil.' (VF)

Obtain Verbs describe events in which something either comes into the possession of an Agent, or in which an Agent strives to acquire something, whether or not acquisition is achieved. I refer to the argument that is acquired or strived for with these verbs as Obtained Goods. Many Obtain Verbs also take a prepositional *la* phrase indicating the Source from which something is obtained, as shown in (48).

Obtain Verbs	**=x̌ argument**
da- 'take in hand', *dida-* 'obtain on credit', *dzik-* 'dig for clams, cockles', *gəluƛ-* 'steal', *hənƛ-* 'hunt for', *həms-* 'pick berries', *kəlxʷ-* 'buy', *kiƛ-* 'fish for (with net)', *loƛ-* 'get, receive', *mən-* 'pick', *q̓ap-* 'catch', *lap-* 'dig up', *yanəm-* 'bring in, yield'	Obtained Goods

(48) gəluɬʔidux̌ Annax̌u q̓inəm kukis laxi ẇədəʔaċi
gəluƛ-xʔid =ux̌ Anna =x̌=ux̌ q̓inəm kukis la =x̌=i
steal-BEC =3MED Anna =ACC=3MED many cookie PREP =ACC=3DIST
ẇəd-ʰaċi
cold-container
'Anna stole a lot of cookies (ACC) from the fridge.' (VF)

Transfer Verbs describe events in which an Agent causes a Theme to come into the possession of a Recipient. These verbs allow their internal arguments to appear in two distinct syntactic frames, depending on whether the Theme or the Recipient is encoded as an object in canonical object position. When the Recipient is encoded as the object, it is strict-accusative (49).

[6] This verb is cross-listed as a Verb of Obtaining because it can also mean 'catch'.
[7] This verb also can be used as an activity verb meaning 'play soccer'.

Transfer Verbs	**=x̌ argument**
dzinaʔp- ‘share out, distribute’, *hałaq-* ‘pay’, *hałax̌s-* ‘send’, *k̓at-* ‘write to’, *lax̌-* ‘sell’, *nəp-* ‘throw’, *yaqʷ-* ‘give in potlatch’, *c̓o-* ‘give’, *ƛ̓awə̓nt-* ‘give charitably, provide’	Recipient

(49) c̓owida c̓ədaqex̌a bəgʷanəmesa ƛ̓ətəmɬ

c̓o	=i=da	c̓ədaq	=x̌=a	bəgʷanəm
give	=3DIST=OST	woman	=ACC=DET	man
	=s=a	ƛ̓ətəmɬ		
	=MEANS=DET	hat		

‘The woman gave a man (ACC) a hat.’ (JF)

The Theme argument of Transfer Verbs undergoes case alternation, so these verbs are cross-listed in Section 3.2.3.

Communication Verbs describe events in which an Agent transfers a Message to a Recipient. Similar to Transfer Verbs, these verbs allow their internal arguments to appear in two different syntactic frames, with either the Message or the Recipient encoded as the direct object. When Recipients are encoded as direct objects, they are strict-accusative (50).

Communication Verbs	**=x̌ argument**
ʔidzaqʷ- ‘repeat’, *n̓ik-* ‘say’, *niɬ-* ‘tell, reveal’, *nus-* ‘tell legends, history’, *yaq̓ənt-* ‘talk’, *ʔupaɬ-* ‘whisper’	Recipient

(50) n̓ikl̓ux̌ Vickix̌, “k̓i, ʔic̓em̓ən ǧʷałała qən maley̓eʔ.”

n̓ik=l̓a	=ux̌	Vicky =x̌	k̓i	(k̓)iʔs-(x̌)se=ʔm	=ən
say=REP	=3MED	Vicky =ACC	no	NEG-still=VER	=1
ǧʷał-ała	qa	=ən	male=eʔ		
finish-STAT	PREP	=1POSS	marry=NMZ		

‘Vicky told him (ACC), “No, I’m still not ready to get married.”’ (VF)

The Message argument of Communication Verbs undergoes case alternation, so these verbs are cross-listed in Section 3.2.3.

Admire Verbs are defined here as events in which an Agent appraises an object positively, desires an object, or possesses both of these attitudes towards an object at the same time. The object towards which appraisal and/or desire is directed is strict-accusative (51).

Admire Verbs	**=x̌ argument**
ʔəx̌ʔex̌sd- ‘want’, *ʔikʔak-* ‘like’, *məxʷ-* ‘covet, admire’, *mayaʔx-* ‘respect’, *məs-* ‘desire’, *xil̓-* ‘admire’	Object of Appraisal

(51) ƛumən xiɬa**x̌**us daɬaċi, ḳiʔsλən ʔəx̌ʔex̌sda
ƛum =ən xiɬ̓-a **=x̌**=us dala-$_{h}$aċi
really =1 admire-A **=ACC**=2POSS money-container ḳiʔs=λ
=ən ʔəx̌-ʔex̌sd-a
NEG=surprise =1 DO-want-A
'I'm really admiring your purse (**ACC**), but I don't want [it].' (VF)

Know Verbs describe events involving the possession of knowledge or belief. What an Agent knows or believes — their Mental Content — can be encoded as a strict-accusative object (52). The Mental Content of Know Verbs can alternatively be encoded as a sentential complement (not shown here).

Know Verbs	**=x̌ argument**
q̓oƛ̓- 'know', *ʔəyuʔs*- 'understand', *ʔuq̓^{w}əs*- 'believe in, trust', *gayanol*- 'aware of, conscious of', *məlk^{w}*- 'remember', *q̓aq̓uƛ̓*- 'learn', *ṁaɬt̓el*- 'recognize', *sənẏas*- 'figure out, have insight into'[8]	Mental Content

(52) q̓oƛəlaṁi Ted**x̌**a ǧ^{w}ixʔidaʔasi
q̓oƛ̓-la=ʔm =i Ted **=x̌**=a ǧ^{w}i-xʔid-a-ʔas=i
know-CONT=VER =3DIST Ted **=ACC**=DET indef-BEC-A-LOC.PASS=VIS
'Ted knows what's happening (**ACC**).' (VF)

Forget Verbs describe events having to do with the loss of knowledge. These verb stems take strict-accusative objects denoting what is forgotten (which I have termed here as 'Lost Mental Content') (53).

Forget Verbs	**=x̌ argument**
*ƛ̓iwe*ʔ ~ *ƛ̓əwile*ʔ 'forget', *łəṅ*- 'forget', *gəx̌omas* 'forget' [idiom][9]	Lost Mental Content

(53) ləṁux̌ Jamesəx̌ kiƛa, laλux̌ ƛ̓iweẏə**x̌**is dadaċəẇak^{w}
lə=ʔm =ux̌ James=x̌ kiƛ-a
AUX=VER =3MED James=VIS fish.with.net-A
la=λ =ux̌ ƛ̓iweʔ **=x̌**=is dadaċəẇak^{w}
go=surprise =3MED forget **=ACC**=3REFL.POSS jacket
'James went fishing, but he forgot his jacket (**ACC**).' (VF)

Finally, Perception Verbs denote events in which a stimulus is perceived by a sentient being. These verbs take a strict-accusative object denoting the Stimulus (54).

[8] This verb appears to have different lexical representations for different speakers. It appears to function as a Know Verb for some speakers, and as a Verb of Thinking for others.
[9] According to one speaker I've worked with, the word *gəx̌omas* evokes an image of a canoe floating away. It can be used to mean describe this situation literally in addition to its 'forget' meaning.

Perception Verbs	**=x̌ argument**
duqʷ- ‘see’, *huƛ̓*- ‘listen to’, *mis*- ‘smell’, *p̓əq*- ‘taste’, *p̓ixʷ*- ‘feel’, *q̓aʔsəl*- ‘pay attention to’, *wəƛ̓*- ‘hear’, *yaẇ̓ix*- ‘touch’	Stimulus

(54) ʔixʔakən qən misəlax̌a pəlawas
ʔikʔak =ən qa =ən mis-la =x̌=a pəlawas
like =1 PREP =1POSS smell-CONT =ACC=DET flower
‘I like to smell flowers (ACC).’ (VF)

3.2.2 Verbs with strict-instrumental relations

Three classes of verbs have been identified which take strict-instrumental (=*s*) objects, all of which name emotional states: the Fear Verbs, Shame Verbs, and Sadness/Longing Verbs.

Fear Verbs describe events involving a feeling of fear or anxiety. The source of fear or anxiety is encoded as a strict-instrumental (=*s*) object; I refer to this argument as the Source of Emotion (55).

Fear Verbs	**=*s* argument**
kəɬ- ‘afraid, scared’, *c̓əɬk*- ‘startled’, *c̓əndik*- ~ *c̓əmdik*- ‘spooked’, *wisq̓a* ‘anxious, restless’	Source of Emotion

(55) k̓iʔsux̌ k̓əlx̌ʔix̌is ṅiṅigʷac̓i. kəɬəlux̌sada loli̓nux̌
k̓iʔs =ux̌ k̓əlx̌-xʔid =x̌=is ṅi~ṅigʷac̓i
NEG =3MED turn.off-BEC =ACC=3REFL.POSS REDUP~lights
kəɬ-la =ux̌ =s=a=da loli̓nux̌
scared-CONT =3MED =INST=DET=OST ghost
‘He doesn’t turn off his lights (ACC). He’s afraid of ghosts (INST).’ (VF)

Shame Verbs describe events involving an array of negative emotions such as guilt, embarrassment, and awkwardness. The object of these verbs is also strict-instrumental (=*s*) (56).

Shame Verbs	**=*s* argument**
ʔudzaq- ‘awkward, off-feeling’, *max̌c̓a*- ‘ashamed, embarrassed’,[10] *məmx̌c̓a*- ‘shy, embarrassed’	Source of Emotion

(56) walasux̌ Abbix̌ max̌c̓asux̌ Normanx̌
walas =ux̌ Abby=x̌ max̌c̓a =s=ux̌ Norman=x̌
big/very =3MED Abby=VIS ashamed =INST=3MED Norman=VIS
‘Abby’s really ashamed of Norman (INST).’ (VF)

[10] One speaker I have consulted with allows the internal argument of *max̌c̓a* to alternate.

Sadness/Longing Verbs describe events having to do with sadness, loneliness, and yearning. Their internal argument is encoded as a strict-instrumental (=*s*) object (57). Alternatively, this same argument can be encoded as an object of the preposition *qa* (not shown here).

Sadness/Longing Verbs	**=*s* argument**
wos- 'sad, sorry for', *xʷəls-* 'lonely', *łəngəʔa-* 'lonesome'	Source of Emotion

(57) ƛumən wosbidu**s**ada ẇaċi
ƛum =ən wos=bidu **=s**=a=da ẇaċi
really =1 sad=DIM **=INST**=DET=OST dog
'I'm really sad about the poor little dog (**INST**).' (VF)

There are two reasons why I'm able to report relatively few verb classes with strict-instrumental relations. The first reason is that a fair number of verbs with strict-instrumental relations are the only known members of their would-be semantic class. For instance, I'm not aware of any synonyms for verbs such as *bəw-* 'leave', *mayuƛ-* 'give birth to', and *ʔiʔkil-* 'heal/bless (from)',[11] though all three possess a strict-instrumental (=*s*) relation. The second reason is that a common type of strict-instrumental relation occurs with semantic Instruments. Verbs from many semantic classes take Instruments, such as certain Creation Verbs (e.g. *q̓ən-* 'sew'), Change Verbs (e.g. *qʷəs-* 'peel'), and Contact Verbs (e.g. *xʷəs-* 'smack, whip'). With some verbs, Instruments may be implicit arguments (Williams 2015: p. 94-116), while with other verbs, Instruments may be adjuncts. Since it's no trivial task to differentiate verbs which entail Instruments from those which don't, I have not made an attempt to do so here.

3.2.3 Verbs with alternating instrumental-accusative relations

Verbs with alternating {=*s*, =*x̌*} objects fall into at least the following eleven semantic classes: Put Verbs, Manipulation/Change Verbs, Stir/Tow Verbs, Transfer Verbs, Bodily Process Verbs, Performance Verbs, Communication Verbs, Annoy Verbs, Jealousy Verbs, Anger Verbs, and Think Verbs.

Put Verbs describe events in which an Agent causes a Locatum to be in some Location. With verb stems in this class, whenever a Locatum argument is expressed, it can undergo case alternation.[12] Put Verbs additionally take a prepositional *la* phrase which expresses the Location that the Locatum ends up at (58). When the Location is not expressed overtly, the existence of one is nevertheless implied.[13]

[11] *ʔiʔkil-* 'heal, bless' takes two strict-instrumental (=*s*) relations: one denoting an Instrument (e.g. heal *with medicine*), and one denoting a Source (e.g. heal *from sickness*).

[12] Some Put Verbs, like *badaʔdzu-* 'butter a flat surface', can also appear in a syntactic frame where the Location (e.g. bread) is expressed as an accusative object. What is relevant for the point being made here is that whenever the Locatum is expressed (e.g. to butter *tasty butter* onto bread) it is expressed as an alternating object, and the Location must be expressed in a prepositional *la* phrase.

[13] For instance, prepositional *la* phrases are often omitted in sentences with Put Verbs formed using locative lexical suffixes. For example, the verb stem *tiḵʷəx̌aẇ-* 'put on a necklace' is formed from the root *tikʷ-* 'hanging' plus -*ɯx̌awe?* 'neck'. With this verb, when a *la-* phrase is not expressed, the subject's throat is assumed to be the Location

Put Verbs	**{=*s*, =*x̌*} argument**
ʔəx̌abu- ‘put underneath’, *ʔəx̌ədzu-* ‘put on a flat surface’, *ʔəx̌st-* ‘immerse in water’, *ʔəx̌c̓u-* ‘put inside’, *ʔəx̌ʔalis-* ‘put on the ground outdoors’, *ʔəx̌ʔaliɬ-* ‘put down in house’, *ʔəx̌ʔaƛ̓-* ‘put down’, *ʔəx̌ʔəl̓s-* ‘put outdoors’, *babaʔq-* ‘pepper’, *ʔikaɬ-* ‘put up high’, *ʔikaƛ̓aʔs-* ‘put on high heels’, *badaʔdzu-* ‘butter a flat surface’, *dəmsxilel̓-* ‘salt’, *dzup-* ‘jar, can’, *ǧax̌ʷ-* ~ *ǧix̌ʷ-* ‘hang’, *gənẇ-* ‘add in’, *gic̓u-* ‘put inside’, *giʔst-* ‘immerse in liquid’, *hən-* ‘set a hollow container upright’, *hənxƛ̓-* ‘set a hollow container upright on fire or stove’, *həpst-* ‘immerse in colour or dye’, *kapəm-* ‘put on a cap’, *kaxc̓an-* ‘put on a bracelet’, *kʷət-* ‘attach by sticking’, *nəxʷ-* ~ *naxʷ-* ‘wrap’, *pənc̓u-* ‘pump in’, *qəp-* ‘pour, spill’, *qiqəɬc̓an-* ‘put a ring on’, *q̓ux̌c̓u-* ‘dress, put on clothes’, *tikʷ-* ‘hang’, *tikʷəx̌aẇ-* ‘put on a necklace’, *t̓ipsidz-* ‘put shoes on’, *xəlpaƛ̓-* ‘twist on’, *yawapst-* ‘curtain’, *c̓əkʷc̓u-* ‘pour liquid inside’, *c̓əq-* ‘discard, throw away’, *c̓ixʷ-* ‘pour liquid’, *ƛ̓ətəm-* ‘put on a hat’	Locatum

(58) luǰ Katiyəǰ ʔəǰʔaliɬa{**s**a, **ǰ**a} ƛ̓ətəmɬ laǰa k̓ʷaxdəm̓iɬiǰ
lə =uǰ Katie=ǰ ʔəǰ-ʔaliɬ-a {=**s**=a,
AUX =3MED Katie=VIS DO-A-on.floor.in.house-A {=**INST**=DET,
=**ǰ**=a} ƛ̓ətəmɬ la =ǰ=a k̓ʷaxdəm̓iɬ=ǰ
=**ACC**=DET} hat PREP =ACC=DET chair=VIS
‘Katie put a hat {**INST**, **ACC**} down on the chair [in the house].’ (VF, JF)

Put Verbs are discussed further in Chapter 5, Section 5.3 in connection with the Caused Motion Alternation.

Manipulation/Change Verbs describe events in which an Agent manually manipulates an object, resulting in the object undergoing some change in its configuration. This object can appear in either case (59); I refer to it as an Instrument/Patient because it has properties belonging to both thematic categories.

Manipulation/Change Verbs	**{=*s*, =*x̌*} argument**
k̓uǰʷ- ‘fold’, *mukʷ-* ‘tie’, *qəs-* ‘coil, wind’, *qʷiɬ-* ‘untie, unravel’, *xəlpaƛ̓-* ‘twist on’	Instrument/Patient

(59) mukʷuǰ Simon{**s**a, **ǰ**a} dənəm
mukʷ =uǰ Simon {=**s**=a , =**ǰ**=a} dənəm
tie =3MED Simon {=**INST**=DET , =**ACC**=DET} rope
‘Simon tied the rope {**INST**, **ACC**}.’ (VF, VF)

Manipulation/Change Verbs are discussed in Chapter 5, Section 5.2 in relation to the Direct Manipulation Alternation.

Stir/Tow Verbs describe events in which an Agent uses an Instrument to bring about a change in a Patient, where in the course of doing so, the Instrument and the Patient both undergo

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where the Locatum (a necklace) is put. The Locatum is often left unexpressed with these verbs, but if expressed, it undergoes case alternation.

the event described by the verb in tandem. For instance, if an Agent tows a boat with rope, there is a sense in which both the boat and the rope get towed. Likewise, if an Agent stirs batter with a spoon, both the batter and the spoon undergo stirring. These verbs can occur in two syntactic frames, depending on whether the Instrument or the Patient is mapped to canonical object position. When in object position, both the semantic Instrument and the semantic Patient can undergo case alternation (60)-(61); nevertheless, there is a tendency for the more Instrument-like argument (i.e. the one nearer to the Agent in the causal chain (Wolff 2003)) to appear in instrumental case, and the more Patient-like argument to appear in accusative case.

Stir/Tow Verbs	**{=*s*, =*x̌*} arguments**
dap- 'tow', *x̌ʷit-* 'stir, mix'	i. Instrument (what is done with) [=*s* bias] ii. Patient (what is done to) [=*x̌* bias]

(60) x̌ʷitən{**s**gada, **x̌**gada} keʔgəsilasuẇən
xʷit =ən {=**s**=ga=da , =**x̌**=ga=da} keʔgəs-(g)ila-a-səẇ=ən
stir =1 {=**INST**=3PROX=OST , =**ACC**=3PROX=OST} cake-make-A-ACC.PASS=1POSS
'I'm stirring the cake {**INST**, **ACC**} I'm making.' (VF, JF)

(61) x̌ʷitən{**s**gada, **x̌**gada} x̌ʷidayux
xʷit =ən {=**s**=ga=da , =**x̌**=ga=da} xʷit-$_{w}$ayu=x
stir =1 {=**INST**=3PROX=OST , =**ACC**=3PROX=OST} stir-INST.PASS=VIS
'I'm stirring the spoon {**INST**, **ACC**}.' (VF, JF)

Transfer Verbs, which we first encountered in Section 3.2.1, describe events in which an Agent causes a Theme to come into the possession of a Recipient. These verbs appear in two distinct syntactic frames, depending on whether the Theme or the Recipient is mapped to canonical object position. When the Theme is the object, it undergoes case alternation (62).

Transfer Verbs	**{=*s*, =*x̌*} argument**
dzinaʔp- 'share out, distribute', *həłaq-* 'pay', *həłax̌s-* 'send', *k̓at-* 'write to', *lax̌-* 'sell', *nəp-* 'throw', *c̓o-* 'give', *ƛaẇənt-* 'give charitably, provide'	Theme

(62) c̓owux̌ Shelli{**s**is, **x̌**is} dzastu q̓ʷəmdzuy̓u lax̌ux̌ Vicki
c̓o =ux̌ Shelly {=**s**=is , =**x̌**=is}
give =3MED Shelly {=**INST**=3REFL.POSS , =**ACC**=3REFL.POSS}
dzastu q̓ʷəmdzuy̓u la =x̌=ux̌ Vicky
blue.colour dress PREP =ACC=3MED Vicky
'Shelly gave her blue dress {**INST**, **ACC**} to Vicky.' (VF, JF)

When the Recipient argument is encoded as a direct object it is strict-accusative (see Section 3.2.1).

Bodily Process Verbs describe fluids and gases exiting or entering the body. These verbs' object undergoes case alternation (63).

Bodily Process Verbs *ʔəlkʷ-* 'bleed', *hasdəx-* 'breathe in', *hasdəxu-* 'breathe out', *ləx̌o-* 'cough', *kʷis-* 'spit', *huqʷ-* 'vomit'	**{=*s*, =*x̌*} argument** Theme

(63) hasdəxuduǰ Abbi{**s**uǰda, **x̌**ʷa} yolaǰ
hasdəx-u-xʔid =uǰ Abby {=**S**=uǰ=da, =**ACC**=3MED=DET}
breathe-out/off-BEC =3MED Abby {=**INST**=3MED=OST, =**x̌**=ʷ=a}
yu-la=x̌
wind-CONT=VIS
'Abby's breathing out the wind {**INST**, **ACC**}.' (JF, VF)

Performance Verbs describe events in which something is performed, played, or more generally expressed or instantiated in the course of an event. The internal argument of these verbs, which I've labelled the Expressed Theme,[14] undergoes case alternation (64).

Performance Verbs *ʔəmɬ-* 'play (a game)', *dənx̌-* 'sing', *gət-* 'draw, create (artwork)', *ḳakadəkʷsil-* 'read (aloud)', *lip-* 'play cards', *nus-* 'tell history or legend', *yəx̌ʷ-* 'dance (in the Bighouse)'	**{=*s*, =*x̌*} argument** Expressed Theme

(64) dənx̌əluǰ Mabel{**s**a, **x̌**a} ḳəmdəm
dənx̌-la =uǰ Mabel {=**S**=a , =**x̌**=a} ḳəmdəm
sing-CONT =3MED Mabel {=**INST**=DET, =**ACC**=DET} song
'Mabel's singing a song {**INST**, **ACC**}.' (VF)

Communication Verbs, which we first encountered in Section 3.2.1, describe events in which an Agent communicates a Message to a Recipient. The Message of Communication Verbs undergoes case alternation (65).[15]

Communication Verbs *ʔidzaqʷ-* 'repeat', *ṅik-* 'say', *niɬ-* 'tell, reveal', *nus-* 'tell legends, history', *yaḳənt-* 'talk', *ʔupaɬ-* 'whisper'	**{=*s*, =*x̌*} argument** Message

[14] There doesn't appear to be an established semantic label in the literature for the internal argument of Performance Verbs. A specific term used to refer to the internal argument of dance verbs in Hale & Keyser (2002) is 'hyponymous object' (p. 49-50, 70-71), but this term doesn't seem to apply well to the internal argument of all the Performance Verbs listed.

[15] Judging from examples strewn throughout Boas (1911, 1947), the Message argument of Communication Verbs seems historically to have been strict-instrumental. Nowadays there is an apparent bias towards volunteering instrumental with Message arguments, but all speakers I have asked accept and/or volunteer accusative-marked Messages as well.

(65) ṅikl̓a{**s**us, **x̌**us} wałdəmx̌ ʔoʔəma ʔulaqʷa
ṅik-l̓a {=**s**=us , =**x̌**=us} wałdəm=x̌ ʔwa=ʔm=a ʔulaqʷa
say-IMP {=**INST**=2POSS , =**ACC**=2POSS} word=VIS so=VER=A quietly
'Say what you said {**INST**, **ACC**}, just quietly.' (VF, VF)

Annoy Verbs describe events involving feelings of annoyance or irritation directed towards someone or something. The person or thing that is causing the irritation can be expressed as an object in either case (66); I refer to this argument as the Source/Target of Emotion, because it is simultaneously the cause and the target of irritation.

Annoy Verbs	**{=*s*, =*x̌*} argument**
dzibus- 'annoyed',[16] *c̓inix̌-* 'troubled', *x̌ʷinat-* 'irked', *waṅ̓iq-* 'disgusted'[17]	Source/Target of Emotion

(66) dzibusux̌ Mabelx̌{**s**ux̌da, **x̌**ux̌da} ẇac̓ix̌
dzibus =ux̌ Mabel=x̌ {=**s**=ux̌=da , =**x̌**=ux̌=da} ẇac̓i=x̌
annoy =3MED Mabel=VIS {=**INST**=3MED=OST , =**ACC**=3MED=OST} dog=VIS
'Mabel's annoyed by the dog {**INST**, **ACC**}.' (VF, VF)

Jealousy Verbs describe events involving feelings of jealousy. The person or thing one feels jealous about can be encoded in either case (67). Once again, I refer to this as the Source/Target of Emotion, because it is simultaneously the cause and the target of jealousy.

Jealousy Verbs	**{=*s*, =*x̌*} argument**
babal̓- 'jealous', *ƛ̓iq̓-* ~ *ƛ̓eq̓-* 'jealous'	Source/Target of Emotion

(67) ƛ̓iq̓ux̌ Mabelx̌{sus, x̌us} ṅəmukʷ
ƛ̓iq̓ =ux̌ Mabel=x̌ {=**s**=us , =**x̌**=us} ṅəmukʷ
jealous =3MED Mabel=VIS {=**INST**=3REFL.POSS , =**ACC**=3REFL.POSS} friend
'Mabel's jealous of her friend {**INST**, **ACC**}.' (VF, VF)

Anger Verbs describe events involving feelings of anger or offence. The internal argument of these verbs undergoes case alternation, though there is a noticeable difference in the frequency with which the verbs in this class take one case versus the other: *c̓ənkʷ-* usually takes an *=s* object (68), while *ɬawis-* usually takes a *=x̌* object (69), but both verbs have been observed to take objects in either case.

[16] For one (out of four) speakers I have consulted about this word, the internal argument is strict-instrumental.
[17] The same speaker mentioned in the previous footnote also treats this relation as strict-instrumental.

Anger Verbs	**{=*s*, =*x̌*} argument**
c̓ənkʷ- ‘offended, furious’, *ɬawis*- ‘angry’	Source/Target of Emotion

(68) ƛumuǰ Elsaǰ c̓ənkʷ**s**uǰ Karenǰ, k̓iʔsaʔaǰ məlkʷəla qəs niɬeʔs
ƛum =uǰ Elsa=ǰ c̓ənkʷ **=s**=uǰ Karen=ǰ
really =3MED Elsa=VIS offended **=INST**=3MED Karen=VIS
k̓iʔs=a=ǰ məlkʷ-la qa =is niɬ=eʔ =s
NEG=EMBED=VIS remember-CONT PREP =3REFL.POSS show=NMZ =3POSS
‘Elsa was really offended by Karen (**INST**) when she didn’t remember to mention her.’ (VF)

(69) ɬawisi Ketiyə**x̌**a bibəgʷanəm
ɬawis =i Katie=ǰ **=x̌**=a bi~bəgʷanəm
angry =3DIST Katie=VIS **=ACC**=DET REDUP~man
‘Katie’s angry at the men (**ACC**).’ (JF)

Think Verbs describe events involving mental rumination. All Think Verbs allow their internal argument to undergo case alternation (70); I refer to this argument as a Thought.

Think Verbs	**{=*s*, =*x̌*} argument**
gigəʔeq- ‘ponder, imagine’, *n̓ik̓eʔq*- ‘think, judge, decide’ [*Literally* ‘say in mind’], *nanoqiksil*- ‘consider, think seriously about’, *nanukʷ*- ‘ruminate about someone who hasn’t returned’, *q̓aẏeʔq*- ‘worry’, *q̓iq̓eʔq*- ‘worry’, *sənẏas*- ‘think, ruminate’[18]	Thought

(70) a. gigəʔeqələn ƛa**s** wałdəmaʔsa n̓əmukʷ
gigəʔeq-la =ən ƛa **=s** wałdəm=aʔ
ponder-CONT =1 CONN **=INST** word=INVIS
=s=a friend
=3POSS=DET friend
‘I’m thinking about what a friend said (**INST**).’ (VF)

b. gigəʔeqələn ƛa**x̌**a səyun̓akʷəla
gigəʔeq-la =ən ƛa **=x̌**=a siǰʷ-ʷn̓akʷəla
ponder-CONT =1 CONN **=ACC**=DET paddle-GRAD.ADV
‘I’m thinking about the boat that’s going by (**ACC**).’ (VF)

3.2.4 Side-by-side comparisons

In the previous three sections I’ve shown that correlations exist between particular semantic verb classes and particular object case frames. Table 3.1 summarizes the correlations reported above; to facilitate comparison, I’ve also included the thematic categories of internal arguments.

[18] As mentioned in Section 3.2.1, this verb has a different meaning for some speakers, patterning as a Know Verb.

Verb classes with strict-accusative (=*x̌*) relations	**=*x̌* argument**
Creation Verbs	Incremental Theme
Change Verbs	Patient
Ingestion Verbs	Incremental Theme
Contact Verbs	Patient/Goal
Obtain Verbs	Obtained Goods
Transfer Verbs	Recipient
Communication Verbs	Recipient
Admire Verbs	Object of Appraisal
Know Verbs	Mental Content
Forget Verbs	Lost Mental Content
Perception Verbs	Stimulus
Verb classes with strict-instrumental (=*s*) relations	**=*s* argument**
Fear Verbs	Source of Emotion
Shame Verbs	Source of Emotion
Sadness/Longing Verbs	Source of Emotion
Verb classes with alternating {=*s*, =*x̌*} relations	**{=*s*, =*x̌*} argument**
Put Verbs	Locatum
Manipulation/Change Verbs	Instrument/Patient
Stir/Tow Verbs	Instrument, Patient
Transfer Verbs	Theme
Bodily Process Verbs	Theme
Performance Verbs	Expressed Theme
Communication Verbs	Message
Annoy Verbs	Source/Target of Emotion
Jealousy Verbs	Source/Target of Emotion
Anger Verbs	Source/Target of Emotion
Think Verbs	Thought

Table 3.1: Semantic verb classes organized by case frame

Table 3.1 shows that in general, verbs with similar meaning have similar case frames. This is precisely what we'd expect to see if the distribution of object case was semantically determined.

Note that if the distribution of object case was not semantically determined, but was determined by syntax alone, nothing would prevent the pattern in Table 3.1 from arising. What would be surprising, however, is the regularity and consistency with which we observe verb stems falling into particular classes. If case were only syntactically determined, we might expect to see numerous exceptions to the generalizations in Table 3.1. The absence of such exceptions, together with the existence of clear correlations between verb meaning and case frames, suggests that object case is determined by semantic factors.

On the other hand, it's important to note that this type of evidence has limitations. To begin with, the association between semantic verb classes and object case frames shown above is a *static* pattern in the language. It's technically possible, then, that this pattern was determined by semantics at an earlier stage of the language's history and subsequently become syntacticized, in which case object case could still be determined, synchronically, by syntax alone. However, this is at least somewhat unlikely, since the use of *=s* as a case marker seems to have developed recently in the language's history (Sardinha 2011), making the time period in which syntacticization could have occurred relatively short. The finding that this static pattern is fully regular also makes a syntacticization scenario somewhat less likely, as the existence of regularity may indicate that not enough time has passed for deviations from the semantic pattern to accrue.

A second limitation of the evidence in this section is that it doesn't tell us whether object case marking adds any semantic information beyond what's already contributed by verbal entailments. For instance, we've seen that all monotransitive verbs which entails change (i.e. Change Verbs) can take an object in the accusative case. If accusative case marking adds any semantic information, it's likely to be meaning that is *redundant* relative to the meaning already supplied by the verb. Thus, in order to diagnose where particular meaning components come from, and to know whether case adds semantic information, a different type of evidence is needed than the evidence presented in this section.

3.3 Evidence from case marking asymmetries in verb pairs

A second type of evidence for object case being semantically determined comes from observing the case frames of two types of verb pairs. The first type includes verbs which lexicalize different perspectives on the same event, such as *sell* versus *buy*: I refer to these as **perspectivally-opposed verb pairs**. The other type includes verbs which lexicalize conceptual reversals of each other, such as *put down* versus *pick up*; I refer to these as **reverse-action verb pairs**.

I'll start by showing that there is a correlation between the perspective on an event encoded by a verb, and that verb's case frame (Section 3.3.1). I'll then show that an analogous correlation shows up with verb pairs that are conceptual reversals of each other (Section 3.3.2). Generalizing across these two cases will lead to the discovery that which case appears on Theme objects is predictable on the basis of two semantic factors: whether the Theme is possessed by the *Initiator*, and whether this relation of possession holds at the *initial* or *final* bound of the event (Section 3.3.3).

3.3.1 Perspectivally-opposed verb pairs

A **perspectivally-opposed verb pair** consists of verbs which encode different viewpoints on a single situation. According to Gleitman (1990), these are verb pairs where "the verbs seem to

describe specific perspectives taken on those events by the speaker, perspectives that are not 'in the events' in any direct way" (p. 17). For instance if I walk into a store and purchase juggling balls and another person in the store sees the transaction take place, this observer could describe the event as in (71) with the verb *sell*, or as in (72) with the verb *buy*.

(71) The shopkeeper **sold** juggling balls to Katie.

(72) Katie **bought** juggling balls from the shopkeeper.

This situation can be described with either *sell* or *buy* because these verbs name alternative perspectives on a single overarching commercial transaction situation (Parsons 1990: p. 84, Wechsler 2005: p. 183-184, 188-193). The verb *sell* encodes this situation as an event from the perspective of the seller, who is mapped to subject position, while the verb *buy* encodes the situation as an event from the perspective of the buyer, who is mapped to subject position; this makes it so that the shopkeeper is the *Initiator* of the event in (71), while Katie is the *Initiator* of the event in (72). A defining feature of perspectivally-opposed verb pairs like *sell* versus *buy* is thus that whenever one verb in the pair can be used to describe a situation, the other can be used as well; in other words, there is complete overlap in these verbs' contexts of use.[19] Other examples of perspectivally-opposed pairs include *flee* versus *chase*, *win* versus *beat*, and *give* versus *receive* (Gleitman 1990: pg. 16).

What is relevant for our purposes here is the encoding of the direct object in these verb pairs. Thus, in a pair like *sell* versus *buy*, we're interested in how the Theme is encoded. Looking at English, there's no obvious difference in how the Theme 'juggling balls' is encoded in (71) and (72). However, when we turn to look at Kʷakʷala — a language with two distinct ways of marking objects — we find that there is a clear difference in how the object is encoded by the verbs in these pairs. In particular, we find that one verb in the pair has an alternating {=*s*, =*x̌*} Theme, while the other verb in the pair has a strict-accusative (=*x̌*) Theme. This difference is illustrated below with the verb pairs *laǩ*- 'sell' versus *kəlxʷ*- 'buy' (73), *ċo*- 'give' versus *loƛ̓*- 'receive, get' (74), and *nəp*- 'throw' versus *q̓ap*- 'catch' (75). The 'a' examples below have alternating {=*s*, =*x̌*} objects, while the 'b' examples have strict-accusative (=*x̌*) objects.

(73) <u>*laǩ*- 'sell' versus *kəlxʷ*- 'buy'</u>

a. ləm̓uǩ Scott laǩud{**sa**, **x̌a**} **kəlkəlsəla**
lə=ʔm =uǩ Scott laǩ-u-xʔid {**=s=a** , **=x̌=a**}
AUX=VER =3MED Scott sell-out/off[20]-BEC {**=INST=DET** , **=ACC=DET**}
kəlkəlsəla
car
'Then Scott sold **the car** {INST, ACC}.' (VF, JF)

[19] For this reason, these verb pairs pose a substantial challenge for the language learner (Gleitman 1990). It's noteworthy, then, that the main claim in Gleitman's paper is that syntactic structure helps children learn perspectival differences like these. Given that this distinction is overtly marked in Kʷakʷala, we might wonder whether it would be easier for a child growing up learning Kʷakʷala to acquire these constructions than for a child growing up learning English.

[20] Sentences with *laǩ*- 'sell' which do not have the suffix -*u* also can take an alternating object.

b. kəlx^{w}uǰ Shelli**ǰuǰ kəlkəlsəla**sa dala

kəlx^{w}	=uǰ	Shelly	**=ǰ=uǰ**	**kəlkəlsəla**
buy	=3MED	Shelly	**=ACC=3MED**	**car**
=s=a		dala		
=MEANS=DET		money		

'Shelly bought **the car** (ACC)(***INST**) with money.' (VF)

(74) *ċo-* 'give' versus *loƛ-* 'receive, get'

a. ċowuǰ Shelli{**sis**, **ǰis**} **dzastu q̓^{w}əmdzuy̓u** laǰuǰ Vicki

ċo	=uǰ	Shelly	{**=s=is** , **=ǰ=is**}
give	=3MED	Shelly	{**=INST=3REFL.POSS** , **=ACC=3REFL.POSS**}
dzastu	**q̓^{w}əmdzuy̓u**	la =ǰ=uǰ	Vicky
blue.colour	**dress**	PREP =ACC=3MED	Vicky

'Shelly gave **her blue dress** {INST, ACC} to Vicky.' (VF, JF)

b. *Context: Katie took part in a Secret Santa gift exchange.*

loƛoǰ Ketiyə**ǰa q̓əsəneʔ**

loƛ	=oǰ	Katie	**=ǰ=a**	**q̓əsəneʔ**
obtain	=3MED	Katie	**=ACC=DET**	**shirt**

'Katie got **a shirt** (ACC)(***INST**).' (VF)

(75) *nəp-* 'throw' versus *q̓ap-* 'catch'

a. nəp̓iduǰ Monicaǰ{**sis**, **ǰis**} **gagənaʔłəm** laǰ Simon

nəp-xʔid	=uǰ	Monica=ǰ	{**=s=is**	, **=ǰ=is**}
throw-BEC	=3MED	Monica=VIS	{**=INST=3REFL.POSS** , **=ACC=3REFL.POSS**}	
gagənaʔłəm	la	=ǰ	Simon	
doll	PREP	=ACC	Simon	

'Monica is throwing/threw **her doll** {INST, ACC} to Simon.' (VF, JF)

b. *Context: The speaker is pretending to hold a ball in her hand.*

q̓apənǰ**gada *ball*x**

q̓ap	=ən	**=ǰ=ga=da**	**ball=x**
catch	=1	**=ACC=3PROX=OST**	**ball=VIS**

'I caught **this ball** (ACC)(***INST**).'[21] (VF)

The data in (73)-(75) is summarized in Table 3.2.

[21] The context in which *q̓ap-* 'catch' (75b) was elicited requires that the event be interpreted as telic. However, this verb can also be used in sentences translated in the English progressive (e.g. *I am catching the ball*), which shows that this verb is truly perspectivally-opposed to the verb *nəp-* (cf. the two possible translations in 75a).

Verbs ('a')	Gloss	Case	Verbs ('b')	Gloss	Case
laǩ-	'sell'	{INST, ACC}	*kəlxʷ-*	'buy'	(ACC)
c̓o-	'give'	{INST, ACC}	*loƛ̓-*	'get'	(ACC)
nəp-	'throw'	{INST, ACC}	*q̓ap-*	'catch'	(ACC)

Table 3.2: Case marking of the Theme in perspectivally-opposed verb pairs

The difference in meaning between the 'a' verbs and the corresponding 'b' verbs in Table 3.2 reduces to a difference in lexically-encoded perspective: the 'a' verbs (*laǩ-*, *c̓o-*, and *nəp-*) are alike in that they all describe events in which a Theme is transferred to a Recipient, while the 'b' verbs (*kəlxʷ-*, *loƛ̓-*, and *q̓ap-*) are alike in that they all describe events in which a Theme is obtained from a Source. In Section 3.2, I referred to the 'a' verbs as Transfer Verbs, and the 'b' verbs as Obtain Verbs. What's significant here is that the difference in a verb's encoded perspective correlates with a difference in case frame. This suggests that semantic factors are at work in determining the distribution of object case.

3.3.2 Reverse-action verb pairs

The same case-marking pattern reappears when we look at a different set of paired verbs, which I'll refer to as a **reverse-action verb pairs**. While perspectivally-opposed verb pairs lexicalize different perspectives on a single event, reverse-action verb pairs describe two non-overlapping events. In fact, the events described by reverse-action verbs are necessarily non-overlapping: they describe two temporally-separate segments of a reversible action. The phrasal verbs *put down* and *pick up* form a reverse-action verb pair, because *putting* something *down* can be reversed by *picking* that thing *up*. Once I *put down* my juggling balls, I can reverse my action by *picking* them *up*, and likewise in reverse: once I *pick* them *up*, I can *put* them *down* (76)-(77).

(76) a. Katie **put** her juggling balls **down** on the table.
b. Katie **put down** her juggling balls on the table.

(77) a. Katie **picked** her juggling balls **up** from the table.
b. Katie **picked up** her juggling balls from the table.

Other examples of reverse-action verb pairs include *put in* versus *take out*, *stick* (*on*) versus *unstick* (*from*), and *attach* versus *detach*.

Once again, we see that there is no obvious difference in how the Theme is encoded in English across members of these verb pairs: with both *put down* and *pick up*, the Theme is encoded as a direct object, which in these examples can appear on either side of the particle (76)-(77). In Kʷak̓ʷala however, there is a difference in the way Themes are encoded in reverse-action verb pairs. In particular, these verb pairs show the same case patterns as perspectivally-opposed verb pairs: one member of each pair has an alternating {=*s*, =*ǩ*} object, while the other member has a strict-accusative (=*ǩ*) one. This is illustrated below with the verb pairs *ʔəǩʔaliɬ-* 'put down on surface indoors' versus *da-* 'pick up, take in hand' (78), *gic̓u-* 'put inside' versus *ʔəǩwəɬc̓u-* 'take out from inside (79), and *kʷəta̓ƛ̓-* 'stick on surface' versus *lawe-* 'remove' (80).

(78) *ʔəx̌ʔalił-* 'put down on surface indoors' versus *da-* 'pick up, take in hand'

a. ləm̓uǰ Katiyəǰ ʔəx̌ʔalił{**suǰda**, **x̌uǰda**} **ƛ̓ətəmł** laǰʷa ʔəwiṅaʔgʷił
lə=ʔm =uǰ Katie=x̌ ʔəx̌-ʔalił {**=s=uǰ=da**,
AUX=VER =3MED Katie=VIS DO-A-on.floor.in.house {**=INST=3MED=OST**,
=x̌=uǰ=da} **ƛ̓ətəmł** la =x̌=ʷ=a ʔəwiṅaʔgʷił
=ACC=3MED=OST} **hat** PREP =ACC=3MED=DET floor.in.house
'Katie is putting **the hat** {**INST**, **ACC**} down on the floor.' (VF, JF)

b. ləm̓uǰ daxʔiduǰ Katiyə**x̌ʷa** **ƛ̓ətəmł** laǰʷa ʔəwiṅaʔgʷił
lə=ʔm =uǰ da-xʔid =uǰ Katie **=x̌=ʷ=a**
AUX=VER =3MED take.in.hand-BEC =3MED Katie **=ACC=3MED=DET**
ƛ̓ətəmł la =x̌=ʷ=a ʔəwiṅaʔgʷił
hat PREP =ACC=3MED=DET floor.in.house
'Katie is picking **the hat** (**ACC**)(***INST**) up off the floor.' (VF)

(79) *gic̓u-* 'put inside' versus *ʔəx̌wəłc̓u-* 'take out from inside'

a. ləm̓uǰ gic̓uduǰ Kati{**suǰda**, **x̌ʷa**} **ƛ̓ətəmł** laǰʷa niǰniǰaǰ
lə=ʔm =uǰ gi-c̓u-xʔid =uǰ Katie {**=s=uǰ=da**,
AUX=VER =3MED LOC-inside-BEC =3MED Katie {**=INST=3MED=OST**,
=x̌=ʷ=a} **ƛ̓ətəmł** la =x̌=ʷ=a
=ACC=3MED=DET} **hat** PREP =ACC=3MED=DET
niǰ~niǰ-a=x̌
REDUP~pull-A=VIS
'Katie put **the hat** {**INST**, **ACC**} into the drawer.' (VF, JF)

b. ʔəx̌wəłc̓uduǰ Katiyə**x̌ʷa** **ƛ̓ətəmłix̌** laǰʷa niǰniǰaǰ
ʔəx̌-wəł-c̓u-xʔid =uǰ Katie **=x̌=ʷ=a**
DO-out.from-inside-BEC =3MED Katie **=ACC=3MED=DET**
ƛ̓ətəmł=x̌ la =x̌=ʷ=a niǰ~niǰ-a=x̌
hat=VIS PREP =ACC=3MED=DET REDUP~pull-A=VIS
'Katie took **the hat** (**ACC**)(***INST**) out of the drawer.' (VF)

(80) *kʷəta*ƛ̓*-* 'stick on surface' versus *lawe-* 'remove'

a. k̓ʷətaƛ̓əluǰ Mabəlaǰ{**sa**, **x̌a**} **k̓atəmakʷ** laǰʷa hənǰsol̓as
k̓ʷət-aƛ̓-la =uǰ Mabel=x̌ {**=s=a** , **=x̌=a**}
stuck-on.surface-CONT =3MED Mabel=VIS {**=INST=DET** , **=ACC=DET**}
k̓atəmakʷ la =x̌=ʷ=a hənǰsol̓as
picture PREP =ACC=3MED=DET window
'Mabel is sticking/stuck **a picture** {**INST**, **ACC**} onto the window.' (VF, JF)

b. laweduǰ Eddie**ǰ̌ʷa k̓atəmakʷ** kʷ̓ətała laǰ̌ʷa hənǰ̌sol̓as
lawe-xʔid =uǰ̌ Eddie **=ǰ̌=ʷ=a**
come.off-BEC =3MED Eddie **=ACC=3MED=DET**
katəmakʷ la =ǰ̌=ʷ=a hənǰ̌sol̓as
picture PREP =ACC=3MED=DET window
'Eddie took down **the picture** (ACC)(***INST**) that was stuck on the window.' (VF)

This data in (78)-(80) is summarized in Table 3.3.

Verbs ('a')	Gloss	Case	Verbs ('b')	Gloss	Case
ʔəǰ̌ʔaliɬ-	'put down in house'	{INST, ACC}	*da-*	'pick up'	(ACC)
gic̓o-	'put inside'	{INST, ACC}	*ʔəǰ̌wəɬc̓u-*	'take out'	(ACC)
kʷətaƛ-	'stick on'	{INST, ACC}	*lawe-*	'remove'	(ACC)

Table 3.3: Case marking of the Theme in reverse-action verb pairs

The 'a' examples in Table 3.3 are alike in that they are all Put Verbs, describing events in which a Locatum is caused to be in some Location. Likewise, the 'b' examples are alike in that they are all Obtain Verbs, describing events in which a Theme is obtained from a Source. The difference in meaning between these two types of verbs correlates with a difference in case frame. This shows once again that semantic factors are at work in determining the distribution of object case.

3.3.3 Semantic basis of verb-pair case frames

When we compare the patterns in Table 3.2 and Table 3.3, a semantic generalization arises. This generalization has to do with when, in the course of an event, the *Initiator* possesses the Theme. I take possession here to be a relation, potentially abstract, which holds between a Possessor and a Possessum. This relation may hold between physical or abstract entities, and may be either temporary or permanent (Heine 1997).[22] In what follows, I annotate the possession relation using the predicate WITH.

The generalization that unifies the patterns in Table 3.2 and Table 3.3 is the following one. When the Theme starts out in the *Initiator*'s possession at the event's *initial* bound and subsequently leaves his or her possession by the event's *final* bound, it can appear in either case; but when the Theme ends up in the *Initiator*'s possession by the event's *final* bound, it is strict-accusative. This generalization is stated concisely in (81).

(81) ***Verb-Pair Generalization***
i. Verb-argument relations in which the argument starts WITH the *Initiator* at the event's *initial* bound and ends up not WITH the *Initiator* at the event's *final* bound undergo case alternation {=*s*, =*ǰ̌*};
ii. Verb-argument relations in which the argument ends up WITH the *Initiator* at the event's *final* bound are strict-accusative (=*ǰ̌*).

[22] Heine (1997) specifically proposes the following seven-way classification of kinds of possession: physical possession, temporary possession, permanent possession, inalienable possession, abstract possession, inanimate alienable possession, inanimate alienable possession. On his analysis they are all connected notions.

The verb-pair generalization in (81) provides us with a specific hypothesis about how meaning determines the distribution of object case. It has two facets. First, it claims that possession by an event's *Initiator* is a relevant factor in determining object case distribution; and second, it ties this possession relation to particular *parts* of an event — either the event's *initial* bound or its *final* bound. The verb-pair generalization therefore provides our first clear piece of evidence that the distribution of object case is tied to event structure, an idea I will develop fully in Chapter 4.

More generally, the fact that we've been able to derive the semantic generalization in (81) from patterns in Kʷakʷala data provides additional evidence for the claim that object case is semantically determined.

3.4 Evidence from interpretation with dummy *ʔəx̌-*

A third type of evidence for there being a semantic basis to object case distinctions comes from observing the interpretation of case-marked internal arguments in the vicinity of weak verbs — verbs, that is, which impose few (if any) constraints on the thematic interpretation of their arguments (Ritter & Rosen 1996). In addition to providing strong evidence for there being a semantic basis to object case patterns, the data in this section also demonstrate a new fact about object case: that object case contributes semantic content.

The argument is developed in several stages below. First, I explain the theoretical motivation for using weak verbs as a diagnostic for the semantics of object case, drawing on theoretical notions developed in Ritter & Rosen (1996) (Section 3.4.1). Following this, I look at the semantic value of case marking in the vicinity of Kʷakʷala's dummy root *ʔəx̌-*, which possesses no entailments of its own (Section 3.4.2). I then show that a related pattern of interpretation arises with another weak verb, *ẇigila* 'do what' (Section 3.4.3).

3.4.1 Weak verbs as diagnostics

To understand how weak verbs function as diagnostics for the semantic contribution of object case, we first need to consider the more general problem of where thematic meaning comes from.[23]

Thematic meaning is meaning having to do with how semantic arguments are related to events. For instance, the subjects in (82) and (83) are interpreted as the semantic Agents of their respective events; the object in (82) is interpreted as a semantic Patient ('what is cut') in a cutting event; and the object in (83) can be interpreted either as the Theme ('what is thrown) or as the Goal ('what is thrown at') of a throwing event. The labels Agent, Patient, Theme, and Goal name four different thematic categories, which is to say four ways that an argument can participate in an event.

(82) ṫusʔiduǰ Mabel**əx̌ʷa kʷənikʷ**

ṫus-xʔid	=uǰ	Mabel	**=x̌=ʷ=a**	**kʷənikʷ**
cut-BEC	=3MED	Mabel	**=ACC=3MED=DET**	**bread**

'Mabel is cutting/cut **the bread** (ACC).' (= Patient)

[23] The content in this section was presented as a talk at the 91st Annual Meeting of the Linguistic Society of America conference in Austin TX, and has benefited from comments and questions there.

(83) nəp̓idi Eddi**x̌a ƛ̓ətəmɬ**

nəp-xʔid	=i	Eddie	**=x̌=a**	**ƛ̓ətəmɬ**
throw-BEC	=3DIST	Eddie	**=ACC=DET**	**hat**

i. 'Eddie threw **the hat** (ACC).' (= Theme)

ii. 'Eddie threw **at the hat** (ACC).' (= Goal)

There are clear constraints on thematic meaning, which is evident from the fact that the thematic relations I've just named are the only ones possible for the nominals in these sentences. For instance, neither of the objects in (82) or (83) can be interpreted as the Instrument of their respective events. The existence of constraints such as these ones raises a theoretical question about *where* these constraints on thematic interpretation come from.

In examples like (82)-(83), there are three potential sources of thematic meaning. First, there is the lexicon, which is a source of thematic meaning if we assume (as I do here) that verbs possess entailments related to how their arguments participate in events (Dowty 1991, Grimm 2011). For instance, the verb *t̓us-* 'cut' entails that normal *t̓us-* ('cutting') events involve an argument which undergoes change, specifically the change of undergoing 'cutting'. Secondly, thematic meaning can be contributed by the grammar. For instance, semantic value can be associated with grammatical processes, such as case-marking. Inherent case, such as the dative case which appears on Goals in languages such as Icelandic, is one example of a way that thematic meaning can be signalled grammatically (Woolford 2006, Legate 2008). Finally, thematic meaning may arise due to pragmatics. For instance, in order to interpret a particular utterance of sentence (83), information must be gleaned from the context in order to figure out whether the *ƛ̓ətəmɬ* 'hat' is what is being thrown (Theme) or what is being thrown at (Goal).

The fact that there are numerous potential sources of thematic meaning generates a problem, which is that we can't tell, just from looking at examples like (82)-(83), whether or not object case is semantically interpretable — that is, whether object case *adds* meaning onto utterances. This is because if object case does add meaning, it will be impossible to tell what this meaning is if it happens to be meaning that's redundant with respect to the information independently contributed by the verb via lexical entailments. In order to find out whether case is semantically interpretable or not, we need a way of teasing apart the meaning that is contributed via lexical entailments of the verb, from any meaning which may be contributed by case marking. In short, we need a way of factoring out the semantic contribution of verbs.

This is where ideas proposed in Ritter & Rosen (1996) become useful. These authors' central insight is that verbs differ from each other semantically not only in terms of *what* meaning they possess, but in terms of *how much* meaning they possess. This distinction is captured in terms of an opposition between 'strong' and 'weak' verbs: strong verbs are those which have more semantic selectional requirements, while weak verbs are those which have fewer semantic selectional requirements. Another way of framing this distinction would be to say that strong verbs possess more entailments, while weak verbs possess fewer entailments. This dimension of verb strength falls on a continuum, as I illustrate in (84)-(86) with respect to the Instrument argument of three different verbs of cutting and separation. The strongest verb below is *x̌ʷaƛ̓-* 'fillet'; this verb places very stringent semantic requirements on its Instrument — so stringent, in fact, that the only kind of Instrument expressible with this verb is a *x̌ʷaλayu*, a particular kind of traditional knife used for filleting fish (84). A somewhat weaker verb is *t̓us-* 'cut'; this verb specifically requires that its Instrument possess a sharp edge, but will accept any argument that meets this criteria (85). Finally, an even weaker verb is *ǧʷi(ǧʷə)ɬc̓ənd* 'take apart'.

This verb places even fewer specific requirements on an expressed Instrument, allowing expression of a wide range of Instruments such as a knife, glass, or one's hands (86).

(84) Strongest verb: *x̌ʷaƛ̓-* 'fillet'

x̌ʷaƛux̌ Abbix̌…
x̌ʷaƛ̓ =ux̌ Abby=x̌…
fillet =3MED Abby=VIS…
'Abby is filleting/filleted…'

a. …sa x̌ʷaƛayu
…=S=a x̌ʷaƛayu
…=INST=DET fillet.knife
'…with a fillet-knife (INST).' (JF)

b. # …sa k̓awayu
…=S=a k̓awayu
…=INST=DET knife
'…with a knife (INST).' (JF)

c. # …sis ʔiʔəy̓əsu
…=S=is ʔi~ʔəy̓əsu
…=INST=3REFL.POSS REDUP~hand/arm
'…with her hands/arms (INST).' (JF)

(85) Intermediate strength verb: *t̓us-* 'cut'

t̓usux̌ Mabeləx̌ʷa kʷənikʷ…
t̓us =ux̌ Mabel =x̌=ʷ=a kʷənikʷ…
cut =3MED Mabel =ACC=3MED=DET bread…
'Mabel is cutting/cut bread (ACC)…'

a. …sa k̓awayu
…=S=a k̓ax̌ʷ-ʷayu
…=MEANS=DET carve=INST.PASS
'…with a knife.' (JF)

b. …sa gles
…=S=a gles
…=MEANS=DET glass
'…with glass.' (JF)

c. # …sis ʔiʔəy̓əsu
…=S=is ʔi~ʔəy̓əsu
…=MEANS=3REFL.POSS RED~hand/arm
'…with her hands/arms.' (JF)

(86) Weakest verb: *ǧʷiǧʷəɬc̓ənd* ‘take apart’

ǧʷiǧʷəɬc̓əndaluǰ Tede…
ǧʷi~ǧʷiɬc̓a-xʔid-a-la =uǰ Ted=i…
REDUP~dismantle-BEC-A-CONT =3MED Ted=VIS…
‘Ted is taking apart/took apart…’

a. …sa k̓awayu…
…=s=a k̓aǰʷ-ʷayu…
…=INST=DET carve=INST.PASS…
‘…with a knife (INST)…’ (JF)

b. …sa gles…
…=s=a gles…
…=INST=DET glass…
‘…with glass (INST)…’ (JF)

c. # …sis ʔiʔəy̓əsu…
…=s=is ʔi~ʔəy̓əsu…
…=INST=3REFL.POSS RED~hand/arm…
‘…with her hands/arms (INST).’ (JF)

…laǰa ʔəmləm.
…la =ǰ=a ʔəmɬ-ʷəm
…PREP =ACC=DET play-NMZ
‘…the toy.’

In fact, these verbs possess the same relative strengths with respect to their Patient arguments, as well. Thus the strongest verb *ǰʷaƛ̓-* can only be used to describe cutting fish; the intermediate-strength verb *t̓us-* can describe cutting any kind of food, as well as many inanimate objects; and the weakest verb, *ǧʷiǧʷəɬc̓ənd*, can be used to describe separating many different kinds of things, ranging from inanimate objects to people.[24]

In addition to describing differences *between* lexical verbs, the strong-weak contrast can be defined relative to more abstract linguistic units, such as other predicate-defining categories. This is visualized in Figure 3.1.

← STRONG WEAK →
sentential idioms > VP idioms > lexical verbs > light verbs > auxiliary verbs

Figure 3.1: Semantic strength continuum (adapted from Ritter & Rosen 1996)

[24] In the words of one speaker: “You could *ǧʷiɬc̓ənd* ma:ny, many, many, many, many things. You could ‘separate’ people… foods… Lots of stuff.”

The part of Ritter & Rosen's theory that is most useful for our purposes here specifically concerns verbs on the weak end of the continuum in Figure 3.1. The crucial idea is that the weaker a verb is, the fewer entailments the verb has about its arguments; and the fewer entailments a verb has about its arguments, the more we can attribute any semantic constraints we see on an argument's thematic role to sources other than the verb itself, such as the construction the verb occurs in, or the case it appears in. Investigating constructions with weaker and weaker verbs, then, provides us with a method for factoring out lexical meaning, thereby allowing us to isolate what meaning, if any, is contributed grammatically.

The weakest possible verb, in theory, is one that possesses no entailments. Because such a maximally weak verb would contribute no entailments of its own, it should be possible to use it to isolate the semantic contribution of object case. Fortunately, Kʷaḵʷala possesses a verb with this property: the dummy root *ʔəx̌-*.

3.4.2 Evidence from the dummy root *ʔəx̌-*

ʔəx̌- is a dummy root in Kʷaḵʷala, glossed as 'do' in examples in Boas (1911) and more recently in Littell (2016).[25] Syntactically, *ʔəx̌-* passes several of the tests for verbhood outlined in Littell (2016) and Sardinha (2013).[26] Most significantly for us here is the fact that *ʔəx̌-* does not possess any entailments. To begin with, *ʔəx̌-* doesn't entail agentivity: while it can indeed appear as the head of predicates which receive an agentive interpretation (87), it can also head predicates in which agentivity is explicitly denied (88).

(87) *Context: Merlin is a hypnotist.*

KS: "Merlin made the man get up."

ləḵ̇mi Merlin **ʔəx̌a bəgʷanəm** qa λax̌ʷʔideʔs
lə=ʔm =i Merlin **ʔəx̌** **=x̌=a** bəgʷaməm
AUX=VER =3DIST Merlin **DO** **=ACC=DET** man
qa λax̌ʷ-xʔid=eʔ =s
PREP stand-BEC=NMZ =3POSS
'Merlin **did** [**something**] **to the man** (ACC) so he'd get up.' (VF)

[25] There is one other 'empty' root in Kʷaḵʷala, *ʔo-* (underlyingly *ʔwa-*), glossed as 'so' in Littell (2016: 294), which is used to form predicates loosely related to expressing part relations and extents of space, but I am not aware of it being used to form eventive predicates with instrumental or accusative objects.

[26] For example, *ʔəx̌-* consistently takes postnominal *-ɛʔ* (from *-aʔ* 'invis') in argument position, takes passive morphology, and forms indefinite object constructions with *-nukʷ* similar to other verbs.

(88) *Context: We're standing in a haunted basement, when we turn around and look at a table that previously had nothing on it.*

ləm̓is ʔəmləm **ʔəx̌ała** lax̌. k̓əyosdi ʔəx̌ʔaƛ̓əlasuʔnuk^{w}s

lə=ʔm=is	ʔəmɬ-$_{w}$əm	**ʔəx̌-ała**	la	=x̌	k̓əyos=xd	=i
AUX=VER=and	play-NMZ	**DO-STAT**	PREP	=ACC	NEG.EXIST=REC.PAST	=3DIST

ʔəx̌-aƛ̓-la-səẁ-nuk^{w} =s
DO-on-CONT-ACC.PASS-have =3POSS

'Then a toy **was sitting** there. No one had put anything there.' (VF)

Dummy *ʔəx̌-* occurs in indefinite nominalizations meaning 'someone' (89) or 'something' (90). It's also the root of the word *ʔəx̌aya*, which is glossed in the online First Voices dictionary as 'thing, (thing-a-ma-jig)'.[27] This word functions in some instances as a pause filler (91), and in other instances as a predicate meaning 'use' or 'do with' (92). These examples are consistent with *ʔəx̌-* having an indefinite meaning, though it's also possible that this meaning could arise from other sources. Outside of this possibility, *ʔəx̌-* does not contribute any obvious semantic constraints on the interpretation of the sentence.

(89) ẏaxʔid**ux̌da ʔəx̌eʔx̌** lax̌ gigəʔołnuk^{w}esa c̓ədaq

ẏak-xʔid	**=ux̌=da**	**ʔəx̌=eʔ=x̌**	la	=x̌	gigəʔołnuk^{w}
bad-BEC	**=3MED=OST**	**DO=NMZ=VIS**	PREP	=ACC	relative

=s=a c̓ədaq
=3POSS=DET woman

'**Somebody** in the woman's family died.' (VF)

(90) məlməlq^{w}əla**x̌us ʔiʔəx̌eʔqus**

məl~məlq^{w}-la	**=x̌=us**	**ʔi~ʔəx̌=eʔ**	**=q**	**=us**
REDUP~remember-CONT	**=ACC=2POSS**	**REDUP~DO=NMZ**	**=CONN**	**=2POSS**

'Remember **your things (ACC)**.' (VF)

(91) ləm̓isux̌ ẁənxʔid lax̌, **ʔəx̌aya**, bəṅeẏeʔsis gəʔelas

lə=ʔm=is	=ux̌	ẁən-xʔid	la	=x̌	**ʔəx̌aya**	bəṅ-aẏ=eʔ
AUX=VER=and	=3MED	hide-BEC	PREP	=ACC	**pause.filler**	under-NMZ=INVIS

=s=is gəʔelas
=3POSS=3REFL.POSS bed

'Then she hid at, **um**, the underside of her bed.' (VF)

[27] Accessed on October 7, 2017.

(92) **KS:** "Okay, so feel free to elaborate and say it in your own words, this sentence. 'So she uses her bailer like a paddle, and she paddles back to shore.'"

ləm̓uǰ **ʔəǰaya ʔenuǰʷ**sa celay̓u qəs siǰʷʔiǰus xʷak̓ʷənaǰ
lə=ʔm =uǰ **ʔəǰ-aya-ɬinuǰʷ** =s=a celay̓u qa =is
AUX=VER =3MED **DO-aya[28]-expert** =INST=DET bailer PREP =3REFL.POSS
siǰʷ-xʔid =ǰ=us xʷak̓ʷəna=ǰ
paddle-BEC =ACC=3REFL.POSS canoe=VIS
'Then she **knew what to do** with her bailer (INST) to paddle her canoe.' (VF)

Speaker: "You're getting smart, Mabel."

The root *ʔəǰ-* often hosts lexical suffixes, in which case it is the suffix which contributes semantic content and constrains the syntactic structure of the clause. Some example stems involving *ʔəǰ-* and lexical suffixes are shown in (93). Notably, the case frames summarized in (93) are determined by the semantics of the lexical suffix, without any apparent contribution from *ʔəǰ-*.

(93) Example stems involving *ʔəǰ-* with lexical suffixes

	Stem	**Arguments**		**Gloss**
a.	ʔəǰila ʔəǰ-(g)ila DO-make	i.	__ [ACC]	'__ make [something]'
b.	ʔəǰstu	i.	__	'__ be open'
	ʔəǰ-stu DO-round.opening	ii.	__ [ACC]	'__ open [something]'
c.	ʔəǰʔeǰsd	i.	__ [ACC]	'__ desire [something]'
	ʔəǰ-ʔeǰsd DO-desire	ii.	__ [*qa* …]	'__ desire [for something]'
d.	ʔəǰədzu	i.	__ [*la*…]	'__ be on flat surface [somewhere]'
	ʔəǰ-$_{w}$dzu DO-flat	ii.	__ [INST/ACC] [*la*…]	'__ put [something] on flat surface [somewhere]'

[28] The identity of this morpheme is unknown and requires further research. One possibility, which is suggested by the gloss of this word in First Voices as 'thing (thing-a-ma-jig)', is that *-aya* is a nominalizer, in which case a better translation of (92) might be something along the lines of 'Then she was an expert with her bailer for paddling her canoe'. In any case, this suffix doesn't appear to contribute any meaning, which means that it doesn't interfere with the point being made here about *ʔəǰ-*'s status as a dummy root.

e.	ʔəx̌ədzolił ʔəx̌-$_{w}$dzu-lił DO-flat-in.house	i. ii.	__ [*la*…] __ [INST/ACC] [*la*…]	'__ be on flat surface [somewhere] in house' '__ put [something] on flat surface [somewhere] in house'

What I am interested in here is predicates where *ʔəx̌-* appears without any lexical suffixes — what I'll refer to as bare *ʔəx̌-* predicates. Bare *ʔəx̌-* predicates may include suffixes specifying temporal and aspectual information, such as those listed in Table 3.4.

Suffix	**Gloss**
-ała	'stationary position, stative'
-la	'continuative, pluractional'
-xʔid/-d/-nd/-ud	'momentaneous, inchoative, become'
-n̓ak^{w}əla	'gradual advancement'

Table 3.4: Common aspectual suffixes in K^{w}ak̓^{w}ala

However, for an *ʔəx̌-* predicate to qualify as 'bare', no lexical suffixes may be present. As a consequence, bare *ʔəx̌-* predicates possess no lexical content and therefore possess no semantic selectional restrictions.

There are two kinds of discourse contexts in which bare *ʔəx̌-* predicates typically occur. Firstly, *ʔəx̌-* predicates are volunteered when the manner of an action being described is nonspecific, either because it's unimportant to specify, is unknown, or is easily recoverable from context. Example (87) presented above, for instance, illustrates the use of a bare *ʔəx̌-* predicate in a context where nothing specific is known about the manner of the action being described. Secondly, bare *ʔəx̌-* predicates are volunteered in situations where a speaker has trouble remembering a more specific word. In (94) for instance, the speaker has trouble remembering a K^{w}ak̓^{w}ala root with the specific meaning approximating the English verb 'cover'; to approximate this meaning, she volunteers a bare *ʔəx̌-* predicate.

(94) *Context: Talking about ways the speaker remembers moss being used to decorate crosses for burials.*

KS: "How would you say they 'covered', 'covered the cross with moss'…?"
Speaker: "Um, *ʼaɬʼəmpʼəna* [clears throat] *ʔoʔəm*… Uh, *ʔəχʔisada* moss *qa ẇilʼeʔs ʔoʔəm* moss-*ida* cross. Uh, it – they'd put the moss on the cross, and just cover it."

ʼaɬʼəmpʼəna ʔoʔəm **ʔəx̌ʔisada *moss*** qa ẇilʼeʔs ʔoʔəm *moss*-ida *cross*

ʼaɬʼəmpʼəna	ʔwa-ʔm	**ʔəx̌-xʔid**	**=s=a=da**		***moss***	
sometimes	so-VER	**DO-BEC**	**=INST=DET=OST**		**moss**	
qa	ẇilʼa=eʔ	=s	ʔwa-ʔm	*moss*	=i=da	*cross*
PREP	all=NMZ	=3POSS	so-VER	moss	=3DIST=DET	cross

Literally. 'Sometimes they just **put moss** (**INST**) [there] so the cross would just be all mossed'. (VF)

Speaker: "...I could, could have found better words, but I can't think of any."

The content of bare *ʔəx̌-* predicates is at least somewhat dependent on the context in which it is uttered, hence pragmatics plays a role. What I'm interested in here, then, is whether the presence of object case markers constrains the possible interpretation of *ʔəx̌-* predicates, or if their interpretation is left up to pragmatics alone.

In short, *ʔəx̌-* contributes no entailments, making it a maximally weak verb. Bare *ʔəx̌-* predicates therefore provide an ideal environment for investigating whether object case contributes semantic value given the following logic: since *ʔəx̌-* contributes no semantic constraints of its own, any semantic constraints on the thematic interpretation of case-marked arguments which are found to exist in bare *ʔəx̌-* predicates must derive from case marking itself. Hence, bare *ʔəx̌-* predicates can be used to diagnose whether object case contributes semantic information.

To illustrate this use of *ʔəx̌-* as a diagnostic, I'll present data from three tasks: an out-of-the-blue translation task, a contradiction judgment task, and a combined translation/judgment task.[29]

When speakers were asked to interpret bare, monotransitive *ʔəx̌-* predicates out-of-the-blue, the interpretations assigned to sentences were found to differ depending on which object case was present on the object. Bare *ʔəx̌-* predicates with instrumental (*=s*) objects were translated with the English verb 'use' (95a) while bare *ʔəx̌-* predicates with an accusative (*=x̌*) object were translated with the English verb 'take' (95b).

[29] Translation tasks are described in Section 2.4.1, contradiction judgment tasks are described in Section 2.4.11, and combined translation/judgment tasks are described in Section 2.4.12.

(95) Out-of-the-blue translations of monotransitive bare *ʔəx̌-* predicates

a. ʔəx̌ʔidux̌ Mabelx̌**sa ƛ̓ətəmɬ**[30]

ʔəx̌-xʔid	=ux̌	Mabel=x̌	**=s=a**	**ƛ̓ətəmɬ**
DO-BEC	=3MED	Mabel=VIS	**=INST=DET**	**hat**

Speaker: "Mabel used **the hat** (**INST**)." (JF)

b. ʔəx̌ʔidux̌ Mabel**x̌a ƛ̓ətəmɬ**

ʔəx̌-xʔid	=ux̌	Mabel=x̌	**=x̌=a**	**ƛ̓ətəmɬ**
DO-BEC	=3MED	Mabel=VIS	**=ACC=DET**	**hat**

Speaker: "Mabel took **the hat** (**ACC**)." (JF)

The only difference between the sentences in (95) is a difference in which case appears on the object. The fact that these sentences receive different translations is a first indication that object case contributes semantic value.

The two sentences in (95) were then combined via conjunction to form the constructed sentence in (96). Speakers were asked whether there were any circumstances under which (96) could be true, or whether this sentence was a contradiction. The prediction here is that if case marking is *not* semantically contentful, we expect (96) to be judged as a contradiction; this is because the only difference in form between the conjuncts in (96) is the presence of instrumental (*=s*) in the first conjunct, and accusative (*=x̌*) in the second; if case contributes no semantic value, there should be no semantic difference between the conjuncts, so that asserting the first conjunct, together with its negation, should result in a contradiction. Significantly however, the sentence was judged as being not necessarily a contradiction (96).

(96) Bare *ʔəx̌-* predicate contradiction test

ʔəx̌ʔidux̌ Mabelx̌**sa ƛ̓ətəmɬ**, k̓iʔst̓ux̌ Mabelx̌ **ʔəx̌ʔidx̌a ƛ̓ətəmɬ**

ʔəx̌-xʔid	=ux̌	Mabel=x̌	**=s=a**	**ƛ̓ətəmɬ**	
DO-BEC	=3MED	Mabel=VIS	**=INST=DET**	**hat**	
k̓iʔs=t̓a	=ux̌	Mabel=x̌	ʔəx̌-xʔid	**=x̌=a**	**ƛ̓ətəmɬ**
NEG=but	=3MED	Mabel=VIS	DO-BEC	**=ACC=DET**	**hat**

~ 'Mabel **used the hat** (**INST**), but Mabel didn't **take the hat** (**ACC**).' (JF)

Speaker: "Mmm, I guess you could — I guess you could make sense of it."
KS: […] "But the sentence, it's not a contradiction?"
Speaker: "Uh, *k̓i*." ['No']

The fact that this sentence is not necessarily a contradiction implies the existence of a meaning difference between the two conjuncts. Since the only difference in form between the conjuncts is in terms of object case, we can conclude from this data that object case is associated with semantic value in some way.

[30] The continuative aspect is more natural here, namely *ʔəx̌əlux̌ Mabelx̌sa ƛ̓ətəmɬ*, and occurs in all of the volunteered examples with this meaning of 'use' in my data. By hypothesis this is because the meaning of *-xʔid* adds an inchoative meaning ('start to use') which I assume is a pragmatically rare meaning to want to express.

So far, bare *ʔəx̌-* predicates reveal the following: that object case has semantic value; that having an instrumental object can describe a 'using' event; and that having an accusative object can describe a 'taking' event. Beyond this, a survey of my Kʷak̓ʷala fieldwork corpus revealed seven distinct interpretations that bare *ʔəx̌-* predicates can receive, including five possible interpretations for monotransitive bare *ʔəx̌-* predicates and two possible interpretations for ditransitive bare *ʔəx̌-* predicates. Significantly, these possible interpretations were found to be dependent on object case marking, in a way which I will now show.

The interpretations available for monotransitive bare *ʔəx̌-* predicates are shown in (97)-(101). Bare *ʔəx̌-* predicates with instrumental (*=s*) objects can be interpreted as 'using' (97a) and 'wearing' (98a) events, but cannot be interpreted as 'taking' events (99a), 'obtaining' events (100a), or 'doing to' events (101a).[31] On the other hand, bare *ʔəx̌-* predicates with accusative (*=x̌*) objects can receive all five of these possible interpretations, as indicated by the 'b' examples below.

(97) USE (something): *=s* (VF), *=x̌* (JF)

Context: Everybody knew that Eddie wanted an axe for Christmas, and he got two — one red, and one black. He's outside chopping wood, and I ask you which one he's using. You tell me:

a. ʔəx̌əlox̌ Eddiyəx̌**sis ƛ̓ax̌ʷstu subayu**

ʔəx̌-la	=ox̌	Eddie=x̌	**=s=is**	**ƛ̓ax̌ʷstu**	**subayu**
DO-CONT	=3MED	Eddie=VIS	**=INST=3REFL.POSS**	**red.colour**	**axe**

'Eddie's using **his red axe** (**INST**).' (VF)

b. ʔəx̌əlox̌ Eddiyə**x̌is ƛ̓ax̌ʷstu subayu**

ʔəx̌-la	=ox̌	Eddie=x̌	**=x̌=is**	**ƛ̓ax̌ʷstu**	**subayu**
DO-CONT	=3MED	Eddie=VIS	**=ACC=3REFL.POSS**	**red.colour**	**axe**

'Eddie's using **his red axe** (**ACC**).' (JF)

(98) WEAR (something): *=s* (VF), *=x̌* (JF)

Context: It's picture day, so Monica got dressed up nice for school.

a. ʔəx̌əlox̌ Monicax̌**sa dzastu q̓ʷəmdzuy̓u**

ʔəx̌-la	=ox̌	Monica=x̌	**=s=a**	**dzastu**	**q̓ʷəmdzuy̓u**
DO-CONT	=3MED	Monica=ACC	**=INST=DET**	**blue.colour**	**dress**

'Monica's wearing **a blue dress** (**INST**).' (VF)

b. ʔəx̌əlox̌ Monica**x̌a dzastu q̓ʷəmdzuy̓u**

ʔəx̌-la	=ox̌	Monica=x̌	**=x̌=a**	**dzastu**	**q̓ʷəmdzuy̓u**
DO-CONT	=3MED	Monica=ACC	**=ACC=DET**	**blue.colour**	**dress**

'Monica's wearing **a blue dress** (**ACC**).' (JF)

[31] While 'using' and 'wearing' events expressed with a bare *ʔəx̌-* predicate can take either an instrumental (*=s*) or accusative (*=x̌*) object, instrumental objects are more often volunteered when these interpretations are intended.

(99) TAKE (something): # =*s* (JF), =*x̌* (VF)

Context: Shelly has a throat infection and needs to take medicine every morning.

a. # ʔəx̌ʔidi Shelliyə**sis pəṫe̓ʔ** ğəʔalaxdeʔ
ʔəx̌-xʔid =i Shelly **=s=is** **pəṫ̓=eʔ**
DO-BEC =3DIST Shelly **=INST=3REFL.POSS** **medicate=NMZ**
ğəʔala-xd=eʔ
morning-R.PST=INVIS
Intended: 'Shelly took **her medicine** (**INST**) this morning.' (JF)

b. ʔəx̌ʔidi Shelliyə**x̌is pəṫe̓ʔ** ğəʔalaxdeʔ
ʔəx̌-xʔid =i Shelly **=x̌=is** **pəṫ̓=eʔ**
DO-BEC =3DIST Shelly **=ACC=3REFL.POSS** **medicate=NMZ**
ğəʔala-xd=eʔ
morning-R.PST=INVIS
'Shelly took **her medicine** (**ACC**) this morning.' (VF)

(100) OBTAIN (something): # =*s* (JF), =*x̌* (VF)

Context: Eddie sees a box by the side of the road, labelled "free stuff". He goes over and finds some new pants!

a. # ʔəx̌ʔidi Eddiyə**sa dzəmba**
ʔəx̌-xʔid =i Eddie **=s=a** **dzəmba**
DO-BEC =3DIST Eddie **=INST=DET** **jeans**
Intended: 'Eddie got **a pair of jeans** (**INST**).' (JF)

b. ʔəx̌ʔidi Eddiyə**x̌a dzəmba**
ʔəx̌-xʔid =i Eddie **=x̌=a** **dzəmba**
DO-BEC =3DIST Eddie **=ACC=DET** **jeans**
'Eddie got **a pair of jeans** (**ACC**).' (VF)

(101) DO-TO (something): # =*s* (JF), =*x̌* (VF)

Context: I planted a bunch of flowers by the road, and they're just starting to bloom. One day I look out my window and I see a strange man standing by my flowers and picking at them. I try to see what he's doing to them, but I can't tell.

a. # ʔəx̌ʔidox̌da bəgʷanəma**sən pəlawas**
ʔəx̌-xʔid =ox̌=da bəgʷanəm **=s=ən** **pəlawas**
DO-BEC =3MED=OST man **=INST=1POSS** **flower**
Intended: 'The man is doing something to **my flowers** (**INST**).' (JF)

b. ʔəx̌ʔidox̌da bəgʷanəma**x̌ən pəlawas**

ʔəx̌-xʔid	=ox̌=da	bəgʷanəm	**=x̌=ən**	**pəlawas**
DO-BEC	=3MED=OST	man	**=ACC=1POSS**	**flower**

'The man is doing something to **my flowers** (ACC).' (VF)

The fact that the range of possible interpretations for monotransitive bare *ʔəx̌*- predicates differs depending on which object case is present provides strong evidence that object case has a semantic basis. We also see that the range of possible interpretations of *ʔəx̌*- predicates with instrumental objects is a subset of the range of possible interpretations of *ʔəx̌*- predicates with accusative objects. I'll return to discuss the implications of this subset relationship in Chapter 4, Section 4.3.

The interpretations available for ditransitive, bare *ʔəx̌*- predicates are shown in (102)-(104). Bare *ʔəx̌*- predicates with an instrumental (=*s*) object and a prepositional *la* phrase are interpreted as events in which something is 'put' somewhere (102).

(102) PUT (something)(somewhere): =*s*, *la*

Context: [*The speaker watches as KS puts a hat into the fridge*]

lux̌ Katiyəx̌ ʔəx̌ʔid**suxda ƛ̓ətəmɬ** laxʷa ẇədəʔaċi

lə	=ux̌	Katie=x̌	ʔəx̌-xʔid	**=s=ux̌=da**	**ƛ̓ətəmɬ**
AUX	=3MED	Katie=VIS	DO-BEC	**=INST=3MED=OST**	**hat**
	la	=x̌=ʷ=a		ẇəd-ʰaċi	
	PREP	=ACC=3MED=DET		cold-container	

'Katie is putting **the hat** (INST) into the fridge.' (VF)

Bare *ʔəx̌*- predicates with an accusative (=*x̌*) object and a prepositional *la* phrase can have two possible interpretations. First, they too can be interpreted as events in which something is 'put' somewhere. Thus example (103), with an accusative object, has the same interpretations as (102), with an instrumental object. Second, they can be interpreted as events in which something is 'taken from' or 'gotten from' somewhere (104). Note that this means that ditransitive sentences consisting of a bare *ʔəx̌*- predicate, accusative object, and prepositional *la* phrase are ambiguous.

(103) PUT (something)(somewhere): =*x̌*, *la*

Context: [*The speaker watches as KS puts a hat into the fridge*]

lux̌ Katiyəx̌ ʔəx̌ʔid**x̌uxda ƛ̓ətəmɬ** laxʷa ẇədəʔaċi

lə	=ux̌	Katie=x̌	ʔəx̌-xʔid	**=x̌=ux̌=da**	**ƛ̓ətəmɬ**
AUX	=3MED	Katie=VIS	DO-BEC	**=ACC=3MED=OST**	**hat**
	la	=x̌=ʷ=a		ẇəd-ʰaċi	
	PREP	=ACC=3MED=DET		cold-container	

'Katie is putting **the hat** (ACC) into the fridge.' (JF)

(104) GET (something) FROM (somewhere): *=x̌*, *la*

gew̓alənx̌a ẇac̓i ʔəx̌ʔix̌is həm̓eʔ lax̌ada dzəxsəm
gew̓-al =ən =x̌=a ẇac̓i **ʔəx̌-xʔid** **=x̌=is** **həm̓=eʔ**
help-CONT =1 =ACC=DET dog **DO-BEC** **=ACC=3REFL.POSS** **eat=NMZ**
la =x̌=a=da dzəxsəm
PREP =ACC=DET=OST round.metal
'I helped the dog **get his food** (ACC) from a can.' (VF)

As with monotransitive predicates, the fact that the range of possible interpretations for ditransitive bare *ʔəx̌-* predicates depends on which object case is present provides strong evidence for object case having a semantic basis. This is because *ʔəx̌-* itself provides no lexical entailments, so the constraints we see on thematic interpretation in these predicates must come from object case together with other aspects of the construction these objects are embedded in (here, prepositional *la* phrases).

Table 3.5 summarizes the range of possible interpretations which bare *ʔəx̌-* predicates can receive, and their relations to particular case frames.

Case frame	**Possible interpretations**
ʔəx̌- + INST	'use something', 'wear something'
ʔəx̌- + ACC	'use something', 'wear something', 'take something', 'obtain something', 'do to something'
ʔəx̌- + INST + *la*	'put something somewhere'
ʔəx̌- + ACC + *la*	'put something somewhere', take something from somewhere'

Table 3.5: Possible interpretations of bare *ʔəx̌-* predicates

Since *ʔəx̌-* contributes no entailments to these predicates, the restrictions we see on their interpretation must come from grammatical sources, including object case. This demonstrates that object case is semantically determined, while also providing us with a new set of clues about what semantic factors differentiate *=s* objects from *=x̌* objects.

A topical question to answer before moving on is why the range of meanings available for bare *ʔəx̌-* predicates is restricted to the ones listed in Table 3.5. That is, given that *ʔəx̌-* is meaningless, why don't we see a broader range of possible meanings being possible for these predicates? Firstly, it's important to note that these are the only meanings I've observed in the course of my research, and may not be the only ones possible in general. Secondly, I suspect that bare *ʔəx̌-* predicates do not realize more specific meanings than these ones because speakers prefer to use verbs with more specific meanings whenever it is possible to do so. Concomitantly, this suggests that bare *ʔəx̌-* predicates should be used to describe events which Kʷak̓ʷala does not have an independently lexicalized verb for describing. This is plausibly why bare *ʔəx̌-* predicates are used to describe 'using' events, as there is no independently lexicalized verb in Kʷak̓ʷala with this meaning. The same is also true of 'wearing' events, insofar as while Kʷak̓ʷala possesses

ample lexical and compositional means of describing specific kinds of 'wearing' events (e.g. *qəx̌sisəla* 'wear pants') but there is no root in the language with the more general meaning of the English verb 'wear'. Similarly, the Kʷaḵʷala verb for 'take', *da-*, specifically describes an event in which someone takes something with their hand, so that bare *ʔəx̌-* predicates provide a means of expressing 'taking' events which do not involve hands. In short, the fact that there relatively few observed interpretations for bare *ʔəx̌-* predicates can be partially explained by the fact that Kʷaḵʷala speakers prefer to use more informative verbs whenever possible; then, when there is no more specific verb stem a speaker could use, bare *ʔəx̌-* predicates provide a means for approximating speakers' intended meaning.

In the next subsection, I turn to discuss data from another weak verb in the language, the interrogative verb *ẇigila*.

3.4.3 Evidence from *ẇigila*

The indefinite interrogative root, *ẇy-* is used to form a wide range of wh-questions in Kʷaḵʷala (Littell 2016: p. 495-498). When the lexical suffix *-(g)ila* 'make, do' is added to *ẇy-*, the stem *ẇigila* is formed, which is used to question what an Agent is 'doing' or 'occupied with'. The stem *ẇigila* is stronger than *ʔəx̌-*, since it requires an Agent external argument (someone capable of 'doing' something). Other than this, there don't seem to be any further restrictions on what a *ẇigila* event can be like.

Restrictions on the interpretation of *ẇigila* predicates once again reveal the semantics of object case. When *ẇigila* is used to question what an Agent is doing 'with' an object, the instrumental (=*s*) case appears, and accusative (=*x̌*) is infelicitous (105). When *ẇigila* is instead used to ask what someone is doing 'to' an object, the accusative (=*x̌*) case appears, and instrumental (=*s*) is infelicitous (106).

(105) *Context: Mabel made a beautiful blue dress. The last time I talked to her, she wasn't sure if she wanted to give it away as a gift, sell it, or start wearing it herself. I'm talking with a friend, and I ask them…*

a. ẇigilaƛi Mabel**sa q̓ʷəmdzuy̓u**
ẇi-(g)ila=ƛ =i Mabel **=s=a** **q̓ʷəmdzuy̓u**
WH-make/do=FUT =3DIST Mabel **=INST=DET** **dress**
'What is Mabel going to do **with the dress** (INST)?' (VF)

b. # ẇigilaƛi Mabel**x̌a q̓ʷəmdzuy̓u**
ẇi-(g)ila=ƛ =i Mabel **=x̌=a** **q̓ʷəmdzuy̓u**
WH-make/do=FUT =3DIST Mabel **=ACC=DET** **dress**
Intended: 'What is Mabel going to do **with the dress** (ACC)?' (JF)

Speaker: {*whispers sentence to herself*} "Yeah, if you put *x̌a* you're, you're a, you're — asking what she's doing TO the dress."

(106) *Context: I want to know what Mabel is doing TO her dress: for example, whether she is ruining it, or tearing it apart…*

a. ẇigili Mabela**x̌a q̓ʷəmdzuy̓u**
ẇi-(g)ila =i Mabel **=x̌=a** **q̓ʷəmdzuy̓u**
WH-make/do =3DIST Mabel **=ACC=DET** **dress**
'What is Mabel doing **to the dress** (ACC)?' (VF)

b. # ẇigili Mabela**s q̓ʷəmdzuy̓u**
ẇi-(g)ila =i Mabel **=s=a** **q̓ʷəmdzuy̓u**
WH-make/do =3DIST Mabel **=INST=DET** **dress**
Intended: 'What is Mabel doing **to the dress** (INST)?' (JF)

The logic behind these examples is the same as that seen with *ʔəx̌-* above. As a weak verb, *ẇigila* contributes minimal semantic content through lexical entailments. Therefore, when we find a difference in the interpretation of predicates differing only in which object case is present, we can attribute this difference to the semantics contributed through object case marking. In predicates headed by *ẇigila*, objects that an Agent does something 'with' are marked instrumental (=*s*), while objects an Agent does something 'to' are marked accusative (=*x̌*).

3.5 Conclusion

In this chapter I set out to establish the claim that there is a semantic basis to object case distinctions in Kʷak̓ʷala. With this goal in mind, I presented three types of empirical evidence.

In Section 3.2, I showed that there are consistent and regular correlations between verbs' lexical semantics and their case frames. More specifically, I showed that verbs with strict-accusative (=*x̌*) relations fall into semantically coherent classes, as do verbs with strict-instrumental (=*s*) relations and verbs with alternating {=*s*, =*x̌*} relations. This pattern is what we would expect to see if object case was semantically determined.

Following this in Section 3.3, I illustrated correlations between several particular facets of verb meaning and object case. Specifically, I compared case frames within two types of verb pairs: perspectivally-opposed verb pairs, such as *lax̌-* 'sell' versus *kəlxʷ-* 'buy'; and reverse-action verb pairs, such as *ʔəx̌ʔalił-* 'put down in house' versus *da-* 'pick up, take in hand'. Generalizing across these verb pairs, I showed that the object case (or cases) an object can appear in is predictable from semantic factors. Once again, this pattern is what we expect if the distribution of case is semantically determined.

Finally, in Section 3.4 I looked at predicates headed by weak verbs, which contribute few (if any) lexical entailments. The rationale behind this methodology, which is inspired by ideas in Ritter & Rosen (1996), is that looking at the interpretation of transitive predicates with weak verbs allows us to factor out the verb's meaning, so we can isolate the semantic contribution of object case. I showed that in transitive predicates headed by the dummy verb *ʔəx̌-*, object case constrains the possible interpretations of the predicate. I also showed that transitive predicates headed by another weak verb, *ẇigila* 'do what', behave similarly. In addition to providing strong evidence that object case is semantically determined, this set of findings also supports a stronger claim: that object case is semantically interpretable, in the sense of adding semantic value.

In the course of showing that the distribution of object case is semantically determined, we also came across numerous specific clues about what the semantic distinctions underlying instrumental (=*s*) versus accusative (=*x̌*) object case are. We already know from previous literature that semantic Instruments in K^{w}ak^{w}ala are consistently realized with instrumental case (see Chapter 1, Section 1.3.1). To this generalization, we can add three new ones.

First, we came across a set of correlations between particular thematic roles and particular object case relations (Section 3.2). These correlations are summarized in Table 3.6.

Verb-argument-case relation	**Thematic roles**
strict-accusative (=*x̌*)	Incremental Theme, Patient, Patient/Goal, Obtained Goods, Recipient, Object of Appraisal, Mental Content, Lost Mental Content, Stimulus
strict-instrumental (=*s*)	Instrument, Source of Emotion
alternating {=*s*, =*x̌*}	Locatum, Instrument/Patient, Theme, Expressed Theme, Message, Source/Target of Emotion, Thought

Table 3.6: Correlations between object case relations and thematic roles

Second, we saw in Section 3.3 that the case-marking possibilities for Theme objects within certain verb pairs depends on two semantic factors: whether the object is possessed by the *Initiator*; and whether this possession relation holds at the *initial* bound or the *final* bound of the event. This generalization is restated below in (81).

(81) ***Verb-Pair Generalization***

i. Verb-argument relations in which the argument starts WITH the *Initiator* at the event's initial bound and ends up not WITH the *Initiator* at the event's final bound undergo case alternation {=*s*, =*x̌*};

ii. Verb-argument relations in which the argument ends up WITH the *Initiator* at the event's final bound are strict-accusative (=*x̌*).

Finally, we found in Section 3.4 that object case constrains the interpretation of weak predicates. In predicates headed by the dummy root *ʔəx̌*-, we found the range of possible interpretations repeated below in Table 3.5. Significantly, the set of possible interpretations of bare *ʔəx̌*- predicates with instrumental (=*s*) objects was found to be a subset of the set of possible interpretations of bare *ʔəx̌*- predicates with accusative (=*x̌*) objects.

Case frame	**Possible interpretations**
ʔəx̌- + INST	‘use something’, ‘wear something’
ʔəx̌- + ACC	‘use something’, ‘wear something’, ‘take something’, ‘obtain something’, ‘do to something’
ʔəx̌- + INST + *la*	‘put something somewhere’
ʔəx̌- + ACC + *la*	‘put something somewhere’, take something from somewhere’

Table 3.5: Possible interpretations of bare *ʔəx̌-* predicates

In predicates headed by another weak verb, *ẇigila* ‘do what’, we observed the interpretive possibilities listed in Table 3.7.

Case frame	**Possible interpretations**
ẇigila + INST	‘do with something’
ẇigila + ACC	‘do to something’

Table 3.7: Possible interpretations of *ẇigila* predicates

Abstracting over the the results in Table 3.5 and Table 3.7, we can state the following heuristic: instrumental (=*s*) objects are those arguments that are ‘done *with*’, accusative (=*x̌*) objects are those arguments ‘done *to*’ or obtained, and alternating {=*s*, =*x̌*} objects are those arguments which get ‘put’ somewhere.

An adequate semantic theory of object case has to explain these semantic generalizations. In Chapter 4, I propose a semantic theory of object case which attempts to do so.

4
A Semantic Theory of Object Case

4.1 Introduction

In the previous chapter, I presented evidence for the distribution of object case in Kʷakʷala being semantically determined. The aim of this chapter is to develop a semantic theory of case which explains the distribution of strict-instrumental (=*s*), strict-accusative (=*x̌*), and alternating {=*s*, =*x̌*} relations.

There are only two object cases in Kʷakʷala, instrumental (=*s*) and accusative (=*x̌*), and every object in the language can be marked by one or both of them. This means that whatever semantic factor differentiates these two cases must be fairly abstract — abstract enough, that is, to be relevant to the semantic categorization of every nominal expressible as an object. In this chapter, I propose that the relevant semantic factor is event structure, and in particular that the distinction between participating in an *initiating* or a *non-initiating* subevent is what underlies the difference between instrumental (=*s*) and accusative (=*x̌*) case marking on objects. This proposal will be referred to as the **Initiating Subevent Theory** of object case. It consists of two specific claims, which are stated in (107).

(107) Initiating Subevent Theory

***Claim-I*:** Instrumental case (=*s*) is associated with internal arguments that participate in an *initiating* subevent (*Co-initiators*), while accusative case (=*x̌*) is associated with internal arguments that participate in a *non-initiating* subevent (*Non-initiators*).

***Claim-II*:** Instrumental case (=*s*) is interpretable, while accusative case (=*x̌*) is uninterpretable.

The rest of this chapter is devoted to developing and supporting these two claims, and to showing how the Initiating Subevent Theory accounts for previously-encountered patterns in Kʷakʷala data. The chapter is organized into four sections, as follows:

- Section 4.2 develops Claim-I of the Initiating Subevent Theory, which is concerned with establishing correspondences between object case, event roles, and subevental structure. It starts out with an introduction to the theoretical concepts that are central to the theory, followed by a concise statement of Claim-I. Following this, I propose an analysis of what it means for an internal argument to participate in an *initiating* subevent versus participate in a *non-initiating* subevent, the shape of which is broadly similar to the analysis of Proto-Agent and Proto-Patient roles in Dowty (1991). I illustrate how the resulting analysis can be used to predict the distribution of object case, which leads into a discussion of the conditions under which case alternation is possible. The section concludes with a discussion of how Claim-I accounts for the verb-argument-case relations, as well as for the data in Section 3.2 and 3.3.

- Section 4.3 is devoted to developing Claim-II of the Initiating Subevent Theory, which is concerned with how semantic value is distributed between the lexicon and the grammar (via case). Here, I return to consider data presented Section 3.4 (Evidence from interpretation with weak verbs) involving the dummy root *ʔəx̌-*, and explain why this data motivates an asymmetrical semantic analysis in which instrumental (*=s*) case is interpretable and accusative (*=x̌*) case is not.

- In Section 4.4, I discuss an empirical problem that arises from the finding that accusative case is uninterpretable, which is that semantic factors are no longer sufficient, on their own, to explain the existence of strict-instrumental (*=s*) relations. I motivate a syntactic solution to this problem, in which strict-instrumental relations are enforced in the grammar by the presence of syntactic case features on verbs possessing these relations.

- Finally, in Section 4.5 I summarize the theory in its final form, and then turn to reflect on how recent theoretical advances in the theory of event structure have laid the foundation for a coherent semantic analysis of object case in Kʷakʷala. This insight helps explain why earlier researchers, in particular Boas, were puzzled by the distribution of object case; it also highlights the importance of theoretical advancements for language documentation.

By the end of this chapter, the reader should understand the Initiating Subevent Theory in enough depth to be able to use it to predict the distribution of strict-instrumental (*=s*), strict-accusative (*=x̌*), and alternating {*=s*, *=x̌*} case relations in Kʷakʷala.

4.2 Claim-I: Case, event roles, and subevental structure

In this section, I develop Claim-I of the Initiating Subevent Theory, which is concerned with the grounding of object case distinctions in subevental structure.

I begin by discussing three theoretical notions that are central to the Initiating Subevent Theory: events, event roles, and subevental structure (Section 4.2.1). This discussion lays the foundation for a concise statement of the first (of two) claims of the Initiating Subevent Theory (Section 4.2.2). I then delve into what exactly it means for an internal argument to participate in an *initiating* subevent or participate in a *non-initiating* subevent. To do so, I propose three dimensions along which these notions can be analyzed, corresponding to whether an argument is part of an event's cause, or its result; whether an argument defines an event's temporal beginning or its end; and whether an argument is possessed by the *Initiator* at the beginning of an event, or whether it comes into the possession of the *Initiator* by the end of an event (Section 4.2.3). After this, I specify the conditions under which case alternation is possible (Section 4.2.4). Finally, I discuss how Claim-I accounts for the distributional puzzle in Section 1.1 and for the empirical patterns presented in Section 3.2 ("Evidence from verb classes") and Section 3.3 ("Evidence from case marking asymmetries in verb pairs") (Section 4.2.5).

4.2.1 Theoretical concepts

Three theoretical concepts are of central importance for understanding the Kʷakʷala's object case system. These are the concepts of an *event*, an *event role*, and *subevental structure*.

Intuitively, an **event** is any coherent chunk of experience which can be conceptualized as a particular occurrence. Following Davidson (1967), Parsons (1990), and many others, I assume events to be a type of entity. In the words of Hardt, Mikkelsen, & Ørsnes (2012): "Events are particular spatiotemporal entities with functionally integrated participants." (p. 347) The way that events relate to verb meaning on this conception is illustrated in (108), with the Kʷaḵʷala root *ḵʷis-* 'snow'. The verb denotes a function of type $\langle v, t \rangle$ (from events to truth values) which returns true if and only if the input is an event of snowing.

(108) $[\![ḵʷis-]\!] = \lambda e_v.\text{snowing}(e)$

The root *ḵʷis-* 'snow', modelled in this way, picks out the set of all snowing events.

Snowing events, and weather events more generally, are somewhat special in that they don't necessarily involve any participants, by which I mean individuals who are involved in the event (though see Bolinger 1973 for arguments to the contrary). However, many events do necessarily involve participants; for instance sewing events, described by the root *q̓ən-* 'sew' in Kʷaḵʷala, involve at least one expressed individual. To get a feel for what this means, consider the examples in (109)-(113) below, each of which describes a sewing event.

(109) q̓əni Mabel
q̓ən =i Mabel
sew =3DIST Mabel
'Mabel is sewing/sewed.'

(110) q̓əni Mabelesa walas q̓ənayu
q̓ən =i Mabel =s=a q̓ənayu
sew =3DIST Mabel =INST=DET sewing.needle
'Mabel is sewing/sewed with a big sewing needle (INST).'

(111) q̓əni Mabeleχa łənx̌stu q̓ʷəmdzuy̓u
q̓ən =i Mabel =x̌=a łənx̌stu q̓ʷəmdzuy̓u
sew =3DIST Mabel =ACC=DET green.colour dress
'Mabel is sewing/sewed a green dress (ACC).'

(112) q̓əni Mabel laχa xʷaḵʷəna
q̓ən =i Mabel la =x̌=a xʷaḵʷəna
sew =3DIST Mabel PREP =ACC=DET canoe
'Mabel is sewing/sewed in a canoe.'

(113) q̓əni Mabeleχa łənx̌stu q̓ʷəmdzuy̓usa walas q̓ənayu laχa xʷaḵʷəna
q̓ən =i Mabel =x̌=a łənx̌stu q̓ʷəmdzuy̓u =s=a
sew =3DIST Mabel =ACC=DET green.colour dress =MEANS=DET
q̓ənayu la =x̌=a xʷaḵʷəna
sewing.needle PREP =ACC=DET canoe
'Mabel is sewing/sewed a green dress (ACC) with a big sewing needle in a canoe.'

Examples (109)-(113) each describe a sewing event in which Mabel participates, as the one doing the sewing. In (109) she's the sole expressed participant of a sewing event, while in (110) there are two expressed participants: Mabel and a big sewing needle. In (111), there are again two participants, Mabel and a (nascent or completed) dress; in (112), Mabel and a canoe are participants; and in (113) there are four participants: Mabel, a (nascent or completed) dress, a sewing needle, and a canoe.

An **event participant**, then, is any entity that plays a role in an event. The type of role that an event participant plays will be referred to here as an **event role**. In (114), the four event roles represented in (109)-(113) are given labels.

(114) Event roles represented in (109)-(113)

Mabel	=	***Initiator***
big needle	=	***Co-initiator***
green dress	=	***Non-initiator***
canoe	=	***Location***

An ***Initiator*** is anything that initiates, or causes, an event to come about. In (109)-(113) Mabel is the one doing the sewing, so she is the *Initiator* of each sewing event. In Kʷakʷala, *Initiators* appear (in active clauses) in subject position.[1] A ***Location*** is the place where an event occurs. In (112), a canoe is the place where Mabel sews, so it is the *Location* of the event. In Kʷakʷala, *Locations* are introduced by the preposition *la* followed by *=x̌*.[2] The remaining event roles *Co-initiator* and a *Non-initiator* are tied to object case realization, and will be introduced in the next section. To understand the semantic criteria these event roles are defined by, however, we'll first need to understand what *subevental structure* is.

In addition to having participants, event consist of up to two linguistically relevant parts, which in the literature are called subevents (e.g. Dowty 1979, Parsons 1990, Tenny 1994, Pustejovsky 1995, Rappaport-Hovav & Levin 1998, Rothstein 2004, Ramchand 2008, Tatevosov 2008, and many others). The internal structure of events is referred to as subevental structure.[3] In some theories, events are argued to consist of as many as three linguistically relevant subevents (Ramchand 2008, Tatevosov 2008). However, for the purpose of capturing object case patterns in Kʷakʷala, we only need to consider events as consisting of up to two linguistically relevant subevents.

Levin & Rappaport-Hovav (2005: p. 78-130) single out three types of semantic information which have been found to be especially relevant for conceptualizing event structure. The first source of information is an event's causal structure. Thinking about event structure in causal terms, events can have *causal* subevents and *effect* or *result* subevents. The second source of information is a event's inner temporal (or aspectual) structure. In temporal terms, events can be conceptualized as having *initial* subevents and *final* subevents, corresponding to what is intuitively the beginning phase (or initial bound) of an event, and the end phase (or final bound) of an event. The third source of information is an event's spatial and locative structure. In this

[1] Note, though, that not all subjects are *Initiators*. For instance, in the sentence *təpəduxda kʷəʔsta* 'The cup broke', the cup is a subject of the sentence, but it is not an *Initiator*.

[2] To be precise, the preposition *la* is occasionally realized as a 'dummy' preposition, and so it is not the case that all *la* phrases are Locations. Locations may also be mapped to subject position with certain verbs, such as Weather Verbs.

[3] Alternatively, the internal structure of events is referred to as "subevent structure", though I more readily interpret this phrase as meaning "structure internal to subevents", which is not the intended meaning.

mode of conceptualization, events are seen in terms of the relative location and movements of different event participants.

For the purpose of defining subevents here, I've combined the first two of these ways of thinking about event structure.[4] Thus, if an event has a linguistically encoded part which is causally-relevant and/or temporally initial, I'll say it has an ***initiating*** **subevent**, and if it has a linguistically encoded part indicating some result and/or a part which is temporally final, I'll say it has a ***non-initiating*** **subevent**. These event-structural categories are summarized in Figure 4.1.[5]

	Initiating **subevent**	***Non-initiating*** **subevent**
Temporal dimension:	initial bound / beginning	final bound / end
Causal dimension:	cause	effect / result

Figure 4.1: *Initiating* versus *non-initiating* subevents

What I refer to as an *initiating* subevent is typically referred to in the literature as an **initial subevent**, and what I refer to as a *non-initiating* subevent is typically referred to as a **final subevent**. In general, the terms *initial* and *final* are equally good descriptors for these categories and should be considered synonyms. My reason for adopting the terms *initiating* and *non-initiating* here is expository, since these terms more transparently reflect the content of Claim-II of the Initiating Subevent Theory, a point which will make more sense once we get to Section 4.3.

With the relevant theoretical background in place, we're now ready to delve into how, precisely, the distribution of K^{w}ak^{w}ala's two object cases is grounded in event structure.

4.2.2 Semantic correspondences

The first claim of the Initiating Subevent Theory is stated in (115). The gist of the claim is that a particular set of semantic correspondences hold between particular object cases, event roles, and aspects of subevental structure.

(115) ***Initiating Subevent Theory, Claim-I*****:**
Instrumental case (=*s*) is associated with internal arguments that participate in an *initiating* subevent (*Co-initiators*), while accusative case (=*x̌*) is associated with internal arguments that participate in a *non-initiating* subevent (*Non-initiators*).

This statement makes reference to two new event roles, which were mentioned in Section 4.2.1. First, there is the event role *Co-initiator*, which refers to an internal argument that participates in an *initiating* subevent.[6] Second, there is the event role *Non-initiator*, which refers to an internal

[4] We'll see in Section 4.2.3 that the spatial/locational dimension is relevant also, insofar as it relates to the notion of abstract possession by an *Initiator*. For the discussion here, however, this dimension adds unnecessary complications due to its relational nature.
[5] Figure 4.1 is identical to Figure 1.1.
[6] The *Co-initiator* event role is a novel contribution of this dissertation to the theoretical linguistics literature.

argument that participates in a *non-initiating* subevent. From now on, I'll frequently employ the terminology of event roles when referring to instrumental and accusative objects.

One aspect of (115) remains indeterminate at this point, and that is how the word 'participate' is understood in the statement of (115). Note that the interpretation of this word is of central importance to the theory, since it determines how we should go about classifying internal arguments as *Co-initiators* and *Non-initiators*. In the next section, I discuss what exactly it means for an argument to participate in an *initiating* or *non-initiating* subevent.

4.2.3 Identifying event roles

For an internal argument to qualify as participating in a subevent, it's not enough for the argument to merely exist within that subevent. For instance, the Patient argument in a cutting event ('what gets cut') necessarily exists during both the *initiating* and *non-initiating* phases of a cutting event (116a); nevertheless, this argument cannot take instrumental (=*s*) case (116b).[7] Similarly, the Theme in a leaving event ('what gets left') typically continues existing into the *non-initiating* subevent, once it has been left (117a). Nevertheless, this argument cannot appear in accusative (=*x̌*) case (117b).

(116) a. ṫusʔidi Karen**x̌**a ʔabəls
ṫus-xʔid =i Karen **=x̌**=a ʔabəls
cut-BEC =3DIST Karen **=ACC**=DET apple
'Karen is cutting/cut the apple (**ACC**).' (VF)

b. # ṫusʔidi Karen**s**a ʔabəls
ṫus-xʔid =i Karen **=s**=a ʔabəls
cut-BEC =3DIST Karen **=INST**=DET apple
Speaker's comment: "You're literally saying she 'used the apple to cut with'." (JF)

(117) *Context: Mabel left her husband.*

a. bəwuǩ**s**is ɬaẇanəm
bəw =uǩ **=s**=is ɬaẇanəm
leave =3MED **=INST**=3REFL.POSS husband
'She left her husband (**INST**).' (VF)

b. * bəwuǩ**x̌**is ɬaẇanəm
bəw =uǩ **=x̌**=is ɬaẇanəm
leave =3MED **=ACC**=3REFL.POSS husband
'She left her husband (**ACC**).' (JF)

Speaker: "*bəwuǩ x̌is…*? *ḱi.*" ['No.']

[7] What is happening in (116b), specifically, is that Instrumental case is coercing an instrumental interpretation onto the strict-accusative argument of *ṫus-* 'cut'.

Were mere existence a sufficient criterion for participating in a subevent, case alternation would be possible in far more situations than it actually is. Participation in a subevent, then, must be more stringently defined than this.

Instead, for an argument to qualify as participating in a subevent, it must play a role in *defining* that subevent by ensuring that the event satisfies a particular description. The question of how an argument defines a subevent has been extensively explored in the literature concerning how objects relate to interpretations of event culmination, or telicity (Kratzer 2004; Krifka 1989, 1992, 1998; Ramchand 1997, 2008; Tenny 1994). This literature is exclusively concerned with how internal arguments define *non-initiating* subevents by "measuring out" the event in various ways (to adopt Tenny's 1994 terminology); it therefore only partially addresses the problem of what it means for an internal argument to define a subevent. I defer substantial discussion of this topic until Chapter 6; however, for our purposes here, this literature provides one crucial, general insight, which I will now explain.

On the one hand, there are an infinite number of ways for an object to be mapped onto the temporal extent of an event, and thereby come to define its culmination conditions. For instance, in a 'cleaning the house' event, the culmination conditions of this event will depend crucially on what 'the house' refers to. Sometimes for the house to be clean, all I need to do is tidy the kitchen and the front entrance; other times however, I need to clean every room from top-to-bottom. The same thing can be said about 'climbing a mountain' events, or 'fixing a fence' events, *etc.*. Yet even though there are an infinity of specific ways for an object to define the culmination conditions of an event, when we abstract away from the particulars of context and look at commonalities in object interpretation, a small number of clear, general patterns emerge in how culmination conditions are defined by objects. For instance Ramchand (1997: 113-143), expanding on the system in Krifka (1989, 1992), focuses on the following three ways in which an object can define a *non-initiating* subevent: an object can be mapped onto an event in terms of its extent (e.g. 'mow the lawn'); an object can be mapped onto an event in terms of some scalar property it possesses (e.g. 'dry the huckleberries'); or an object can be mapped onto an event in terms of its location along a path (e.g. 'run to the store'). Similar to how Ramchand defines a few abstract ways for objects to measure out an event, what I will do below is propose a few abstract ways that an object can define either an *initiating* or a *non-initiating* subevent. The major difference will be that here, I'm concerned with what it means to participate in one or the other subevent construed broadly, and not solely on how internal arguments define the culmination conditions of events.

I will therefore propose an analysis of what it means to participate in an *initiating* subevent or in a *non-initiating* subevent, which in addition to helping clarify my statement of Claim-I (Section 4.3.2), will provide a means for identifying event roles. My analysis below will bear some resemblance to Dowty's (1991) analysis of argument selection in terms of Agent Proto-Roles and Patient Proto-Roles, as well as more recent incarnations of the same approach such as Grimm (2011). Dowty's (1991) core innovation is the two sets of properties in (118), which he takes to define two cluster-concepts or 'Proto-Roles': the Agent Proto-Role, and the Patient Proto-Role. Arguments with more Proto-Agent properties tend to be realized as subjects, while arguments with more Proto-Patient properties tend to be realized as objects.

(118) Dowty's (1991) Proto-Role analysis (p. 572)

I. Contributing properties for the Agent Proto-Role
   a. volitional involvement of the event or state
   b. sentience (and/or perception)
   c. causing an event or change of state in another participant
   d. movement (relative to the position of another participant)
   (e. exists independently of the event named by the verb)[8]

II. Contributing properties for the Patient Proto-Role
   a. undergoes change of state
   b. incremental theme
   c. causally affected by another participant
   d. stationary relative to movement of an other participant
   (e. does not exist independently of the event, or not at all)

While Dowty's analysis focuses on the question of what semantic factors underly whether an argument is realized as a subject or an object, my analysis below is focused instead on what semantic factors underly whether an argument is realized as one of two kinds of objects — instrumental or accusative. To the extent that Dowty's and my analyses are similar, my analysis can be seen as constituting an extension of Dowty's analysis into the domain of internal argument selection.[9]

Out of the potentially infinite ways for an internal argument to define an *initiating* or *non-initiating* subevent, I will propose a handful of ways that this can be done. Specifically, I'll propose three semantic conditions for identifying *Co-initiators*, and three semantic conditions for identifying *Non-initiators*. Two sets of these conditions will relate to the ways of conceptualizing events mentioned in Section 4.2.1 — namely, the causal and aspectual dimensions of events. The final set of conditions will involve the notion of abstract possession. First, I'll analyze what it means to be a *Co-initiator*, and then I'll analyze what it means to be a *Non-initiator*.

Let's begin with the *Co-initiator* conditions. Viewing events in terms of their causal subcomponents, we can recognize an *initiating* subevent as the part of an event associated with the event's cause. An event's *Initiator* instigates the event, while *Co-initiators* play a role in instigating the event but are incapable of operating independently of the *Initiator*. Because *Co-initiators* depend on the *Initiator* for their efficacy, the first condition for identifying *Co-initiators* is referred to as *dependent cause* (119).

[8] Concerning the parentheses on the 'e' examples here, Dowty (1991: p. 572) states "…I am not sure to what extent they [the properties in parentheses] should be attributed to the discourse associations of subjecthood … rather than proto-role definition."

[9] There are some important differences between Dowty's (1991) analysis and mine to be aware of. First, Dowty's analysis is concerned exclusively with how verbal entailments determine argument selection, whereas my analysis takes into account any entailments related to event structure, whether they derive from the verb or from other sources of event structure modification (this is discussed in Chapter 5). Relatedly, Dowty's analysis is aimed at accounting for the way that argument selection is lexicalized, while my analysis aims to account both for case assignment that is driven by lexical entailments, and case assignment that arises productively via event structure modification (this is also discussed in Chapter 5).

(119) *Co-initiator* Condition 1:

> ***dependent cause***: The argument is a means by which an *Initiator* instigates an event

The most obvious examples of arguments which satisfy *dependent cause* are thematic Instruments. Two examples of arguments which satisfy this condition include the Instrument of a writing event (120) and the Instrument of a peeling event (121).

(120) ḳatuǰ Ted**sa gamała ḳ'adayu**
ḳat =uǰ Ted **=s=a** **gamała** **ḳ'at-ˌˌayu**
write =3MED Ted **=INST=DET** **strange** **write-INST.PASS**
'Ted's writing with **a strange pen** (**INST**).' (VF)

(121) qʷəcəmdaluǰ Abbyǰ**sa hə'mayu** laǰʷa ʔayəndzisiǰ
qʷəs-(ğ)əm-xʔid-la =uǰ Abby=ǰ **=s=a**
peel-face-BEC-CONT =3MED Abby=VIS **=INST=DET**
hə'm-ˌˌayu la =ǰ=ʷ=a ʔayəndzis=ǰ
eat-INST.PASS PREP =ACC=3MED=DET orange=VIS
'Abby's peeling **an orange** (**INST**) with a fork.'[10] (VF)

In (120), Ted is the *Initiator* of a writing event which is brought about through the use of a strange pen, its *Co-initiator*. In (121), Abby is the *Initiator* of a peeling-an-orange event, which is brought about with the help of a fork, the event's *Co-initiator*.

Turning now to the aspectual conceptualization of events, recall that an *initiating* subevent is associated with an event's onset, or initial bound. For an internal argument to be are associated with an *initiating* subevent in this aspectual sense, it must delimit the initial bound of the event in some significant way. Because the *Initiator* also delimits the initial bound of the event, the internal arguments' presence with the *Initiator* at the event's onset is crucial. I refer to this aspectual criterion for being a *Co-initiator* as *initial bound* (122).

(122) *Co-initiator* Condition 2:

> ***initial bound***: The argument's existence or presence with the *Initiator* delimits the initial bound of the event

The clearest examples of arguments which satisfy *initial bound* are abstract Sources (note that purely locative Sources are introduced by the preposition *la*, not *=s*). Two examples of arguments which satisfy this condition are the internal argument of *bəw-* 'leave' ('what is left') (123), and the internal argument of *ʔiʔkila* 'heal' [also 'bless'] in (124).

[10] This example involves a dummy use of the preposition *la*. In general, whenever both a *Co-initiator* and a *Non-initiator* are expressed in the same sentence, and the *Co-initiator* is mapped to object position, dummy *la* gets inserted to carry the *Non-initiator* argument at the right periphery. This pattern is briefly discussed in Appendix C.

(123) bəwuǰ Mabələǰ**sa guk^{w}dzi**
bew =uǰ Mabel=ǰ **=s=a** **guk^{w}dzi**
leave =3MED Mabel=VIS **=INST=DET** **Bighouse**
'Mabel left **the Bighouse** (**INST**).' (VF)

(124) ʔiʔkilak^{w}ən**sa *cancer***
ʔiʔkila-k^{w} =ən **=s=a** **cancer**
heal/bless-PART =1 **=INST=DET** **cancer**
'I've been healed from **cancer** (**INST**).' (VF)

The verb *bəw-* 'leave' refers to a transition event (Greene 2013) in which an *Initiator* transitions from being 'at' something to being not 'at' that thing. The *=s*-marked argument in (123) defines the *initiating* subevent in the described leaving event because it is present with the *Initiator* prior to the transition.[11] In (124), the predicate is a passive participle formed from the verb *ʔiʔkila* 'heal, bless'; in this example, the *=s*-marked argument, cancer, defines an *initiating* subevent because it is present with the *Initiator* prior to the transition into their being healed.

The third semantic condition for identifying *Co-initiators* involves the notion of abstract possession.[12] A third way for an internal argument to define an *initiating* subevent is for that argument to be possessed by the *Initiator* at the beginning of the event, on the assumption that the possessive relation is in some way relevant to the structure of the event and is not merely an incidental relation. I refer to this condition as *possession* (*initial bound*) (125).

(125) <u>*Co-initiator* Condition 3</u>

***possession* (*initial bound*)**: The argument is possessed by an *Initiator* at the initial bound of the event

Examples of arguments which satisfy *possession* (*initial bound*) include the argument of *ʔəǰənug^{w}ad* 'own, be endowed with' (126) and the argument of *c̓əxq̓a* 'be sick' (127).

(126) ʔəǰənug^{w}adida gənanəme**sa kac̓ənaq**
ʔəǰ-nuk^{w}-ad =i=da gənanəm **=s=a** **kac̓ənaq**
do-have-have =3DIST=OST child **=INST=DET** **spoon**
'The child owns **a spoon** (**INST**).' (VF)

(127) y̓axʔidaṅak^{w}əli Betti leʔ c̓əxq̓a**sida *cancer***
y̓ak-xʔid-a-ṅak^{w}la =i Betty lə=a c̓əxq̓a
bad-BEC-A-GRAD.ADV =3DIST Betty AUX=EMBED sick
=s=i=da **cancer**
=INST=3DIST=OST **cancer**
'Betty died slowly when she was sick **with cancer** (**INST**).' (VF)

[11] The *=s* marked argument in (123)-(124) is also not present with the *Initiator* after the transition, but this is not relevant to the question of whether or not the argument defines the *initiating* subevent.
[12] Readers familiar with Jackendoff (1990) and related work will notice that this third condition is related to the localist conceptualization of events mentioned in Section 4.2.1, in which events are seen in terms of the relative locations of their participants in space.

In (126), the spoon is physically possessed at the event's initial bound, while in (127), cancer can be described as something which is possessed abstractly.

With three semantic conditions in place for identifying *Co-initiators*, I'll now move on to defining the conditions for *Non-initiators.*

On the causal conceptualization of events, *non-initiating* subevents are associated with a result or effect that's been brought about through the causal application of force (Talmy 1988, Croft 1991, Harley & Copley 2015). Internal arguments of *non-initiating* subevents, on the causal view, undergo some sort of change as a result of their participation in the event. For this reason, the first *Non-initiator* condition is referred to as *change* (128).

(128) *Non-initiator* Condition 1:

change: The argument undergoes causally-induced change

Examples of arguments which satisfy *change* include the internal argument of *t̓us-* 'cut' (129) and the internal argument of *hiɬ-* 'fix' (130).

(129) t̓usʔidi Karen**x̌a ʔabəls**

t̓us-xʔid	=i	Karen	**=x̌=a**	**ʔabəls**
cut-BEC	=3DIST	Karen	**=ACC=DET**	**apple**

'Karen is cutting/cut **the apple** (ACC).' (VF)

(130) hiɬʔiduǩ Sara**x̌ʷa kiλəmx̌**

hiɬ-xʔid	=uǩ	Sara	**=x̌=ʷ=a**	**kiλəm=x̌**
fix-BEC	=3MED	Sara	**=ACC=3MED=DET**	**net=VIS**

'Sara is fixing/fixed **the net** (ACC).' (VF)

In (129), the apple undergoes a change in its physical integrity, while in (130), the net undergoes a change in its physical structure which have repercussions for its functionality.

Turning now to an aspectual view of event structures, *non-initiating* subevents are associated with the final bound of an event. Internal arguments associated with *non-initiating* subevents in this aspectual sense function to delimit the event's final bound by measuring out the event (Tenny 1994). I refer to this condition as *final bound* (131).

(131) *Non-initiator* Condition 2:

final bound: The argument's existence or presence delimits the final bound of the event

Arguments may satisfy *final bound* in a variety of ways, some of which were mentioned near the beginning of this section and relate specifically to the notion of an Incremental Theme (Dowty 1991). Thus, an argument can measure out an event in terms of its physical extent, such as the argument of a Creation Verb like *q̓ən-* 'sew' (132); or it can measure out the event in terms of its location on a path, like the argument of *qasənd* 'walk across' (133); or it can measure out the event in terms of some inherent scalar property, like the argument of *ləmxʷʔid* 'dry' (134) (which also satisfies *change*).

(132) q̓ənxʔidənx̌ʷ**a k̓ʷəmdzuy̓u**

q̓ən-xʔid	=ən	**=x̌=ʷ=a**	**k̓ʷəmdzuy̓u**
sew-BEC	=1	**=ACC=3MED=DET**	**dress**

'I am sewing/sewed **a** [**new**] **dress** (ACC).' (VF)

(133) qasəndi Vickiyəx̌**a λoʔs** qaʔs leʔ laxa ʔəpsud

qas-?[13]-xʔid	=i	Vicky	**=x̌=a**	**λoʔs**	qa	=is
walk-?-BEC	=3DIST	Vicky	**=ACC=DET**	**tree**	PREP	=3REFL.POSS
la=iʔ	la	=x̌=a	ʔəpsud			
go=NMZ	PREP	=ACC=DET	other.side			

'Vicky is walking/walked across **the tree** (ACC) to get to the other side.' (VF)

(134) ləmxʷʔidux̌da ƛ̓isəlax̌**ən səy̓a**

ləmxʷ-xʔid	=ux̌=da	ƛ̓is-la	**=x̌=ən** **səy̓a**
dry-BEC	=3MED=OST	sun.shine-CONT	**=ACC=1POSS hair**

'The sun is drying/dried **my hair** (ACC).'

Another set of arguments which satisfy the condition *final bound* are Goals. While not obviously incremental like the internal arguments in (132)-(134), Goal arguments serve to define an event's terminal point, thereby satisfying the condition in (131). In (135) for instance, the table defines the final bound of the event.

(135) xʷəsʔidən ƛax̌ʷ**a həm̓əʔdzux̌ʷ**asa k̓adayu

xʷəs-xʔid	=ən	ƛa	**=x̌=ʷ=a**	**həm̓-ʷdzu=x̌**
smack-BEC	=1	CONN	**=ACC=3MED=DET**	**eat-flat.surface=VIS**
=s=a		k̓at-ʷayu		
=MEANS=DET		write-INST.PASS		

i. 'I'm smacking **the table** (ACC) with a writing utensil'
ii. 'I'm smacking **at/towards the table** (ACC) with a writing utensil.' (VF)

Note that even though the arguments in examples (132)-(135) function to define the final bound of these events (or in other words, these events' culmination conditions), culmination is not actually entailed in these examples. I return to discuss this topic in Chapter 6.

The third *Non-initiator* condition involves the notion of possession. In particular, I propose that an internal arguments may define a *non-initiating* subevent by its coming into the possession of the *Initiator* by the event's *final* bound. I refer to this condition as *possession* (*final bound*) (136).

(136) <u>*Non-initiator* Condition 3:</u>

> ***possession* (*final bound*)**: The argument comes to be possessed by the *Initiator* by the final bound of the event

[13] The form of *-xʔid* here (*-nd*) indicates the presence of a lexical suffix on the root *qas-* 'walk', though no suffix is phonologically apparent.

Examples of arguments which satisfy *possession* (*final bound*) include the internal argument of *da-* 'take in hand' (137) and the internal argument of *loƛ̓-* 'obtain' (138).

(137) həłax̌dzəmənsən ʔump qən leʔ daxʔi**x̌a pət̓eʔ** lax̌a pədilas
hәłax̌s-$_w$əm =ən =s=ən ʔump qa =ən la=iʔ
send-NMZ =1 =O.POSS=1POSS dad PREP =1POSS go=NMZ
da-xʔid **=x̌=a** **pət̓=eʔ** la =x̌=a pədilas
take.in.hand-BEC **=ACC=DET** **medicate=NMZ** PREP =ACC=DET drugstore
'I was sent by my dad to go get **medicine** (ACC) at the drugstore.' (VF)

(138) loƛ̓ən ƛ̓a**x̌i k̓adəkʷ**
loƛ̓ =ən ƛ̓a **=x̌=i** **k̓at-$_w$kʷ**
obtain =1 CONN **=ACC=3DIST** **write-PART**
'I received **a letter** (ACC).' (VF)

In (137) and (138), the internal argument comes to be with the *Initiator* only by the end of the event. It's worth asking, then, whether *Non-initiator* Condition 3 is just a specific instance of *change*, where the specific kind of change involved is change in possession. A reason for keeping the conditions *possession* (*final bound*) and *change* as separate conditions is that undergoing a change in possession is not exactly the same thing as acquiring a possessor. Thus while a verb like *ċo-* 'give' entails that its Theme undergoes a change from one possessor to another possessor in the course of an event, a verb like *loƛ̓-* 'obtain' merely entails that its internal argument acquires a possessor in the course of an event. In any case, since my broader purpose here is to define a set of semantic conditions that aid in identifying event roles, no serious harm is done if these conditions overlap in certain instances.

In summary, I've proposed a set of semantic conditions for use in identifying *Co-initiators* and *Non-initiators*, which are provided in Table 4.1. These conditions constitute an analysis of what it means for an internal argument to participate in an *initiating* subevent (= be a *Co-initiator*) or participate in a *non-initiating subevent* (= be a *Non-initiator*). Given that these conditions are abstract, we expect the particular way that any given semantic argument will instantiate one or more of these conditions will vary in detail depending on the verb involved and the nature of the event being described.

***Co-initiator* Conditions**	***Non-initiator* Conditions**
i. ***dependent cause***: The argument is a means by which an *Initiator* instigates the event ii. ***initial bound***: The argument's existence or presence with an *Initiator* delimits the initial bound of the event iii. ***possession* (*initial bound*)**: The argument is possessed by an *Initiator* at the initial bound of the event	i. ***change***: The argument undergoes some causally-induced change ii. ***final bound***: The argument's existence or presence delimits the final bound of the event iii. ***possession* (*final bound*)**: The argument comes to be possessed by the *Initiator* by the final bound of the event

Table 4.1: Semantic conditions for identifying *Co-initiators* and *Non-initiators*

A question which naturally arises at this point is the question of how exactly the conditions in Table 4.1 are evaluated with respect to particular semantic arguments. For instance, it could be the case that some conditions are more heavily weighted than others, or that the order in which the conditions are evaluated is important. My overall sense is that the manner in which the conditions above are evaluated with respect to any given argument is underdetermined by the available language data. In the absence of clear evidence for any particular evaluation strategy, I suggest we think of the conditions for identifying *Initiators*, *Co-initiators*, and *Non-initiators* in a manner similar to how Dowty (1991) treats the properties associated with Proto-Agents and Proto-Patients: as conditions which combine to form two cluster-concepts, *Co-initiator* and *Non-initiator*, which serve in helping us make predictions about which case any given internal argument can appear in. These cluster-concepts serve to simplify what is essentially an infinite number of ways for an argument to instantiate the event roles of *Co-initiator* or *Non-initiator*, and thereby provide us with the means of predicting the distribution of object case.

Note that as things stand, the analysis I've outlined in this section can be used to predict when a particular verb-argument relation will be strict-instrumental (=*s*) or strict-accusative (=*x̌*). In particular, an argument which only qualifies as a *Co-initiator* must be strict-instrumental (=*s*), while an argument which only qualifies as a *Non-initiator* must be strict-accusative (=*x̌*). But what about arguments which meet conditions for being both *Co-initiators* and *Non-initiators*? This is the topic of the next section.

4.2.4 Accounting for case alternation

Up to this point I've been primarily concerned with accounting for when it is possible for an argument to appear in either instrumental or accusative case, and have been ignoring the question of what semantic conditions license instrumental-accusative case alternation. In fact, to account for case alternation, all we need to do is recognize that arguments which undergo case alternation are precisely those which simultaneously meet the semantic conditions for being both *Co-initiators* and *Non-initiators*. This is stated as the Alternation Condition in (139).

(139) ***Alternation Condition*:**

An argument which satisfies the conditions for being both a *Co-initiator* and a *Non-initiator* may appear in either instrumental (*=s*) or accusative (*=x̌*) case.

Since an argument satisfies the Alternation Condition by satisfying any one of the *Co-initiator* conditions together with any one of the *Non-initiator* conditions, different combinations of conditions should give rise to different kinds of alternating arguments, semantically-speaking. Some of the different ways *Co-initiator* and *Non-initiator* conditions can be satisfied by a single argument are exemplified below.

One way the Alternation Condition can be met is for an argument to simultaneously satisfy the *Co-initiator* criterion *dependent cause*, and the *Non-initiator* criterion *change*. This combination of conditions is satisfied by the internal argument of Manipulation/Change Verbs, such as *qəs-* 'wind, coil' (140).

(140) <u>An alternating argument satisfies *dependent cause*, *change*</u>

qəsida bəg^{w}anəme{**sa**, **x̌a**} **dənəm**
qəs =i=da bəg^{w}anəm {**=s=a** , **=x̌=a**} **dənəm**
coil/wind =3DIST=OST man {**=INST=DET**, **=ACC=DET**} **rope**
'The man is coiling/winding **rope** {**INST**, **ACC**}.' (VF, VF)

The rope in (140) satisfies *dependent cause* because it what the man is using to wind with. The rope in this event also satisfies *change*, because it undergoes a change in configuration, becoming wound. A similar sort of reasoning explains why alternation is possible with the internal arguments of Stir/Tow Verbs. I will return to discuss a related phenomenon, the licensing of case alternation in events where an argument is manually manipulated by an *Initiator*, in Chapter 5, Section 5.2.

Another way for the Alternation Condition to be met is for an argument to simultaneously satisfy the *Co-initiator* criterion *possession*(*initial bound*) and the *Non-initiator* criterion *change*. For instance, the internal argument of Transfer Verbs such as *c̓o-* 'give' (141) realize this possibility.

(141) <u>An alternating argument satisfies *possession*(*initial bound*), *change*</u>

Context: Ted's family had a potlatch. Ted went around and gave oranges to everyone in attendance.

ləm̓i Ted c̓ic̓ola{**sa**, **x̌a**} **ʔiʔayəndzis** laǩa lilәlq^{w}əlaƛeʔ
lə=ʔm =i c̓i~c̓o-la {**=s=a** , **=x̌=a**}
AUX=VER =3DIST REDUP~give-CONT {**=INST=DET** , **=ACC=DET**}
ʔi~ʔayəndzis la =x̌=a lilәlq^{w}əlaƛeʔ
REDUP~orange PREP =ACC=DET tribes
'Ted gave out **oranges** {**INST**, **ACC**} to the people [tribes].' (VF)

The oranges in (141) satisfy *possession*(*initial bound*) because they begin the event in Ted's possession, and satisfy *change* because they subsequently undergo a change in possession.

Similar reasoning explains why the Theme arguments of Bodily Process Verbs and Put Verbs undergo alternation. I will return to discuss the related phenomenon of case alternation with internal arguments of caused motion predicates in Chapter 5, Section 5.3.

Verbs of Communication name events which are somewhat abstract, which makes their internal structure less transparent to introspection. Nevertheless, I think its possible to construct a coherent line of reasoning about why these verbs' internal argument undergoes case alternation. In particular, I propose that the Message argument of Communication Verbs, such as like *ṅik-* 'say, tell' (142), undergoes case alternation because it simultaneously satisfies the *Co-initiator* condition *dependent cause*, and the *Non-initiator* criterion *final bound*. More specifically, this argument satisfies *dependent cause* because it serves as the Means by which the *Initiator* communicates content, and it satisfies *final bound* because it also serves as an Incremental Theme which measures out the speech event.[14]

(142) An alternating argument satisfies *dependent cause, final bound*

ṅiklạ̓{**sus**, **x̌us**} **wałdəmx̌** ʔoʔəma ʔulaqʷa				
ṅik-lạ̓	{**=s=us**	, **=x̌=us**}	**wałdəm=x̌**	ʔwa=ʔm=a ʔulaqʷa
say-IMP	{**=INST=2POSS**	, **=ACC=2POSS**}	**word=VIS**	so=VER=A quietly

'Say **what you said** {**INST**, **ACC**}, just quietly.' (VF, VF)

The same line of reasoning can plausibly be extended to explain why the internal arguments of Think Verbs, as well as at least some Performance Verbs (e.g. *dənx̌-* 'sing'), undergo case alternation. I return to discuss case alternation with Performance Verbs in Chapter 5, Section 5.4.

Verbs of emotion are similarly abstract, and therefore somewhat difficult to characterize in event-structural terms. Nevertheless, a plausible story can be told explaining their internal arguments' alternation as well. For instance, I propose that the internal argument of Jealousy Verbs like *ƛ̓iq̓-* 'be jealous' (143) satisfies the *Co-initiator* criterion *dependent cause* together with the *Non-initiator* condition *final bound*. More specifically, this argument satisfies *dependent cause* because it helps cause the emotional state of jealousy (though the more proximate cause is the *Initiator*'s own mental processes; this is why the internal argument is not itself expressed as the event's *Initiator*). Then this argument satisfies the criterion *final bound* because it serves metaphorically as a target or Goal out in the world towards which the emotion is directed.

[14] Alternatively, we could extend the theory so that arguments denoting the Content of an utterance (or a thought) are a fourth variety of *Non-initiator*. The fact that Know Verbs take a strict-accusative argument suggests this might be necessary. I have left details surrounding the event structure of psych verbs in Kʷak̓ʷala mostly to future research.

(143) An alternating argument satisfies *dependent cause, final bound*

Context: Shelly admires long hair, but she's never been able to grow her own hair very long. Hope has really long hair, and Shelly is jealous of it.

ƛ̓iq̓uxˇ Shelliˇ{**sa**, **ˇxa**} **gəlt̓a səy̓aʔs Hope**
ƛ̓iq̓ =uˇx Shelly=ˇx {**=s=a** , **=ˇx=a**} **gəlt̓a**
jealous =3MED Shelly=VIS {**=INST=DET** , **=ACC=DET**} **long**
səy̓=aʔ =s Hope
hair=INVIS =3POSS Hope
'Shelly's jealous of **Hope's long hair** {**INST**, **ACC**}.' (VF, JF)

A similar line of reasoning can be constructed to explain case alternation with Annoy Verbs[15] and Anger Verbs.

Note that in all of the examples just shown, the Alternation Condition is met because the verb involved possesses entailments about a particular internal argument which enables it to satisfy both *Co-initiator* and *Non-initiator* conditions. With verb-argument relations of this sort, case alternation is possible *in every context* that the verb is used.[16] This is significant, because it explains why speakers consistently report sentence pairs like the one shown in (F) to be synonymous: since these verbs entail that a single internal argument is both a *Co-initiator* and a *Non-initiator*, semantically-speaking it doesn't matter which case the argument is in: verbal entailments are consistent with the argument appearing in either case. We predict then, on the basis of the Alternation Condition, that substituting one case for the other (in an alternating environment) should never alter the truth conditions of the sentence, and indeed, this prediction is borne out. This is perhaps most vividly illustrated by situations in which a speaker volunteers a sentence with one case marker, and then a few moments later repeats back the same sentence with the other case marker. This is exemplified in (144); here, the speaker is in the middle of volunteering a sentence when her attention is broken by forgetting a word. Then, when she resumes volunteering the sentence, she uses the other case marker. It's unclear here whether the speaker notices that she's used two different case markers.

(144) **KS:** "Katie is hanging the hat on the door handle."
Speaker: "Mhm ['Yes']. *ǧiˇxʷʔid… ǧiˇxʷaƛ̓əluduˇx…* Who's doing it? Katie?"
KS: "Katie."
Speaker: "Hm."
KS: "*ʔoʔəm həyulis.*" ['Always.']
Speaker: "*ǧiˇxʷaƛ̓əluduˇx Katiyə**ˇx**ʷa ƛ̓ətəmɬ laˇxʷa…* [(a)] I don't even know what 'door handle' is. There is a name. *k̓isən məlqʷəla.*" ['I don't remember.']
KS: "It could be any kind of knob. Or 'hook' even."
Speaker: "Okay, okay, um… *ǧiˇxʷaƛ̓əluduˇx Katiyəˇx**s**a ƛ̓ətəmɬ laˇxa… ǧiˇxʷaƛ̓əla… ǧiˇxʷaƛ̓əluduˇx Katiyəˇx**s**a ƛ̓ətəmɬ laˇxʷa ǧiˇxʷaɬəʔas.*" [(b)]

[15] Cf. English, where Annoy Verbs allow more than one preposition to introduce their internal argument (e.g. *Shelly is annoyed by the dog* versus *Shelly is annoyed at the dog*).
[16] Assuming, that is, that the Monotonicity Hypothesis holds, which states that components of lexical meaning cannot be deleted from semantic representations (Koontz-Garboden 2012).

a. ğix̌ʷaƛəluduǰ Katiyə**x̌ʷa ƛətəmł** laǰʷa…
ğix̌ʷ-aƛ-la-xʔid =uǰ Katie **=x̌=ʷ=a**
hang-on-CONT-BEC =3MED Katie **=ACC=3MED=DET**
ƛətəmł la =x̌=ʷ=a…
hat PREP =ACC=3MED=DET…
'Katie is hanging **the hat** (ACC) on the… [unfinished].' (VF)

b. ğix̌ʷaƛəluduǰ Katiyəǰ**sa ƛətəmł** laǰʷa ğix̌ʷałəʔas
ğix̌ʷ-aƛ-la-xʔid =uǰ Katie=x̌ **=s=a**
hang-on-CONT-BEC =3MED Katie=vis **=INST=DET**
ƛətəmł la =x̌=ʷ=a ğix̌ʷ-ała-ʔas
hat PREP =ACC=3MED=DET hang-STAT-LOC.PASS
'Katie is hanging **the hat** (INST) on the line (*Literally*: hanging-place).' (VF)

Speakers will also often insist that there is no difference between sentences in which one case marker has been substituted for another, sometimes finding the sentences so similar that they hardly register the difference (145).[17]

(145) **KS:** "So let's say Ted gave a bracelet to Hope. How would we say, 'Hope put on her bracelet'…?"
Speaker: "*qəǰc̓anuǰ Hope* ***x̌****is qəǰc̓ane?* [(a)]."
KS: "*…c̓anuǰ, qəǰ, qəǰ… qəǰc̓anuǰʷ…*"
Speaker: "*…Hope* ***x̌****is qəǰc̓ane?.*"
KS: "*…x̌is qəǰ…*"
Speaker: "She just put it on, she put it on her wrist."
KS: "Kay. *qəǰc̓anuǰ Hope x̌is…*"
Speaker: "*…qəǰc̓ane?. ʔeʔ.*"
KS: "*qəǰc̓ane?.* Kay."

a. qəǰc̓anuǰ Hope**x̌is qəǰc̓ane?**
qəǰ-c̓ana =uǰ Hope **=x̌=is** **qəǰ-c̓an=eʔ**
ring-hand =3MED Hope **=ACC=3REFL.POSS** **ring-hand=NMZ**
'Hope put **her bracelet** (ACC) on her wrist.' (VF)

KS: "And is it any different to say, *qəǰc̓anuǰ Hope****S****IS qəǰc̓ane?* [(b)]…?"
Speaker: "Didn't we say that?"
KS: "No, we said *qəǰc̓anuǰ Hope****x̌****is qəǰc̓ane?.*"
Speaker: "Oh, yeah, it's okay."
KS: "Kay."
Speaker: "That's another variation, that's fine."
KS: "Mkay."
Speaker: "No different."

[17] When speakers make comments like the ones in (145), I will typically re-read the sentences to the speaker with emphasis on the case markers; this is to make sure that the speaker's reason for judging the sentences as sounding the same was not that I said the case markers too quietly or indistinctly.

b. qəx̌ċanuǰ Hope**sis qəx̌ʔcane?**
qəx̌-ċana =uǰ Hope **=s=is** **qəx̌-ʔcan=e?**
ring-hand =3MED Hope **=INST=3REFL.POSS** **ring-hand=NMZ**
'Hope put **her bracelet** (INST) on her wrist.' (JF)

The synonymy of sentence pairs like (144a)-(144b) and (145a)-(145b) makes sense in light of the fact that the Alternation Condition is met in these instances as a result of verbal entailments. In Chapter 5, I'll show that case alternation can be also be licensed by non-lexical semantic information, and thus that some internal arguments can undergo case alternation *only in particular contexts*. In Section 5.2, in particular, we'll see that contexts do exist in which pairs of sentences involving alternating relations are not synonymous.

In summary, I've shown that we can account for instrumental-accusative case alternation through a simple extension of the theory developed in the previous sections. This extension is called the Alternation Condition, and the gist of it is that whenever an argument independently meets conditions for being marked with either instrumental or accusative case, it can in fact be marked with either case. Note that this finding has clear repercussions for how strict-instrumental and strict-accusative relations are understood. Namely, it predicts that arguments which satisfy one or more *Co-initiator* conditions, but don't satisfy any *Non-initiator* conditions, should be strict-instrumental (=*s*). Likewise, arguments which satisfy one or more *Non-initiator* conditions, but don't satisfy any *Co-initiator* conditions, should be strict-accusative (=*x̌*).

To see that these predictions about strict case relations hold, consider the sentences in (146)-(147) below (the 'a' sentences are repeated from Section 4.2.3). The instrumental object in (146a) is an Instrument and therefore satisfies the *Co-initiator* criterion *dependent cause*. It doesn't, however, satisfy any of the *Non-initiator* conditions: it doesn't undergo causally-induced change, it doesn't define the final bound of the event, and it doesn't come into the *Initiator*'s possession. The theory predicts it will be strict-instrumental, and it is; it cannot appear in accusative case (146b). Similarly, the accusative object in (147a) is a Patient, and satisfies the *Non-initiator* criterion *change*. However, it doesn't satisfy any of the *Co-initiator* conditions: it doesn't function as a means; it doesn't define the initial bound of the event; and it doesn't start out in the *Initiator*'s possession in a way that is relevant to event structure.[18] Therefore, we predict it will be strict-accusative and it is, as shown by its inability to appear in instrumental case (147b).

(146) a. ḳ̇atuǰ Ted**sa gamała ḳ̇adayu**
ḳ̇at =uǰ Ted **=s=a** **gamała** **ḳ̇at-„ayu**
write =3MED Ted **=INST=DET** **strange** **write-INST.PASS**
'Ted's writing with **a strange pen** (INST).' (VF)

[18] In other words, the question of whether the apple belongs to the *Initiator* (or to someone else, or no one at all) at the moment she begins cutting it is irrelevant when it comes to ensuring that the event satisfies the description expressed in (147a).

b. * ḵatuǩ Ted**ǩa gamała ḵ̓adayu**
ḵat =uǩ Ted **=ǩ=a** **gamała** **ḵ̓at-„ayu**
write =3MED Ted **=ACC=DET** **strange** **write-INST.PASS**
Literally: 'Ted's writing **a strange pen** (ACC).' (JF)

Speaker: "No, it seems a little garbley."

(147) a. ṫusʔidi Karen**ǩa ʔabəls**
ṫus-xʔid =i Karen **=ǩ=a** **ʔabəls**
cut-BEC =3DIST Karen **=ACC=DET** **apple**
'Karen is cutting/cut **the apple** (ACC).' (VF)

b. # ṫusʔidi Karen**sa ʔabəls**
ṫus-xʔid =i Karen **=s=a** **ʔabəls**
cut-BEC =3DIST Karen **=INST=DET** **apple**
Speaker: "You're literally saying she 'used the apple to cut with'." (JF)

Strict relations like these arise whenever a semantic argument only qualifies as being a *Co-initiator* (= strict-instrumental) or *Non-initiator* (= strict-accusative). All of the grammatical examples presented in Section 4.2.3 qualify as strict relations in this sense.

I should note here that while the Alternation Condition can be used to predict when case alternation is possible, it does not predict which case will actually appear in any given utterance. The question of what factors determine case choice in alternating contexts is a fundamentally separate question from the question I pursue here, which is the question of where instrumental case and accusative case *can* appear. I'll touch briefly upon the topic of case choice in alternating environments in Chapter 7, where I single it out as a topic for future research.

4.2.5 What Claim-I explains

At this time, it's worth taking a moment to consider which phenomena can already be explained by the semantic theory in its current stage of development.

To begin with, the theory accounts for the puzzle laid out in Section 1.1. Namely, it provides us with a way of predicting and explaining, for any given internal argument, why that argument is expressible as an instrumental, accusative, or potentially alternating object. In particular, we now can say that strict-instrumental (=*s*) relations come about when an argument *only* meets the semantic conditions for being a *Co-initiator*; strict-accusative (=*ǩ*) relations come about when an argument *only* meets the semantic conditions for being a *Non-initiator*; and alternating {=*s*, =*ǩ*} relations come about whenever an argument meets the semantic conditions for being both a *Co-initiator* and a *Non-initiator* simultaneously.

The theory as it stands also explains the existence of regular and consistent correlations between lexical semantic verb classes and particular case frames, as reported in Section 3.2. If object case is semantically grounded in event structure, as I claim it is, then verbs with similar meanings should have similar case frames given that they describe similar kinds of events. The theory also makes sense of the array of particular correlations observed in Section 3.2 between particular case frames and particular thematic roles. Table 3.6, from Chapter 3, Section 3.5 is repeated here for convenience.

Verb-argument-case relation	**Thematic roles**
strict-accusative (=*x̌*)	Incremental Theme, Patient, Patient/Goal, Obtained Goods, Recipient, Object of Appraisal, Mental Content, Lost Mental Content, Stimulus
strict-instrumental (=*s*)	Instrument, Source of Emotion
alternating {=*s*, =*x̌*}	Locatum, Instrument/Patient, Theme, Expressed Theme, Message, Source/Target of Emotion, Thought

Table 3.6: Correlations between object case relations and thematic roles

Some of the thematic roles associated with strict-accusative (=*x̌*) relations in Table 3.6 are clearly aligned with the *Non-initiator* conditions *change* (Incremental Theme, Patient), *final bound* (Incremental Theme, Patient/Goal), and *possession*(*final bound*) (Recipient). The remaining thematic roles, being psychological in nature, are more difficult to account for, but at least a few of them (Object of Appraisal, Stimulus) plausibly qualify as satisfying *final bound*, while the remaining thematic roles (Mental Content, Lost Mental Content) might need to be distinguished as a new variety of *Non-initiator*. The strict-instrumental (=*s*) relations listed in Table 3.6 (Instrument, Source of Emotion) plausibly satisfy *dependent cause*. As for the alternating relations in Table 3.6, some of them satisfy *dependent cause/change* (Instrument/Patient), others satisfy *possession*(*initial bound*)/*change* (Locatum, Theme), and some of them plausibly satisfy *dependent cause/final bound* (Expressed Theme, Message, Source/Target of Emotion, Thought). While some of these associations may be more intuitively obvious than others, it should be apparent that the Initiating Subevent Theory is generally consistent with the observed case behaviour of many semantic verb classes.

The current theory also accounts for the data in Section 3.3, in which I illustrated correlations between the semantic perspective encoded by a verb, and case marking on its Theme. The generalization arrived at in that section is repeated below in (81).

(81) ***Verb-Pair Generalization***

i. Verb-argument relations in which the argument starts WITH the *Initiator* at the event's *initial* bound and ends up not WITH the *Initiator* at the event's *final* bound undergo case alternation {=*s*, =*x̌*};

ii. Verb-argument relations in which the argument ends up WITH the *Initiator* at the event's *final* bound are strict-accusative (=*x̌*).

This generalization in (81) is easily accounted for by the Initiating Subevent Theory. The relations referenced in (81-i) satisfy the conditions *possession*(*initial bound*) and *change*, correctly predicting case alternation. The relations referenced in (81-ii) satisfy the condition *possession*(*final bound*), correctly predicting they will be strict-accusative.

What the current theory cannot yet explain is the data in Section 3.4, where we looked at the interpretation of internal arguments in the vicinity of weak verbs. So far in this chapter, I've been concerned solely with the way object case patterns relative to contentful verbs. Since the meaning involved in generating such patterns can always be traced back to whichever verb is present, this has allowed me to ignore questions about the division of semantic labour within the overall system. Verbs like dummy *ʔəx̌*-, on the other hand, don't contribute lexical entailments,

and so working with them forces us to confront the issue of how meaning is distributed between the lexicon and the grammar. The question of how semantic value is encoded in the system is the topic of the next section.

4.3 Claim-II: Interpretable and uninterpretable case

Up to this point, I've been developing a semantic theory which explains the distribution of Kʷakʷala's two object cases in terms of subevental structure. What I have yet to do is provide an analysis of how these semantic distinctions are encoded in the grammar. *A priori* there are two possible analyses one could pursue here, which differ in terms of how semantic value is distributed between the lexicon and the grammar. On a *symmetric analysis*, both instrumental and accusative case add semantic value, while on an *asymmetric analysis* only one object case adds semantic value while the other functions as a meaningless default. These analytical options are summarized in (148).

(148) i. *Symmetric analysis*: Instrumental case and accusative case are both interpretable

ii. *Asymmetric analysis*: One case, either instrumental or accusative, is interpretable, while the other case is uninterpretable.[19]

To implement the symmetric analysis, all we would need to do is associate instrumental (=*s*) case with the semantic value of being a *Co-initiator*, and accusative (=*x̌*) case with the semantic value of being a *Non-initiator*. This analysis would be consistent with the empirical data we've explored so far (with one exception, to be explained shortly). To implement the asymmetric analysis, on the other hand, we would need to first find evidence for only one case being interpretable, and then we would need to assess whether this analysis makes any incorrect empirical predictions.

I will present arguments below for an asymmetric analysis, specifically one in which instrumental case is interpretable and accusative case is uninterpretable. The adoption of an asymmetrical analysis is the second claim of the Initiating Subevent Theory, and is stated in (149).

(149) ***Initiating Subevent Theory, Claim-II*:**

Instrumental case (=*s*) is interpretable, while accusative case (=*x̌*) is uninterpretable.

In fact, we have already encountered the evidence which will turn out to favour the asymmetric analysis in (148) — specifically, data involving the dummy root *ʔəx̌-* from Section 3.4, which are repeated in (150)-(154) for convenience. These data illustrate the interpretive possibilities for monotransitive predicates formed with dummy *ʔəx̌-*, which are summarized in Table 4.2.

[19] Recall that I will eventually propose is interpreted by the grammar is not instrumental case itself, but the syntactic head which is responsible for instrumental case assignment — a proposal which I discuss in Chapter 6, Section 6.4.2. To simplify exposition however, I simply refer to instrumental case as an 'interpretable' case and accusative case as an 'uninterpretable' case.

Case frame	Possible interpretations
ʔəx̌- + INST	'use something', 'wear something'
ʔəx̌- + ACC	'use something', 'wear something', 'take something', 'obtain something', 'do to something'

Table 4.2: Possible interpretations of monotransitive bare *ʔəx̌-* predicates

(150) USE (something): *=s* (VF), *=x̌* (JF)

Context: Everybody knew that Eddie wanted an axe for Christmas, and he got two — one red, and one black. He's outside chopping wood, and I ask you which one he's using. You tell me:

a. ʔəx̌əloǩ Eddiyəx̌**sis ƛ̓ax̌ʷstu subayu**
ʔəx̌-la =oǩ Eddie=x̌ **=s=is** **ƛ̓ax̌ʷstu** **subayu**
DO-CONT =3MED Eddie=VIS **=INST=3REFL.POSS** **red.colour** **axe**
'Eddie's using **his red axe** (INST).' (VF)

b. ʔəx̌əloǩ Eddiyə**x̌is ƛ̓ax̌ʷstu subayu**
ʔəx̌-la =oǩ Eddie=x̌ **=x̌=is** **ƛ̓ax̌ʷstu** **subayu**
DO-CONT =3MED Eddie=VIS **=ACC=3REFL.POSS** **red.colour** **axe**
'Eddie's using **his red axe** (ACC).' (JF)

(151) WEAR (something): *=s* (VF), *=x̌* (JF)

Context: It's picture day, so Monica got dressed up nice for school.

a. ʔəx̌əloǩ Monicax̌**sa dzastu q̓ʷəmdzuy̓u**
ʔəx̌-la =oǩ Monica=x̌ **=s=a** **dzastu** **q̓ʷəmdzuy̓u**
DO-CONT =3MED Monica=ACC **=INST=DET** **blue.colour** **dress**
'Monica's wearing **a blue dress** (INST).' (VF)

b. ʔəx̌əloǩ Monicax̌**a dzastu q̓ʷəmdzuy̓u**
ʔəx̌-la =oǩ Monica=x̌ **=x̌=a** **dzastu** **q̓ʷəmdzuy̓u**
DO-CONT =3MED Monica=ACC **=ACC=DET** **blue.colour** **dress**
'Monica's wearing **a blue dress** (ACC).' (JF)

(152) TAKE (something): # =*s* (JF), =*x̌* (VF)

Context: Shelly has a throat infection and needs to take medicine every morning.

a. # ʔəx̌ʔidi Shelliyə**sis pəṫeʔ** ğəʔalaxdeʔ
ʔəx̌-xʔid =i Shelly **=s=is** **pəṫ=eʔ**
DO-BEC =3DIST Shelly **=INST=3REFL.POSS** **medicate=NMZ**
ğəʔala-xd=eʔ
morning-R.PST=INVIS
Intended: 'Shelly took **her medicine** (**INST**) this morning.' (JF)

b. ʔəx̌ʔidi Shelliyə**x̌is pəṫeʔ** ğəʔalaxdeʔ
ʔəx̌-xʔid =i Shelly **=x̌=is** **pəṫ=eʔ**
DO-BEC =3DIST Shelly **=ACC=3REFL.POSS** **medicate=NMZ**
ğəʔala-xd=eʔ
morning-R.PST=INVIS
'Shelly took **her medicine** (**ACC**) this morning.' (VF)

(153) OBTAIN (something): # =*s* (JF), =*x̌* (VF)

Context: Eddie sees a box by the side of the road, labelled "free stuff". He goes over and finds some new pants!

a. # ʔəx̌ʔidi Eddiyə**sa dzəmba**
ʔəx̌-xʔid =i Eddie **=s=a** **dzəmba**
DO-BEC =3DIST Eddie **=INST=DET** **jeans**
Intended: 'Eddie got **a pair of jeans** (**INST**).' (JF)

b. ʔəx̌ʔidi Eddiyə**x̌a dzəmba**
ʔəx̌-xʔid =i Eddie **=x̌=a** **dzəmba**
DO-BEC =3DIST Eddie **=ACC=DET** **jeans**
'Eddie got **a pair of jeans** (**ACC**).' (VF)

(154) DO-TO (something): # =*s* (JF), =*x̌* (VF)

Context: I planted a bunch of flowers by the road, and they're just starting to bloom. One day I look out my window and I see a strange man standing by my flowers and picking at them. I try to see what he's doing to them, but I can't tell.

a. # ʔəx̌ʔidox̌da bəgʷanəma**sən pəlawas**
ʔəx̌-xʔid =ox̌=da bəgʷanəm **=s=ən** **pəlawas**
DO-BEC =3MED=OST man **=INST=1POSS** **flower**
Intended: 'The man is doing something to **my flowers** (**INST**).' (JF)

b. ʔəx̌ʔidox̌da bəg^{w}anəma**x̌ən pəlawas**

ʔəx̌-xʔid	=ox̌=da	bəg^{w}anəm	**=x̌=ən**	**pəlawas**
DO-BEC	=3MED=OST	man	**=ACC=1POSS**	**flower**

'The man is doing something to **my flowers** (ACC).' (VF)

Recall that since *ʔəx̌-* contributes no entailments of its own, any constraints on the interpretation of bare *ʔəx̌-* predicates we see must be added by object case, given that case is the only thing which differentiates the sentence pairs in (150)-(154). Table 4.2 shows that the range of possible interpretations of bare *ʔəx̌-* predicates containing instrumental (*=s*) objects is a subset of the range of possible interpretations of bare *ʔəx̌-* predicates containing accusative (*=x̌*) objects. To assess the significance of this pattern, I will first walk through how it can be accounted for by an asymmetric analysis. Following this, I'll explain why a symmetric analysis runs into problems accounting for the data.

First, let's consider how an asymmetric analysis explains the pattern in Table 4.2. On an asymmetric analysis, the reason that bare *ʔəx̌-* predicates with instrumental objects have only two possible interpretations is that these are the only interpretations within the set of five that are consistent with the semantic value added by instrumental (*=s*) case. In other words, these are the only possible interpretations of bare *ʔəx̌-* predicates out of the five listed in Table 4.2 in which the internal argument qualifies as a *Co-initiator*. On the other hand, the reason that bare *ʔəx̌-* predicates with accusative objects (*=x̌*) can receive any interpretation out of the five listed in Table 4.2 is that accusative case (*=x̌*) doesn't add any semantic value. In other words, bare *ʔəx̌-* predicates are semantically restricted when an instrumental object is present, while *ʔəx̌-* predicates are not semantically restricted at all when an accusative object is present. In short, the subset pattern in Table 4.2 is exactly what we'd expect on an analysis in which semantic value is asymmetrically distributed and verbal entailments are factored out.

Now, let's consider how a symmetric analysis fares. To begin with, the symmetric analysis is able to account for much of the data in Table 4.2. Namely, the fact that *ʔəx̌-* predicates with the interpretations 'take (something)', 'obtain (something)', and 'do-to (something)' require an accusative object is straightforward on a symmetric analysis, since the internal argument of these predicates is a clear *Non-initiator*. The specific problem that a symmetric analysis faces is in explaining why the internal argument in 'using' events and 'wearing' events can appear in accusative case. In order to understand the problem in some depth, I'll walk through how it arises with respect to 'using' and 'wearing' interpretations separately.

Let's start with 'using' events. The internal argument in a 'using' event satisfies (at least) the condition *dependent cause*, making it an obvious *Co-initiator*. However, its status as a *Non-initiator* is far less clear. Does something that's 'used' undergo causally-induced change? Not obviously. At best, it might undergo non-scalar change in tandem with the *Initiator*, but its not obvious why this should qualify as causally-induced change.[20] Does the internal argument in a 'using' event define the event's final bound, by measuring out the event? No.[21] Does the internal argument in a 'using' event come into the possession of the *Initiator* by an event's final bound? No. In short, the internal argument in a 'using' event doesn't seem to qualify as a

[20] For example: if the *Initiator* is wielding a hammer, the *Initiator's* arm and the hammer undergo motion in tandem. On the differences between scalar and non-scalar change see, for instance, Rappaport Hovav & Levin 2010: p. 28-33.

[21] In English, the internal argument of 'use up' does meet this criteria. However, I have not observed any *ʔəx̌-* predicate with this interpretation.

Non-initiator, and yet on the symmetric analysis, an argument should only take accusative case if it *does* qualify as a *Non-initiator*. This means that the data in (150) are problematic for the symmetric analysis.

The same line of reasoning can be applied in relation to 'wearing' events expressed with *ʔəx̌-*. In an event in which someone 'wears a dress', the fact that the dress is 'with' the *Initiator* makes this argument satisfy at least one of the *Co-initiator* Conditions *initial bound* or *possession* (*initial bound*), thereby qualifying it as a *Co-initiator*. Again however, the status of this argument as a *Non-initiator* is far less clear. Does something that's being worn undergo causally-induced change? No. Does it define the event's final bound? No. Does it come into the possession of the *Initiator* by the event's final bound? No.[22] Once again, we have a situation where an internal argument does not qualify as a *Non-initiator*, and yet it is able to appear in accusative case (B). On the symmetric analysis where accusative adds semantic value, all accusative-marked arguments are necessarily *Non-initiators*. The data in (151) therefore pose a problem for the symmetric analysis.

The data in (150)-(151) therefore generate problems for a symmetric analysis. On the other hand, they are easily explained on an asymmetric analysis, since on the asymmetric analysis accusative case does not add any semantic value to these predicates. On this basis, I conclude that we should adopt an asymmetric analysis. In addition, it's worth pointing out that the asymmetric analysis is favourable from the perspective of Occam's Razor, since a two-object case system with one interpretable case is simpler than a two-object system with two interpretable cases. A third point in the asymmetrical analysis' favour is the fact that there exists at least one other language with a two-object system that is similarly asymmetrical — namely, Finnish. In Chapter 6 I will return to this topic and argue that the object case system in Kʷakʷala is in fact the mirror opposite of the one in Finnish.

In anticipation of the syntactic analysis of instrumental case assignment I will propose in Chapter 6, Section 6.4.2, I will simply assume the existence of a syntactic head here — call it $F_{[inst]}$ — which is responsible for assigning instrumental case, along with a semantic interpretation, to the argument appearing in its specifier. The semantics associated with $F_{[inst]}$ is stated in (155).[23]

(155) $[\![F_{[inst]}]\!] = \lambda R_{<e,vt>}.\lambda x_{e}.\lambda e_{v}.R(x)(e) = 1$ & x is *Co-initiator* of e

This $F_{[inst]}$ head denotes a function which takes a relation between individuals and events, an individual, and an event, and relates the individual to the event in such a way that it is interpreted as the event's *Co-initiator.* The *Co-initiator* predicate in (155) is analyzed in (156), where it is shown to relate an individual to an event so that the individual is interpreted as a participant in the event's *initiating* subevent in one of the senses discussed in Section 4.2.3.

(156) $\lambda x_{e}.\lambda e_{v}.x$ is *Co-initiator* of e
= (x is a dependent cause of e) ∨ (x defines the initial bound of e) ∨ (x is in the possession of an *Initiator* at the initial bound of e)

[22] Note that the way I've defined *possession* (*final bound*) is crucial here. In particular, I've assumed that to satisfy this semantic condition, an argument cannot have been possessed at the initial bound of the event.
[23] The compositional semantic analysis in (155) is illustrated with respect to an example in Chapter 6, Section 6.4.2.

Note that the specific interpretation any given *Co-initiator* receives relative to a specific event will be determined, ultimately, by the content contributed by the verb together with information provided in context and real world knowledge.

Accusative case, in contrast to instrumental case, is not associated with a semantic interpretation. This means that the concept of *Non-initiator*-hood, while still a useful cluster concept for predicting the distribution of object case, is not a grammaticalized notion in Kʷakʷala.

4.4 The role of syntactic features

The assumption that accusative case is uninterpretable generates a problem for our theory in its current stage of development. Specifically, the theory now runs into problems accounting for the coexistence of strict-instrumental (*=s*) and alternating {*=s*, *=x̌*} relations in the grammar.

To understand the problem, consider the verb *bəw-* 'leave', which is an example of a verb in Kʷakʷala that takes a strict-instrumental argument (157). Instrumental case is semantically interpretable in our system, though with verbs like *bəw-*, the semantic value of instrumental case is redundant with respect to lexical entailments of the verb. Since there is no real semantic necessity for instrumental case in sentences like (157a), and since accusative case doesn't add semantic value, we might predict accusative case should be possible in these environments as well. More specifically, in a system where accusative case is uninterpretable, we need some way of explaining why sentences like (157b) are ruled out.

(157) *Context: Mabel left her husband.*

a. bəwuxsis ɬaẇanəm
   bəw =ux =s=is ɬaẇanəm
   leave =3MED =INST=3REFL.POSS husband
   'She left her husband (INST).' (VF)

b. * bəwuxx̌is ɬaẇanəm
   bəw =ux =x̌=is ɬaẇanəm
   leave =3MED =ACC=3REFL.POSS husband
   'She left her husband (ACC).' (JF)

   Speaker: "*bəwux̌ x̌is*...? *ḵi.*" ['No.']

The assumption that accusative case is meaningless seems to undermine the potential for a purely semantic explanation of strict-instrumental (*=s*) relations. In a system where accusative case is uninterpretable, how do we explain why accusative case isn't possible in examples like (157b)?

A possible semantic solution to this problem is to appeal to a principle like Maximize Interpretability (Kratzer 2004). This principle states that whenever the semantic conditions are met for using an interpretable case, an interpretable case must be used; elsewhere, an uninterpretable case may be used. Since the internal argument of a verb like *bəw-* will always satisfy the semantic conditions for being marked with instrumental case, this principle would succeed in guaranteeing that this argument is strict-instrumental. Assuming Maximize

Interpretability would therefore solve the problem as outlined, while also maintaining a purely semantic theory of object case distribution.

However, adopting Maximize Interpretability would also generate a new, very serious, problem for the theory as it stands. This is because whenever the Alternation Condition is met, Maximize Interpretability would force the grammar to choose instrumental case over accusative. This, in turn, would prevent accusative from ever being realized in environments where the Alternation Condition is met, making case alternation impossible in examples like (158), with *ǧiǐʷ-* 'hang'. This prediction goes against the data in (158b), as well as many similar data presented elsewhere.

(158) a. ǧiǐʷʔidi Mabel**sa nəxʷəneʔ** laǐa ǧiǐʷdəṅa

ǧiǐʷ-xʔid	=i	Mabel	**=s=a**	**nəxʷ-(k̓)ən=eʔ**
hang-BEC	=3DIST	Mabel	**=INST=DET**	**wrap-body=NMZ**
la	=ǐ=a	ǧiǐʷdəṅa		
PREP	=ACC=DET	clothesline		

'Mabel hung up **a blanket** (INST) on a clothesline.' (VF)

b. ǧiǐʷʔidi Mabel**ǐa nəxʷəneʔ** laǐa ǧiǐʷdəṅa

ǧiǐʷ-xʔid	=i	Mabel	**=ǐ=a**	**nəxʷ-(k̓)ən=eʔ**
hang-BEC	=3DIST	Mabel	**=ACC=DET**	**wrap-body=NMZ**
la	=ǐ=a	ǧiǐʷdəṅa		
PREP	=ACC=DET	clothesline		

'Mabel hung up **a blanket** (ACC) on a clothesline.' (JF)

In short, if we adopt Maximize Interpretability, the data in (157b) is successfully ruled out, but the possibility of (158b) now requires explanation.

In fact, assuming Maximize Interpretability runs into another empirical difficulty, namely a difficulty in trying to account for the data involving bare *ʔəǐ-* predicates discussed in Sections 3.4 and 4.3. Recall that in monotransitive bare *ʔəǐ-* predicates, *ʔəǐ-* contributes no entailments of its own, so any semantic constraints on the interpretation of the predicate must be added by case. The problem here is that either object case can appear in *ʔəǐ-* predicates interpreted as 'using' and 'wearing' events; yet since only instrumental case is interpretable, Maximize Interpretability predicts that only instrumental case should be possible in these environments. Once again, adopting Maximize Interpretability makes a prediction which goes against the empirical evidence.

Since Maximize Interpretability makes the wrong empirical predictions, it must be rejected. The original problem therefore remains, which is how to account for the ungrammaticality of (157b) in a system where accusative case is uninterpretable.

In order to guarantee the existence of strict-instrumental (=*s*) relations, what is required is that certain verbs in Kʷak̓ʷala — namely, those verbs which take strict-instrumental objects — possess a syntactic feature which forces these verbs to take only instrumental objects. To implement this syntactic analysis, I will assume that verbs with strict-instrumental case relations like *bəw-* 'leave' possess a syntactic feature, call it [inst], which forces the verb to appear in the complement of $F_{[inst]}$ whenever its internal argument is expressed.[24] Note that verbs which take

[24] Alternatively, this syntactic analysis could be implemented by assuming that verbs like *bəw-* 'leave' assign lexical instrumental case to the internal argument in their complement. On this alternative analysis, the presence of $F_{[inst]}$

alternating objects, like *ǧix̌*^{w}- 'hang', must lack [inst] features, since their presence would prevent case alternation from ever occurring. In conclusion, a semantic theory is not sufficient, on its own, to account for the grammatical distribution of object case in K^{w}ak̓^{w}ala. In order to enable strict-instrumental relations to exist in a system where accusative case is meaningless, some syntactic stipulation is necessary.

Note that despite of the need for syntactic features to account for strict-instrumental case relations, it's still true that the distribution of object case in K^{w}ak̓^{w}ala can be described in broadly semantic terms. The generalization still holds, for instance, that arguments which satisfy one or more conditions for being *Co-initiators* are realized as instrumental objects, that arguments which satisfy one or more conditions for being *Non-initiators* are realized as accusative objects, and that arguments which realize both event roles undergo case alternation. Even for a child acquiring K^{w}ak̓^{w}ala, nothing precludes the acquisition of [inst] features on verbs with strict-instrumental relations from being a semantically-driven process. Verbs with strict-instrumental arguments describe events which are inherently co-initiated; a child acquiring K^{w}ak̓^{w}ala encodes this semantic generalization in terms of a formal property in the syntax, but this does not, thereby, undermine the semantic generalization that instrumental case marks *Co-initiators*.[25] In conclusion, while the K^{w}ak̓^{w}ala's object case system can be described generally in terms of semantic notions, the grammatical implementation of this system requires more than just these semantic notions. Syntactic case features play a role as well.[26]

4.5 Conclusion

To conclude this chapter, I'll begin by providing a concise outline of the Initiating Subevent Theory to serve as a reference (Section 4.5.1). Following this, I'll take a moment to reflect on the evolution of ideas surrounding K^{w}ak̓^{w}ala's object cases and how advances in linguistic theory have made the development of a semantic theory of case in this language possible.

4.5.1 Chapter summary

The aim of this chapter has been to develop a semantic theory of object case in K^{w}ak̓^{w}ala which accounts for the distribution of strict-instrumental, strict-accusative, and alternating relations in the language, and also explains the data we've seen in previous chapters. With this goal in mind, I developed a theory called the Initiating Subevent Theory, which centres on two claims.

The first claim of the theory concerns about the grounding of object case distinctions in subevental structure. Specifically, instrumental case marks internal arguments which participate in *initiating* subevents (*Co-initiators*), while accusative case marks internal arguments which

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with verbs like *bəw*- 'leave' would be optional, since the meaning it adds would be redundant. This analysis is empirically equivalent to the one I adopt. I favour the other analysis only because it is more similar to Kratzer's (2004) analysis of accusative case in Finnish, which my syntactic analysis of instrumental case in K^{w}ak̓^{w}ala is modelled after.

[25] In Chapter 6, I will argue that K^{w}ak̓^{w}ala and Finnish possess object case systems which are semantic mirror images of each other. It is worth pointing out that the existence of inherently co-initiated verbs in K^{w}ak̓^{w}ala (which obligatorily take instrumental objects) has a direct analogue in Finnish: namely, the existence of inherently telic verbs which obligatorily take accusative objects.

[26] In Chapter 7, I will present some preliminary evidence that pragmatics also plays a role, specifically in terms of case choice in alternating environments.

participate in *non-initiating* subevents (*Non-initators*). These correspondences are summarized in (159).

(159)

Event role	**Semantic description**	**Syntactic realization**
Co-initiator	participant in *initiating* subevent	*=s* object
Non-initiator	participant in *non-initiating* subevent	*=x̌* object

To participate in a subevent, its not enough for an argument to merely exist in that subevent; instead, it must define the subevent in some significant way. To clarify what this means, I proposed an analysis of what it means to participate a subevent by outlining three semantic conditions which can be used to determine whether an internal argument is a *Co-initiator* or a *Non-initiator*. These semantic conditions were inspired by causal and aspectual frameworks for conceptualizing event structure, and also utilized the notion of possession; they are summarized in Table 4.1, repeated from Section 4.2.3.

***Co-initiator* Conditions**	***Non-initiator* Conditions**
i. ***dependent cause***: The argument is a means by which an *Initiator* instigates an event ii. ***initial bound***: The argument's existence or presence with an *Initiator* delimits the initial bound of the event iii. ***possession* (*initial bound*)**: The argument is possessed by an *Initiator* at the initial bound of the event	i. ***change***: The argument undergoes some causally-induced change ii. ***final bound***: The argument's existence or presence delimits the final bound of the event iii. ***possession* (*final bound*)**: The argument comes to be possessed by the *Initiator* at the final bound of the event

Table 4.1: Semantic conditions for identifying *Co-initiators* and *Non-initiators*

Arguments which undergo case alternation turn out to be precisely those arguments which simultaneously meet the semantic conditions for being both a *Co-initiator* and a *Non-initiator*. This was stated as the Alternation Condition in (139).

(139) ***Alternation Condition*:**
An argument which satisfies the conditions for being both a *Co-initiator* and a *Non-initiator* may appear in either instrumental (*=s*) or accusative (*=x̌*) case.

Having established the semantic grounding of object case distinctions, I then moved on to consider the second claim of the Initiating Subevent Theory, concerning the distribution of semantic value within the system. On the basis of data involving monotransitive bare *ʔəx̌*-predicates, I argued that semantic value is distributed asymmetrically. While instrumental case is interpretable, accusative case is an uninterpretable default. The semantic value of instrumental case is interpreted on the head $F_{[inst]}$ as shown in (155); the specific semantic value of *Co-initiator*-hood is presented in (156).

(155) $[\![F_{[inst]}]\!] = \lambda R_{<e,vt>}.\lambda x_e.\lambda e_v.R(x)(e) = 1$ & x is *Co-initiator* of e

(156) $\lambda x_e.\lambda e_v.x$ is *Co-initiator* of e
= (x is a dependent cause of e) ∨ (x defines the initial bound of e) ∨ (x is in the possession of an *Initiator* at the initial bound of e)

Finally, I discussed how the assumption that accusative case is meaningless generates a problem for a purely semantic theory which is that it cannot, on its own, guarantee the existence of strict-instrumental relations. I proposed a syntactic solution to this problem, in which strict-instrumental relations are enforced by the presence of syntactic features on verbs with strict-instrumental relations. This results in a system where strict-instrumental, strict-accusative, and alternating relations can coexist, and in which syntactic stipulation plays a small role in addition to semantics.

4.5.2 Revisiting Boas' Puzzle

With a semantic theory of Kʷakʼʷala object case in place, its worth taking a moment to revisit the history of scholarship on this language to reflect on how we got here. Recall that in Chapter 1, Section 1.3.1, I showed that Boas (1911, 1947) was puzzled by the distribution of instrumental case. He observed that while *=s* clearly functioned to mark semantic Instruments, it also marked many arguments that were more 'object-like', in the canonical sense. To Boas, this wider-than-expected distribution of instrumental case signalled an underlying difference in the way events are conceptualized. In particular, he imagined Kʷakʼʷala speakers to have a much broader conception of what an Instrument is than would seem obvious to a speaker of a Germanic language. For this reason, what counted as an Instrument to the Kʷakʼʷala speaker remained an impenetrable puzzle for Boas. This puzzle was subsequently inherited by scholars who read his works, and has remained unsolved until the present day. Now however, with a coherent semantic theory of object case in place, we're well positioned to reflect on why object case was puzzling in the first place and why the evolution of ideas on this topic matters.

There seem to be two primary reasons why the semantic factors underlying object case distribution in Kʷakʼʷala were obscure for Boas, and have only come to light in the present day: one reason is empirical and the other is theoretical. The empirical reason was mentioned earlier (in Chapter 1, Section 1.3.2), and that is that instrumental-accusative case alternation appears to have been far less obvious in Boas' era (or at least, that is what his grammars in 1900, 1911, 1947 would lead us to believe). This contrasts with what we see in the modern language, where case alternation is common and constraints on case alternation provide some of the most compelling clues available to us regarding the meaning of object case. Boas seems, therefore, to have lacked an important source of evidence for the semantic basis of object case distinctions. In light of this, its worth acknowledging that Boas' intuition about certain *=s* objects semantically resembling *=ǎ* objects (e.g Boas 1947: p. 285) was clearly ahead of its time, since in the modern language, it is these same *=s* objects which can be alternatively expressed as *=ǎ* objects. However, the fact that Boas didn't discuss case alternation in his grammars (1900, 1911, 1947) made this phenomenon easy to miss in subsequent Kʷakʼʷala research. The empirical discovery of case alternation, brought to light in the present work, was then a necessary precursor for the development of a semantic theory of object case.

The second reason that the semantic basis of object case distinctions has only recently come to light is that the conceptual apparatus for making sense of the difference between *Co-initiators* and *Non-initiators* was only recently developed; as such, the semantic distinctions relevant for distinguishing *=s* and *=x̌* objects would not have been easy to conceptualize for researchers working in earlier theoretical frameworks. In particular, Boas and his contemporaries (in the late 19th, early 20th century) didn't have at their disposal concepts like that of an event, event structure, subevent, or event role. The idea that events can be divided into parts, and that these parts are relevant for describing linguistic generalizations, doesn't appear in the literature until decades after Boas' death (in 1942). Its worth taking a moment to appreciate, then, how recent developments in linguistic theory have made it possible to state a coherent semantic theory of object case in Kʷakʷala.

This observation is important because it provides a clear example of how advances in linguistic theory can enrich our efforts to document languages. By providing the concepts needed to make observations about object case precise, linguistic theory has played an essential role in making Kʷakʷala's object case system something that can be comprehended, argued over, written about, and ultimately taught to the next generation of speakers.

5
Case Alternation and Event Structure Modification

5.1 Introduction

In most of the data we've come across in previous chapters, the semantic contribution of object case has been redundant with respect to entailments contributed by the verb. In other words, internal arguments which qualify as *Co-initiators* on the basis of verbal entailments are marked with instrumental (=*s*) case, while internal arguments which qualify as *Non-initiators* on the basis of verbal entailments are marked with accusative (=*x̌*) case. With data of this sort, we can't actually tell whether object case possibilities are determined by event structure, or by the meaning of the verbs involved. Thus while this data is *consistent* with an event-structural theory, it's also consistent with a theory in which object case possibilities are determined by verb meaning alone.

To establish an association between object case possibilities and event structure, we need to look at data which shows that case marking is constrained by event structure, and not by the content of particular verbs. One example of such evidence was already discussed in Sections 3.4 and 4.3; here I showed that in transitive predicates headed by weak verbs, case marking on objects is tied to the difference between *initiating* and *non-initiating* subevents, as predicted by an event-structural theory.

In this chapter, I'll provide additional evidence to support the claim that object case distinctions are determined by distinctions in event structure, rather than by verb meaning alone. In particular, I'll show that when event descriptions are modified, the object case-marking possibilities relative to these events shift accordingly. Crucially, we'll see that it is possible, via event structure modification, to license object case in ways that are unexpected given the meaning of the verbs involved. Case licensing of this sort clearly demonstrates the separability of event structure from verb meaning and shows that object case is specifically sensitive to distinctions in event structure.

The rest of the chapter is organized into four sections, as follows.

- In Section 5.2, I discuss how internal arguments which we would expect to be strict-accusative (=*x̌*) on the basis of verbal semantics acquire the ability to be marked instrumental (=*s*) in contexts where they are directly manipulated by the *Initiator*. This phenomenon is referred to as the **Direct Manipulation Alternation**.

- In Section 5.3, I discuss case marking on internal arguments in constructions denoting caused motion in a direction. I show that when a verbal predicate is modified by a path-denoting PP, an internal argument acquires the ability to undergo case alternation, even when we would not expect this given the meaning of the verb involved. This phenomenon is referred to as the **Caused Motion Alternation**.

- In Section 5.4, I discuss case marking in the context of semantic incorporation of with *-(g)ila* 'make'. I show that while *-(g)ila* predicates formed using the dummy root *ʔəx̌-* take a strict-accusative (=*x̌*) internal argument, the argument acquires the ability to

undergo case alternation when *-(g)ila* incorporates a nominal stem. I argue that this comes about because semantic incorporation derives predicates denoting properties of events having to do with the simultaneous expression and creation of an object.

- Finally, in Section 5.5 I summarize the findings of the previous three sections, and reiterate how they provide support for the Initiating Subevent Theory of object case. I also comment on the separability of event-structural meaning from verb meaning.

By the end of this chapter, the reader will be familiar with three new types of empirical evidence for the event-structural basis of object case marking in this language.

5.2 The Direct Manipulation Alternation

In a canonical event involving a thematic Agent, Instrument, and Patient, these three semantic arguments instantiate three separate event roles, as schematized in (159) (where the symbol '|' indicates linking).

(159)

Event role:	*Initiator*	*Co-initiator*	*Non-initiator*
	|	|	|
Syntax:	Subject	=*s* object	=*x̌* object

Interpretation: *x* utilizes *y* to bring about some change in *z*
(*x* is an *Initiator*; *y* a *Co-initiator*; *z* is a *Non-initiator*)

In this section, I'll discuss events which are identical to the ones in (159) in terms of the number and type of semantic categories involved, but which differ in their number of expressed arguments. In particular, these events are ones in which the same internal argument which undergoes change (i.e. the Patient) is also directly manipulated by the *Initiator* in the course of the event. We'll see that being direct manipulated by an *Initiator* qualifies an argument as a *Co-initiator*. Therefore, in terms of event structure, the events in question are ones in which the same individual functions simultaneously as the event's *Co-initiator* and its *Non-initiator*, as schematized in (160).

(160)

Event role:	*Initiator*	*Co-initiator/Non-initiator*
	|	|
Syntax:	Subject	=*s* object/=*x̌* object

Interpretation: *x* manipulates *y* to bring about some change in *y*
(*x* is an *Initiator*; *y* is both a *Co-initiator* and a *Non-initiator*)

Instances of case alternation which fit the pattern in (160) will be referred to as instances of the **Direct Manipulation Alternation**.

In Section 5.2.1, I'll discuss cases where the Direct Manipulation Alternation is licensed by verbal entailments. Then in Section 5.2.2, I'll show that the Direct Manipulation Alternation can also be licensed independently of verb meaning by the presence of contextual information.

5.2.1 Licensing the Direct Manipulation Alternation by lexical entailments

There are at least two classes of verbs in Kʷaḵʷala which license the Direct Manipulation Alternation via lexical entailments: the Manipulation/Change Verbs, and the Stir/Tow Verbs.[1]

Manipulation/Change Verbs entail that their single internal argument is both directly manipulated by the *Initiator* and undergoes some change in configuration. Three examples of verbs with this property are *mukʷ-* 'tie' (161), *ḵuǩʷ-* 'fold' (162), and *qəs-* 'wind, coil' (163).

(161) mukʷuǩ Simon{**sa**, **ǩa**} **dənəm**

mukʷ	=uǩ	Simon	{**=s=a**	, **=ǩ=a**}
tie	=3MED	Simon	{**=INST=DET**	, **=ACC=DET**}

dənəm
rope

'Simon tied **the rope** {INST, ACC}.' (VF, VF)

(162) ḵuǩʷən{**sada**, **ǩada**} **maḿa**

ḵuǩʷ	=ən	{**=s=a=da**	, **=ǩ=a=da**}
fold	=1	{**=INST=DET=OST**	, **=ACC=DET=OST**}

maḿa
blanket

'I'm folding **blankets** {INST, ACC}.' (JF, VF)

(163) qəsida bəgʷanəme{**sa**, **ǩa**} **dənəm**

qəs	=i=da	bəgʷanəm	{**=s=a**	, **=ǩ=a**}
coil/wind	=3DIST=OST	man	{**=INST=DET**	, **=ACC=DET**}

dənəm
rope

'The man is coiling/winding **rope** {INST, ACC}.' (VF, VF)

The fact that these arguments are directly manipulated qualifies them as *Co-initiators*. In particular, the rope in (161), the blanket in (162), and the rope in (163) serve as the means by which the *Initiator* instigates the events in question, allowing them to satisfy the *Co-initiator* condition *dependent cause*. The fact that these arguments also undergo a change in configuration allows them to satisfy the *Non-initiator* condition *change*. These arguments thereby satisfy the Alternation Condition and undergo case alternation.[2]

The second class of verbs which license the Direct Manipulation Alternation via entailments are the Stir/Tow Verbs, which take two internal arguments: an Instrument and a Patient. The defining property of these verbs is that they describe events in which the Instrument and Patient are spatially contiguous, which results in them both undergoing the exact same caused motion, in tandem. Take for instance the verb *dap-* 'tow', which is used in (164) to

[1] Another class of verbs which we might expect to license the Direct Manipulation Alternation via entailments is verbs naming voluntary bodily motions. I've come across one such, *saxʔid* 'reach', which does indeed allow its internal argument *ʔəy̓əsu* 'hand/arm' to be realized in either instrumental or accusative case, but other members of this class require further research. Related to this, Russian possesses a small set of movement verbs (e.g. *dvigat'* 'move') which take complements in the accusative unless the complement denotes the subject's own body part, in which case instrumental case appears instead (Tretiak 2013: p. 37-51).

[2] While it is technically possible to explicitly mention the part of the *Initiator*'s body that is used to manipulate the internal argument of these verbs (e.g. *=sis ʔəy̓əʔsu* 'with their hands'), speakers typically find it pragmatically odd to do so on account of these being implicit arguments (Williams 2015: p. 94-116). I will return to briefly discuss how this relates to pragmatic constraints on realizing instrumental case in the Direct Manipulation Alternation in Chapter 7, Section 7.3.2.

describe an event where a boy uses rope to tow a (toy) boat through the water. When both the rope and the boat are mentioned, the boat is most naturally expressed as a *Non-initiator*, and the rope as a Means adjunct (164a). However, in cases where only one of these arguments is expressed, the speaker allows the boat to be expressed as either a *Co-initiator* or a *Non-initiator* (164b), and the same goes for the rope (164c).

(164) *Context: Mabel is babysitting Simon, who's playing on the beach. She's watching him tow a toy boat through the water with a piece of rope.*

a. dapaluǰ Simonǰuǰda ʔəmləmǰ kiλaċisida dənəm
dap-la =uǰ Simon **=ǰ=uǰ=da** **ʔəmł-ʷəm=ǰ**
tow-CONT =3MED Simon **=ACC=3MED=OST** **play-NMZ=VIS**
kiλaċi =s=i=da dənəm
fishing.boat =MEANS=3DIST=OST rope
'Simon is towing **the toy fishing boat** (ACC) with a rope.' (VF)

b. dapaluǰ Simonǰ{**suǰda**, **ǰada**} **ʔəmləmǰ kiλaċiyaʔ**
dap-la =uǰ Simon=ǰ {**=s=uǰ=da** , **=ǰ=a=da**}
tow-CONT =3MED Simon=VIS {**=INST=3MED=OST** , **=ACC=DET=OST**}
ʔəmł-ʷəm=ǰ **kiλaċi-a**
play-NMZ=VIS **fishing.boat-A**
'Simon is towing **the toy fishing boat** {INST, ACC}.' (JF, VF)

c. dapaluǰ Simonǰ{**suǰda**, **ǰuǰda**} **dənəmǰ**
dap-la =uǰ Simon=ǰ {**=s=uǰ=da** , **=ǰ=uǰ=da**}
tow-CONT =3MED Simon=VIS {**=INST=3MED=OST** , **=ACC=3MED=OST**}
dənəm=ǰ
rope=VIS
'Simon is towing the **rope** {INST, ACC}.' (VF, JF)

This pattern of alternation also manifests in question-answer pairs involving this verb. In Section 1.2, I mentioned that voice suffixes and object cases are in correspondence. The relevance of that discussion here is that wh-questions targeting *Non-initiators* are formed with the voice suffix *-səẇ*, while wh-questions targeting *Co-initiators* are formed with the voice suffix *-ayu*. The data in (165) show that questions formed with either *-səẇ* (165a) or *-ayu* (165b) are able to target either internal argument in a towing event, as indicated by the possible answers listed below the questions. Though there is a definite bias towards a *-səẇ* question targeting the Patient, and towards an *-ayu* question targeting the Instrument, speakers nevertheless accept either answer for both *-səẇ* and *-ayu* questions. This pattern indicates that both internal arguments in a 'towing' event qualify conceptually as being both *Co-initiators* and *Non-initiators* simultaneously.

(165) Wh-questions and their possible answers, with *dap-* 'tow'

[*Same context as* (164)]

a. ṁasi dapəla**suw̓**we?suǔ Simonǔ
ṁas =i dap-la-**səw̓**=e? =s=uǔ Simon=ǔ
what =3DIST tow-CONT-**ACC.PASS**=NMZ =O.POSS=3MED Simon=VIS
'What is Simon towing (***-səw̓***)?' (VF, JF)
Literally: 'That which is being towed by Simon is what?'

Possible answers: *ʔəmləm kiλaċi* 'toy fishing boat' (preferred), *dənəm* 'rope' (also possible)

b. ṁasi dapəl**ay̓u**we?suǔ Simonǔ
ṁas =i dap-la-**ayu**=e? =s=uǔ Simon=ǔ
what =3DIST tow-CONT-**INST.PASS**=NMZ =O.POSS=3MED Simon=VIS
'What is Simon towing with (***-ayu***)?' (VF, JF)
Literally: 'That which is being towed with by Simon is what?'

Possible answers: *dənəm* 'rope' (preferred)*, ʔəmləm kiλaċi* 'toy fishing boat' (also possible)

Given that Instruments satisfy *dependent cause* and Patients satisfy *change*, the explanation for why the Instrument in a towing event can be marked instrumental (*=s*) and the Patient can be marked accusative (*=ǔ*) is not in question. What is in need of explanation is why the Instrument can be marked accusative, and why the Patient can be marked instrumental. Thinking closely about the meaning of the verb *dap-* 'tow' provides the explanation we're looking for. On the one hand, while only the Instrument in a towing event is in direct contact with the *Initiator*, the Patient is also manipulated by the *Initiator* — albeit somewhat less directly — on account of its being spatially contiguous with the Instrument and thereby undergoing the exact same type of motion as the Instrument undergoes. Apparently, this suffices to qualify the Patient as a *Co-initiator* (albeit not as good of one as the Instrument itself, hence the speaker preferences reference above), which licenses its ability to appear in instrumental case. On the other hand, both the Instrument and the Patient undergo the exact same type of caused motion, a type of change — in a towing event, for instance, they both get 'towed'. This apparently suffices to qualify the Instrument as a *Non-initiator* (albeit not as good of one as the Patient, hence the speaker preferences referenced above), which licenses its ability to appear in accusative case. Note that the same line of reasoning can be applied to describe case patterns in *x̌ʷit-* 'stir' events. The Instrument and the Patient in a stirring event are manipulated directly and in tandem by the *Initiator*, given that they are spatially contiguous; this apparently suffices to license instrumental case on the Patient. On the other hand, both the Instrument and the Patient undergo the same type of caused motion, and therefore change, in the course of getting stirred; this apparently suffices to license accusative case on the Instrument. Note that an analogous alternation in English occurs between the verb phrases 'tow the rope' versus 'tow with the rope' and 'stir the spoon' versus 'stir with the spoon'.

Keep in mind that what is critical for explaining why with Stir/Tow Verbs, both the Instrument and Patient are able to alternate, is that both the Instrument and the Patient of these verbs undergo the *same* type of motion, in tandem. Concomitantly, with verbs that describe events in which the Instrument and Patient don't undergo the same motion, the Patient cannot be marked instrumental. Consider, for instance, the verb *qʷəcəm-* 'peel (something round)' and the sentences in (166). In (166a) the Patient, an orange, is accusative, and in (166b) the Instrument, a fork, is instrumental; examples (166a) and (166c) show that the Patient can be accusative, while (166d) shows it cannot be instrumental — unlike what we saw with Stir/Tow Verbs.

(166) a. qʷəcəmdaluǰ Abby**ǰʷa ʔayəndzisiǰ**sa həm̓ayu
qʷəs-(ğ)əm-xʔid-la =uǰ Abby **=ǰ=ʷ=a**
peel-face-BEC-CONT =3MED Abby **=ACC=3MED=DET**
ʔayəndzis=ǰ =s=a həm̓-$_{w}$ayu
orange=VIS =MEANS=DET eat-INST.PASS
'Abby's peeling **an orange** (ACC) with a fork.' (JF)

b. qʷəcəmdaluǰ Abbyǰ**sa həm̓ayu** laǰʷa ʔayəndzisiǰ
qʷəs-(ğ)əm-xʔid-la =uǰ Abby=ǰ **=s=a**
peel-face-BEC-CONT =3MED Abby=VIS **=INST=DET**
həm̓-$_{w}$ayu la =ǰ=ʷ=a ʔayəndzis=ǰ
eat-INST.PASS PREP =ACC=3MED=DET orange=VIS
'Abby's peeling an orange **with a fork** (INST).' (VF)

c. qʷəcəmdaluǰ Abbiyə**ǰʷa ʔayəndzisiǰ**
qʷəs-(ğ)əm-xʔid-a-la =uǰ Abby **=ǰ=ʷ=a**
peel-face-BEC-A-CONT =3MED Abby **=ACC=3MED=DET**
ʔayəndzis=ǰ
orange=VIS
'Abby's peeling **an orange** (ACC).' (VF)

d. #qʷəcəmdaluǰ Abbi**suǰ ʔayəndzisiǰ**
qʷəs-(ğ)əm-xʔid-a-la =uǰ Abby **=s=uǰ**
peel-face-BEC-A-CONT =3MED Abby **=INST=3MED**
ʔayəndzis=ǰ
orange=VIS
Speaker: "Um, if you were describing what she's USING to — but then you'd just use your hands to peel. If you were describing her using something to peel, then you could use =*suǰ*." (JF)

What makes the event described by *qʷəcəm-* 'peel (something round)' different from Stir/Tow Verbs is that the Patient and Instrument of a 'peeling' event do not necessarily undergo the same caused motion in tandem: rather, the Patient has something removed from it, while the Instrument is manipulated in order to remove the peel.[3]

[3] The reader may find it curious that the Patient in (166d) cannot appear in Instrumental case, given that when someone is peeling an orange with their hands, they are directly manipulating the orange (see Section 5.2.2 for

In summary, because the relevant internal argument of Manipulation/Change Verbs and Stir/Tow Verbs meets the semantic conditions for undergoing the Direct Manipulation on the basis of verbal entailments, the semantic conditions for undergoing case alternation are met in every context of these verbs' use. In the next section we'll see, however, that verbal entailments are not the only means by which the Direct Manipulation Alternation can be licensed.

5.2.2 Licensing the Direct Manipulation Alternation by context

The Direct Manipulation Alternation can be licensed by context, independently of verb meaning. In particular, internal arguments which we would predict to be strict-accusative (*=x̌*) on the basis of verbal semantics are able to appear in either case in contexts where this same argument is directly manipulated by the *Initiator* in the course of the event.

The verb *təp̓id* 'break', for instance, takes an internal argument which undergoes causally-induced change.[4] As we might predict, this argument is normally strict-accusative. This is shown for instance in (167), where in an out-of-the-blue context, the speaker volunteers a transitive sentence with an accusative-marked object (167a). Substituting instrumental (*=s*) for accusative (*=x̌*) in this sentence resulted in the internal argument being interpreted as an Instrument, leading to a judgment of infelicity (167b).

(167) *Context: Out-of-the-blue*.

a. təp̓idi Karen**x̌a k̓ʷəʔsta**
təp-xʔid =i Karen **=x̌=a** **k̓ʷəʔsta**
broken-BEC =3DIST Karen **=ACC=DET** **cup**
'Karen broke **the cup** (ACC).' (VF)

b. # təp̓idi Karen**sa k̓ʷəʔsta**
təp-xʔid =i Karen **=s=a** **k̓ʷəʔsta**
broken-BEC =3DIST Karen **=INST=DET** **cup**
Literally: 'Karen broke with **the cup** (INST).' (JF)

Speaker: "…to translate it… properly into English is, doesn't make sense."
KS: "What would it mean? What would it be — what would the nonsensical translation be?"
Speaker: "If she broke the cup, then you would say, *təp̓idi Karenax̌a kʷəʔsta.*"
KS: "Mhm ['Yes']."
Speaker: "*x̌a* is 'the'."
KS: "Mhm ['Yes']."
Speaker: "Yeah."
KS: "Does *təp̓idi Karensa k̓ʷəʔsta…* Does that mean that she broke WITH a cup?"

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relevant discussion). I will return in Chapter 7, Section 7.3 to briefly discuss pragmatic factors which constrain the Direct Manipulation Alternation; I will bring up this example again there.

[4] In its transitive use, that is. The verb *təp̓id* is derived from an underlyingly stative root, *təp-* 'broken', which becomes an unaccusative when suffixed with *-xʔid* (*təp̓id* 'get broken'). If an external argument is added (via zero-morphology), the verb denotes an externally-caused event (*təp̓id* 'break (something)').

Speaker: "Yeah."
KS: "So like, using it?"
Speaker: "Yeah."
KS: "Okay. So that's weird."
Speaker: "Yeah."

On the other hand, in a context where the internal argument is directly manipulated by the *Initiator*, we find that it can be marked by either instrumental (=*s*) or accusative (=*x̌*) case. This is illustrated with the same verb *təp̓id* 'break' in (168). In this context, where the *Initiator* picks up a cup in her hand, smashes the cup against something, and in doing so breaks the cup, 'cup' can appear in either case, contrary to what we saw in (167) above.

(168) *Context: A woman picked up a cup in her hand and smashed it down on her (clam) digging stick, causing the cup to break.*

təp̓idida c̓ədaqe{**sa, x̌a**} **k̓ʷəʔsta** laǩis dzigayu				
təp-xʔid	=i=da	c̓ədaq	{**=s=a**	, **=x̌=a**}
broken-BEC	=3DIST=OST	woman	{**=INST=DET**	, **=ACC=DET**}
k̓ʷəʔsta	la =x̌=is		dzik-$_{w}$ayu	
cup	PREP =ACC=3REFL.POSS		dig-INST.PASS	

'The woman broke **a cup** {**INST**, **ACC**} on her digging stick.' (VF, VF)

Nothing about the verb's meaning is different in (168); what *is* different is the context. The event is now one in which the same event participant is both directly manipulated by the *Initiator* and undergoes caused change, making it both a *Co-initiator* and a *Non-initiator*. This is an instance of the Direct Manipulation Alternation, though this time it's licensed by context, rather than by verb meaning alone.

Another example in which the Direct Manipulation Alternation is licensed by context is shown below with the verb *yaǩʔid* 'melt'.[5] The context of (169) is one where a man melts some snow over a fire; here, the speaker rejects instrumental (=*s*) marking on the internal argument.

(169) *Context: Ted's camping. So he builds a fire, and he melts some snow over it in a pot to make water for him to drink.*

a. ləm̓is yaǩʔidǩa k̓ʷis qəs naq̓ideʔ

lə=ʔm=is	yaǩ-xʔid	**=x̌=a**	**k̓ʷis**	qa	=is
AUX=VER=and	melt-BEC	**=ACC=DET**	**snow**	PREP	=3REFL.POSS
naq-xʔid=eʔ					
drink-BEC=NMZ					

'Then he melted **some snow** (**ACC**) to drink.' (VF)

[5] The verb *yaǩʔid*, like *təp̓id*, is derived from an underlying stative root, *yaǩ-* 'melted', which becomes an unaccusative when suffixed with *-xʔid* (*yaǩʔid* 'get melted') and becomes an externally-caused event (*yaǩʔid* 'melt (something)') when an external argument is added.

b. # yaǩʔidu**sa k̓ʷis** qəs naq̓ideʔ
yaǩ-xʔid =uǩ **=s=a** **k̓ʷis** qa =is
melt-BEC =3MED **=INST=DET snow** PREP =3REFL.POSS
naq-xʔid=eʔ
drink-BEC=NMZ
Intended: 'He melted **some snow** (**INST**) to drink.' (JF)

However, in a context where the *Initiator* melts ice by holding it in the palm of her hand — in other words, where the argument is directly manipulated by the *Initiator* — the internal argument is now able to appear in either case (170).

(170) *Context: Monica held a piece of ice tight between her palms and melted it.*

yaǩʔidi Monica{**sa**, **ǩa**} **ƛ̓uǩʷ** laǩis ʔiʔəy̓əsu
yaǩ-xʔid =i Monica {**=s=a** **, =ǩ=a**}
melt-BEC =3DIST Monica {**=INST=DET** **, =ACC=DET**}
ƛ̓uǩʷ la =ǩ=is ʔi~ʔəy̓əsu
frozen PREP =ACC=3REFL.POSS REDUP~hand/arm
'Monica melted **the ice** {**INST**, **ACC**} in her hands.' (JF, VF)

Once again, nothing about the meaning of the verb is different in (170) versus (169); what is different is that the event being described is now one in which the verb's internal argument counts as both a *Co-initiator* and a *Non-initiator*. This allows it to alternate.

Two additional examples where the Direct Manipulation Alternation is licensed with verbs we wouldn't expect are shown in (171)-(172).[6] In (171), the internal argument of *kuxʷsʔənd* 'snap in half' undergoes alternation in a context where the *Initiator* snaps it with her hands; in (172), the internal argument of *qʷap̓id* 'rip' undergoes alternation in a context where the *Initiator* rips it with his hands.

(171) *Context: Hope picks up a piece of firewood, holds it in both of her hands, and snaps it in half.*

a. kuxʷsʔəndi Hope**ǩa ləqʷa**
kuxʷ-(x)sʔ-xʔid =i Hope**=ǩ=a** **ləqʷa**
snap-across-BEC =3DIST Hope**=ACC=DET** **firewood**
'Hope snapped **the firewood** (**ACC**) in half.' (VF)

b. kuxʷsʔəndi Hope**sa ləqʷa**
kuxʷ-(x)sʔ-xʔid =i Hope**=s=a** **ləqʷa**
snap-across-BEC =3DIST Hope**=INST=DET** **firewood**
'Hope snapped **the firewood** (**INST**) in half.' (JF)

[6] I have not elicited negative data with these particular verbs showing that the Patient cannot be instrumental in contexts without direct manipulation. Such data is, however, predicted on the basis of the meaning of these verbs.

(172) *Context: Simon had to rip-up some pants to make a costume for a play he's in at school. He doesn't have a tool to use, so he just uses his hands.*

a. q^{w}aṗidi Simone**x̌a dzəmba**
q^{w}ap-xʔid =i Simon **=x̌=a** **dzəmba**
ripped-BEC =3DIST Simon **=ACC=DET** **jeans**
'Simon ripped (**a pair of**) **jeans** (**ACC**).' (VF)

b. q^{w}aṗidi Simone**sa dzəmba**
q^{w}ap-xʔid =i Simon **=s=a** **dzəmba**
ripped-BEC =3DIST Simon **=INST=DET** **jeans**
'Simon ripped (**a pair of**) **jeans** (**INST**).' (JF)

The verbs in these examples, *kux̌^{w}sʔənd* 'snap in half' and *q̓^{w}aṗid* 'rip', are Change Verbs: they entail that their internal argument undergoes causally-induced change, so we expect them to be marked accusative (=*x̌*) on account of their satisfying the *Non-initiator* condition *change*. On the other hand, the fact that this same internal argument can appear in instrumental (=*s*) case can only be explained by referring to the contexts in which these sentences occur. To begin with, the event described in (171) is one in which the firewood is directly manipulated by the *Initiator*. In addition to undergoing *change*, this argument thereby serves, simultaneously, as a means by which the *Initiator* instigates the event, allowing this argument to satisfy the *Co-initiator* condition *dependent cause* in addition to *change*. Analogously, the jeans in (172) undergo direct manipulation in the context mentioned and thereby satisfy *dependent cause*. Since these arguments meet the Alternation Condition in these contexts, they can appear in either case.

In summary, we've seen that arguments which we'd expect to be strict-accusative (=*x̌*) on the basis of verbal entailments are able to undergo case alternation in contexts where the argument is directly manipulated by an *Initiator*.[7] This is because the internal argument in these events has something 'done *with*' it and 'done *to*' it at the same time. The data in this section show that the Direct Manipulation Alternation can be licensed by the presence of contextual information which restricts the type of event being described. More generally, this demonstrates one way in which a change in event structure leads directly to a change in object case-marking potential. This finding thereby supports the claim that object case distinctions are grounded in event structure.

5.3 Caused Motion Alternation

In English, the caused motion construction expresses a relationship between a thematic Agent, a Theme, and a Location, such that the Agent causes the Theme to be in the Location (Goldberg 1995, Levin & Rappaport-Hovav 1995). Since the Location in this construction is interpreted as the endpoint of caused motion, we can also refer to it as a Path. A construction analogous to the one described for English exists in K^{w}ak̓^{w}ala, and is schematized in (173).

[7] I will return to discuss pragmatic constraints on the realization of instrumental case in the Direct Manipulation Alternation in Chapter 7, Section 7.3.2.

(173) **Event role:** *Initiator* — *Co-initiator/Non-initiator* — *Location*

Syntax: Subject — *=s* object/*=x̌* object — *la* phrase

Interpretation: *x* causes *y* to be at *z*
(*x* is an *Initiator*; *y* is a *Co-initiator* and a *Non-initiator*; *z* is a *Location*)

In terms of event roles, the Theme in a caused motion event is simultaneously a *Co-initiator* and *Non-initiator* due to its satisfying both the *Co-initiator* condition *possession* (*initial bound*), and the *Non-initiator* condition *change*. Whenever an argument undergoes case alternation on account of its instantiating the dual *Co-initiator*/*Non-initiator* event role in the schema in (173), I'll say that this argument undergoes the **Caused Motion Alternation**.

In Section 5.3.1, I'll discuss cases where the Caused Motion Alternation is licensed by verbal entailments. Then in Section 5.3.2, I'll show that the Caused Motion Alternation can also be licensed by event modification, in particular by adding a Path-denoting PP which modifies the structure of the event to match the schema in (173).

5.3.1 Licensing the Caused Motion Alternation by lexical entailments

A class of verbs in Kʷak̓ʷala which licenses the Caused Motion Alternation via lexical entailments is the class of Transfer Verbs.[8] These are verbs which entail that an internal argument starts out in the *Initiator*'s possession and is subsequently transferred to the possession of a Recipient. Though the nature of caused motion entailed in events involving Recipients is somewhat more specific than what is schematized in (173), the syntactic frame involved is the same. For this reason, I haven't differentiated verbs which entail transfer to a Location from verbs which entail transfer to a Recipient here.[9] Some examples of Transfer Verbs are *nəp-* 'throw' (174), *laǩ-* 'sell' (175), and *ƛ̓awə̓nt-* 'bestow, give charitably' (176).

(174) nəp̓idida babağʷəme{**sa**, **ǩa**} **siwayu** laǩa c̓ac̓adağəm
nəp-xʔid =i=da babağʷəm {**=s=a** , **=ǩ=a**}
throw-BEC =3DIST=OST little.boy {**=INST=DET** , **=ACC=DET**}
siǩ-ʷayu la =ǩ=a c̓ac̓adağəm
paddle-INST.PASS PREP =ACC=DET little.girl
'The little boy is throwing/threw **a paddle** {**INST**, **ACC**} at/to the little girl.' (VF, JF)

[8] Communication Verbs also license the Caused Motion Alternation on the assumption that they are metaphorically extended from Transfer Verbs (Lakoff & Johnson 1980: p. 10-13). I leave the topic of metaphorical extensions of the caused motion construction in (173) to future research.

[9] Verbs like *nəp-* 'throw' and *həłaǩs-* 'send' can occur either with a Location or Recipient, while verbs of Giving (e.g. *c̓o* 'give', *yaqʷ-* 'give in Potlatch') can only take a Recipient. Transfer Verbs with Recipient internal arguments can occur in two syntactic frames: the one shown here, and one in which the Recipient is realized as an accusative (*=ǩ*) object and the Theme is realized in a Means adjunct. Examples of this latter frame were shown in Chapter 3, Section 3.2.1 in relation to Transfer Verbs and Communication Verbs.

(175) laxudux Mabela{**x̌a**, **sa**} **q̓ʷəmdzuy̓u** laǩ Abbi

laǩ-u-xʔid	=uǩ	Mabel	{**=s=a**	, **=x̌=a**}
sell-off/out-BEC	=3MED	Mabel	{=**INST=DET**	, =**ACC=DET**}
q̓ʷəmdzuy̓u	la	=x̌	Abby	
dress	PREP	=ACC	Abby	

'Mabel sold **a dress** {**INST**, **ACC**} to Abby.' (VF, VF)

(176) ƛ̓awn̓tən{**sada**, **x̌ada**} **həm̓eʔ** laǩ Fuzzy

ƛ̓awn̓ənt	=ən	{**=s=a=da** , **=x̌=a=da**}	**həm̓=eʔ**
bestow	=1	{=**INST=DET=OST**, =**ACC=DET=OST**}	**eat=NMZ**
la	=x̌	Fuzzy	
PREP	=ACC	Fuzzy	

'I bestowed **food** {**INST**, **ACC**} on Fuzzy.' (JF, VF)

Whenever the Theme of these verbs is expressed in canonical object position, it undergoes the Caused Motion Alternation. This ability to alternate in any context these verbs are used arises because the Theme satisfies the conditions for being a *Co-initiator* and a *Non-initiator* as a result of entailments inherited from the verb. We'll see in the next section, however, that the Caused Motion Alternation can also be licensed by means other than verbal entailments.

5.3.2 Licensing the Caused Motion Alternation by modification with Path-denoting PPs

The Caused Motion Alternation is licensed whenever an event description is modified to fit the schema outlined in (173). In this section, I'll show that this can be accomplished through the addition of Path-denoting PPs. To understand why internal arguments are consistently able to undergo case alternation in the vicinity of a Path-denoting PP, I'll first need to introduce some theory about how Path arguments interact with internal arguments in predicates expressing motion.

Path arguments in motion predicates denote a scale along which movement is measured (Ramchand 1997: p. 117; Zwarts 2005).[10] When a path-denoting PP modifies an event description which has an internal argument, a relation is established between this argument, the run-time of the event, and the spatial path denoted by the PP. This relation is one in which there is a homomorphic mapping between the location of the internal argument and the run-time of the event. This is illustrated in (177), where each unique point of time in the event is associated with a unique location on the spatial path such that when the scales are aligned, their initial and final points match up.

(177) Event-Path homomorphism

t_1	t_2	t_3	…	t_n	'time line'
|	|	|		|	
loc_1	loc_2	loc_3	…	loc_n	'spatial path'

(adapted from Ramchand 1997: p. 117)

[10] Researchers like Tenny (1994: 72-78, 195-198), Ramchand (2008: 50-51), and Beavers (2008) define Paths more abstractly like this, as referring to scales along which an event is measured in both motion and non-motion predicates. For my purposes here, I am only concerned with spatial Paths in motion predicates.

Ramchand (1997), extending the framework in Krifka (1992), calls this relation Mapping to Locations (MAP-L), and describes it informally as follows:[11]

> "MAP-L says that every single moment on the temporal trace of the event is associated crucially with a different *location* of the object. The intuition is that the objects of motion verbs follow a spatio-temporal path as a result of the action of the verb, and that it is *this* property that is criterial of verbs of this type." (Ramchand 1997: p. 117)

When a Path-denoting PP modifies an event description with an object, what happens is that a scale is established which extends from the temporal initial bound of the event, to the temporal final bound of the event. The property Mapping to Locations then ensures that a homomorphic mapping is established between this temporal scale, and the location of the event's internal argument.[12] The addition of a Path-denoting PP to an event is significant, then, precisely because it changes the structure of the event, and concomitantly, changes the way in which the internal argument relates to the event. Specifically, the event becomes one of caused motion like in (173), and the internal argument comes to function as both a *Co-initiator* and a *Non-initiator* (that is, by satisfying the *Co-initiator* criterion *possessed* (*initial bound*) and the *Non-initiator* criterion *change*). It's in this way that modifying an event with a Path-denoting PP licenses the Caused Motion Alternation. In the remainder of this section, I'll walk through a variety of specific examples to illustrate this licensing.

One environment where we see the addition of a Path-denoting PP licensing the Caused Motion Alternation is in the formation of Put Verbs. In K^{w}ak̓^{w}ala, many verbs with meanings related to 'put' are derived compositionally by adding an external argument to an otherwise stative unaccusative predicate indicating location (in a manner similar to that proposed in Hale & Keyser 2002: p. 7-8 for English). In these constructions, the addition of an external argument also gives rise to an interpretation of the leftmost PP as a Path. The derivational relationship between locative unaccusative predicates and 'put' predicates is illustrated in (178)-(179), where the unaccusative predicates in the 'a' examples differ from the caused motion ('put') predicates in the 'b' examples in the two ways just mentioned: only the 'b' examples possess an external argument; and the prepositional *la* phrase in the 'b' examples is interpreted as a Path, while in the 'a' examples it is interpreted as a Location.[13]

[11] Ramchand (1997: p. 221-237) also outlines a formal calculus of event structure in which Mapping to Locations is formally fleshed out and related to other kinds of relations between events and properties of objects. Readers interested in the formalization of these notions should consult this work, as well as Ramchand (2008) and Krifka (1992, 1998).

[12] It's important to note that just because an event includes a delimiting Path argument, this doesn't mean that any event in which a Path is expressed is necessarily interpreted as delimited in the context in which it is uttered. Whether or not the event is interpreted as delimited will depend on other factors, such as grammatical aspect (e.g. Tenny 1994: p. 72).

[13] There happens to be a third difference between the 'a' and 'b' examples in (178)-(179), namely in aspectual marking. However, this difference is not crucial. Unaccusatives like these 'a' examples can also contain *-x?id*, and *-x?id* is not necessary in the derivation of 'put' predicates.

(178) *ǧix̌^{w}-* ‘be hanging (a); hang (b)’

a. ǧix̌^{w}ałən q̓əsəneʔ laxuxda ǧiwayux̌
ǧix̌^{w}-ał =ən q̓əsəneʔ la =x̌=ux̌=da
hanging-STAT =1POSS shirt PREP =ACC=3MED=OST
ǧix̌^{w}-$_{w}$ayu=x̌
hanging-INST.PASS=VIS
‘My shirt is hanging on the clothesline.’ (VF)

b. ǧix̌^{w}ʔidi Mabele{**sa**, **x̌a**} **nəx^{w}əneʔ** laxa ǧix̌^{w}dəṅa
ǧix̌^{w}-xʔid =i Mabel {**=s=a** , **=x̌=a**}
hanging-BEC =3DIST Mabel {**=INST=DET** , **=ACC=DET**}
nəx^{w}-(k)ən=eʔ la =x̌=a ǧix̌^{w}dəṅa
wrap-body=NMZ PREP =ACC=DET clothesline
‘Mabel hung up **a blanket** {**INST**, **ACC**} on a clothesline.’ (VF, JF)

(179) *ʔəx̌aƛ-* ‘be on surface (a); put on surface (b)’

a. ʔəx̌aƛida digiƛ̓aċi laxuxda həṁxdəṁiłix̌
ʔəx̌-aƛ =i=da di-(g)ila-$_{h}$aċi
DO-on.surface =3DIST=OST tea-make-container
la =x̌=ux̌=da həṁxdəṁił=x̌
PREP =ACC=3MED=OST table=VIS
‘The teapot is on the table.’ (VF)

b. ʔəx̌aƛudux̌ Katiyəx̌{**suxda**, **x̌^{w}a**} **ƛ̓ətəmł** laxux̌ ʔaƛaẏax̌sa k̓^{w}aċoẇas
ʔəx̌-aƛ-xʔid =ux̌ Katie=x̌ {**=s=ux̌=da** , **=x̌=a**}
DO-on.surface-BEC =3MED Katie=VIS {**=INST=3MED=OST** , **=ACC=DET**}
ƛ̓ətəmł la =x̌=ux̌ ʔaƛa=iʔ=x̌ =s=a
hat PREP =ACC=3MED back=NMZ=VIS =3POSS=DET
k̓^{w}a-ċo-ʔas
sit-inside-LOC.PASS
‘Katie is putting/put **the hat** {**INST**, **ACC**} behind the chair.’ (VF, VF)

The productive nature of ‘put’ predicates is vividly illustrated by examples like (180)-(181), which were innovated by a speaker during an elicitation session. Example (180) shows a ‘put’ predicate in which the root denotes a Location (here, *k̓^{w}əʔsta* ‘cup’; interestingly, its not necessary, in this example, to express the Location as a separate argument), while example (181) shows a ‘put’ predicate in which the root denotes a Locatum (here, *yawapsta* ‘curtain’).

(180) k̓ʷəʔstac̓uduǰ Hope{**sida**, **ǰida**} **t̓i̓səmm̓əniǰʷ**

k̓ʷəʔsta-c̓u-xʔid	=uǰ	Hope	{**=s=i=da** , **=ǰ=i=da**}
cup-inside-BEC	=3MED	Hope	{**=INST=3DIST=OST** , **=ACC=3DIST=OST**}

t̓i̓səm=m̓əniǰʷ
stone=DIM.PL

'Hope put **some little stones** {**INST**, **ACC**} into a cup.' (JF, VF)

Literally: 'Hope cupped **some little stones** {**INST**, **ACC**}.'

(181) yawapstuduǰ Hopiǰ{**suǰda**, **ǰuǰda**} **ƛ̓aqʷaǰ yawapstolay̓uw̓aʔ** laǰuǰ hənǰsoləʔac̓iǰesa ƛasiksoliɬ

yawapstu-xʔid	=uǰ	Hope=ǰ	{**=s=uǰ=da**		, **=ǰ=uǰ=da**}
curtain-BEC	=3MED	Hope=VIS	{**=INST=3MED=OST**		, **=ACC=3MED=OST**}
ƛ̓aqʷ-a=ǰ	**yawapstu-la-ayu-a**		la	=ǰ=uǰ	
red-A=VIS	**curtain-CONT-INST.PASS-A**		PREP	=ACC=3MED	
hənǰ-(ǰ)so-la-ʰac̓i=ǰ			=s=a		ƛ̓asiksoliɬ
look-through-CONT-container=VIS			=3POSS=DET		front.room.in.house

'Hope put **red curtains** {**INST**, **ACC**} on the windows of the front room.' (VF, JF)

Literally: 'Hope curtained **red curtains** {**INST**, **ACC**} on the windows of the front room.'

What's significant about these compositionally-derived 'put' predicates is that they fit the schema in (173), and that their internal argument is thereby able to appear in either case. These examples demonstrate how the addition of a Path-denoting PP, together with an external argument, can license the Caused Motion Alternation.

Another way to license the Caused Motion Alternation is to add a Path-denoting PP to an event which already has an internal argument. In doing so, the event is transformed into a caused-motion event, resulting in a situation where an internal argument which was formerly 'strict' acquires the ability to undergo case alternation. A particularly clear example of the Caused Motion Alternation being licensed in this way is shown in (182), which is extracted from a narrative. The verb *dzup-* 'can, jar' occurs twice in this example: first in a transitive frame, where its argument is an accusative (=*ǰ*) object in a change-of-state event; and second, in a caused-motion frame with a Path-denoting PP, where the corresponding internal argument is marked instrumental (=*s*).

(182) hem̓i Stevie ǰʷaƛaǰada məɬik, nugʷat̓a dzupa**ǰada məɬik**, dzupc̓u**s** laǰida dəmxəsğəm

he=ʔm	=i	Stevie	ǰʷaƛ-a	=ǰ=a=da		məɬik
be.3DIST=VER	=3DIST	Stevie	fillet-A	=ACC=DET=OST		sockeye
nugʷa=t̓a	dzup-a	**=ǰ=a=da**	**məɬik**	dzup-c̓u		
be.1=but	can-A	**=ACC=DET=OST**	**sockeye**	can-inside		
=s	la	=ǰ=i=da		dəmxəsğəm		
=INST	PREP	=ACC=3DIST=OST		jar		

'It's Stevie who fillets the sockeye, but I'm the one who cans **the sockeye** (**ACC**), canning **it** (**INST**) into jars.' (VF)

In the next three examples, I'll show in more detail how arguments which are typically strict-accusative (=*x̌*) acquire the ability to alternate in the vicinity of a Path-denoting PP.

Example (183) involves the verb *q̓əy̓ak-* 'kick'. When used as a transitive Verb of Contact, *q̓əy̓ak-* takes a strict-accusative (=*x̌*) object (183a); the strict nature of this relation is shown by the fact that substituting instrumental case for accusative results in a different thematic construal for this argument (183b). On the other hand, when a 'kicking' event is modified by adding a Path-denoting PP, the verb's internal argument acquires the ability to undergo case alternation (183c).

(183) *q̓əy̓ak-* 'kick'

a. q̓əy̓axʔidi Simona**x̌a lux̌^{w}səm q̓ay̓akasuʔ**
q̓əy̓ak-xʔid =i Simon **=x̌=a** **lux̌^{w}səm** **q̓əy̓ak-a-səw̓**
kick-BEC =3DIST Simon **=ACC=DET** **spherical** **kick-A-ACC.PASS**
'Simon is kicking **a ball** (ACC).' (VF)

b. # q̓əy̓axʔidi Simona**sa lux̌^{w}səm q̓ay̓akasuʔ**
q̓əy̓ak-xʔid =i Simon **=s=a** **lux̌^{w}səm** **q̓əy̓ak-a-səw̓**
kick-BEC =3DIST Simon **=INST=DET** **spherical** **kick-A-ACC.PASS**
Intended: 'Simon is kicking **a ball** (INST).' (JF)

Speaker: "Uhm, no. *q̓ay̓axʔidi sis gug^{w}əy̓oʔsa* ['He kicked with his legs, with…']... You're saying that he used the ball to, uh, kick with, when you're saying it that way."

c. q̓əy̓aksudi Simona{**sa, x̌a**} **lux̌^{w}səm q̓ay̓akasuʔ** laxa hənx̌sol̓as
q̓əy̓ak-(x)so-xʔid =i Simon {**=s=a** , **=x̌=a**}
kick-through-BEC =3DIST Simon {**=INST=DET** , **=ACC=DET**}
lux̌^{w}səm **q̓əy̓ak-a-səw̓** la =x̌=a hənx̌-(x)so-la-ʔas
spherical **kick-A-ACC.PASS** PREP =ACC=DET look-through-CONT-LOC.PASS
'Simon kicked **the ball** {INST, ACC} through a window.' (VF, JF)

Speaker: [*After hearing* (c) *with* =*x̌*] "Oh yeah. *ǧ^{w}ixʔidaʔasnux^{w}ʔəm* ['It can be done like that']."

The next example involves the verb *da-* 'take in hand, pick up' (184). In its typical use as a transitive Obtain Verb, *da-* takes a strict-accusative (=*x̌*) object (184a); the strictness of this relation is apparent from the fact that substituting instrumental (=*s*) case for accusative results in this argument being interpreted as a different argument, namely as an Instrument (184b). On the other hand, when a *da-* event is modified through the addition of a Path-denoting PP, the internal argument acquires the ability to undergo case alternation; the possibility of realizing this argument as an instrumental object is shown in the second sentence of (184c), which is extracted from a narrative.

(184) *da-* 'take in hand, pick up'

a. daluxda ċədaqe**x̌a k̓ʷəʔsta**
da-la =ux̌=da ċədaq **=x̌=a**
take.in.hand-CONT =3MED=OST woman **=ACC=DET**
kʷəʔsta
cup
'The woman is holding **a cup** (ACC).' (VF)

b. # dali Karene**sa pəlawas**
da-la =i Karen **=s=a** **pəlawas**
take.in.hand-CONT =3DIST Karen **=INST=DET** **flower**
Intended: 'Karen's holding **the flowers** (INST).' (JF)

Speaker: "That means she's 'using the flowers to hold'."
KS: "So is that weird?"
Speaker: "Yeah."

c. [*The speaker is telling a story about a time when a woman came to retrieve her sick dog and take her* (*the dog*) *to the veterinary hospital for treatment.*]

wa:lasən x̌ənyasasa ċədaqiʔ ʔek̓aqilax̌ʷa ẇəʔoċi, gax̌eʔe qəs **dax̌ʔideʔx̌gən ẇaċix̌**…
walas =ən x̌ənyas-a =s=a ċədaq=iʔ ʔek̓aqila
big/very =1 amazed-A =INST=DET woman=INVIS take.good.care
=x̌=ʷ=a ẇəʔoċi gax̌=a=i qa =is
=ACC=3MED=DET dog.PL come=EMBED=3DIST PREP =3REFL.INST
da-xʔid=eʔ **=x̌=g=ən** **ẇaċi=x**
take.in.hand-BEC=NMZ **=ACC=3PROX=1POSS** **dog=VIS**
'I was really amazed by the woman who takes good care of dogs, when she came to **take my dog** (ACC)…' (VF)

…ƛu:mux̌ ċəxq̇a, qəs leʔ **daxʔisux̌** laxada dagʷada.
ƛum =ux̌ ċəxq̇a qa =is la=iʔ
really =3MED sick PREP =3REFL.POSS go=NMZ
da-xʔid **=s=ux̌** la =x̌=a=da dagʷada
take.in.hand-BEC **=INST=3MED** PREP =ACC=DET=OST doctor
'…she [the dog] was really sick, to go **take her** (INST) [**the dog**] to the doctor.' (VF)

The next example involves the verb *ƛaqʷ-* 'push' (185). The context of (185a)-(185b) is one in which the *Initiator* pushes on a bed to try and move it, but no movement results. In this situation, the verb's internal argument can only appear in accusative (*=x̌*) case. However, in a context where the *Initiator*'s pushing does result in the bed undergoing caused motion, and where this motion is interpreted relative to an expressed Path, the internal argument acquires the ability to undergo case alternation (185c).

(185) *ƛ̓aqʷ-* 'push'

Context: Eddie and Shelly are moving furniture out of their room, so they can renovate. They have to get the bed into the kitchen. First, Eddie tries to push the bed — but it doesn't budge.

a. ƛ̓aqʷi Eddix̌a kʷal̓as, k̓iʔst̓a weɬ yaw̓ixʔida̧
ƛ̓aqʷ =i Eddie **=x̌=a** **k̓ʷəl-ʔas** k̓iʔs=t̓a
push =3DIST Eddie **=ACC=DET** **prone-LOC.PASS** NEG=but
weɬ yaw̓ix-xʔid-a
ABIL move-BEC-A
'Eddie pushed **the bed** (**ACC**), but wasn't able to move (it).' (VF)

b. # ƛ̓aqʷi Eddie**sa kʷal̓as**
ƛ̓aqʷ =i Eddie **=s=a** **k̓ʷəl-ʔas**
push =3DIST Eddie **=INST=DET** **prone-LOC.PASS**
Intended: 'Eddie pushed **the bed** (**INST**).' (JF)

Speaker: "No."

c. *Context:* [*continued from* (185a)] *Shelly joins Eddie, and together they manage to push the bed into the kitchen.*

ƛ̓aqʷi Eddi λəw̓i Shelli{**sa**, **x̌a**} **kʷal̓as** lax̌a həm̓iksiləʔas
ƛ̓aqʷ =i Eddie λw̓ =i Shelly {**=s=a**,
push =3DIST Eddie CONJ =3DIST Shelly {**=INST=DET**,
=x̌=a} **k̓ʷəl-ʔas** la =x̌=a
=ACC=DET} **prone-LOC.PASS** PREP =ACC=DET
həm̓-ksi-la-ʔas
eat-occupy-CONT-LOC.PASS
'Eddie and Shelly pushed **the bed** {**INST**, **ACC**} into the kitchen.' (VF, JF)

The previous three examples have shown cases involving strict-accusative (=*x̌*) arguments which acquire the ability to be instrumental (=*s*) marked in the vicinity of a Path-denoting PP. I have also come across one example in which the Caused Motion Alternation is licensed in the other direction — namely, where a strict-instrumental (=*s*) argument acquires the ability to be realized in accusative (=*x̌*) case. Example (186) illustrates this possibility with the verb *ǧəls-* 'paint' (186). In non-caused motion contexts, this verb takes a strict-instrumental (=*s*) argument denoting the Medium that is used to paint with (186a); the strictness of this relation is shown by the fact that when accusative is substituted for instrumental, the nominal can no longer denote the Medium of painting, but can have two other meanings, both of which involve the object being interpreted as a *Non-initiator* (186b). However, in the vicinity of a Path-denoting PP, the Medium argument acquires the ability to appear in either case (186c).[14]

[14] Example (186) seems to pose a problem for the claim in Chapter 4, Section 4.4 that strict-instrumental relations are encoded in the grammar by syntactic [inst] features on verbs. Namely, if the strict-instrumental relation in (186a) is syntactically encoded, we expect this relation to be expressed with instrumental case in all contexts, and

(186) *ğəls*- 'paint'

a. ğəlsux̌da c̓ədaqəsa **ƛ̓in̓a**
ğəls =ux̌=da c̓ədaq **=s=a** **ƛ̓in̓a**
paint =3MED=OST woman **=INST=DET** **eulachon.grease**
'The woman is painting/painted **with eulachon grease** (INST).' (VF)

b. ğəlsux̌da c̓ədaqə**x̌a ƛ̓in̓a**
ğəls =ux̌=da c̓ədaq **=x̌=a** **ƛ̓in̓a**
paint =3MED=OST woman **=ACC=DET** **eulachon.grease**
i. 'The woman is painting/painted [an image of] **eulachon grease** (ACC).' (VF)
ii. 'The woman is painting/painted (on) **eulachon grease** (ACC).' (JF)

c. ğəlsʔidux̌ Mabel{**sada, x̌ada**} **bada** lax̌a kʷənikʷ
ğəls-xʔid =ux̌ Mabel {**=s=a=da** , **=x̌=a=da**}
paint-BEC =3MED Mabel {**=INST=DET=OST**, **=ACC=DET=OST**}
bada la =x̌=a kʷənikʷ
butter PREP =ACC=DET bread
'Mabel's painting **butter** {INST, ACC} on the bread.' (JF, VF)

In summary, on the basis of verbal semantics alone, the internal argument in the examples above are strict-accusative (183)-(185) or strict-instrumental (186). These internal arguments can, however, undergo case alternation in the vicinity of a Path-denoting PP. These examples therefore once again illustrate the generalization that modifying event structure leads to changes in object case-marking possibilities.

An even starker example of how the Caused Motion Alternation can be licensed through the modification of event structure is shown below in (187), with the verb *puxʷ*- 'blow'. With this verb, an expressed internal argument can denote a Goal (187a), but not a Theme (187a)-(187b). However, in the vicinity of a Path-denoting PP, it becomes possible to realize an alternating Theme argument with this verb (187c).

(187) *puxʷ*- 'blow'

a. puxʷux̌ Mabela**x̌ʷa yusax̌**
puxʷ =ux̌ Mabel **=x̌=ʷ=a** **yusa=x̌**
blow =3MED Mabel **=ACC=3MED=DET** **soup=ACC**
Can only mean: 'Mabel blew on **the soup** (ACC).' (VF)

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therefore for (186c) with accusative case to be ungrammatical. In fact, this is the sole example in my corpus where I have witnessed event structure modification changing a strict-instrumental relation into an alternating one. All of the other examples in this chapter illustrate case alternation being licensed with otherwise strict-accusative relations. The fact that (186) is the only example of its kind lessens the immediate severity of the problem, but doesn't eliminate it.

b. # puxʷuǰ Mabela**sa yusaǰ**
puxʷ =uǰ Mabel **=s=a** **yusa=ǰ**
blow =3MED Mabel **=INST=DET** **soup=ACC**
Speaker: "*ki.* ['No.'] *puxʷuǰ Mabelaǰʷa yusaǰ* [(a)]." (JF)

c. *Context: There's a moth just inside the window, near the screen. Shelly doesn't want it to be in the house, so she goes and blows it outside, through the open window.*

pukʷstowi Shelli{**sa**, **ǰa**} **lolin̓oǰ həmumu** laǰa ƛ̓asanoy̓i
puxʷ-(ǰ)so =i Shelly {**=s=a** , **=ǰ=a**}
blow-through =3DIST Shelly {**=INST=DET** , **=ACC=DET**}
lolin̓oǰ **həmumu** la =ǰ=a ƛ̓asanoy̓i
ghost **butterfly** PREP =ACC=DET outdoors
'Shelly blew **the moth** {INST, ACC} to the outdoors.' (VF, JF)

What this example shows is that in addition to licensing case alternation on an existing internal argument (as shown above), modifying an event description with a Path-denoting PP can also license the presence of an object where we wouldn't expect it on the basis of verbal semantics alone. This pattern is not unique to Kʷak̓ʷala; English has its own caused motion construction in which the same semantic conditions that are relevant in Kʷak̓ʷala can license a direct object where one is not expected on the basis of verbal entailments (Goldberg 1995, Levin & Rappaport-Hovav 1995). The English caused motion construction is illustrated in (188) with the intransitive verb 'sneeze' (188a). While this verb cannot take an object on its own (188b), an object can be realized in the presence of a Path-denoting PP (188c).

(188) a. Fred sneezed.
b. *Fred sneezed the napkin.
c. Fred sneezed the napkin off the table. (Goldberg 1995: pg. 156)

A directly corresponding Kʷak̓ʷala example is shown in (189), where the verb *ʔəska* 'sneeze' appears with an alternating Theme argument and a Path-denoting PP.

(189) *ʔəska* 'sneeze'

Context: Monica has really bad allergies, and is sneezing all the time. There's a tea-towel on the table. She sneezes so hard that she sneezes the tea-towel off the table, onto the floor!

ləm̓i Monica ʔəksʔi{**sa**, **ǰa**} **diğəmyu laǰʷa tebəl** laǰa ʔəwin̓aʔgʷił
lə=ʔm =i Monica ʔəsx[15]-xʔid {**=s=a** , **=ǰa**} **diğəmyu**
AUX=VER =3DIST Monica sneeze-BEC {**=INST=DET** , **=ACC=DET**} **tea.towel**
la **=ǰ=ʷ=a** **tebəl** la =ǰ=a ʔəwin̓aʔgʷił
PREP **=ACC=3MED=DET** **table** PREP =ACC=DET floor.in.house
'Monica sneezed **the tea-towel on the table** {INST, ACC} onto the floor.' (VF, JF)

[15] This root has undergone metathesis.

Modification with a Path-denoting PP is a form of secondary resultative predication, a phenomenon which is cross-linguistically associated with the ability to license objects (Rappaport-Hovav & Levin 2001, Rothstein 2004: p. 59-90, Beavers 2012, Williams 2015: p. 307-334). The existence of this phenomenon in Kʷaḵʷala is significant because it illustrates yet again how modifying event structure changes the possibilities for object realization.

A final set of examples illustrating the Caused Motion Alternation is shown in (190)-(191) below, repeated from Chapter 3, Section 3.4.2. In these examples, the dummy root *ʔəx̌-* forms a verbal predicate with no lexical entailments. When combined with either an instrumental (190) or accusative (191) object and a Path-denoting PP however, an an interpretation of caused motion in a direction results.

(190) PUT (something)(somewhere): *=s*, *la*

Context: [*The speaker watches as KS puts a hat into the fridge*]

luǰ Katiyəǰ ʔəǰʔid**suǰda ƛ̓ətəmɬ** laǰʷa ẇədəʔaċi
lə =uǰ Katie=ǰ ʔəǰ-xʔid **=s=uǰ=da** **ƛ̓ətəmɬ**
AUX =3MED Katie=VIS DO-BEC **=INST=3MED=OST** **hat**
la =ǰ=ʷ=a ẇəd-ʰaċi
PREP =ACC=3MED=DET cold-container
'Katie is putting **the hat** (INST) into the fridge.' (VF)

(191) PUT (something)(somewhere): *=x̌*, *la*

Context: [*The speaker watches as KS puts a hat into the fridge*]

luǰ Katiyəǰ ʔəǰʔid**x̌uǰda ƛ̓ətəmɬ** laǰʷa ẇədəʔaċi
lə =uǰ Katie=ǰ ʔəǰ-xʔid **=x̌=uǰ=da** **ƛ̓ətəmɬ**
AUX =3MED Katie=VIS DO-BEC **=ACC=3MED=OST** **hat**
la =ǰ=ʷ=a ẇəd-ʰaċi
PREP =ACC=3MED=DET cold-container
'Katie is putting **the hat** (ACC) into the fridge.' (JF)

These examples are significant because they illustrate the constructional basis of the Caused Motion Alternation. In (190)-(191), the verb contributes no lexical entailments; the presence of a Path-denoting PP nevertheless modifies the event description by identifying the event's temporal initial bound with the initial spatial point on the expressed Path and its temporal final bound with the endpoint on the same Path. Together with the addition of an external argument, this gives rise to an event description involving caused motion in a direction. The schema in (173) is thereby realized, and an internal object can be expressed in either case.

In summary, the data in this section show when an event description is modified so that it fits the frame in (173), case marking possibilities relative to the event change accordingly. This pattern constitutes a strong argument for the main claim this chapter set out to prove: namely, that modifications to event structure lead to changes in case-marking potential.

5.4 Semantic incorporation with *-(g)ila*

The verb *-(g)ila*[16] is a lexical suffix meaning 'make, create', which optionally occurs with an incorporated nominal.[17] When *-(g)ila* doesn't incorporate a nominal, it attaches to the dummy root *ʔəx̌-* and can only take an accusative object (192a). On the other hand, when *-(g)ila* does incorporate a nominal, a hyponymous object can be expressed in either instrumental (*=s*) or accusative case (*=x̌*) (192b).

(192) Case marking in *-(g)ila* predicates

	Stem	Suffix	Object case	Gloss
a.	*ʔəx̌-*	*-(g)ila*	*INST, ACC	'to make (something)'
b.	*N-*	*-(g)ila*	INST, ACC	'to *N*-make an *N*'

In this section, I'll argue that the reason for this difference in object case possibilities derives from the semantic effects of nominal incorporation, which I will analyze as an instance of semantic incorporation (van Geenhoven 1998). In particular, I'll propose that semantic incorporation of a nominal modifies the verb of pure creation in (192a) so that it becomes a verb of simultaneous creation and expression. In this way, stems consisting of *-(g)ila* and an incorporated nominal are analogous to verbs like *dənx̌-* 'sing', *yəx̌ʷ-* 'dance (in the Bighouse)', and *ʔəmɬ-* 'play (a game)', which in Kʷak̓ʷala take alternating objects.

The argument will be developed in a somewhat different order than in Sections 5.2 and 5.3. I'll begin by outlining the Kʷak̓ʷala pattern and providing a semantic analysis of it (Section 5.4.1). Then, I'll proceed to explain why this semantic analysis predicts the licensing of case alternation on objects, with reference to the case-marking behaviour of Performance Verbs.

5.4.1 Licensing case alternation through incorporation

The verb *-(g)ila* 'make' is one of relatively few affixal predicates in Kʷak̓ʷala which allow productive incorporation of nominal stems. An example of a *-(g)ila* predicate with an incorporated nominal, *ƛ̓ubəkʷ* 'BBQ-ed salmon', is shown in (193). When a nominal is not incorporated, *-(g)ila* attaches to the dummy root *ʔəx̌-* 'do' (194).

[16] The suffix *-(g)ila* may actually consist of two suffixes, *-(g)i* 'make, do' and *-la* 'continuative', though I've never seen *-(g)i* used on its own. Alternatively, it's possible (and I think likely) that the suffix synchronically is *-(g)ila*, and that **-(g)ila-la* is prevented by general constraints against haplology. I follow Boas (1947) in glossing *-(g)ila* as a single morpheme here.

[17] The suffix *-(g)ila* can also incorporate verbs, in which case it behaves like a causative (e.g. *hm̓-* 'eat', *həm̓gila* 'feed'). This causative use is only somewhat productive however, in contrast with fully productive causative *-mas*. I won't have anything further to say about verbal incorporation with *-(g)ila* here.

(193) *Context: Abby is doing two things at once; she's cooking potatoes in the kitchen, and barbecuing salmon outdoors.*

ha̓miksiluǰ ǰa kʷuʔsiǰ luǰ **ƛ̓ubəkʷila** laǰada ƛ̓asanoʔi
həm̓-i-ksi-la =uǰ =ǰ=a kʷuʔsi=ǰ lə =uǰ
eat-NMZ-occupy-CONT =3MED =ACC=DET potato=VIS AUX =3MED
ƛ̓ubəkʷ-(g)ila-a la =ǰ=a=da ƛ̓asanoy̓i
BBQed.salmon-make-A PREP =ACC=DET=OST outdoors
'She's cooking potatoes and **BBQ salmon-making** outdoors.' (VF)

(194) ləm̓isida q̓ʷəly̓akʷ **ʔəǰila**ǰada dustaqʷaǰ qəʔənuʔǰʷ
lə=ʔm=is =i=da q̓ʷəly̓akʷ **ʔəǰ-(g)ila-a** =ǰ=a=da
AUX=VER=and =3DIST=OST elder **DO-make-A** =ACC=DET=OST
dustaqʷa=ǰ qa =ənuʔǰʷ
blackberry.dessert=VIS PREP =1EXCL
'Then the old lady **made** black berry (ACC) dessert for us.' (Cranmer & Janzen, p. 42)

When *-(g)ila* attaches to the dummy root *ʔəǰ-*, expression of an object is obligatory (195).

(195) * ʔəǰiloǰda c̓ədaq
ʔəǰ-(g)ila =oǰ=da c̓ədaq
DO-make =3MED=OST woman
Literally: 'The woman is making.' (JF)

Speaker: "But what is she *ʔəǰila*?"

Expression of an object is not obligatory, however, in *-(g)ila* predicates where a nominal is incorporated (193).

The crucial pattern for our purposes is illustrated in (196)-(197) below, where we observe a difference in object case-marking potential depending on whether or not a nominal has been incorporated. When there is no incorporation, *-(g)ila* 'make' takes a strict-accusative argument (196a). Evidence for the strictness of this relation comes from the fact that substituting instrumental (=*s*) results in the internal argument being interpreted as an Instrument (196b). On the other hand, when a nominal is incorporated, a hyponymous object can be expressed in either case, as shown in (197a) with the incorporated nominal *nəxʷəneʔ* 'blanket'. The expression of the object is optional in these predicates, as shown in (197b).

(196) <u>*ʔəǰ-(g)ila* takes a strict-accusative (=*ǰ*) object</u>

a. ʔəǰʔiluǰ Hopə**ǰʷa c̓uɬaǰ nəxʷəneʔ**
ʔəǰ-(g)ila =uǰ Hope **=ǰ=ʷ=a** **c̓uɬa=ǰ** **nəxʷ-(k̓)ən=eʔ**
DO-make =3MED Hope **=ACC=3MED=DET** **black=VIS** **wrap-body=NMZ**
'Hope is making **a black blanket** (ACC).' (VF)

b. # ʔəx̌ʔiluǰ Hopix̌**suǰ c̓uɬix̌ nəxʷəneʔ**
ʔəx̌-(g)ila =uǰ Hope=x̌ **=s=uǰ** **c̓uła=x̌** **nəxʷ-(k̓)ən=eʔ**
DO-make =3MED Hope=VIS **=INST=3MED** **black=VIS** **wrap-body=NMZ**
Intended: 'Hope is making **a black blanket** (INST).' (JF)

Speaker: "*k̓i* ['No']."
KS: "Kay. Does that mean she's 'using the blanket to make', what else?"
Speaker: "Mhm ['Yes']."

(197) *N-(g)ila* (optionally) takes an alternating {*=s, =x̌*} object

a. nəxʷəneʔgiluǰ Hopix̌{**sa, x̌a**} **c̓ułtu nəxʷəneʔ**
nəxʷ-(k̓)ən=eʔ-(g)ila =uǰ Hope=x̌ {**=s=a** , **=x̌=a**}
wrap-body=NMZ-make =3MED Hope=VIS {**=INST=DET** , **=ACC=DET**}
c̓ułtu **nəxʷ-(k̓)ən=eʔ**
black **wrap-body=NMZ**
'Hope is blanket-making **a black blanket** {INST, ACC}.' (VF, JF)

b. nəxʷəneʔgiluǰ Hopix̌
nəxʷ-(k̓)ən=eʔ-(g)ila =uǰ Hope=x̌
wrap-body=NMZ-make =3MED Hope=VIS
'Hope is blanket-making / Hope is making a blanket.' (VF)

Examples like (197a) involving both nominal incorporation and expression of a hyponymous object are most naturally volunteered in contexts where information is being added which restricts the argument; in (197a) for instance, information is added that the blanket being made is black. When a hyponymous object is not expressed in a structure with nominal incorporation, its existence is nevertheless still implied. This is illustrated in (198), where we see an indefinite discourse referent introduced by the predicate *xʷak̓ʷənagila* 'canoe-make' in the first sentence being referred back to by the pronominal object form *=x̌ʷ* in the second sentence.

(198) *Context: I spent all afternoon working on building a canoe, but I didn't finish it. At the end of the day someone phones and asks what I did all day.*

xʷak̓ʷənagilən waxa. k̓est̓ən ǧʷałamasə**x̌ʷ**
xʷak̓ʷəna-(g)ila =ən wax-a k̓i?s=t̓a =ən ǧʷał-a-mas **=x̌=ʷ**
canoe-make =1 try-A NEG=but =1 finish-A-CAUS **=ACC=3MED**
'I was trying to make a canoe, but I didn't finish **it** (ACC).' (VF)

Something important to note about nominal incorporation with *-(g)ila* is that it only licenses case alternation in productive instances of nominal incorporation. For instance, with the verb stem *gukʷila* (*literally*: 'house-make'), it isn't possible to express an object in the instrumental case (199b), (200b). Presumably, this is because this verb has become at least somewhat conventionalized to mean 'build', as evidenced by the fact it can (somewhat marginally) take a non-hyponymous object (200a).

(199) *gukʷila* 'build' takes a strict-accusative (=*x̌*) object

a. gukʷiluǰ Eddiyəǰ **x̌a ʔəmeʔ gukʷ**
gukʷ-(g)ila =uǰ Eddie=x̌ **=x̌=a** **ʔəm=eʔ** **gukʷ**
house-make =3MED Eddie=VIS **=ACC=DET** **small=INVIS** **house**
'Eddie is building **a small house** (ACC).' (VF)

b. *gukʷiluǰ Eddiyəǰ**sa ʔəmeʔ gukʷ**
gukʷ-(g)ila =uǰ Eddie=x̌ **=ʂ=a** **ʔəm=eʔ** **gukʷ**
house-make =3MED Eddie=VIS **=INST=DET** **small=INVIS** **house**
Intended: 'Eddie is building **a small house** (INST).' (JF)

Speaker: "*ki.*" ['No.']

(200) *gukʷila* 'build' can marginally take a non-hyponymous object

a. ? gukʷili Eddi**x̌a ʡaʡuƛ̓aʔas**
gukʷ-(g)ila =i Eddie **=x̌=a** **ʡaʡuƛ̓əʔas**
house-make =3DIST Eddie **=ACC=DET** **school**
'Eddie is building **a school** (ACC).' (JF)
Literally: 'Eddie is house-making a school.'

Speaker: "That's okay. It's understandable."
KS: "Is it weird at all?"
Speaker: "Yeah, kind of, but it's understandable."[18]

b. *gukʷili Eddi**sa ʡaʡuƛ̓aʔas**
gukʷ-(g)ila =i Eddie **=ʂ=a** **ʡaʡuƛ̓aʔas**
house-make =3DIST Eddie **=INST=DET** **school**
Intended: 'Eddie is building **a school** (INST).' (JF)

Speaker: [*shakes head, indicating no*]

These data are significant, then, because they show that it is specifically *productive* instances of nominal incorporation which work to license case alternation; stems like *gukʷila* on the other hand, which are partially conventionalized, do not license case alternation.

To explain why nominal incorporation with *-(g)ila* licenses an alternating object, we need to first figure out what kind of incorporation this is. A first possibility is that it's syntactic incorporation, as discussed in Baker (1988). On Baker's analysis, the nominal that is incorporated starts out as the verb's syntactic object and undergoes head movement to adjoin to the verb. Crucially, there is only one nominal in the derivation, which is either expressed as an object, or incorporated into the verb. We therefore expect it to be impossible, on this analysis, to express both an object and an incorporated nominal at the same time, which makes this analysis problematic in light of data like (197a). Baker's (1988) analysis does, however, allow for the

[18] I suspect that speakers find examples like (200a) iffy because *gukʷila* is semantically transparent and this makes it so that the compositional meaning of this form ('house-make') competes with the conventionalized one ('build').

expression of a hyponymous nominal as a syntactic adjunct (p. 144-6). In Kʷakʼʷala, the instrumental/accusative-alternating object in data like (197a) is not clearly an adjunct. Therefore, I assume that incorporation with *-(g)ila* is not of the syntactic variety specifically discussed in Baker (1988).

Another type of incorporation, which is known to be instantiated within the Wakashan language family, is incorporation via head-movement at PF, or PF-incorporation (Wojdak 2008). The idea behind PF-incorporation is that with affixal predicates that allow incorporation, only the element that is linearly adjacent to the predicate at PF can incorporate. PF-incorporation is illustrated with data from the Southern Wakashan language Nuu-chah-nulth in (201)-(202) with an affixal verb meaning 'consume'. In the data in (201), the verb is attached to a dummy root; this data shows that modifiers obligatorily precede the nominal in noun phrases. The data in (202), in which incorporation has occurred, illustrate how incorporation is constrained by linear adjacency rather than by syntactic or semantic relations. If only a nominal is present it can incorporate (202a), but if a modifier is also present, only the modifier can incorporate (202b)-(202c).

(201) a. ʔuʔiicʔišʔaɬ haʔum ʔaapinis *Nuu-cha-nulth*
ʔu-**'iic**-ʔiiš-ʔaɬ haʔum ʔaapinis
∅-**consume**-3.IND-PL tasty apples
'They are eating delicious apples.' (Wojdak 2008: p. 43)

b. * ʔuʔiicʔišʔaɬ ʔaapinis haʔum *Nuu-cha-nulth*
ʔu-**'iic**-ʔiiš-ʔaɬ ʔaapinis haʔum
∅-**consume**-3.IND-PL apples tasty
'They are eating delicious apples.' (Wojdak 2008: p. 43)

(202) a. ʔaapiniy̓icʔišʔaɬ *Nuu-cha-nulth*
ʔaapinis-**'iic**-ʔiiš-ʔaɬ
apples-**consume**-3.IND-PL
'They are eating apples.' (Wojdak 2008: p. 44)

b. * ʔaapiniy̓icʔišʔaɬ haʔum *Nuu-cha-nulth*
ʔaapinis-**'iic**-ʔiiš-ʔaɬ haʔum
apples-**consume**-3.IND-PL tasty
Intended: 'They are eating delicious apples.' (Wojdak 2008: p. 44)

c. haʔumʔicʔišʔaɬ ʔaapinis *Nuu-cha-nulth*
haʔum-**'iic**-ʔiiš-ʔaɬ ʔaapinis
tasty-**consume**-3.IND-PL apples
'They are eating delicious apples.' (Wojdak 2008: p. 43)

Though Kʷakʼʷala does possess a few predicate-modifying enclitics which incorporate their complement in this manner (Littell 2016: p. 549-551), the suffix *-(g)ila* is not one of them. This is shown in (203), where the speaker rejected attempts to incorporate either the adjective (203a) or the noun (203b)-(203c) in a *-(g)ila* predicate.

(203) a. * **ċułtu**giluǰ Hopiǰa nəxʷəneʔ
ċułtu-gila =uǰ Hope=ǰ =ǰ=a nəxʷ-(ḵ)ən=eʔ
black-make =3MED Hope=VIS =ACC=DET wrap-body=NMZ
Intended: 'Hope is making/made a **black** blanket (ACC).' (JF)

Speaker: "That was really bad."

b. * **nəxʷəneʔ**giluǰ Hopiǰa ċułtuwaʔ
nəxʷ-(ḵ)ən=eʔ-gila =uǰ Hope=ǰ =ǰ=a ċułtu=aʔ
wrap-body=NMZ-make =3MED Hope=VIS =ACC=DET black=INVIS
Intended: 'Hope is making/made a black **blanket** (ACC).' (JF)

c. * **nəxʷəneʔ**giluǰ Hopisa ċułtuwaʔ
nəxʷ-(ḵ)ən=eʔ-gila =uǰ Hope=ǰ =s=a ċułtu=aʔ
wrap-body=NMZ-make =3MED Hope=VIS =INST=DET black=INVIS
Intended: 'Hope is making/made a black **blanket** (INST).' (JF)

On the basis of this data, I conclude that nominal incorporation with *-(g)ila* is not PF-incorporation of the type documented by Wojdak.

Instead, I assume that nominal incorporation with *-(g)ila* is semantic incorporation, in particular the variety proposed in Chung & Ladusaw (2004). The idea is that the denotation of an incorporated element serves to restrict — rather than saturate — a semantic argument of the predicate. This restriction is modelled using a semantic operation which Chung and Ladusaw refer to by the name 'Restrict'. The mechanics of Restrict are illustrated in (204) with the nominal stem *nəxʷəneʔ* 'blanket' from example (197) above. This nominal modifies the predicate by placing a restriction on its internal argument, though it does not saturate this argument.

(204) i. Denotation of *-(g)ila*: $\lambda x_e.\lambda e_v.\text{making}(e) \,\&\, \text{Patient}(e, x)$
ii. Denotation of *nəxʷəneʔ*: $\lambda x_e.\text{blanket}(x)$
iii. Denotation of *nəxʷəneʔgila*:
Restrict (⟦*-(g)ila*⟧, ⟦*nəxʷəneʔ*⟧)
= **Restrict** $[\lambda x_e.\lambda e_v.\text{making}(e) \,\&\, \text{Patient}(e, x)](\lambda x_e.\text{blanket}(x))$
= $\lambda x_e.\lambda e_v.\text{making}(e) \,\&\, \text{Patient}(e, x)$ **& blanket(*x*)**

If the predicate *nəxʷəneʔgila* is used in a sentence without a syntactic object, as it is in (197b), existential closure applies and the object receives an indefinite interpretation. If on the other hand a syntactic object is expressed, as it is in (197a), then this object saturates the predicate via function application, just like any other object of a transitive verb. Note that an expressed object must satisfy whatever restriction was placed on the predicate via nominal incorporation; this explains why these objects are hyponymous with respect to the nominal stem.

With this semantic analysis of the effects of nominal incorporation in place, what remains to be explained is why incorporating a noun has the effect on object case realization that it does. What is it about placing a restriction on the internal argument of the Creation Verb, *-(g)ila*, that makes it possible to express this argument as an object in either case? In the next section, I'll turn to another class of verbs with alternating objects for an answer.

5.4.2 Case alternation and the semantics of Performance Verbs

In order to understand how, exactly, nominal incorporation licenses case alternation, its worth taking a moment to first consider how the case-marking behaviour of *-(g)ila* 'make' predicates *without* nominal incorporation can be explained by the Initiating Subevent Theory. The verb *-(g)ila*, on its own, is a pure verb of creation; in other words, the meaning of a predicate formed from *-(g)ila* and the dummy root *ʔəx̌-* is that of an event in which an internal argument is brought into existence through the creative action of an *Initiator*. The Initiating Subevent Theory correctly predicts that the internal argument of an *ʔəx̌ila* predicate will be strict-accusative (*=x̌*) on the basis that it satisfies the *Non-initiator* criterion *final bound*, while failing to satisfy any of the conditions for being a *Co-Initiator*. Similarly, recall that the predicate *gukʷila* (*Literally*: 'house-make') behaves like *ʔəx̌ila* in requiring an accusative object; this is explained by the fact that this predicate's meaning has been (at least somewhat) conventionalized in the modern language so that it, like *-(g)ila* predicates without an incorporated nominal, is a pure verb of creation, roughly meaning 'build' (= create a building').

How, then, can we explain the fact that restricting the denotation of *-(g)ila*'s internal argument suffices to license case alternation? I propose that the answer to this question relates to the semantics of another class of verbs in Kʷak̓ʷala which take an alternating internal argument: namely, the class of verbs I referred to as Performance Verbs in Section 3.2.3. These are verbs such as *dənx̌-* 'sing', *ʔəmɬ-* 'play' (as in 'play a game'), and *yəx̌ʷ-* 'dance (in the Bighouse)', shown in (205)-(207) below. Other members of this class include *gət-* 'draw, create (artwork)', *k̓ak̓adəkʷsila* 'read (aloud)', *lip-* 'play cards', and *nus-* 'tell history or legends'.

(205) dənx̌əlux̌ Mabelx̌{**sa**, **x̌a**} **q̓əmdəm**
dənx̌-la =ux̌ Mabel=x̌ {**=s=a** , **=x̌=a**} **q̓əmdəm**
sing-CONT =3MED Mabel=VIS {**=INST=DET** , **=ACC=DET**} **song**
'Mabel's singing **a song** {**INST**, **ACC**}.' (VF, VF)

(206) yəx̌ʷox̌ Shelliyəx̌{**sa**, **x̌a**} **ƛ̓əlqʷała**
yəx̌ʷ =ox̌ Shelly=x̌ {**=s=a** , **=x̌=a**} **ƛ̓əlqʷała**
dance =3.MED Shelly=VIS {**=INST=DET** , **=ACC=DET**} **ladies'.dance**
'Shelly is dancing **the ladies' dance** {**INST**, **ACC**}.' (VF, VF)

(207) ʔəmɬən{**sa**, **x̌a**} **Backgammon**
ʔəmɬ =ən {**=s=a** , **=x̌=a**} **Backgammon**
play =1 {**=INST=DET** , **=ACC=DET**} **Backgammon**
'I'm playing **Backgammon** {**INST**, **ACC**}.' (VF, VF)

Verbs of this class involve meaning elements of both creation and expression; concomitantly, their internal argument can be taken to denote something that is created as well as expressed by an *Initiator* in the course of an event. It is these arguments' dual nature — the fact that they are simultaneously created and expressed in the course of an event — which I propose underlies their ability to undergo case alternation.

First, let's consider the sense in which these verbs entail creation. A first thing we can observe about the internal arguments of these verbs is that they serve to measure out the event. This is what leads Tenny (1994) to analyze the internal argument of verbs like 'dance' and 'sing'

as a kind of (non-spatial) Path argument. In describing the verb phrase 'play a sonata', she remarks:

> "Direct arguments that are events or performances may also be path objects… This verb phrase ['play a sonata'] describes an event of playing (say a piano or cello) which proceeds through the sonata in question from beginning to end. The end of the playing is the end of the sonata. **The sonata** … **provides a measure of the event**. Like incremental themes, path objects have the property that increments of the object may be associated with temporal increments of the event. Unlike incremental themes, path objects do not necessarily undergo change during the event." (Tenny 1994: p. 17-18) [*emphasis added*]

Translated into our framework here, the path-like nature of Performance Verbs' internal argument qualifies them as *Non-initiators*, on account of their satisfying the criterion *final bound*. This observation explains why these arguments are able to appear in accusative (=*x̌*) case, and also highlights a significant way in which Performance Verbs resemble Creation Verbs: namely, both verb classes take an internal argument that measures out the event incrementally, hence one which satisfies *final bound*.

On the other hand, Performance Verbs are not pure Creation Verbs; their meaning also involves some sort of expression. Massam (1990) for instance writes that "with verbs of artistic action such as *dance* and *sing* the term 'expression' is appropriate, since one does not create Swan Lake by dancing it, but rather gives it a particular instantiation." (p. 171) Intuitively, this sense of 'expression' is connected to the notion of a means. A song that is sung is in a sense, one's means of singing — a dance, one's means of dancing — and a game, one's means of playing. These internal arguments denote, in other words, the particular *way* in which these event are instantiated. By denoting the means by which an event is instantiated, these arguments can be seen to satisfy *dependent cause*. This, in turn, explains why they can appear in instrumental (=*s*) case.

In summary, the reason that Performance verbs' internal argument undergoes case alternation is that they function simultaneously as *Co-initiators* and as *Non-initiators* of their events. On the one hand, they denote the means by which the event is instantiated and are thereby expressed in the course of the event, and this qualifies them as *Co-initiators*. On the other hand, they measure out the temporal extent of the event, and this qualifies them as *Non-initiators*.

In short, I propose that the reason nominal incorporation with *-(g)ila* 'make' licenses case alternation is that restricting the internal argument of *-(g)ila* — a pure Creation Verb — transforms a *-(g)ila* predicate into one which expresses both creation and expression — just like Performance Verbs. Thus, in the same way that the internal argument of *dənx̌-* 'sing' name both the way in which the event is expressed or instantiated and functions to measure out the event, so too does the *nəxʷəneʔ* ('blanket') in a *nəxʷəneʔgila* ('blanket-making') event name the way that the event is expressed or instantiated while also defining the event's final bound.

In summary, I've argued that placing a restriction on the internal argument in a creation event, achieved through semantic incorporation of a nominal stem with *-(g)ila* 'make', transforms a Creation Verb into a kind of Performance Verb. This verb then patterns like other Performance Verbs in allowing its internal object to undergo case alternation. In conclusion, this pattern provides yet another illustration of the general point this chapter set out to make, which is that modifying the structure of an event has repercussions for the realization of object case.

5.5 Conclusion

The purpose of this chapter was to provide supporting evidence for the Initiating Subevent Theory of object case in Kʷakʷala, in particular for the claim that object case distinctions are grounded in event structure.

New evidence was provided throughout the chapter for the existence of correlations between verb meaning and particular case frames. In Section 5.2.1, I showed that the semantic notion of being directly manipulated by an *Initiator* is crucial for explaining why the internal arguments of Manipulation/Change Verbs and Stir/Tow Verbs can undergo case alternation in every context these verbs are used. Any internal argument which undergoes case alternation due to it being both directly manipulated by an *Initiator* and undergoing change, was said to undergo the Direct Manipulation Alternation. Then in Section 5.3.1, we saw that the semantic notions of caused motion relative to a Path are crucial for explaining case alternation with the internal argument of Transfer Verbs. Namely, any internal argument which undergoes alternation due to the fact that it undergoes caused motion along a Path is said to undergo the Caused Motion Alternation. Finally, in Section 5.4.2, we saw that the notions of creation and expression are both crucial for explaining why the internal argument of Performance Verbs undergoes case alternation (Section 5.4.2).

The strongest evidence presented in this chapter for a link between case and event structure came from observing a range of dynamic correlations between semantic factors and case — instances, that is, where we witnessed object case alternation being licensed by semantic factors independent of verb meaning. I presented three lines of empirical evidence of this sort, each of which demonstrated how modifying event structure leads to changes in object case possibilities. In Section 5.2.2, I showed that in contexts where an *Initiator* directly manipulates an object which also undergoes change, instrumental case can be licensed on that object, even when we'd expect it to be strict-accusative on the basis of verbal semantics alone. Here, the Direct Manipulation Alternation is licensed by context. Then, in Section 5.3.2, I showed that modifying an event with a Path-denoting PP consistently licenses an alternating internal argument — even in cases where we would expect only a strict internal argument to be possible, or for no internal argument to be possible at all. Here, the Caused Motion Alternation is licensed by PP-modification. Finally, in Section 5.4.1-5.4.2, I showed that placing semantic restrictions on the internal argument in a creation event transforms this event into one which involves simultaneous creation and expression of an object, thereby licensing case alternation. Here, case alternation is licensed by semantic incorporation of a nominal stem with the affixal verb *-(g)ila* 'make'. These three dynamic ways of licensing case alternation through event modification provide strong evidence for the claim that event structure determines case possibilities in Kʷakʷala. They are summarized in Table 5.1.

Empirical phenomenon	**Method of licensing (via event structure modification)**	**Effect on case marking possibilities**
Direct Manipulation Alternation	Information is added by context, so that an internal argument which undergoes caused change is also interpreted as being directly manipulated by the *Initiator* in the course of the event	An otherwise strict-accusative (=*x̌*) argument acquires the ability to undergo {=*s*, =*x̌*} alternation
Caused Motion Alternation	An event description is modified by a Path-denoting PP (and in some cases, an external argument is added); this transforms the event into a caused-motion event, where the event's final bound is defined by the Path's endpoint	An otherwise strict-instrumental (=*s*) or strict-accusative (=*x̌*) argument acquires the ability to undergo {=*s*, =*x̌*} alternation; OR the presence of an alternating object is licensed where it otherwise wouldn't be possible
Semantic incorporation with *-(g)ila* 'make'	An incorporated nominal modifies a pure creation event by semantically restricting the way in which creation comes about; this transforms the event into one in which the internal argument is both expressed and created	An otherwise strict-accusative (=*x̌*) argument acquires the ability to undergo {=*s*, =*x̌*} alternation

Table 5.1: Summary of ways in which modifying events changes case-marking possibilities

The broader theoretical significance of these findings lies in the fact that they provide evidence for the separability of event-structural meaning from verb meaning. Thus, while we've seen ample evidence throughout this dissertation for the idea that verb meaning *constrains* object case possibilities, the empirical phenomena described in this chapter show that verbs nevertheless fail to *determine* object case possibilities. The distribution of object case in K^{w}ak̓^{w}ala is determined, rather, by event structure. In the next chapter, I'll propose an analysis of how exactly the event structural distinction between *initiating* and *non-initiating* subevents is grammaticalized in K^{w}ak̓^{w}ala. To do this, I'll need to zoom out and consider K^{w}ak̓^{w}ala's object case system from a wider, cross-linguistic perspective.

6
Kʷakʷala's Object Case System in Cross-Linguistic Perspective

6.1 Introduction

The previous five chapters have been focused on developing a semantic theory that accounts for the distribution of object case in Kʷakʷala. The purpose of the current chapter is to zoom out and see Kʷakʷala's object case system in cross-linguistic perspective, to understand what the Kʷakʷala system reveals about language in general.

The first finding that emerges when we begin to compare Kʷakʷala's object case system with case systems in other languages is that the Kʷakʷala system is, in some ways, unique. To the best of my knowledge, Kʷakʷala is the first language reported which possesses a two-object case system consisting of an interpretable instrumental-like case, opposed to an *un*interpretable accusative-like case — or in other words, where a marked object category is semantically associated with *initial* subevents, while an unmarked object category is associated with *final* subevents. This particular pattern of markedness appears to be otherwise unattested in the current literature on two-object case systems.[1] One achievement of the current study, then, is that it expands our knowledge about what a possible object case system looks like.

Abstracting away from the particular properties of Kʷakʷala's object case system, however, we find plenty of other languages which tie object encoding to properties of event structure. What is striking about these other languages, however, is that they all involve an association between some aspect of object encoding and the *final* bound of events — more specifically, between objects and telicity. For instance, accusative case on an object is tied to telicity in Finnish (Leino 1982, Heinämäki 1984, 1984, Vainikka 1989, Kratzer 2004), and the head-marking equivalent of this same pattern is seen in Skwxwu7mesh (Salish), where telicity is tied to the position of object agreement (Jacobs 2011). An object's position in syntax is also associated with telicity in Scottish Gaelic (Ramchand 1997), Hindi (Mahajan 1990), Turkish (Aydemir 2004), German (Kratzer 2004), and English (Kratzer 2004, Ramchand 2008). In fact, the association between object interpretation and telicity is so widespread that it is often built into models of the syntax-semantics interface (e.g. Borer 2005: p. 72, Ramchand 2008: p. 32-40, Travis 2010: p. 9-11, 118-122). In short, while languages which manifest an association between object-encoding and *final* subevents are well-attested, Kʷakʷala shows that it is also possible for a language to manifest the opposite association, namely between object-encoding and *initial* subevents.

In order to clearly understand how Kʷakʷala's object case system manifests the opposite object-encoding pattern from the languages cited above, I'll devote the first part of this chapter to developing an in-depth comparison between Kʷakʷala's object case system and the partitive-accusative object case system in Finnish, which I'll show is, semantically-speaking, the mirror

[1] To be clear: it's possible that this pattern is attested somewhere, but I've missed it. It's also possible there are case systems already described in the literature which would, on closer inspection, turn out to resemble Kʷakʷala's in the relevant respects.

opposite of Kʷakʷala's instrumental-accusative system. We'll see that this mirroring explains a stark difference between the two languages in how telicity is encoded: that while telicity is tied to object case in Finnish, object case is independent of telicity in Kʷakʷala.[2] On the basis of mirror-image similarities between these two languages in the semantics of object case, I will propose a syntactic analysis of Kʷakʷala object case that is based off of the analysis Kratzer (2004) provides for Finnish.

Seen in the light of this mirror opposition, Kʷakʷala illuminates the existence of a higher-order pattern: namely, a pattern whereby languages have a tendency to tie object-encoding to event structure, but differ in terms of which part of event structure they grammaticalize. Later in this chapter, I'll discuss how this finding fits into Ritter & Rosen's (2000) claim that languages are bifurcated into two types — I(nitiator)-languages and D(elimiting)-languages — depending on whether they grammaticalize the *initial* or *final* bound of events. Previous to the current study, being an I-language has been defined solely in relation to how subjects are encoded; Kʷakʷala, on the other hand, manifests the property of being an I-language in terms of how objects are encoded, in addition to how subjects are. By validating the typological theory of Ritter & Rosen (2000), we'll see that Kʷakʷala's object case system, while unique, is far from anomalous: it is, in fact, exactly the type of system we'd expect to see instantiated in some language or other on the basis of already-attested patterns.

The rest of this chapter is organized into four sections, as follows:

- In Section 6.2, I provide an overview of the Finnish object case system as analyzed in Leino (1982), Heinämäki (1984, 1994), Vainikka (1989), and Kratzer (2004), in which accusative case is interpretable and partitive case is uninterpretable. I show that accusative objects entail telicity, while partitive object implicate atelicity. Atelicity in Finnish also arises in connection with the expression of bare plural and mass noun objects.

- In Section 6.3, I discuss some semantic consequences of the fact that in Kʷakʷala, as opposed to Finnish, accusative case is *un*interpretable. In particular, I show that in Kʷakʷala, interpretations of telicity arise independently of object case. I also show that the semantic properties of nominals in object position have no apparent effect on the distribution of object case in Kʷakʷala.

- In Section 6.4, I enumerate the specific ways in which the Kʷakʷala and Finnish object case systems are semantically mirrored. I then extend this semantic mirroring into the syntactic domain, by adapting the syntactic analysis of Finnish object case Kratzer (2004) to account for object case in Kʷakʷala. I show that this syntactic analysis can account for the findings of previous chapters and finish by discussing the sense in which instrumental case in Kʷakʷala is a hybrid structural-inherent case.

- In Section 6.5, I show that Kʷakʷala's case system fits squarely within Ritter & Rosen's (2000) event-structural typology of I-languages and D-languages. I argue, however, that

[2] In Appendix D, I provide an overview of various mechanisms Kʷakʷala speakers have at their disposal for communicating telicity. I argue there that there is no compelling evidence for telicity being grammaticalized at all in Kʷakʷala.

their proposal must be extended to allow for languages to be classified as I-languages on the basis of object properties, not just subject ones, to accommodate the Kʷakʷala pattern.

- Finally, in Section 6.5, I discuss the broader significance of the findings in this chapter, including implications for how the category of aspect is realized in Kʷakʷala.

By the end of this chapter, the reader should understand how Kʷakʷala's object case system fits in relative to wider cross-linguistic patterns, both in terms of how it is unique, and how it is abstractly similar to other attested systems.

6.2 Object case and telicity in Finnish

Finnish, like Kʷakʷala, has two object cases: partitive and accusative.[3] In this section, I'll provide an outline of the semantic analysis of these cases developed in work by Leino (1982),[4] Heinämäki (1984, 1994), Vainikka (1989) and Kratzer (2004). On this analysis, partitive is an uninterpretable default object case, while accusative case is an interpretable case which adds an element of meaning that is variously referred to as *boundedness* (Leino 1982, Heinämäki 1984, 1994), *completeness* (Vainikka 1989), *culmination*, or *telicity* (Kratzer 2004).[5] For our purposes here, these terms will be considered interchangeable, though I will mostly make use of the term *telicity*. I should note that Kiparsky (1998) offers an interesting alternative analysis in which partitive case is interpretable and adds the meaning of *unboundedness* to events, while accusative is the uninterpretable default. However, this analysis cannot explain why partitive case only implicates unboundedness (as discussed below), so I do not adopt it here.

A first indication that Finnish accusative is associated with interpretations of telicity comes from looking at inherently telic verbs — verbs, that is, which entail the existence of some inherent bound or endpoint, such as the verbs in (208). What we find is that inherently telic verbs require accusative objects. This is shown in (209) with the telic verb *löytää* 'find'.[6]

(208) Telic verbs (strict-accusative) (Kiparsky 1998, p. 281)

ostaa 'buy', *ottaa* 'take', *pudottaa* 'drop', *suorittaa* 'carry out', *kadottaa*, *menettää*, *hukata* 'lose (possession)', *hävitä* 'lose (game, fight)', *löytää* 'find', *hyväksyä* 'accept', *panna*, *asettaa* 'put', *tappaa* 'kill', *antaa*, *lahjoittaa* 'give', *kaataa* 'fell', *mainita* 'mention', *siepata* 'catch', *omaksua* 'appropriate', *ripustaa* 'hang', *istuttaa* 'plant'

[3] Accusative here refers to a syntactic category, not a morphological one. Morphologically, only personal pronouns have distinct accusative forms; elsewhere, accusative objects are morphologically syncretic with genitive (when singular and in the domain of certain subjects) or syncretic with nominative (elsewhere) (Kiparsky 2001: pg. 332).

[4] Heinämäki (1984: p. 155) cites Leino (1982) as the first analysis of Finnish object case developed along the lines discussed here. Since I have not been able to access and read Leino's work myself, I cite this work here to give it credit, but not below.

[5] Strictly-speaking, Kratzer (2004) refers to case *features* as being interpretable/uninterpretable, rather than to case itself being so. To maintain consistency with how I've used this term throughout the dissertation, I will continue to refer to case as (in)terpretable in this chapter, despite the fact that what is really interpret*ed* is not case itself, but the syntactic head which is responsible for case assignment.

[6] There do turn out to be two specific circumstances in which inherently telic verbs can take partitive objects (namely, when the nominal is a mass term or indefinite plural and under the scope of negation). The appearance of partitive in these environments can be explained by outside factors, and crucially do not interfere with the generalization here. I'll return to discuss these uses of partitive below.

(209) a. löysin virheen *Finnish*
I-found mistake.ACC
'I found a/the mistake (ACC).' (Heinämäki 1994: p. 212)

b. * löysin virhettä *Finnish*
I-found mistake.PART
Intended: 'I was finding a/the mistake (PART).' (Heinämäki 1994: p. 212)

In contrast with inherently telic verbs, verbs which are inherently atelic require partitive objects. A list of inherently atelic verbs is provided in (210). The use partitive is illustrated in (211)-(212) with the verbs *odotta* 'wait' and *pelätä* 'fear'.

(210) Atelic verbs (strict-partitive) (Kiparsky 1998, p. 281)[7]

a. **Psychological states, attitudes:** *halveksia* 'despise', *ihailaa* 'admire', *ikävöidä* 'yearn for', *harrastaa* 'be interested in (as a hobby)', *huvittaa* 'amuse', *ikävystyttää* 'bore', *inhota* 'feel revulsion towards', *kadehtia* 'envy', *karttaa* 'avoid', *kehua*, *ylistää* 'praise', *kiinnostaa* 'interest', *kiittää* 'thank', *kunnioittaa* 'honor', *moittia* 'blame, reprimand', *onnitella* 'congratulate', *pelätä* 'fear', *rakastaa* 'love', *sietää* 'tolerate', *siunata* 'bless', *toivoa* 'hope for', *valittaa* 'complain about', *vihata* 'hate', *väsyttää* 'tire'
b. **Various intensional verbs:** *koettaa*, *yrittää* 'try', *pyytää* 'ask for', *merkitä*, *tarkoittaa* 'mean', *ajatella*, *pohtia* 'think about', *harkita* 'consider', *matkia* 'imitate', *odotta* 'wait', *paeta* 'flee', *kysyä* 'ask for'
c. **Continuous motion or contact:** *heiluttaa* 'swing back and forth', *ravistaa* 'shake', *keinuttaa* 'rock', *nyökyttää* 'nod', *suudella* 'kiss', *hyväillä* 'caress', *koskettaa* 'touch', *nussia* 'fuck', *hieroa* 'massage'

(211) odotin bussia *Finnish*
I-waited bus.PART
'I was waiting for the bus (PART).' (Heinämäki 1994: p. 218)

(212) pelkäsin maanjäristystä *Finnish*
I-feared earthquake.PART
'I was afraid of an earthquake (PART).' (Heinämäki 1994: p. 219)

Heinämäki (1994) does not provide negative data with the verbs *odotta* 'wait' and *pelätä* 'fear' which would show that accusative case is impossible with these verbs; however, these data are implied by Heinämäki's (ibid.) statement that "Sentences [211] and [212] are state-like descriptions. Accusative objects would make the sentences unacceptable, because waiting vs. fearing have no conventional end points" (p. 219).

In general then, we see a correlation between whether a verb entails telicity or atelicity, and whether that verb requires an accusative or partitive object. This correlation provides clear evidence for a relationship between telicity and accusative case, and atelicity and partitive case; however, it does not tell us anything yet about how these semantic values are encoded in the grammar.

[7] The verb *odotta* 'wait' has been added in to this list.

The semantic contribution of accusative case and partitive case can be diagnosed by looking at data involving verbs which allow their object to be expressed in either case. A list of verbs which take alternating objects is provided in (213), and an example of case alternation with the verb *lukea* 'read' is provided in (214).

(213) Alternating telic/atelic verbs (accusative or partitive) (Kiparsky 1998, p. 281-2)

a. **Verbs of creation and destruction:** *syödä* 'eat' (partitive: *söi piirakkaa* 'ate pie, some of the pie', accusative: *söi piirakan* 'ate a/the pie'), *leikata* 'cut', *kaivaa* 'dig', *kirjoittaa* 'write'
b. **Other verbs with Incremental Themes:**[8] *lukea* 'read' (partitive: 'read (at least part of)', accusative: 'read up to some point', usually 'finish reading'), *tutkia* 'investigate', *siirtää* 'move', *sekoittaa* 'mix'
c. **Verbs with different lexical meanings depending on the case of the object:** *lyödä* 'beat up' (partitive: 'beat or hit (at) someone', accusative: 'beat someone at something'), *nimittää* 'name' (partitive: 'call (by a name)', accusative: 'nominate'), *muistaa* 'remember' (partitive: 'commemorate', 'remember someone with a gift or greeting on a special occasion', accusative: 'recall')

(214) a. Terttu luki kirjaa *Finnish*
Terttu read book.PART
'Tertu was reading a book (PART).' (Heinämäki 1994: p. 212)

b. Terttu luki kirjan *Finnish*
Terttu read book.ACC
'Tertu read (all) the book (ACC).' (Heinämäki 1994: p. 212)

We can see in (214) that the interpretation of the sentence differs depending on whether the object is partitive (214a) or accusative (214b). Heinämäki (1994: p. 213) notes that the most likely interpretation of (214a), with partitive, is that Terttu did not finish reading the book, and that the most likely interpretation of (214b), with accusative, is that Tertu read the whole book — in other words, that (214a) is atelic and (214b) is telic. However, these are pragmatic inferences rather than semantic ones. For one thing, (214a) with partitive implicates but does not entail atelicity. Heinämäki states:

> "[214a],[9] with a partitive object, is compatible with a situation where Terttu in fact read the whole book, but, for some reason or other, the speaker did not choose to present the situation as bounded. The partitive object leaves it open whether in fact the end point of the activity has been reached or not, as Leino (1982: 137) remarks. The naturalness of the inference from [214a] that Terttu did not read all the book follows from Grice's (1975) maxim of quantity, which says that the speaker is expected to make the strongest statement that he or she can. But semantically, the sentence [214a] is non-committal as to whether the situation itself had some bound or not. In other words, [214a] is a non-bounded situation description." (Heinämäki 1994: p. 213)

[8] This is phrased in Kiparsky (1998: p. 281) as 'other verbs denoting events whose progress is mapped out into the parts of the object'.
[9] Heinämäki cites example number (7a) in the original text, but I've substituted (214a) to make this passage more readable here.

The range of interpretations available for data like (214a) indicate that partitive case does not impose a semantic atelicity requirement. This in turn suggests that partitive case is *un*interpretable.

On the other hand, accusative case is interpretable, and its presence on an object entails the existence of a bound for the event being described. However, while the existence of a bound is entailed, the particular *nature* of the bound is not determined semantically, but pragmatically (Heinämäki 1984: p. 156-8, 160, 162; Heinämäki 1994: p. 213, 226; Kratzer 2004: p. 394). Thus while (Sb), with an accusative object and no explicit bound, tends to be interpreted as an event in which Terttu read the whole book, this is not the only value that reading events with accusative objects can have. An accusative object is also consistent with the range of interpretations in (215) containing explicit bounds ('only half-way through' and 'to pieces'), which themselves are actually inconsistent with the interpretation that the whole book has been read. What (214a), (215a), and (215b) have in common is the existence of a bound: in (215a) it is the point at which the book has been read halfway; in (215a) it is the point at which the book is in pieces; and in (214a), the hearer is left to infer that the event's bound corresponds with the natural bound of the event — the point at which the whole book has been read.

(215) a. Terttu luki kirjan vain puoliväliin *Finnish*
Terttu read book.ACC only half.way.to
'Terttu read the book (ACC) only half-way through.' (Heinämäki 1994: p. 213)

b. Terttu luki kirjan hajalle *Finnish*
Terttu read book.ACC pieces.to
'Terttu read the book (ACC) to pieces.' (Heinämäki 1994: p. 213)

In summary, partitive case is uninterpretable but implicates atelicity, while accusative case is interpretable and entails the existence of a bound. This bound may then either be spelled out explicitly, as it is in (215a)-(215b), or determined pragmatically, based on the properties of event being described.

The data we've seen so far are consistent with an analysis in which the distribution of accusative case is entirely determined by verbal semantics. In fact however, accusative objects can also be licensed via event modification, by adding a natural bound to an event description. One way this can be done is shown in (V) with the verb *ravistaa* 'shake'. While there is a conventional understanding of carpet-shaking as a telic event (namely, in which dust is removed from the carpet by shaking it) (216a), there is no conventional way of understanding leg-shaking (216b). However, when an explicit bound is added to this event, an accusative object can be expressed (216c).

(216) a. ravistin matot *Finnish*
I-shook carpets.ACC
'I shook the carpets (ACC).' (Heinämäki 1994: p. 214)

b. * ravistin jalkani *Finnish*
I-shook legs.ACC.my
'I shook my legs (ACC).' (Heinämäki 1994: p. 215)

c. ravistin jalkani rennoiksi *Finnish*
I-shook legs.ACC.my relaxed.to
'I shook my legs (ACC) so that they became relaxed.' (Heinämäki 1994: p. 215)

Another example of event structure modification licensing an accusative object is shown in (217) with the verb *lukea* 'read'. The first sentence (217a) shows that when there is no explicit bound, it is impossible to realize an accusative object that is coreferent with the subject. One way of providing an explicit bound to an event of this sort is to add a resultative phrase like *juristiksi* 'to lawyer', as in (217b); the intended meaning of this sentence is that Johanna read (i.e. studied) until she became a lawyer. Significantly, the sentence in (217c) shows that the presence of this explicit bound makes it possible to realize an object coreferent with the subject (217c).[10]

(217) a. * Johanna luki itsensä *Finnish*
Johanna read herself.ACC
'Johanna read herself (ACC).' (Heinämäki 1994: p. 215)

b. Johanna luki juristiksi *Finnish*
Johanna read lawyer.to
'Johanna read (herself) (to be) a lawyer.' (Heinämäki 1994: p. 215)

c. Johanna luki itsensä juristiksi *Finnish*
Johanna read herself.ACC lawyer.to
'Johanna read herself (ACC) to lawyer.' (Heinämäki 1994: p. 215)

In summary, while the data in (208)-(215) show that verb meaning constrains the distribution of object case, the data in (216)-(217) show that verb meaning does not determine it. Rather, it is the structure of an event, and in particular whether an event can be interpreted as bounded or not, which determines object case possibilities. Whenever an event can be interpreted as bounded, accusative case is possible; partitive can be used in these instances as well, but is more typically used to indicate that an event is unbounded.

Up to this point, I've been ignoring two obligatory uses of partitive case which are not accounted for by the semantic analysis developed so far. Specifically, these include the obligatory use of partitive on objects in the scope of negation, and the obligatory use of partitive on objects that are interpreted as "quantitatively indeterminate" (Kiparsky 1998: p. 267). I will now review evidence these instances of partitive should be analyzed separately from the object partitive discussed above.

The first environment where partitive objects are obligatory is under the scope of negation. According to Heinämäki (1984: p. 167), previous research on Finnish object case (for instance Leino 1982) assumed that there was a semantic explanation for why the partitive is obligatory in the scope of negation. The idea is that negating a bounded event description invariably gives rise to an unbounded event description (see for instance Verkuyl 1993: p. 162-167), and therefore, only partitive objects should be possible in negated environments. This explanation works to explain the data in (218), for instance, where negation of the telic event description in (218a) gives rise to an atelic event description in (218b). Nothing would need to be added to the

[10] The licensing of so called "fake reflexive" objects in resultative constructions such as these is also attested in English; see for instance Levin & Rappaport-Hovav (1995: p. 33-78).

semantic theory of object case stated above to explain the obligatory use of partitive in this example.

(218) a. luin kirjan / kirjaa *Finnish*
I-read book.ACC / book.PART
'I read (all) the book (ACC) / I was reading the book (PART).'
(Heinämäki 1994: p. 221)

b. en lukenut *kirjan / kirjaa *Finnish*
NEG-I read book.ACC / book.PART
'I did not read the book (*ACC)(PART).' (Heinämäki 1994: p. 221)

Heinämäki 1984 (p. 168-169) nevertheless argues that negated sentences do not, in fact, always describe unbounded situations. For instance in (219), the 'when' clause contains a negation, but can also take modifiers like *viiteen mennessä* 'by five' and *päivässä* 'in a day', indicating boundedness. The sentence in (219) then shows that partitive case is obligatory under the scope of negation even when the event description in (219) is bounded.

(219) Kun Ulla ei lähettänyt meille kirjaa viiteen *Finnish*
When Ulla not sent us.to book.PART five
mennessä / päivässä, päätimme ostaa sellaisen
by / day.in we.decided buy such
'When Ulla did not send us the book (PART) by five/in a day, we decided to buy a copy.'
(Heinämäki 1984: p. 169)

Heinämäki (1984) goes on to argue that in negative environments, partitive case is syntactically determined (see Heinämäki 1984: p. 167-170 for additional arguments on this point). Assuming this to be the case, the obligatory use of partitive under the scope of negation does not interfere with the semantic analysis of object case presented above.

The second environment where partitive case is obligatory is with objects that are interpreted as quantitatively indeterminate. More specifically, this includes all objects that are interpreted as bare plurals and mass nouns. According to Kratzer (2004: p. 401), the reason these objects are obligatorily partitive is that these are not instances of the 'object' partitive at all, but of a separate NP-partitive, a DP-internal semantic case used to indicate part-whole meanings and quantitative indefiniteness. The existence of a DP-internal partitive makes sense of data like (220), where an accusative DP is conjoined with a (morphologically) partitive DP (220). In particular, it allows us to analyze the partitive on 'book' in (220) as a DP-internal partitive which gives rise to the interpretation that this conjunct as a bare plural, while the accusative on 'newspaper' is analyzed as a VP-level object case which gives rise to an interpretation that the event as telic.

(220) ost-i-n lehde-n ja kirjo-j-a *Finnish*
buy-PST-1SG newspaper-SG.ACC and book-PL-PART
'I bought the/a newspaper (ACC) and books (PART).' (Kiparsky 1998: p. 275)[11]

[11] This example is cited in Kratzer 2004: p. 21, to make this argument.

Finnish morphology disallows case-stacking of either object case on top of the NP-partitive. Thus while 'book' in (220) is morphologically partitive, the fact that the event description in (220) is bounded means that 'book' must also have covert accusative case. This also means that it is impossible to tell just from looking at the morphology whether an example like (221), with partitive case on the object, also has covert accusative case or covert partitive case, since neither would be pronounceable if this is the NP-partitive. If the object has NP-partitive and covert accusative, reading (221a) results; if the object has NP-partitive and covert object partitive, reading (221b) results; and if the object has only the object partitive, reading (221c) results.

(221) hän kirjoitt-i kirje-i-tä *Finnish*
he/she write-PAST.M.3SG letter-PL-PART
a. He wrote (some) letters (…and left)
b. He was writing letters (…when I came)
c. He was writing the letters (…when I came) (Kiparsky 1998: p. 272)[12]

Recall that with inherently telic verbs, only accusative case is possible on objects.[13] Yet even with these verbs, partitive case is obligatory whenever the object is a bare plural (as in 222b) or mass noun (as in 223b).[14] The possibility of realizing partitive case in these instances is straightforwardly explained if these are instances of a DP-internal semantic case.

(222) a. saa-n karhu-t *Finnish*
get-1SG bear-PL.ACC
'I'll get the bears (ACC).' (Kiparsky 1998: p. 268)

b. saa-n karhu-j-a *Finnish*
get-1SG bear-PL-PART
'I'll get bears (PART).' (Kiparsky 1998: p. 268)

(223) a. löysin veden *Finnish*
I-found water.ACC
'I found the water (ACC).' (Heinämäki 1994: p. 212, 223)

b. löysin vettä *Finnish*
I-found water.PART
'I found water (PART).' (Heinämäki 1994: p. 212, 223)

[12] This example is cited in Kratzer 2004: p. 23, to make this argument.
[13] On Kratzer's (2004: p. 403) analysis, this is due to the existence of a general principle, Maximize Interpretability, which forces accusative to be used whenever doing so would not conflict with the speaker's intended meaning. The idea is that since inherently telic verbs cannot be construed as atelic, the speaker's intended meaning will always determine the use of accusative case with these verbs. This leads to them being strict-accusative.
[14] Heinämäki (1994: p. 222-3) goes on to show that with inherently telic verbs such as those in (222)-(223), the presence of partitive case does not coerce an unbounded interpretation onto the event. To do so, Heinämäki uses the Finnish adverbial phrases *tunnissa* 'in an hour' and *tunnin* 'for an hour', as these phrases diagnose bounded and unbounded events, respectively (Vendler 1967: p. 98-107; Dowty 1979: p. 332-336). Heinämäki's argument is significant insofar as it supports the analysis of NP-partitive adopted here, and provides evidence against Kiparsky's (1998) opposing analysis, wherein partitive is analyzed as an interpretable object case that signals unboundedness at the VP level.

The NP-partitive contributes a meaning of quantitative indefiniteness in the nominal domain and as such, is not inherently associated with boundedness or unboundedness in the VP domain. Nevertheless, when the DP-partitive appears on the object of an alternating verb, its meaning interacts with the semantics of the VP and forces an unbounded interpretation of the event. This occurs because there is no way for an unbounded referent to be mapped onto the run-time of a bounded event, as doing so would require imposing a bound on the referent. Thus, while partitive-marked objects can be interpreted as bare plurals (224a), accusative objects can never be (224b).

(224) a. ammu-i-n karhu-j-a *Finnish*
shoot-PST-1SG bear-PL-PART
'I shot at (the) bears (PART).' (Kiparsky 1998: p. 267)

b. ammu-i-n karhu-t *Finnish*
shoot-PST-1SG bear-PL.ACC
'I shot the bears (ACC).' (Kiparsky 1998: p. 267)

Thus, even though the DP-internal partitive is a semantic case for nominals, its presence on an object can interact in certain circumstances with the aspectual interpretation of the VP.

In short, I've just described two environments in which partitive case is obligatory. First, partitive case is obligatory in the scope of negation, where it is syntactically required (Heinämäki 1984: p. 167-170). Second, there is a separate use of partitive case as a DP-internal semantic case for indicating quantitative indefiniteness. I have reproduced data and argumentation showing that these two uses of the partitive on objects require a separate analysis from the analysis of the object partitive offered above. I conclude that these two uses of partitive do not constitute a problem for that analysis.

In summary, the object case system in Finnish consists of two object cases: interpretable accusative case, and uninterpretable partitive case. Accusative case on an object entails the existence of a bound, while partitive case on an object implicates that an event is unbounded but is semantically consistent with either bounded or unbounded event descriptions. Instances of partitive under negation and DP-internal partitive do not interfere with this analysis.

Having arrived at an understanding of the Finnish object case system on its own terms, we're in a position to see how the properties of this system relate to properties of the Kʷak̓ʷala object case system. Using the terminology developed in Chapter 4, we can say that Finnish accusative case signals an argument's participation in a *non-initiating* subevent — in particular, accusative leads to an interpretation of the argument as defining the event's final bound, in some way. Partitive case, on the other hand, is an uninterpretable default case. In terms of its semantics, this makes the Finnish system the mirror opposite of the Kʷak̓ʷala system: while Kʷak̓ʷala possesses an interpretable case tied to the *initiating* phase of an event, Finnish possesses an interpretable case tied to the *non-initiating* phase of an event. Given that the object case systems of Kʷak̓ʷala and Finnish are mirrored in this way, we might expect Kʷak̓ʷala to exhibit mirror-opposite properties relative to Finnish as far the interpretation of telicity is concerned. We'll see in the next section that this prediction is borne out.

6.3 Object case and telicity in Kʷakʷala

We've just seen that in Finnish, accusative case is interpretable and entails telicity. In Kʷakʷala on the other hand, accusative case is uninterpretable. We might expect, then, for Kʷakʷala to differ significantly from Finnish in how it encodes telicity. In this section, I'll demonstrate two ways that Kʷakʷala differs from Finnish in this regard. First, I'll provide three types of empirical evidence showing that the realization of object case is independent of telicity in Kʷakʷala (Section 6.3.1). Following this, I'll show that the semantic properties of nominal objects have no effect on object case realization in Kʷakʷala (Section 6.3.2).

6.3.1 The independence of object case and telicity

Given the existence of an association in Kʷakʷala between instrumental case and *initiating* subevents and accusative case and *non-initiating* subevents, if there were a relationship between object case realization and telicity, we would expect it to manifest as an association between instrumental objects and atelicity, and/or between accusative objects and telicity; in other words, we'd expect at least one of the statements in (225) to be true.

(225) i. Sentences with instrumental objects describe atelic events
ii. Sentences with accusative objects describe telic events

In fact, neither of the statements in (225) hold in Kʷakʷala. I'll now show three types of empirical evidence which show this to be the case. These types of evidence include evidence from alternating case environments (6.3.1.1), evidence from case-marking with inherently telic verbs (6.3.1.2), and evidence from non-culminating accomplishments (6.3.1.3).

6.3.1.1 Case alternation and telicity

The first problem for (225) concerns alternating case environments. If instrumental objects were associated with atelicity and/or accusative objects with telicity, we would expect the interpretation of sentences with potentially alternating objects to differ in accordance with which case is chosen in a given utterance. Contrary to this prediction, in sentences where an object may appear in either case, the case that is chosen has no effect whether the event is interpreted as telic or not. This is illustrated in (226) and (227) below with the verbs *qəpid* 'pour' and *ʔəxʔaƛ-* 'put down on surface', both of which take an alternating Theme. The context in (226) is one demanding an atelic interpretation, yet we see that the Theme can be expressed in either case. The context in (227) is one demanding a telic interpretation, and here again, the Theme can be expressed in either case.

(226) *Context: Mabel found some milk in her fridge that was four months old, so she decided to put it in the compost. She tried to pour it out, but it was so thick, it didn't come out.*

a. qəp̓id waxi Mabele**sa məlk**, k̓iʔst̓a weł łoł̓co
qəp-xʔid wax =i Mabel **=s=a** **məlk**
spill-BEC try =3DIST Mabel **=INST=DET** **milk**
k̓iʔs=t̓a weł loƛ̓-c̓u-a
NEG=but ABIL obtain-inside-A
'Mabel tried to pour **the milk** (**INST**), but it didn't come out.' (VF)

b. qəp̓id waxi Mabel**x̌a məlk**, k̓iʔst̓a weł łoł̓co.
qəp-xʔid wax =i Mabel **=x̌=a** **məlk**
spill-BEC try =3DIST Mabel **=ACC=DET** **milk**
k̓iʔs=t̓a weł loƛ̓-c̓u-a
NEG=but ABIL obtain-inside-A
'Mabel tried to pour **the milk** (**ACC**), but it didn't come out.' (JF)

(227) *Context: I went out with a friend and bought a beautiful teapot. When I arrived home, I absentmindedly gave the teapot to my friend, so that they could bring it inside the house for me. They brought it inside and put it on the table, and came back outside to where I was. By that point, I'd already forgotten that I'd sent my friend inside with the teapot, so I asked my friend where the teapot was. My friend then said to me, 'Oh. I put it on the table.'*

a. ʔəx̌ʔaƛudən**sux̌da digilac̓ix̌** lax̌ida həm̓xdəm̓ił
ʔəx̌-ʔaƛ-xʔid =ən **=s=ux̌=da** **di-gila-ʲac̓i=x̌**
DO-on-BEC =1 **=INST=3MED=OST** **tea-make-container=VIS**
la =x̌=i=da həm̓xdəm̓ił
PREP =ACC=3DIST=OST table
'I put **the teapot** (**INST**) down on the table.' (JF)

b. ʔəx̌ʔaƛudən**x̌ux̌da digilac̓ix̌** lax̌ida həm̓xdəm̓ił
ʔəx̌-ʔaƛ-xʔid =ən **=x̌=ux̌=da** **di-gila-ʲac̓i=x̌**
DO-on-BEC =1 **=ACC=3MED=OST** **tea-make-container=VIS**
la =x̌=i=da həm̓xdəm̓ił
PREP =ACC=3DIST=OST table
'I put **the teapot** (**ACC**) down on the table.' (VF)

The same pattern can be seen in environments where case alternation is licensed through event modification. Example (228) shows an instance of the Direct Manipulation Alternation (discussed in Section 5.2), and example (229) shows an instance of the Caused Motion Alternation (discussed in Section 5.3). In both (228) and (229), the speaker was asked to provide a translation for an event description which, in English, is telic. In both instances, the speaker's first volunteered form contained an instrumental object; accusative was subsequently found to be possible in these contexts as well.

(228) *Context: A woman picked up a cup in her hand and smashed it down on her (clam) digging stick, causing the cup to break.*

təp̓idida c̓ədaqe{**sa, x̌a**} **k̓ʷəʔsta** laxis dzigayu			
təp-xʔid	=i=da	c̓ədaq	{**=s=a** , **=x̌=a**}
broken-BEC	=3DIST=OST	woman	{**=INST=DET**, **=ACC=DET**}
k̓ʷəʔsta	la	=x̌=is	dzik-$_{w}$ayu
cup	PREP	=ACC=3REFL.POSS	dig-INST.PASS

'The woman broke **a cup** {INST, ACC} on her digging stick.' (VF, VF)

(229) KS: And how would we say, 'Monica filled the balloon with water'…?

ləm̓ux̌ qut̓amas{**sida, x̌ida**} **w̓ap** laxida puxʷəns				
lə=ʔm	=ux̌	qut̓-a-mas	{**=s=i=da**	, **=x̌=i=da**}
AUX=VER	=3MED	full-A-CAUS	{**=INST=3DIST=OST**	, **=ACC=3DIST=OST**}
w̓ap	la	=x̌=i=da	puxʷəns	
water	PREP	=ACC=3DIST=OST	balloon	

'Then she filled the balloons with **water** {INST, ACC}.' (VF)
Literally: 'Then she caused-to-be-full with water into the balloon.'

The finding that either case may appear in both atelic and telic contexts, with alternating verbs, shows that case choice in alternating environments does not determine telic interpretation.

6.3.1.2 Inherently telic verbs

A second problem for (225) arises when we look at the realization of objects with transition verbs (Greene 2013); these are verbs which resemble what have been labeled as achievements in the literature. A list of transition verbs is given in (230). The defining property of these verbs is that they are inherently telic, meaning that in the absence of overt aspectual-marking, they entail event completion (Greene 2013: 39-41).

(230) **Kʷak̓ʷala Transitions** (Greene 2013:97)

c̓o-	'give'
dulo-	'win'
bəw-	'leave'
x̌əs-	'become lost'[15]
gax̌-	'come'
lagəʔa-	'arrive'
galabənd-	'start'
ǧʷał-	'finish'
q̓a-	'find'

If object case were associated with (a)telicity in Kʷak̓ʷala, we would expect all transitive transition verbs to be strict-accusative. However, this prediction is not borne out. From the

[15] Greene (2013: p. 97) glosses this verb as 'lose'. Since this verb is an unaccusative (and requires causative *-mas* to be made transitive), I've changed its translation here to 'become lost'.

verbs in (230), only *dulo-* 'win' (231) and *q̓a-* 'find' (232) consistently take accusative objects.[16] On the other hand, the verb *gaǩ-* consistently takes instrumental objects (233), *bəw-* 'leave' (234) takes an object which speakers judge to be strict-instrumental, and *c̓o* 'give' (235) takes an alternating object.

(231) dulowida gudan**əǩa dzadzəlxʷap̓**
dulo =i=da gudan **=ǩ=a** **dza~dzəlxʷ-ɾa-p̓**
win =3DIST=DET horse **=ACC=DET** **REDUP~run-try-RECIP**
'The horse won **the race** (ACC).' (VF)

(232) q̓am̓i Katiyə**ǩus dalac̓i**
q̓a=ʔm =i Katie **=ǩ=us** **dala-ʰac̓i**
find=VER =3DIST Katie **=ACC=3REFL.POSS** **money-container**
'Katie did find **her wallet** (ACC).' (VF)

(233) hedi siɬəm gaǩ**sa nənq̓uma**
he=d =i siɬəm gaǩ **=s=a**
be.3DIST=DET =3DIST snake come **=INST=DET**
n~naq-ʰuma
REDUP~drink-NMZ
'It's the snake who brought **the drinks** (INST).' (Littell 2016, p. 548)

(234) a. ləm̓uǩ Hannaǩ λuw̓uǩ Katiyəǩ bołcuǩ caǩisəǩ
lə=ʔm =uǩ Hannah=ǩ λəw̓ =uǩ Katie=ǩ
AUX=VER =3MED Hannah=VIS CONJ =3MED Katie=VIS
bəw=λ **=s=uǩ** **caǩis=ǩ**
leave=FUT **=INST=3MED** **Fort.Rupert=VIS**
'Hannah and Katie are gonna leave **Fort Rupert** (INST).' (VF)

b. # bəwuǩis ław̓anəm
bəw =uǩ =ǩ=is ław̓anəm
leave =3MED =ACC=3REFL.POSS husband
Intended: 'She left her husband (ACC).' (JF)

Speaker: "*bəwuǩ ǩis…? k̓i.*" ['No.']

(235) c̓owuǩ Shelli{**sis, ǩis**} **dzastu q̓ʷəmdzuy̓u** laǩuǩ Vicki
c̓o =uǩ Shelly {**=s=is** , **=ǩ=is**}
give =3MED Shelly {**=INST=3REFL.POSS** , **=ACC=3REFL.POSS**}
dzastu **q̓ʷəmdzuy̓u** la =ǩ=uǩ Vicky
blue.colour **dress** PREP =ACC=3MED Vicky
'Shelly is giving/gave **her blue dress** {INST, ACC} to Vicky.' (VF, JF)

[16] I don't have negative data proving that the relations in (231) and (232) are strict-accusative; however, in every positive example I have come across involving these verbs, the object is accusative. The same is true with respect to the verb *gaǩ-* 'come' in (233), though with this verb, the attested object case is instrumental.

Thus, being an inherently telic VP does not guarantee having an accusative object. The object case frames of transitions are determined by event structure, independently from telicity.

6.3.1.3 Non-culminating accomplishments

A third problem for (225) comes from data involving processes, a lexical aspect class defined in Greene (2013: p. 30-1, 35-9) which includes activity-like and accomplishment-like verbs. If accusative case were associated with telicity in Kʷak̓ʷala, we would expect the presence of an accusative object with accomplishment-like verbs to generate an entailment of telicity. However, as first reported in Greene (2013, 2014), Kʷak̓ʷala is a language with non-culminating accomplishments (NCA's),[17] thereby resembling languages like Hindi (Singh 1998), Thai (Koenig & Muansuwan 2000), Malagasy (Travis 2000), Mandarin Chinese (Smith 1997[1991]), St'át'imcets and Sḵwx̱ú7mesh (Bar-el, Davis & Matthewson 2005), and Karachay-Balkar (Tatevosov 2008). Examples of NCAs are provided in (236)-(237) below, with the verbs *hił-* 'fix' (236) and *q̓ʷəmdzuy̓ugila* 'dress-make' (237). These examples each consist of two conjuncts: the first conjunct describes an event with an accomplishment-like verb containing an accusative object, and the second conjunct includes an explicit denial that the event description in the previous conjunct culminated. The fact that these event descriptions' culmination can be felicitously cancelled demonstrates that culmination is not entailed (note that this contrasts starkly with these sentences' English translations, where cancellation is *in*felicitous).

(236) hiłʔidoxda bəgʷanəma**x̌ən ka** k̓ism̓ox̌ gʷałox̌da bəgʷanəm hiłʔi**x̌ən ka**

hił-xʔid	=ox̌=da	bəgʷanəm	**=x̌=ən**	**ka**
fix-BEC	=3MED=OST	man	**=ACC=1POSS**	**car**
k̓iʔs=ʔm	=ox̌	ǧʷał	=ox̌=da	bəgʷanəm
NEG=VER	=3MED	finish	=3MED=OST	man
hił-xʔid	**=x̌=ən**	**ka**		
fix-BEC	**=ACC=1POSS**	**car**		

'The man fixed **my car** (ACC) but didn't finish.' (Greene 2013: p. 44)
Literally: 'The man fixed **my car** (ACC), but he didn't finish fixing **my car** (ACC).'

(237) sənbəndux̌ Mabelx̌ q̓ʷəmdzuy̓ugila**x̌a q̓ʷəmdzuy̓oʔ** łənswuʔɬ, k̓ist̓a ǧʷałamasəx̌

sənbənd	=ux̌	Mabel=x̌	q̓ʷəmdzuy̓u-gil	**=x̌=a** **q̓ʷəmdzuy̓u=aʔ**
throughout	=3MED	Mabel=VIS	dress-make	**=ACC=DET dress=INVIS**
yesterday	NEG=BUT	finish-A-CAUS	=ACC	
łənswuʔɬ	k̓is=t̓a	ǧʷał-a-mas	=x̌	

Literally: 'All yesterday Mabel made **a dress** (ACC), but she didn't finish it (ACC).' (VF)

A particularly stark illustration of the non-culminating character of process roots is shown in example (238) with the verb *k̓ilak-* 'beat up'. Example (238a) shows a typical use of this verb,

[17] The existence of NCAs are a major part of what motivates Greene (2013) to propose a three-way aspectual classification of verbs in Kʷak̓ʷala into states, processes, and transitions (p. 39), in which activity-like and accomplishment-like verbs are members of the same process class. Greene's theory is introduced in more detail in Appendix E.

where it functions as a Kʷakʷala translational equivalent for the English verb 'kill'.[18] Example (238b) shows, however, that the result state entailed by the English verb 'kill' — namely, death — is a cancellable inference with *kilak-*. A more accurate translation of this verb is 'beat up'.

(238) a. kilaxʔidida bəgʷanəmə**x̌a sadiqʷa** laxis ʔəyəʔsu

kilak-xʔid	=i=da	bəgʷanəm	**=x̌=a**	**sadiqʷa**
beat.up-BEC	=3DIST=OST	man	**=ACC=DET**	**horsefly**
la =x̌=is		ʔəyəʔsu		
PREP =ACC=3REFL.POSS		hand/arm		

'The man killed **the horsefly** (ACC) on his arm.' (VF)

b. kilaxʔidida bəgʷanəma**x̌** **Scott**. kiʔsta łəʔli Scott.

kilak-xʔid	=i=da	bəgʷanəm	**=x̌**	**Scott**
beat.up-BEC	=3DIST=OST	man	**=ACC**	**Scott**
kiʔs=ta	łəʔl =i	Scott		
NEG=but	dead =3DIST	Scott		

'The man beat up **Scott** (ACC), but Scott isn't dead.' (VF)

Greene (2013: p. 42) claims that while accomplishment-like predicates fail to entail telicity, they still do implicate it. In any case, the finding that telicity is not entailed in predicates headed by accomplishment-like process verbs with accusative objects is significant, because it demonstrates, once again, that object case realization is independent of telicity entailments.

In summary, I've provided three types of evidence against there being a connection between telicity entailments and object case realization in Kʷakʷala. At this juncture, the reader may be interested in knowing more about what mechanisms Kʷakʷala speakers do have at their disposal for communicating telicity. I provide a brief overview of some of these mechanisms in Appendix D, where I point out that Kʷakʷala does not appear to grammaticalize telicity at all.

6.3.2 The independence of object case and nominal interpretation

We saw in Section 6.2 that in Finnish, nominals in object position which are interpreted as quantitatively indeterminate (indefinite plurals and mass terms) give rise to unbounded event descriptions.[19] In Kʷakʷala, on the other hand, I have not come across any obvious interactions between the realization of object case and any particular semantic properties of nominal objects. In (239) for instance, a nominal with indefinite plural reference (*=a ʔiʔayəndzis* 'oranges') is shown appearing in either instrumental or accusative case; and in (240), a nominal interpreted as a mass term (*=a cənčasdzəm* 'meat-fat') is shown appearing in either instrumental or accusative case. The event description in (239) is in the past and telic, while the event description in (240) is in-progress and atelic. In neither of these instances did the language consultant obviously prefer one case to the other.

[18] There is one other translational equivalent of 'kill' in Kʷakʷala, namely *yaxʔidamas* '*Literally*: cause to make bad/spoiled'. However, due to the presence of causative *-mas*, the external argument of *yaxʔidamas* is semantically a Causer (Sardinha 2015a), while the external argument of *kilak-* is an Agent. Presumably because it entails agency, *kilak-* is therefore often the preferred way of translating English 'kill'.

[19] Except, that is, with inherently telic verbs.

(239) *Context: Ted's family had a potlatch. Ted went around and gave oranges to everyone in attendance.*

ləm̓i Ted c̓ic̓ola{**sa**, **x̌a**} **ʔiʔayəndzis** laxa lilə́lqʷəlaƛeʔ					
lə	=ʔm	=i	c̓i~c̓o-la	{**=s=a**	, **=x̌=a**}
AUX	=VER	=3DIST	REDUP~go-CONT	{**=INST=DET**	, **=ACC=DET**}
	ʔi~ʔayəndzis		la	=x̌=a	li~lə́lqʷəlaƛeʔ
	REDUP~orange		PREP	=ACC=DET	REDUP~tribes

'Ted gave out **oranges** {INST, ACC} to the people [*Literally*: tribes].' (VF, JF)

(240) *Context:* [*The speaker and KS are discussing how, in general, to say that you're spreading butter or grease onto bread; there is no particular quantity of meat-fat being discussed in the context.*][20]

badaʔdzudux̌ Mabelx̌{**sa**, **x̌a**} **c̓ənc̓asdzəm** laxʷa kʷənikʷ					
bada-dzu-xʔid	=ux̌		Mabel=x̌	{**=s=a**	, **=x̌=a**}
butter-flat-BEC	=3MED		Mabel=VIS	{**=INST=DET**	, **=ACC=DET**}
	c̓ənc̓asdzəm		la	=x̌=ʷ=a	kʷənikʷ
	meat.fat		PREP	=ACC=3MED=DET	bread

'Mabel's buttering **meat-fat** {INST, ACC} on the bread.' (JF, VF)

While I have not found any effects of nominal interpretation on the distribution of instrumental and accusative cases, in terms of where these cases are *possible*, more research is needed on the question of whether aspects of nominal interpretation influence case choice in contexts where either case is possible.

6.4 The mirrored nature of Kʷak̓ʷala and Finnish object case

Having looked at Finnish and Kʷak̓ʷala object case systems in isolation, we're now in a position to compare these systems and explain their similarities and differences. In this section, I'll first consider how the Finnish and Kʷak̓ʷala object case systems are semantically mirror images (6.4.1), and then I'll discuss how this semantic mirroring can be accounted for syntactically (6.4.2).

6.4.1 Semantic mirroring

The impetus for describing the object case system of Finnish in this chapter is to shed light on how even though Kʷak̓ʷala's object case system is unique, it is far from anomalous. Finnish provides a powerful illustration of this precisely because the Kʷak̓ʷala and Finnish object case systems are mirror images of each other: while in Finnish, an interpretable accusative associates with the *non-initiating* or *final* subevent, in Kʷak̓ʷala, an interpretable instrumental case

[20] Since the context here is not constrained, its impossible to tell whether the speaker who volunteered (240) had a particular quantity of *t̓ənc̓asdzəm* 'meat-fat' in mind. On the other hand, it is possible to tell, by looking at transcripts of the elicitation session, whether a particular quantity of *c̓ənc̓asdzəm* had been established as a discourse referent in the common ground. At this point in the elicitation session, there was no particular quantity of *c̓ənc̓asdzəm* established.

associates with the *initiating* or *initial* subevent. The sense in which these systems are mirrored is summarized in Figure 6.1.

	Interpretable case	***Uninterpretable case***
***Initial* bound/subevent**	Instrumental (Kʷakʷala)	Partitive (Finnish)
***Final* bound/subevent**	Accusative (Finnish)	Accusative (Kʷakʷala)

Figure 6.1: Kʷakʷala and Finnish as semantically mirror opposites

In Sections 6.2 and 6.3, I outlined some of the empirical consequences of the mirrored nature of these object case systems. We're now in a position to view these empirical consequences side-by-side and consider how they are explained by the pattern outlined in Figure 6.1. The empirical consequences I have in mind are listed in (241).

(241) Empirical consequences of the mirrored nature of Kʷakʷala and Finnish object case systems

a. The presence of an accusative object entails telicity in Finnish, whereas in Kʷakʷala, an accusative object only implicates telicity (Greene 2013).

b. The presence of a partitive object implicates atelicity in Finnish, whereas in Kʷakʷala, the presence of an instrumental object does not implicate atelicity.[21]

c. In Finnish, a bare plural or mass noun object gives rise to an atelic interpretation, whereas in Kʷakʷala, nominal semantics has no apparent effect on which object case may be realized, or on telicity.

d. In both Finnish and Kʷakʷala, case realization can be influenced via event modification. In Finnish, adding a bound to an event (e.g. via secondary resultative predication) can license an accusative object (e.g. Heinämäki 1994: p. 214-6). In Kʷakʷala, we saw in Chapter 5 that case alternation is licensed in contexts involving direct manipulation, caused motion, and semantic incorporation with *-(g)ila* 'make'. These patterns illustrate the more general fact that in both Finnish and Kʷakʷala, object case is constrained by verb meaning but determined ultimately by event structure.

e. Both Finnish and Kʷakʷala have three broad classes of transitive verbs. Finnish has verbs which are strict-partitive, strict-accusative, and partitive-accusative alternating, while Kʷakʷala has verbs which are strict-instrumental, strict-accusative, and instrumental-accusative alternating.

The generalizations (241a)-(241c) can be explained by taking into account how semantic value is distributed differently within the Finnish and Kʷakʷala case systems. Finding (241a), that Finnish accusative entails telicity, is due to this being an interpretable case; the corresponding

[21] On a related note, in Chapter 7, Section 7.3.1 I will present data suggesting that in alternating case environments, the choice of instrumental case nevertheless generates a relevance implicature targeting the *initiating* subevent.

finding, that Kʷakʼʷala accusative does not entail telicity, is due to this case being uninterpretable. Finding (241b), that Finnish partitive implicates atelicity, is due to this case being uninterpretable but paradigmatically opposed to an interpretable case that entails telicity; the corresponding finding, that Kʷakʼʷala instrumental does not implicate atelicity, is due to this case being interpretable in a way that is unconnected with the notion of telicity. Finding (241c), that bare plurals and mass noun objects generate atelic readings in Finnish but not Kʷakʼʷala, follows from the fact that it is only in Finnish that accusative is interpretable and associated with telicity. More specifically, the fact that accusative case imposes boundedness on whatever nominal referent it marks makes it incommensurable with inherently unbounded referents in Finnish. This is not the case in Kʷakʼʷala.

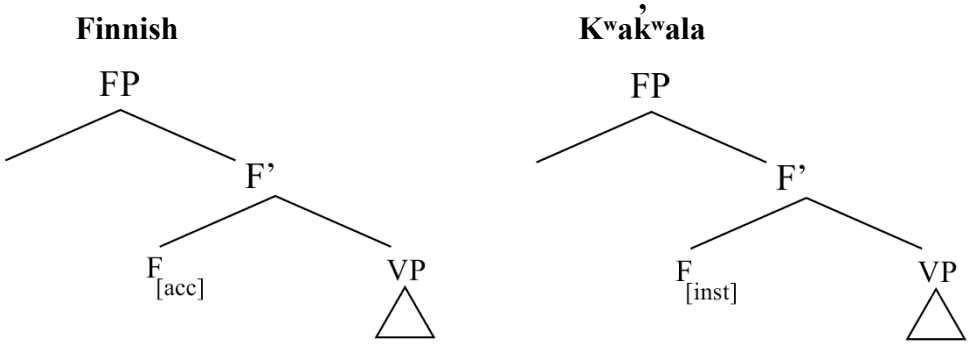
The generalizations listed in (241d)-(241e), on the other hand, can be explained by the fact that at an abstract level of description, Finnish and Kʷakʼʷala object case systems are structured very similarly. In particular, finding (241d) — that event structure modification can influence case realization — follows from the fact that in both languages, object case distinctions are grounded in event structure, not verb meaning. Finding (241e) — that both languages have three types of verbs — follows from the following set of facts: that generally, both object case systems are configured to have two cases; that every expressed object in both systems must bear one of the two available cases; and that both languages possess verbs which allow alternation due to their possessing entailments which are semantically consistent both with the semantic value added by the interpretable case, and with the absence of this semantic value.

I conclude that the major similarities and differences between object case in Finnish and Kʷakʼʷala can be explained on the basis of their being semantically mirrored in the sense indicated in Figure 6.1.

6.4.2 Syntactic mirroring

Given that Finnish and Kʷakʼʷala's object case systems are semantically mirrored, I propose that the syntax underlying the expression of interpretable case in both systems is essentially identical: all that differs is the semantic interpretation associated with the syntactic head that governs interpretable case assignment. In particular, I will argue that the syntactic analysis of Finnish object case developed in Kratzer (2004) can be carried over with minimal modifications to account for object case in Kʷakʼʷala. The analysis I will adopt is schematized in (242).

(242) Syntactic analysis of interpretable structural case realization in Finnish and Kʷakʼʷala



The basic idea behind Kratzer's analysis of Finnish is that there is a functional projection above VP but below the level where external arguments are introduced which serves as the locus of

both accusative case assignment and telic interpretation. Kratzer leaves this functional projection unnamed, so for convenience, I label it $F_{[acc]}$ here. I propose that Kʷakʷala possesses an analogous functional projection which serves as the locus of both instrumental case assignment and an interpretation of co-initiation. For convenience, I will label this head $F_{[inst]}$. I'll begin by describing Kratzer's (2004) analysis of Finnish, in which the syntactic and semantic properties of $F_{[acc]}$ derive patterns of object case realization in Finnish. Following this, I'll walk-through how the syntactic and semantic properties of $F_{[inst]}$ function similarly in Kʷakʷala and illustrate the analysis with a derivation.

First, let's consider how Kratzer's (2004) analysis captures the semantic value of accusative case in Finnish. The semantic value of $F_{[acc]}$ is provided in (243).

(243) $[\![F_{[acc]}]\!]$
$= \lambda R_{<e,vt>}.\lambda x_e.\lambda e_v.R(x)(e)$ & $\exists f$ [measure(f) & $\forall x'$ [$x' \leq f(x) \rightarrow \exists e'$ [$e' \leq e$ & $R(x')(e')$]]]][22]

(Kratzer 2004: p. 394)

Semantically, $F_{[acc]}$ relates an individual to an event via a measure function (the exact nature of which is determined pragmatically) which maps some aspect of the individual onto the event's temporal extent. In this way, the individual comes to define the event's culmination conditions (i.e. its final bound).

To satisfy the semantic type of $F_{[acc]}$, an internal argument of the verb must move from its base position in VP to the specifier position of $F_{[acc]}$, thereby leaving a trace. In order to ensure movement to the specifier of $F_{[acc]}$, Kratzer proposes that there is an EPP feature on $F_{[acc]}$; this ensures that movement of the nearest VP-internal argument is guaranteed whenever $F_{[acc]}$ is present in the structure. With inherently telic verbs, $F_{[acc]}$ is obligatory in the structure, and movement to the specifier of $F_{[acc]}$ is redundant. On Kratzer's (2004: p. 403) analysis, the obligatoriness of $F_{[acc]}$ with inherently telic verbs is enforced by adopting a principle Maximize Interpretability, which forces speakers to pick accusative case unless the interpretation that results clashes with what the speaker intends to say. All that remains to be said about accusative case, then, is that the specifier of $F_{[acc]}$ is a structural case position: any DP which ends up in this position will be expressed in accusative case. Kratzer (2004: p. 400) also considers the logical possibility of merging an argument directly into the specifier of $F_{[acc]}$, but chooses not to develop this alternative further.

This analysis accounts for the realization of accusative case in Finnish. To account for the realization of object partitive case, Kratzer takes the object partitive to be assigned by default to any DP object which remains in-situ inside to the VP. In those instances where partitive case is assigned, we can say that $F_{[acc]}$ is simply not present in the structure.[23] When $F_{[acc]}$ is not present in the structure, there is nothing to trigger movement, assign case, or assign the interpretation in (243), so the assignment of partitive case is carried out as a last resort.

[22] I've substituted type *v* for Kratzer's type *s* to make this denotation consistent with the conventions adopted here. Note that Kratzer refers to this head by the name of a semantic feature, [telic].

[23] Alternatively, we could say that in structures lacking $F_{[acc]}$ there is an uninterpretable variant of F in the structure which doesn't project a specifier. This type of architecture is advocated for in Legate (2003) and Wood (2012). Kratzer (2004) does not specify whether or not there is a head (which I have called) F in the structure when the accusative case is not assigned. Since the choice between having or not having F present in the structure in these instances doesn't have any empirical consequences, I leave this issue aside.

To account for object case realization in Kʷak̓ʷala, all that is needed is to modify the syntactic and semantic properties of F to enable instrumental case to be associated with the semantic value of co-initiation. The denotation of $F_{[inst]}$ was provided in Chapter 4, Section 4.3, and is repeated in (155) below. The *Co-initiator* predicate in (155) is also provided in (156).

(155) $[\![F_{[inst]}]\!] = \lambda R_{<e,vt>}.\lambda x_e.\lambda e_v.R(x)(e) = 1$ & x is *Co-initiator* of e

(156) $\lambda x_e.\lambda e_v.x$ is *Co-initiator* of e
= (x is a dependent cause of e) ∨ (x defines the initial bound of e) ∨ (x is in the possession of an *Initiator* at the initial bound of e)

Semantically, $F_{[inst]}$ relates an individual to an event via a *Co-initiator* relation, which maps an individual onto the event so that it comes to define the event's *initiating* subevent (i.e. its *initial* bound).

In order to satisfy the semantic type of $F_{[inst]}$, an internal argument of the verb must undergo syntactic movement from its base position in VP to the specifier position of $F_{[inst]}$, thereby leaving a trace below $F_{[inst]}$. As on Kratzer's (2004) analysis, movement to the specifier of $F_{[inst]}$, is guaranteed by the presence of an EPP feature on $F_{[inst]}$; this ensures that movement of the nearest VP-internal argument occurs whenever $F_{[inst]}$ is present in the structure. Recall that for verbs with strict-instrumental relations, $F_{[inst]}$ is present in the structure obligatorily due to the presence of an [inst] feature which forces these verbs to be realized as the complement of this head (as discussed in Section 4.4), and movement to the specifier of $F_{[inst]}$ is semantically redundant.[24] The specifier of $F_{[inst]}$ is a structural case position, so that any DP which moves there gets realized in instrumental case.

This analysis is illustrated below with respect to a fragment of the sentence in (244), which is taken from Chapter 5, Section 5.2.2. A tree of the relevant fragment is provided in (245), where English phrases have been substituted for Kʷak̓ʷala ('a cup' for *=a kʷəʔsta* and 'break' for *təp̓id*). A bottom-up derivation is provided for the nodes above VP in (246)-(248) which makes use of the rules of semantic composition in Heim & Kratzer (1998). This analysis generates the correct truth conditions for the FP node in (245), which are indicated by the last line of (248).

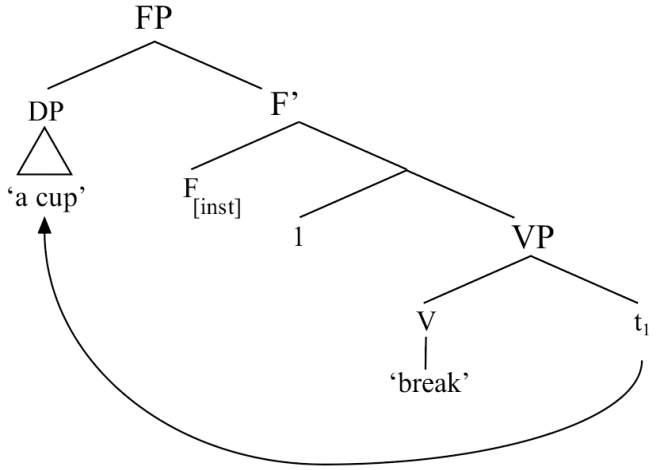
(244) *Context: A woman picked up a cup in her hand and smashed it down on her (clam) digging stick, causing the cup to break.*

təp̓idida c̓ədaqe**sa k̓ʷəʔsta** laǩis dzigayu				
təp-xʔid	=i=da	c̓ədaq	**=ṣ=a**	**k̓ʷəʔšta**
broken-BEC	=3DIST=OST	woman	**=INST=DET**	**cup**
la	=ǩ=is	dzik-$_w$ayu		
PREP	=ACC=3REFL.POSS	dig-INST.PASS		

'The woman broke **a cup** (**INST**) on her digging stick.' (VF)

[24] In Section 4.4 I explained how adopting Maximize Interpretability generates the wrong empirical predictions for Kʷak̓ʷala. This is one point on which my and Kratzer's (2004) analysis differ.

(245)



(246) $[\![1\ \textit{break}\ t_1]\!] = \lambda y_e.\lambda e_v.e\ \textit{is a breaking of}\ y$ **Predicate Abstraction**

(247) $[\![F']\!] = [\![F_{[inst]}]\!]([\![1\ \textit{break}\ t_1]\!])$ **Function Application**
$= [\lambda R_{<e,vt>}.\lambda x_e.\lambda e_v.R(x)(e) = 1\ \&\ x\ \text{is}\ \textit{Co-initiator}\ \text{of}\ e](\lambda y_e.\lambda e_v.e\ \textit{is a breaking of}\ y)$ **by (155) and (246)**
$= \lambda x_e.\lambda e_v.(\lambda y_e.\lambda e_v.e\ \textit{is a breaking of}\ y)(x)(e) = 1\ \&\ x\ \text{is}\ \textit{Co-initiator}\ \text{of}\ e]$ **β-reduction**
$= \lambda x_e.\lambda e_v.e\ \textit{is a breaking of}\ x\ \&\ x\ \text{is}\ \textit{Co-initiator}\ \text{of}\ e$ **β-reduction x2**

(248) $[\![FP]\!] = [\![\textit{a cup}]\!]([\![F']\!])$ **Function Application**
$= [\lambda Q_{<e,vt>}.\lambda e_v.\exists z[Q(z)(e) = 1\ \&\ z\ \textit{is a cup}]](\lambda x_e.\lambda e_v.e\ \textit{is a breaking of}\ x\ \&\ x\ \text{is}\ \textit{Co-initiator}\ \text{of}\ e)$ **by (247) and the semantics of 'a cup'**
$= \lambda e_v.\ \exists z[(\lambda x_e.\lambda e_v.e\ \textit{is a breaking of}\ x\ \&\ x\ \text{is}\ \textit{Co-initiator}\ \text{of}\ e)(z)(e) = 1\ \&\ z\ \textit{is a cup}]$ **β-reduction**
$= \lambda e_v.\ \exists z[e\ \textit{is a breaking of}\ z\ \&\ z\ \text{is}\ \textit{Co-initiator}\ \text{of}\ e\ \&\ z\ \textit{is a cup}]$ **β-reduction**

It follows from this analysis that in every context where case alternation is possible, the presence of instrumental case on an object means that the object has moved to the specifier of $F_{[inst]}$ as in the example just illustrated.

An interesting type of speaker data which may provide direct evidence for the movement analysis is shown in (249)-(251) below, with verbs that take strict-accusative objects. Each of the volunteered 'a' sentences below contain accusative objects, while each of the corresponding 'b' sentences contain the same nominal argument, but in instrumental case. Each of the 'b' sentences was judged to be infelicitous, though in each case, the speaker was still able to provide a translation for the sentence. These translations are significant because the object in them is interpreted simultaneously as the *Co-initiator* of the event and as the direct internal argument of the verb — in other words, as if movement of the type illustrated in (245) has occurred. In (249), the hat is both what Katie held, and what she held *with*; in (250), the hat is both what Katie stowed, and what Katie stowed *with*; and in (251), the hat is both what Katie took out of the drawer and what she used in doing so.

(249) a. dałuǰ Katiyə**ǰ̌uǰ̌da ƛ̓ətəmɬ**
da-ała =uǰ̌ Katie **=ǰ̌=uǰ̌=da** **ƛ̓ətəmɬ**
take.in.hand-STAT =3MED Katie **=ACC=3MED=OST** **hat**
'Katie is holding **the hat** (ACC).' (VF)

b. # dałuǰ Katiyə**suǰ̌da ƛ̓ətəmɬ**
da-ała =uǰ̌ Katie **=s=uǰ̌=da** **ƛ̓ətəmɬ**
take.in.hand-STAT =3MED Katie **=INST=3MED=OST** **hat**
Speaker: "Katie is holding the hat with the hat."[25] (JF)

(250) a. ləm̓uǰ̌ gəʔǰ̌uǰ̌ Katiyə**ǰ̌ʷa ƛ̓ətəmɬ**
lə=ʔm =uǰ̌ gəʔǰ̌ =uǰ̌ Katie **=ǰ̌=ʷ=a** **ƛ̓ətəmɬ**
AUX=VER =3MED stow =3MED Katie **=ACC=3MED=DET** **hat**
'Katie stowed **the hat** (ACC).' (VF)

b. # ləm̓uǰ̌ gəʔǰ̌uǰ̌ Katiye**suǰ̌ ƛ̓ətəmɬ**
lə=ʔm =uǰ̌ gəʔǰ̌ =uǰ̌ Katie **=s=uǰ̌** **ƛ̓ətəmɬ**
AUX=VER =3MED stow =3MED Katie **=INST=3MED** **hat**
Speaker: "You're using the hat to put the hat away." (JF)

(251) a. ʔəǰ̌wəɬc̓uduǰ̌ Katiyə**ǰ̌ʷa ƛ̓ətəmɬiǰ̌** laǰ̌ʷa niǰ̌niǰ̌aǰ̌
ʔəǰ̌-wəɬ-c̓u-xʔid =uǰ̌ Katie **=ǰ̌=ʷ=a**
DO-out.from-inside-BEC =3MED Katie **=ACC=3MED=DET**
ƛ̓ətəmɬ=ǰ̌ la =ǰ̌=ʷ=a niǰ̌niǰ̌a=ǰ̌
hat=VIS PREP =ACC=3MED=DET drawer=VIS
'Katie took **the hat** (ACC) out of the drawer.' (VF)

b. # ləm̓uǰ̌ Katiyəǰ̌ ʔəǰ̌wəɬc̓ud**suǰ̌da ƛ̓ətəmɬiǰ̌** laǰ̌ʷa niǰ̌niǰ̌aǰ̌
lə=ʔm =uǰ̌ Katie=ǰ̌ ʔəǰ̌-wəɬ-c̓u-xʔid **=s=uǰ̌=da**
AUX=VER =3MED Katie=VIS DO-out.from-inside-BEC **=INST=3MED=OST**
ƛ̓ətəmɬ=ǰ̌ la =ǰ̌=ʷ=a niǰ̌niǰ̌a=ǰ̌
hat=VIS PREP =ACC=3MED=DET drawer=VIS
Speaker: "You're using the hat to take the hat out of a drawer. When you say it that way." (JF)

A possible explanation for these translations is that the speaker, on hearing each of the 'b' sentences above, registers the presence of instrumental case (on what she identifies to be a normally strict-accusative argument) as a signal that the object has moved to the the specifier of $F_{[inst]}$. This results in coercion, such that the object gets interpreted simultaneously as the event's *Co-initiator* and in its base position internal to the VP. Thus if we are willing to take these speaker translations at face value, these data provide evidence fairly direct evidence for the movement analysis illustrated in (245).

The movement analysis developed so far accounts for the realization of instrumental objects in environments where the Alternation Condition is met, and case alternation is possible. With strict-instrumental case relations, there is another logical possibility besides movement to

[25] A similar sentence lacking this special translation is shown in (184b).

the specifier of $F_{[inst]}$. Namely, strict-instrumental objects, such as semantic Instruments, could to be merged directly into the specifier of $F_{[inst]}$ instead of moving there from within the VP (in which case there would need to be a separate denotation for $F_{[inst]}$ to capture this possibility). If this were the case, then there would be two ways in the grammar for a nominal to end up in the specifier of $F_{[inst]}$: either by movement or by external merge. I will leave open the question of whether external merge into $F_{[inst]}$ is possible at this time, since I don't have at my disposal any empirical evidence with which to adjudicate the issue.

To account for the realization of accusative case on objects in K^{w}ak̓^{w}ala, all that remains to be said is that accusative case is assigned by default to any DP object which remains in its base position internal to VP.[26] When $F_{[inst]}$ is absent in the structure, no movement is triggered, no instrumental case is assigned, and no interpretation of co-initiation arises. Assignment of accusative case is then carried out as a last resort.

The syntactic analysis of K^{w}ak̓^{w}ala object case I've just sketched is nearly identical to the syntactic analysis Kratzer (2004) proposes for Finnish object case. The semantically mirrored nature of these two languages' case systems is taken to arise, then, from a difference in the interpretation associated with the case-assigning head located immediately above VP in both languages.

With a syntactic and semantic analysis of object case in K^{w}ak̓^{w}ala and Finnish in place, a few words are in order concerning what kind of case is assigned by F in the structures above. Kiparsky (1998) aptly describes object case in Finnish as 'semantically-conditioned structural case' (p. 265).[27] If this is true of Finnish and the two systems have the same nature, then it should be true of K^{w}ak̓^{w}ala as well. What is interesting about the Finnish accusative and the K^{w}ak̓^{w}ala instrumental is that they straddle the line between being structural cases and inherent cases. On the one hand, they are clearly structural cases, given that they are assigned to the nominal which appears in a particular syntactic position. On the other hand, they resemble inherent cases, in the sense that they are associated with a specific semantic value which is more abstract than verb-specific thematic roles (i.e. lexical case; see Woolford 2006). If it is also true that in K^{w}ak̓^{w}ala, nominals may either be merged in the specifier of $F_{[inst]}$ or moved there, then the sense in which instrumental case resembles an inherent case is even more stark. In any case, the hybrid nature of these cases is theoretically interesting, as Kiparsky (1998: p. 265-6) points out, because it invites us to consider 'semantically-conditioned structural cases' as a distinct variety of case.

6.5 K^{w}ak̓^{w}ala in typological perspective

So far in this chapter, I've been comparing K^{w}ak̓^{w}ala's object case system with the case system of only one other language, Finnish. The purpose of this has been to show that despite its uniqueness, K^{w}ak̓^{w}ala's object case system is not unexpected: K^{w}ak̓^{w}ala is just like other languages in manifesting a link between object-encoding and event structure. Finnish is the most obvious language to make this point with, since Finnish and K^{w}ak̓^{w}ala are strikingly similar in the way they encode objects. In this section, I'll zoom out again, beyond these two languages, in order to show how K^{w}ak^{w}ala fits into an even larger typological pattern.

[26] Accusative case is also assigned by default to the nominal within prepositional *la* phrases.

[27] Kiparsky actually adopts this terminology to describe Finnish partitive, which he argues is interpretable (and associated with an interpretation of unboundedness). Regardless, I think his terminology here is generally appropriate and can be applied equally well to an analysis where accusative is interpretable.

Ritter & Rosen (2000) propose an event-structural typology which provides a very useful framework for thinking further about Kʷakʷala's object case system in cross-linguistic perspective. This typology takes as its defining parameter the way that languages grammaticalize event structure. Languages divide into two types: Initiator or I-languages, which grammatically encode the initial bound of events; and Delimiting or D-languages, which grammatically encode the final bound of events. In order to define D-languages and I-languages, Ritter & Rosen develop a specific syntactic hypothesis about how this typological distinction is encoded in grammar, the details of which are not relevant here. I will focus here, rather, on the empirical predictions of this analysis to show how Kʷakʷala fits squarely within the I-language/D-language division these authors propose. However, I will also explain why Kʷakʷala is an I-language in a way which is not predicted by Ritter & Rosen's proposal, which will lead me to propose a specific extension to their theory.

The basic idea behind Ritter & Rosen's theory is that I-languages grammaticalize the *initial* bound of events in their functional structure, while D-language grammaticalize the *final* bound in theirs.[28] Given this difference, I-languages and D-languages tend to manifest different empirical characteristics. Since D-languages are oriented towards delimitation in their syntax, they tend to grammaticalize distinctions related to perfective aspect, definiteness, and boundedness, especially as these categories are realized on objects; and since I-languages are oriented towards initiation in their syntax, they tend to grammaticalize distinctions based on differences in person, agentivity, and animacy, especially as these categories are realized on subjects. The authors identify the list of properties in Table 6.1 as ones which tend to distinguish D-languages from I-languages.

D-languages	**I-languages**
• Accomplishments form a natural class with achievements • Sensitive to semantic and syntactic properties of the object including specificity or definiteness, case marking, person • Accusative Case may be restricted to delimited objects • Ergative splits on the basis of perfective aspect/past tense • Object agreement not specified for person features	• Accomplishments form a natural class with activities • Sensitive to semantic and syntactic properties of the subject including agentivity, animacy • Make a grammatical distinction between topic and subject • Ergative splits on the basis of properties of the subject • Subject and object agreement specified for person features • Quirky Case subjects • Animacy hierarchies

Table 6.1: Properties of D-languages and I-languages (Ritter & Rosen 2000: p. 195)

According to the authors, some examples of D-languages include Finnish, English, Mandarin Chinese, and Haitian Creole. In English, for instance, delimiting particles and suffixes are able

[28] The wording in Ritter & Rosen (2000: p. 187) suggests that it might be possible for a language to be both an I-language and a D-language. If so, then the properties listed in Table 6.1 are properties of *canonical* D-languages and *canonical* I-languages.

to license delimited readings, while we've seen that in Finnish, event delimitation is marked by accusative case. Some examples of I-Languages include Icelandic, Irish, Japanese, Dyirbal, and Southern Tiwa. For instance, in Icelandic, Irish, and Japanese, only agents can be realized as *Initiators* and receive nominative case; all other subjects in these languages receive quirky or inherent case.

Given the classification of Finnish as a D-language, we might expect Kʷaḵʷala to qualify as an I-language on the basis that its object case system is the semantic mirror-image of the one in Finnish. More specifically, since Kʷaḵʷala's instrumental case is semantically tied to the *initial* bound of an event, Kʷaḵʷala should thereby qualify as a language which grammaticalizes event initiation. However, on Ritter & Rosen's (2000) theory, event initiation is described in relation to event's *Initiator* only, so that as it stands, their theory only predicts I-languages which grammaticalize distinctions in *subjects*. The fact that Kʷaḵʷala has grammaticalized event initiation as a relevant distinction for classifying *objects* therefore requires an extension to their theory, to allow for event initiation to be grammaticalized in terms of object distinctions. Once this extension is allowed, Kʷaḵʷala's object case system can be seen to fit squarely into this wider typological pattern, namely as an I-language which grammaticalizes event *initiation* in its object case system.

It's worth pointing out that Kʷaḵʷala also possesses several additional characteristics associated with I-languages. For instance, Kʷaḵʷala resembles Irish and Japanese in disallowing Instruments as subjects. Whenever Instruments are put into subject position in Kʷaḵʷala, they are consistently construed as volitional and agent-like (252)-(253) — hence, not as Instruments.

(252) *Context: Out-of-the-blue.*

\# təp̓id**ida λəʔbayu**x̌a k̓ʷəʔstabidu
təp-xʔid **=i=da** **λəʔp-ʷayu** =x̌=a k̓ʷəʔsta=bidu
broken-BEC **=3DIST=OST** **nail-INST.PASS** =ACC=DET cup=DIM
Literally: '**The hammer** broke the little cup (ACC).' (JF)

Speaker: [*laughter*] "The hammer broke the little cup."
KS: […] "And do you think of a hammer that's just doing it by itself?"
Speaker: "Yeah — nobody's holding it. Ghost, maybe. *lolinox̌ʷ* ['ghost']."

(253) *Context: Out-of-the-blue.*

\# t̓usʔid**ida k̓awayu**x̌a kʷənikʷ
t̓us-xʔid **=i=da** **k̓ax̌ʷ-ʷayu** =x̌=a kʷənikʷ
cut-BEC **=3DIST=OST** **carve-INST.PASS** =ACC=DET bread
Literally: '**The knife** cut the bread (ACC).' (JF)

Speaker: [laughter] "All by itself?! [laughter] The knife cut the bread… all by itself. Nobody's holding the knife. […] *lolinox̌ʷ* ['ghost']."

The reason that Irish and Japanese disallow Instrument subjects, according to Ritter & Rosen, is that they are not canonical *Initiators*. Yet while these languages grammaticalize the notion of what counts as a canonical *Initiator* in terms of differences in subject marking, Kʷaḵʷala

grammaticalizes this same notion in terms of differences in object marking, so that objects which participate in event initiation (*Co-initiators*) are distinguished from those which don't (*Non-initiators*). Kʷakʷala patterns just like these other I-languages in disallowing Instrument subjects, yet the underlying source of this pattern is different: namely, this restriction in Kʷakʷala results from how objects are grammaticalized, whereas in Irish and Japanese, it results from how subjects are. Thus while Kʷakʷala differs in the details, it clearly resembles these other languages at an abstract level of description.

Kʷakʷala also manifests grammatical restrictions based on person, which is another I-language property distinguished in Ritter & Rosen (2000). To begin with, there is no way to form passives with first person agents in Kʷakʷala (Rosenblum 2013: pg. 256-259). Next off, there are no pronominal suffixes for first person objects in Kʷakʷala; instead, speakers use periphrastic constructions (synchronically identical to PPs) which derive historically from predicates of motion (Mithun 2007, Sardinha 2011a). By my own observation, second person pronominal objects seem also to be becoming restricted in the language. That is to say that in modern Kʷakʷala, there appears to be significant inter-speaker variation in the realization of second person pronouns, with periphrastic forms being used instead of enclitic pronouns in many environments. In particular, I've found speakers to frequently use the form *loƛ*, a form constructed out of prepositional *la* plus the second person pronominal enclitic *=uƛ*, in environments where historically *=uƛ* was possible. The existence of these properties is consistent with Kʷakʷala being an I-language, even independently of its object case system.

In summary, Kʷakʷala appears to provide new support for Ritter & Rosen's (2000) typological distinction between I-languages and D-languages. This is true both in terms of how it instantiates numerous I-language properties, and in how it fails to instantiate D-language properties (as seen, for instance, in the fact that telicity is independent of object marking, as discussed in Section 6.3). Since Kʷakʷala has grammaticalized event initiation in terms of object-encoding, Ritter & Rosen's (2000) typology must be expanded to include the possibility of event initiation being grammaticalized in terms of object distinctions.[29] Once this extension is made, we expect not only to see languages like Kʷakʷala, a dependent-marking language in which event initiation is realized in terms of object case, but also the head-marking equivalent: that is, we expect to find languages in which event initiation is marked via object agreement. At this time, I'm unaware of whether any such language exists, but now that we know what to look for, its possible that one may turn up.[30]

6.6 Conclusion

The purpose of this chapter has been to place Kʷakʷala's object case system in cross-linguistic perspective and see what doing so reveals about language more generally. To this end, I began the chapter by pointing out the sense in which Kʷakʷala's object case system is unique. In particular, Kʷakʷala is the first language reported as having a two-object case system in which an interpretable instrumental-like case is opposed to an uninterpretable accusative-like case. One

[29] This finding has ramifications for Ritter & Rosen's syntactic proposal, since for them, event initiation is grammaticalized at a position in the tree where external arguments are introduced, whereas event delimitation is grammaticalized lower, just above where internal arguments are projected. In Kʷakʷala, event initiation is grammaticalized low in the structure.

[30] A good place to start might be in languages with secundative alignment (Dryer 1986) — that is, languages where the Theme in ditransitives is grammatically distinguished from the Patient and Recipient, which pattern alike. Kʷakʷala is such a language (as pointed out in Rosenblum 2013: p. 233).

way in which Kʷakʷala's object case system is interesting, then, is simply that it demonstrates a new way for an object case system to be.

Yet while the details of Kʷakʷala's object case system are unique, at a higher level of abstraction, the system fit into existing cross-linguistic patterns. To make this point, I focused on showing how Kʷakʷala's object case system is the mirror inverse of another, more familiar object case system in the literature: the object case system in Finnish. While Kʷakʷala possesses an interpretable instrumental case tied to the *initial* bound of events and an uninterpretable accusative case, Finnish possesses an interpretable accusative case tied to the *final* bound of events, and an uninterpretable partitive case. Empirically, this differences between Kʷakʷala and Finnish gives rise to a predictable association between object case and telicity in Finnish which is entirely absent in Kʷakʷala. Otherwise, Finnish and Kʷakʷala's case systems are strikingly similar in their configuration, in the sense that both systems possess an interpretable object case which associates an internal argument with some part of an event — that is, either its *initial* or *final* part. This similarity is apparent from the fact that Kratzer's (2004) syntactic analysis of the Finnish case system can be extended to account for Kʷakʷala's with only minimal modifications needed. In this way, the uniqueness of Kʷakʷala's object case system turns out, on closer analysis, to be quite superficial.

Zooming out once more to see Kʷakʷala in even wider cross-linguistic perspective, I argued that Ritter & Rosen's (2000) event-structural typology provides a useful framework for conceptualizing Kʷakʷala's relationship to other languages. In Ritter & Rosen's typology, languages can be distinguished on the basis of whether they grammaticalize the *initial* bound of events (I-languages) or the *final* bound of events (D-languages). I argued that Kʷakʷala grammaticalizes event initiation in its object case system, thereby qualifying it as an I-language. By validating Ritter & Rosen's (2000) typology, the Kʷakʷala data can also be seen to support the authors' core idea regarding what may be universal in Language: namely, the idea that all languages grammaticalize at least one part of event structure, though individual languages can vary in terms of whether they grammaticalize the *initial* part or the *final* part.

A fascinating implication of the findings in this chapter concerns the nature of aspectual categories in Kʷakʷala. In Finnish, object case distinctions are standardly assumed to reflect distinctions in viewpoint aspect (Travis 2010: p. 133). The fact that Kʷakʷala's object case system semantically mirrors the one in Finnish, then, compels us to consider that object case distinctions in Kʷakʷala may also reflect distinctions in viewpoint aspect. If so, then viewpoint aspectual categories in Kʷakʷala may be of a somewhat different sort than we're used to seeing, given that there is no canonical perfective marker in the grammar of this language (Greene 2013: pg. 88-9). The connection between object case and aspect is therefore an important topic for future work on Kʷakʷala, but one which is one step beyond the scope of the project here. I return to briefly discuss this topic in Chapter 7, Section 7.3.1.

In conclusion, when Kʷakʷala's object case system is viewed in cross-linguistic perspective, we find that it is unique in detail, but unsurprising in its general form. On the one hand, the Kʷakʷala pattern expands our ideas about what a possible language looks like; on the other hand, it fits squarely into already-existing patterns.

7
Conclusion

This chapter is organized into three sections:

- Section 7.1 provides a chapter-by-chapter summary of the analysis of Kʷaḵʷala object case developed in Chapters 3-6 of this dissertation.

- Section 7.2 discusses a remaining question which the analysis developed in Chapters 3-6 does not answer: namely, the question of what determines case choice in alternating environments.

- Section 7.3 presents preliminary evidence for two pragmatic strategies which speakers use to make case choices in alternating environments.

7.1 Summary

This project began with the observation of three types of relations in Kʷaḵʷala between particular verbs, particular internal arguments, and particular object cases. These included strict-instrumental (=*s*) relations, strict-accusative (=*x̌*) relations, and alternating instrumental-accusative {=*s*, =*x̌*} relations. The puzzle these relations present us with is how to predict and explain, for any given internal argument, why that argument is expressible as an instrumental, accusative, or potentially alternating object. In this dissertation I proposed a semantic solution to this puzzle, which is called the Initiating Subevent Theory of object case.

In Chapter 3, I presented three empirical arguments for object case distribution in Kʷaḵʷala having a basis in semantics. First, I showed that verbs with strict-instrumental relations, verbs with strict-accusative relations, and verbs with alternating relations fall into semantically coherent verb classes. Next, I showed that with certain verbs, there is a correlation between the semantic perspective that is encoded by the verb and the object case, or cases, available for the verb's internal argument. Finally, I showed that object case constrains the semantic interpretation of monotransitive and ditransitive predicates involving weak verbs. These three arguments each suggest that the distribution of object case can be explained in semantic terms.

In Chapter 4, I outlined the Initiating Subevent Theory of object case. The first central claim of this analysis is that object case distinctions in this language are grounded in subevental structure. Instrumental case canonically marks participants in *initiating* subevents, which are referred to as *Co-initiators*, while accusative case canonically marks participants in *non-initiating* subevents, which are referred to as *Non-initiators*. Concomitantly, arguments which participate in both the *initiating* and *non-initiating* subevent of an event may be expressed in either case. In order to predict which object case(s) an internal argument will occur in, I proposed a set of semantic criteria for identifying *Co-initiators* and *Non-initiators*. I then motivated the second central claim of the analysis, which is that instrumental case is interpretable. This finding was noted to align with an early intuition expressed in Boas (1911: p. 544) that instrumental case is meaningful. Accusative case, on the other hand, was argued to be an uninterpretable default case. I then showed why having a meaningless accusative case in the

grammar results in the need to enforce strict-instrumental case relations by syntactic stipulation. Finally, I discussed how the Initiating Subevent Theory accounts for the Kʷak̓ʷala findings presented in Chapter 3.

In Chapter 5, I presented three new kinds of empirical evidence in support of the claim that Kʷak̓ʷala object case is determined by event structure, each of which focused on how modifying event descriptions leads to changes to object case realization. First, I showed that case alternation is licensed in whenever an argument is both directly manipulation by an *Initiator* and undergoes change (the Direct Manipulation Alternation); second, I showed that it is possible to license an alternating internal argument by modifying an event description with a Path-denoting PP (the Caused Motion Alternation); and finally, I showed that case alternation can be licensed through semantic incorporation with the affixal verb *-(g)ila* 'make'.

In Chapter 6, I zoomed out in order to consider Kʷak̓ʷala's object case system in cross-linguistic perspective. I showed that Kʷak̓ʷala fits into an existing cross-linguistic tendency for languages to associate the way objects are encoded with the part-structure of events. To illustrate this point, I compared Kʷak̓ʷala's object case system to the object case system in Finnish as analyzed in Leino (1982), Heinämäki (1984, 1994), Vainikka (1989), and Kratzer (2004). While Kʷak̓ʷala grammaticalizes an interpretable object case associated with the *initial* bound of events, Finnish grammaticalizes an interpretable object case associated with the *final* bound of events. I argued that this difference explains why these two languages differ in how they express telicity. The similarities between these two languages then led me to propose a compositional analysis of instrumental case realization in Kʷak̓ʷala which is modelled directly off of Kratzer's (2004) analysis of accusative case in Finnish. Finally, I discussed how Kʷak̓ʷala fits into Ritter & Rosen's event-structural typology of I(nitiator)-Languages and D(elimiting)-Languages.

7.2 A remaining question

One of the contributions of this dissertation is the development of a semantic generalization for predicting the grammatical distribution of instrumental and accusative objects. Namely, if an internal argument is a *Co-initiator* only, it will be mapped as an instrumental object; if it is a *Non-initiator* only, it will be mapped as an accusative object; and if it is both a *Co-initiator* and a *Non-initiator* simultaneously, it will be mapped as either an instrumental or accusative object.

Crucially, what the analysis developed in Chapter 3-6 of this dissertation does *not* account for is how case choices are made in contexts where instrumental and accusative are both semantically licensed. In previous chapters, I have mentioned that Kʷak̓ʷala speakers often report sentence pairs with alternating objects as having the same or very similar meaning, and have difficulty trying to describe how they differ. Some examples of speakers' reactions to sentence pairs with alternating objects were provided in Chapter 4, Section 4.2.4; two additional examples are provided in (254)-(255) to highlight how pervasive this pattern of speaker response is.

(254) **Speaker:** "*hanak̓ʷili Mabel ʔəxʔaliłaǩa k̓ak̓adəkʷsiladzuʔ.* [(a)]"
KS: "[…] I'm gonna change it a little bit, and you can tell me if it's…"
Speaker: "*wik̓iga* ['Go ahead.']"
KS: "*hanak̓ʷili Mabel ʔəxʔaliła**S**A k̓ak̓adəkʷsiladzuʔ.* [(b)]"
Speaker: "Mhm. It's, it's just as legal as the first one."
KS: "Kay. And do you notice any difference?"

Speaker: "It doesn't change what you're saying."
KS: "Yeah. Does it change the way you're looking at it?"
Speaker: "Mhm, no."
KS: "No."
Speaker: "It's just the sound, that's all you've changed."

a. haƛ̓akʷili Mabel ʔəx̌ʔaliɬa**x̌a ka̓ka̓dəkʷsiladzuʔ**
haƛ̓akʷil =i Mabel ʔəx̌-ʔaliɬ-a **=x̌=a**
quickly =3DIST Mabel DO-on.floor.in.house-A **=ACC=DET**
ka̓~kat-„kʷ-ksi-la-dzu
REDUP~write-PART-occupy-CONT-flat
'Mabel quickly put **the book** (ACC) down.' (VF)

b. haƛ̓akʷili Mabel ʔəx̌ʔaliɬa**sa ka̓ka̓dəkʷsiladzuʔ**
haƛ̓akʷil =i Mabel ʔəx̌-ʔaliɬ-a **=s=a**
quickly =3DIST Mabel DO-on.floor.in.house-A **=INST=DET**
ka̓~kat-„kʷ-ksi-la-dzu
REDUP~write-PART-occupy-CONT-flat
'Mabel quickly put **the book** (INST) down.' (JF)

(255) [*The speaker and KS are talking about throwing out food*.]

KS: "And is there any difference… in meaning between *c̓əx̌ʔidagaʔsux̌da* [(a)] and *c̓əx̌ʔidagaʔsx̌ux̌da* [(b)]…?"
Speaker: "Uh, no. You're just referring to the food."
KS: "Mhm ['Yes']."
Speaker: "Whether it's *x̌ux̌* or *sux̌*."
KS: "Mhm? ['Yes?'] Okay."
Speaker: "It's actually almost the same."
KS: "Yeah."
Speaker: "Yeah."
KS: "Okay."
Speaker: "Mhm ['Yes']."
KS: "ALMOST the same? Do you sense any…"
Speaker: "Al[most], al[most], yeah. I don't know the differentiation."
KS: "Yeah. Mkay."
Speaker: "I would just know it the second I spoke it."

a. c̓əx̌ʔidagaʔ**sux̌da**
c̓əq-xʔid-a-ga =s **=s=ux̌=da**
discard-BEC-A-IMP =2 **=INST=3MED=OST**
'Throw **that** [**food**] (INST) out.' (VF)

b. ċəx̌ʔidagaʔs**x̌ux̌da**
ċəq-xʔid-a-ga =s **=x̌=ux̌=da**
discard-BEC-A-IMP =2 **=ACC=3MED=OST**
'Throw **that** [**food**] (ACC) out.' (VF)

A semantic theory on its own cannot explain what determines case choice in alternating contexts. This is because in the vast majority of contexts where case alternation is possible, the semantic contribution of instrumental case is redundant and therefore has no truth-conditional impact on the sentence. Exceptions to this generalization include weak predicates (e.g. with dummy *ʔəx̌-* 'do') and instances in which case alternation is licensed in contexts where an argument being directly manipulated by the *Initiator* (The Direct Manipulation Alternation) for the reason that in both of these situations, instrumental case adds entailments above and beyond those already supplied by the verb and modifying constituents (e.g. path-denoting PPs). In other alternating environments, however, the semantic value of instrumental case is redundant and the truth conditions of the sentence will be the same regardless of which case is chosen. This means that case *choice* in alternating contexts must be determined by factors other than the literal content of what is said.

The remainder of this chapter is devoted to presenting preliminary evidence for the existence of two pragmatic strategies which speakers appear to use in making case choices in alternating contexts. The patterns I discuss below are subtle, violable, and ultimately in need of more empirical support than I can offer here. They nevertheless constitute a promising topic for future research on this language.

7.3 Future directions: Case choice and pragmatics

To understand the pragmatic factors which appear to underlie case choice in alternating contexts in Kʷaḵʷala, it will be helpful to say a little about the communicative function of object case-marking in general. Næss (2007: p. 53) identifies two common theoretical approaches to understanding the function of case-marking, which he refers to as the *indexing approach* and the *discriminatory approach*.[1] On an indexing approach, the function of object case-marking is to index thematic information on internal arguments as a means of semantically categorizing them (e.g. Wierzbicka 1981). The theory of case marking developed in previous chapters is broadly in line with the indexing approach, given that *=s* indexes *Co-initiators*. On a discriminatory approach, on the other hand, the function of case marking is to distinguish arguments from one another (e.g. Comrie 1975, Bossong 1991, Aissen 2003). While Næss (ibid.) is primarily concerned with how case functions to distinguish subjects and objects in transitive clauses, I take the discriminatory approach to be equally relevant to the question of how internal arguments are distinguished from each other.

In the next two subsections, I discuss preliminary evidence for two pragmatic strategies which speakers use to make case choices in alternating environments. The first strategy, which I refer to as 'subevent highlighting', relates to the indexing function of object case-marking. This is a strategy whereby the possibility of case choice in alternating contexts is exploited to generate

[1] I should note that Næss's (2007: p. 161) point in the chapter I'm referencing is that some case markers don't fit well into either analysis, but serve rather to indicate the fact that arguments are maximally semantically distinct (for instance, when a clause contains *both* a controlling Agent and an affected Patient). For my purpose here however, this third approach is not relevant.

relevance implicatures — implicatures, that is, about which part of an event the speaker considers more relevant to the discourse. I will suggest here that case choice, in these instances, functions to communicate a type of aspectual information (Section 7.3.1). The second strategy relates to the discriminating function of object case-marking; here, I will present data suggesting that the need to disambiguate semantic arguments from each other serves to pragmatically constrain case choice in alternating environments (Section 7.3.2).

7.3.1 Subevent highlighting

A pragmatic factor which appears to play a role in determining Kʷaḵʷala speakers' case choice in alternating environments is *relevance*. In contexts where an event's initiation phase is more relevant to what is being discussed, speakers tend to volunteer instrumental (=*s*) case, while in contexts where an event's result is more relevant to what is being discussed, speakers tend to volunteer accusative (=*x̌*) case. I will refer to this empirical pattern in what follows as **subevent highlighting**.[2]

Subevent highlighting is exemplified in (256) with the verb *hənxƛənd-* 'put hollow container upright on fire', where a speaker is prompted to describe actions being role-played in her kitchen. First, the speaker is asked to describe an ongoing event in which KS is in the process of putting a pot of soup on the stove. In this situation, the speaker volunteers a sentence with an instrumental object (256a). Subsequently, the speaker is asked to describe a culminated event, in which KS has already put the pot of soup on the stove. In this situation, the speaker volunteers two sentences — one which is stative (256b), and one with an accusative object (256c), which the speaker translates using the English perfective.

(256) [*Context: KS is holding an actual pot and acting out a scenario in the speaker's kitchen. When* [(a)] *is volunteered, KS is in the middle of slowly placing the pot onto the stove.*]

KS: "If you saw me, doing it?"
Speaker: "Mhm ['Yes']."
KS: "How would you ask — how would you, um, say, 'Katie's putting the pot on the stove'…?"

a. ləm̓uǰ Katiyəǰ hənxƛənd**sa sup** laǰʷa ləǧʷilac̓iǰ
lə=ʔm =uǰ Katie=ǰ hən-xƛ-xʔid
AUX=VER =3MED Katie=VIS hollow.container.upright-on.fire-BEC
=s=a **sup** la =ǰ=ʷ=a ləǧʷilac̓i=ǰ
=INST=DET **soup** PREP =ACC=3MED=DET stove=VIS
'Katie's putting **the (pot of) soup** (INST) on the stove.' (VF)

[2] The structure and organization of my field corpus, at this time, unfortunately does not allow me to tell how prevalent this pattern is amongst the data I've collected. What led me to investigate subevent highlighting in the first place was the relatively recent realization that I had acquired the pattern unconsciously, to some degree, as an L2 learner of Kʷaḵʷala. It began in the first few years I worked on Kʷaḵʷala, when I observed that the passive marker *-ayu* was used far less frequently than *-su?*, and I was curious about whether *-ayu* had lost productivity in the language. I learned at some point that speakers would produce more *-ayu* forms if they were asked to translate sentences in imperfective contexts. I did not recognize the wider significance of this pattern, however, until the summer of 2016. Though subevent highlighting may be subtle, the fact that I formed a generalization about it as an L2 learner is not insignificant. If an L2 learner could form a generalization like, couldn't an L1 learner?

KS: "[…] And now let's say I walk away. [*KS has put the pot on the stove and is actually walking away*.] How would you say, 'The soup is on the stove'…?"

b. ləm̓uǰ hənxƛ̓ənduǰda supiǰ laǰʷa ləǧʷilac̓i
lə=ʔm =uǰ hən-xƛ̓-xʔid =uǰ=da
AUX=VER =3MED hollow.container.upright-on.fire-BEC =3MED=OST
sup=ǰ la =ǰ=ʷ=a ləǧʷilac̓i
soup=VIS PREP =ACC=3MED=DET stove=VIS
'The (pot of) soup is sitting on the stove.' (VF)

c. ləm̓uǰ hənxƛ̓ənduǰ Katiyə**ǰʷa supiǰ** laǰʷa ləǧʷilac̓iǰ
lə=ʔm =uǰ hən-xƛ̓-xʔid =uǰ
AUX=VER =3MED hollow.container.upright-on.fire-BEC =3MED
Katie **=ǰ=ʷ=a** **sup=ǰ** la =ǰ=ʷ=a
Katie **=ACC=3MED=DET** **soup=VIS** PREP =ACC=3MED=DET
ləǧʷilac̓i=ǰ
stove=VIS
Speaker: "Katie has put the (pot of) **soup** (ACC) on the stove." (VF)

The verb *hənxƛ̓ənd-* in these sentences is used in a caused motion frame; this means that its Theme, the (pot of) soup, is semantically capable of being expressed in either case, and that case choice in this context is semantically insignificant. Nevertheless, we see that there is an alignment between which subevent is more relevant in each context, and which case the speaker volunteers. Namely, in (256a), the speaker is asked to describe the *initiating* subevent of a 'putting' event, and chooses the case associated with *initiating* subevents, namely instrumental, to do so; in (256c), on the other hand, the speaker is asked to describe the result of a 'putting' event, and chooses the case associated with *non-initiating* subevents, namely accusative, to do so.

One plausible explanation for this pattern is that case choice in alternating context provides information about which subevent is more relevant to the discourse. To see how this might work, consider first the context in (256a), where the speaker uses an instrumental object to describe an in-progress event. The listener knows, on account of knowing the language, that both object cases are semantically possible in this context, and that the speaker would thereby be required to make a case choice. Upon hearing (256a) the listener also knows that the speaker chose instrumental case. The listener then reasons as follows: the speaker must have chosen instrumental case because the meaning associated with instrumental case is relevant to the discourse; hence, the speaker intended to highlight the event's *initiating* subevent as relevant. Note that similar reasoning applies, but in reverse, with respect to (256c), where the speaker uses an accusative object to describe a culminated event. Again, the listener knows that either case is semantically possible, that a case choice is required, and that the speaker therefore chose accusative in this context. Here, the listener reasons that the speaker must have chosen accusative case for a reason, namely, to avoid highlighting the *initiating* phase of the event. From this, the listener reasons that the speaker chose accusative case in order to highlight the *non-initiating* phase of the event as more relevant in the discourse.

It is important to keep in mind that speakers' judgments confirm, time and time again, that sentences with instrumental objects (like (256a)) can describe culminated events, and sentences

with accusative objects (like (256b)) can describe in-progress events. Nevertheless, there is a distinct tendency for speakers' volunteered sentences to follow the opposite pattern — that is, the one exemplified in (256). On the analysis I've just sketched, this is because case choice in alternating contexts is capable of generating relevance implicatures which target aspects of subevental structure. Since the question of what is relevant at any given moment is subtle and often negotiable, this analysis potentially explains why case choices are themselves are variable and negotiable, and why speakers find it it so hard to describe the difference in meaning between sentences like (256a) and (256c).

If this analysis is on the right track, then we expect case choice is contexts like (256) to have a noticeable effect on shaping the structure of discourse and directing a listener's attention. The use of instrumental case invites the listener to take a point-of-view on the event from within its *initiating* subevent, while the use of accusative case invites the listener to take a point-of-view on the event that is outside of its *initiating* subevent. It would seem, then, the information communicated by case choice in these contexts helps determine the point-of-view events are seen from, which implies that the information communicated via case choice is essentially aspectual in nature (Smith 1997[1991]). In this way, case choice in alternating contexts appears to function as one of the mechanisms K^{w}ak^{w}ala speakers have at their disposal for communicating viewpoint aspectual information. This finding invites further research on how the category of viewpoint aspect is realized in this language.

7.3.2 Discriminating arguments

Another pragmatic factor which appears to play a role in determining case choice is the pressure to be maximally clear about which internal semantic argument of a verb is being realized in a given utterance. I will explore two examples in this section where speakers appear to exploit case choice in order to disambiguate internal semantic arguments; both examples will involve instances where an expressed internal argument is potentially confusable with an unexpressed internal argument.

The first example involves the verb *nəp-* 'throw', which I assume has three core arguments: an Agent, a Theme, and a Goal. The case frame for this verb's internal arguments in given in (257).

(257) Case frame of *nəp-* 'throw'
Theme: {INST, ACC}
Goal: ACC

Though *nəp-* 'throw' is semantically ditransitive, it can be realized syntactically as monotransitive, either with an expressed Theme and no Goal, as in (258), or with an expressed Goal and no Theme, as in (259).

(258) *nəp-* 'throw' with an expressed Theme, no expressed Goal

nəp̓idida bəg^{w}anəme{**sa**, **x̌a**} **siwayu**
nəp-xʔid =i=da bəg^{w}anəm {**=s=a** , **=x̌=a**}
throw-BEC =3DIST=OST man {**=INST=DET** , **=ACC=DET**}
siǰ̌^{w}-$_{w}$ayu
paddle-INST.PASS
'The man threw **a paddle** {**INST**, **ACC**} (at someone).'

Speaker: "Means the same [with *=sa* or *=x̌a*]." (VF, JF)

(259) *nəp-* 'throw' with an expressed Goal, no Theme

nəp̓idən**x̌a bəg^{w}anəm**
nəp-xʔid =ən **=x̌=a** **bəg^{w}anəm**
throw-BEC =1 **=ACC=DET** **man**
'I threw (something) **at the man** (**ACC**).' (VF)
(*Can also mean*: # 'I threw the man (at something).')

In sentences with *nəp-* and only an accusative-marked object, the object could in theory denote either a Theme or a Goal. For this reason, sentences like (259) are ambiguous. It just so happens that in (259), real-world knowledge excludes one possible reading (cf. 'I threw the man.', where the man is the Theme), so this ambiguity isn't really an issue. However, in situations where an internal argument could in theory be interpreted as either a Theme or a Goal, ambiguity of this sort could potentially lead to difficulties in recovering a speaker's intended meaning.

Now, consider the data in (260). The speaker here was asked whether the sentence in (260a) could be used to mean that a hat was intentionally thrown (i.e. where the hat is a Theme). The speaker responded to this sentence by commenting that it could mean something different than what is intended, namely that the hat was thrown at (i.e. where the hat is a Goal). She then volunteered (260b), with an instrumental Theme, as a better way of achieving the target meaning.

(260) a. ??hinumaʔmux̌ Eddiyəx̌ nəp̓i**x̌is ƛ̓ətəmɬ**
hinuma=ʔm =ux̌ Eddie=x̌ nəp-xʔid **=x̌=is**
on.purpose=VER =3MED Eddie=VIS throw-BEC **=ACC=3REFL.POSS**
ƛ̓ətəmɬ
hat
Intended: 'Eddie threw **his hat** (**ACC**) on purpose.' (JF)

Speaker: "I think when you, when you use that — word, he threw something AT his hat."

b. hinumam̓ux̌ Eddiyəx̌ nəp̓i**sis ƛ̓ətəmł**
hinuma=ʔm =ux̌ Eddie=x̌ nəp-xʔid **=s=is** **ƛ̓ətəmł**
on.purpose=VER =3MED Eddie=VIS throw-BEC **=INST=3REFL.POSS** **hat**
'Eddie threw **his hat** (**INST**) on purpose.' (VF)

We know, on the basis of speaker judgments like (258), that the Theme of *nəp-* can be realized as an accusative object. What the speaker's response in (260a) seems to suggest is that in a sparse context, where there are no obvious cues (or clear biases based on real-world knowledge) for deciding whether an expressed argument is a Theme or a Goal, accusative case is best avoided if the argument is a Theme, since choosing accusative would introduce ambiguity regarding the argument's thematic role. Case choice, in other words, presents an opportunity which can be exploited to reduce ambiguity. The conditions under which this disambiguation occurs are schematized in (261).

(261) <u>Disambiguation Strategy (*nəp-* 'throw')</u>
Theme: ***=s/=x̌*** (= expressed)
Goal: ***=x̌*** (= null)
Optimal case choice for Theme: ***=s***

On the other hand, when the sentence or context *does* include disambiguating information, the Theme can more naturally appear in either case. This is shown by the data in (262), which was elicited with the same speaker a few minutes after eliciting (262); here, the Goal of *nəp-* is expressed within an overt prepositional phrase, which thereby functions to disambiguate this verb's internal arguments. Here, the speaker again volunteers instrumental on the Theme (262a), but then subsequently judges accusative on the Theme to be acceptable as well (cf. (262b)).

(262) a. hinumam̓ux̌ Eddiyəx̌ nəp̓i**sis ƛ̓ətəmł** lax̌a gukʷ
hinuma=ʔm =ux̌ Eddie=x̌ nəp-xʔid **=s=is**
on.purpose=VER =3MED Eddie=VIS throw-BEC **=INST=3REFL.POSS**
ƛ̓ətəmł la =x̌=a gukʷ
hat PREP =ACC=DET house
'Eddie threw **his hat** (**INST**) at a house on purpose.' (VF)

b. hinumam̓ux̌ Eddiyəx̌ nəp̓i**x̌is ƛ̓ətəmł** lax̌a gukʷ
hinuma=ʔm =ux̌ Eddie=x̌ nəp-xʔid **=x̌=is**
on.purpose=VER =3MED Eddie=VIS throw-BEC **=ACC=3REFL.POSS**
ƛ̓ətəmł la =x̌=a gukʷ
hat PREP =ACC=DET house
'Eddie threw **his hat** (**ACC**) at a house on purpose.' (JF)

Speaker: "*nəp̓ix̌is ƛ̓ətəmł.* Uh, I guess you could. *nəp̓ix̌is ƛ̓ətəmł… lax̌a gukʷ. nəp̓iSIS ƛ̓ətəmł lax̌a gukʷ*. [(b)] I… don't think anybody's gonna argue about it, but anyway. Uh, *hinumam̓ux̌ Eddie nəp̓ix̌is ƛ̓ətəmł lax̌a gukʷ*. Yeah, you could — you could use it that way."[3]

[3] The speaker's hesitancy here may stem from her surprise at the fact that only moments ago, when we were discussing (S), she had rejected accusative case on this argument.

In summary, the data in (260) show that case choice can be exploited to disambiguate potentially confusable arguments. The data in (262) show, however, that when sources of information other than case-marking are available for disambiguating arguments, case choice is no longer constrained.

Another place where the discriminating function of object-case marking becomes apparent is in contexts where we expect a semantic Patient to be able to undergo case alternation because it is directly manipulated by an *Initiator* — that is, in contexts which license the Direct Manipulation Alternation discussed in Chapter 5, Section 5.2. What I've observed in the course of my research is that instrumental case is realized less often in these contexts than one might expect on the basis of semantic factors alone. On closer observation, I've found one crucial factor in constraining the Direct Manipulation Alternation to be whether or not the verb involved describes an event which potentially involves an Instrument other than a body part — for instance, a tool. To illustrate why this might be the case, we'll need to compare data involving verbs that both do, and do not, lexically entail an Instrument that is external to the *Initiator*.

With verbs that name events which do not lexically entail the involvement of an external Instrument, such as *k̓ux̌ʷ-* 'fold' (263), the Direct Manipulation Alternation occurs quite naturally. Verbs of this sort name events that entail direct manipulation — that is, manipulation using a part of the *Initiator*'s body *without the mediation of an external Instrument*. While it is technically possible to mention the body part that is used in the event, it is pragmatically odd to do so (264).

(263) k̓ux̌ʷən{**sada**, **x̌ada**} **mam̓a**

k̓ux̌ʷ	=ən	{**=s=a=da** , **=x̌=a=da**}	**mam̓a**
fold	=1	{**=INST=DET=OST** , **=ACC=DET=OST**}	**blanket**

'I'm folding **blankets** {INST, ACC}.' (JF, VF)

(264) ?? k̓ux̌ʷux̌ Shellix̌ʷa mam̓a**sis ʔəy̓əsu**

k̓ux̌ʷ	=ux̌	Shelly	=x̌=ʷ=a	m̓am̓a
fold	=3MED	Shelly	=ACC=3MED=DET	blanket
	=s=is		**ʔəy̓əsu**	
	=MEANS=3REFL.POSS		**hand/arm**	

Literally: 'Shelly's folding blankets **with her hands** (INST).' (JF)

Speaker: "Mm. *heʔəm*. ['That's it.'] [*laughs*] Very [*laughs*] self-explanatory!"

The oddness in (264) arises because the *Initiator*'s hands are implicit arguments in these events, in the sense that they are entailed but unrealized arguments (Williams 2015: p. 94-116), so naming them in most contexts is redundant.

Another set of verbs which readily occur in the Direct Manipulation Alternation are verbs derived from underlying states, such as *təp̓id* 'break' (from *təp-* 'be broken') and *yax̌ʔid* 'melt' (from *yax̌-* 'be melted'). Crucially, since these are stative roots, I assume they do not possess specific lexical entailments about external Instruments, even though the semantics of unaccusative and transitive verbs derived from them may be commensurate with Instruments. They are similar to verbs like *k̓ux̌ʷ-* 'fold', then, in that while they may become Instrument-mediated events compositionally, they are not Instrument-mediated events at the level of lexical entailments.

The significant finding for us here is that with verbs naming events which do entail *Initiator*-external Instruments, speakers tend to avoid realizing instrumental case on the Patient, even when semantically, we'd expect instrumental case to be possible. Take, for instance, the verb stem *qʷəcəm-* 'peel round object', which describes an event involving an Agent, a Patient, and an (often unrealized) Instrument. In a context where the Patient is being directly manipulated — for instance, where an Agent is holding an orange and peeling it with her hands — we predict, on the basis of similar examples discussed in Section 5.2, that the Patient should be able to appear in either case (265).

(265) Predicted case frame of *qʷəcəm-* 'peel round object' (in a context involving direct manipulation)
Patient: {INST, ACC}
Instrument: INST

However, this is not what we find. In an out-of-the-blue context, the speaker below volunteered accusative case on the Patient with this verb (266a), but rejected instrumental case (266b). The comments underneath (266b) indicate that the speaker's reason for rejecting instrumental case is because it brought to mind not the Patient, but a *distinct* semantic argument of the verb — in particular, the unrealized Instrument. Examples (266c)-(266d) show cases where this Instrument is realized: in a Means adjunct in (266c), and as an instrumental object in (266d).

(266) [*Context: Out-of-the-blue*.]

a. qʷəcəmdaluǰ Abbiyə**ǰʷa ʔayəndzisiǰ**
qʷəs-(ğ)əm-xʔid-a-la =uǰ Abby **=ǰ=ʷ=a**
peel-face-BEC-A-CONT =3MED Abby **=ACC=3MED=DET**
ʔayəndzis=ǰ
orange=VIS
'Abby's peeling **an orange** (ACC).' (VF)

b. # qʷəcəmdaluǰ Abbi**suǰ ʔayəndzisiǰ**
qʷəs-(ğ)əm-xʔid-a-la =uǰ Abby **=s=uǰ**
peel-face-BEC-A-CONT =3MED Abby **=INST=3MED**
ʔayəndzis=ǰ
orange=VIS
Speaker: "Um, if you were describing what she's USING to — but then you'd just use your hands to peel. If you were describing her using something to peel, then you could use *suǰ*." (JF)

c. qʷəcəmdaluǰ Abby**ǰʷa ʔayəndzisiǰ**sa həm̓ayu
qʷəs-(ğ)əm-xʔid-la =uǰ Abby **=ǰ=ʷ=a**
peel-face-BEC-CONT =3MED Abby **=ACC=3MED=DET**
ʔayəndzis=ǰ =s=a həm̓-ʷayu
orange=VIS =MEANS=DET eat-INST.PASS
'Abby's peeling **an orange** (ACC) with a fork.' (JF)

d. qʷəcəmdaluǰ Abbyǰ**sa həm̓ayu** laǰʷa ʔayəndzisiǰ
qʷəs-(ğ)əm-xʔid-la =uǰ Abby=ǰ **=s=a**
peel-face-BEC-CONT =3MED Abby=VIS **=INST=DET**
həm̓-ʷayu la =ǰ=ʷ=a ʔayəndzis=ǰ
eat-INST.PASS PREP =ACC=3MED=DET orange=VIS
'Abby's peeling an orange **with a fork** (**INST**).' (VF)

A plausible explanation for why (266b) is rejected is that whenever the verb *qʷəcəm-* is used, the fact that this verb entails an Instrument makes instrumental case a poor choice for encoding the Patient. This is because using instrumental case to encode the Patient generates an ambiguity between this argument and the often-implicit Instrument of this verb. Speakers are therefore better off choosing to encode the Patient with accusative case, even though instrumental would be semantically possible, to avoid potential ambiguity. The speaker's decision-making strategy in cases like (266b) is schematized in (267).

(267) Disambiguation Strategy (*qʷəcəm-* 'peel round object') in a direct manipulation context

Patient: ***=s/=ǰ***	(= expressed)
Instrument: ***=s***	(= null)
Optimal case choice for Patient: ***=ǰ***	

Once again, we see that in a context where both cases are semantically licensed, the potential for one object case to appear is constrained, pragmatically, by the fact that realizing this case would generate ambiguity relative to a null argument. In this way, the constellation of arguments associated with a particular verb functions to constrain the realization of object case in environments where case alternation is semantically licensed.

It is not clear, in the context of my research, how often speakers' case choices are motivated by the pressure to disambiguate arguments in the ways explored in this section. Regardless, these data suggest that speakers can and do at least occasionally exploit the opportunity case choice presents in order to prevent ambiguity, and thereby improve the discriminability of semantic arguments.

In conclusion, the data presented in Sections 7.3.1 and 7.3.2 suggest that in environments where object case choice is semantically *in*significant, it is nevertheless pragmatically significant.

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Glossary

The following terms are defined and developed in the dissertation text, where they are indicated in **bold** the first time they are used. Square brackets '[…]' indicate the section(s) in which each term is defined and elaborated.

alternating instrumental-accusative {=*s*, =*x̌*} relation
[Section 1.1, Section 3.2.3, Section 4.2.4]
A descriptive label for a relation that holds between a particular verb and a particular internal argument, such that the argument can appear in either instrumental (=*s*) or accusative (=*x̌*) case in every context of the verb's use.

Alternation Condition
[Section 4.2.4]
A semantic condition describing when it's possible for an internal argument to undergo instrumental-accusative {=*s*, =*x̌*} case alternation. The condition is phrased as follows: "An argument which satisfies the conditions for being both a *Co-initiator* and a *Non-initiator* may appear in either instrumental (=s) or accusative (=*x̌*) case."

canonical object position
[Section 1.2]
The position in clausal syntax where instrumental (=*s*) objects and accusative (=*x̌*) objects are realized. Canonical object position is located immediately to the right of the subject except when the subject precedes the main verb, in which case it is located immediately to the right of the verb.

Caused Motion Alternation
[Section 5.3]
A phenomenon whereby instrumental-accusative {=*s*, =*x̌*} case alternation is licensed on internal arguments which undergo caused motion in a direction. The Caused Motion Alternation can be licensed either through verbal entailments or through modification of an event description with a Path-denoting prepositional phrase. An analogous construction exists in English and is referred to as the caused motion construction (Goldberg 1995, Levin & Rappaport-Hovav 1995).

Co-initiator
[Section 1.4, Section 4.2.2, Section 4.2.3]
An event role that includes participants in the *initiating* part of an event which are not themselves *Initiators*. *Co-initiators* satisfy one or more of the following semantic conditions: they serve as the means by which an *Initiator* instigates an event (*dependent cause*); their existence or presence delimits the initial bound of the event (*initial bound*); or they are possessed by the *Initiator* at the initial bound of the event in a way that is relevant to event structure (*possession* (*initial bound*)). Arguments falling into this category are realized as instrumental (=*s*) objects in active clauses, and as subjects in clauses formed with the instrumental voice suffix *-ayu*.

Direct Manipulation Alternation

[Section 5.2]

A phenomenon whereby instrumental-accusative {=*s*, =*x̌*} case alternation is licensed on internal arguments which in the course of an event are both directly manipulated by an *Initiator* and undergo some change. The Direct Manipulation Alternation can be licensed either by verbal entailments or by context.

***initiating* subevent**

[Section 1.4, Section 4.2.1]

The initial part or phase of an event. Intuitively, the *initiating* subevent is the part of an event related to causal instigation and to the initial temporal phase or bound of an event. *Initiating* subevents are also referred to as an *initial* subevents in the literature on event structure.

Initiating Subevent Theory

[Section 1.4, Chapter 4 (throughout)]

A theory about the semantic factors which underly the grammatical distribution of object case in K^{w}ak̓^{w}ala, which has two central claims. The first claim is that object case is tied to subevental structure, with instrumental case realized on participants of *initiating* subevents (*Co-initiators*), and accusative case realized on participants of *non-initiating* subevents (*Non-initiators*). The second claim is that instrumental case is interpretable (i.e. is associated with a semantic value), while accusative case is an uninterpretable default (i.e. is not associated with a semantic value).

Initiator

[Section 4.2.1]

An event role which includes arguments capable of independent causal instigation, such as agents, experiencers, and natural forces. In active clauses, *Initiators* are always expressed as the subject.

interpretable case

[Section 1.4, Section 4.3, Chapter 6 (throughout)]

A case which is associated with a semantic value. In this dissertation I claim that instrumental case in K^{w}ak̓^{w}ala is an interpretable case.

Location

[Section 4.2.1]

An event role that includes spatial locations, as well as metaphorical extensions of this category. Arguments falling into this semantic category appear in active clauses as the object of prepositional *la* phrases and as the subject in clauses formed with the locative voice suffix *-ʔas*.

***non-initiating* subevent**

[Section 1.4, Section 4.2.1]

The final part or phase of an event. Intuitively, a *non-initiating* subevent is the part of an event involving causal effects or results, and is related temporally to the final bound or

phase of the event. *Non-initiating* subevents are also referred to as *final* subevents in the literature on event structure. The term 'non-initiating' is adopted here instead of 'final' to emphasize the finding that the object case associated with these subevents (namely, accusative) is uninterpretable in Kʷakʷala, in comparison with the object case associated with the *initiating* subevent which is interpretable (namely, instrumental).

Non-initiator

[Section 1.4, Section 4.2.2, Section 4.2.3]

An event role that includes participants in the *non-initiating* part of an event. *Non-initiators* satisfy one or more of the following semantic conditions: they undergo some causally-induced change (*change*); their existence or presence delimits the final bound of the event (*final bound*); or they come into an *Initiator*'s possession by the final bound of the event (*possession* (*final bound*)). Arguments falling into this semantic category are realized as accusative (=*x̌*) objects in active transitive clauses, and as subjects in clauses formed with the accusative voice suffix *-sə̓w̓*. The label '*Non-initiator*' is innovated here, though the event role itself is quite similar to categories that have been previously proposed in the linguistics literature (e.g. Dowty's 1991 Proto-Patient role).

perspectivally-opposed verb pairs

[Section 3.3 (3.3.1, 3.3.3), Section 4.2.5]

A pair of verbs in which each verb encodes a different view on a single, overarching situation. For example, the verb pair *laǩ-* 'sell' versus *kəlxʷ-* 'buy' is a perspectivally-opposed verb pair. In Kʷakʷala, verb pairs of this sort pattern asymmetrically with respect to object case. Compare with *reverse-action verb pairs.*

reverse-action verb pairs

[Section 3.3, (3.3.2, 3.3.3), Section 4.2.5]

A pair of verbs which describe two temporally-separate segments of a reversible action. For example, the verb pair *gic̓u-* 'put inside' and *ʔəǩwəłc̓u-* 'take out from inside' is a reverse-action verb pair. In Kʷakʷala, verb pairs of this sort pattern asymmetrically with respect to object case. Compare with *perspectivally-opposed verb pairs.*

subevent highlighting

[Section 7.3.1]

A phenomenon whereby case choice in alternating contexts serves to highlight either the *initiating* subevent or the *non-initiating* subevent as more relevant to the discourse. Specifically, choosing instrumental case highlights the *initiating* subevent, while choosing accusative case highlights the *non-initiating* subevent.

strict-accusative (=*x̌*) relation

[Section 1.1, Section 3.2.1, Section 4.2.4]

A descriptive label for a relation between a particular verb and a particular internal argument, such that the argument can only appear in accusative (=*x̌*) case.

strict-instrumental (=*s*) relation

[Section 1.1, Section 3.2.2, Section 4.2.4, Section 4.4]

A descriptive label for a relation between a particular verb and a particular internal argument, such that the argument can only appear in instrumental (=*s*) case.

uninterpretable case

[Section 1.4, Section 4.3, Chapter 6 (throughout)]

A case which is not associated with a semantic value. In this dissertation I claim that accusative case in K^{w}ak̓^{w}ala is an uninterpretable case.

Appendix A:
A plain language overview of The Semantics of Kʷakʷala Object Case

The point of this essay is to provide an overview of the main findings of the dissertation in plain language, including basic properties of the object case system in Kʷakʷala and what this system reveals about language in general. While the rest of the dissertation is written in technical language and assumes background in linguistics, this essay is written for a wider audience, including but not limited to Kʷakʷakəwakʷ community members and language learners. Readers should not expect this essay to be an *easy* read, since there are bound to be many new ideas in it which require effort to work through. Nevertheless, I hope that everyone will be able to learn something new from it.

The Kʷakʷala examples presented below consist of five lines of text which are arranged in layers, like in (i).

(i) a. Kʷakʷala sentence in U'mista orthography
b. Kʷakʷala sentence in NAPA (UVic variety) orthography
c. Kʷakʷala sentence broken down into roots, suffixes, and clitics
d. Morpheme-by-morpheme gloss of roots, suffixes, and clitics
e. English translation

As indicated in (i), Kʷakʷala examples are presented in two orthographies: U'mista and NAPA (UVic variety). A guide to orthographic conventions is provided in Appendix B, and a key to the abbreviations that are used to gloss examples can be found in the pages preceding Chapter 1.

Appendix A is divided into the following four sections:

- Section A.1, entitled "Kʷakʷala's two object cases", begins with an introduction to what "objects" and "object cases" are, and then goes over some basic concepts the reader will need to know to understand how object case works. It then walks through a set of instructions for determining when to use each of Kʷakʷala's object case markers in a sentence.

- Section A.2, entitled "Choosing between object cases", discusses strategies for deciding which case to use in contexts where either case is possible.

- Section A.3, entitled "Variation between speakers", discusses the issue of whether there are differences between Kʷaḵʷala speakers in how object case works.

- Finally, Section A.4, entitled "What Kʷaḵʷala's object case system tells us about language in general", talks about how Kʷaḵʷala's object case system compares and contrasts with object-marking systems in other languages, and what this means for our collective understanding of how languages around the world are structured.

A.1 Kʷaḵʷala's two object cases

In Kʷaḵʷala, **objects** occur in two positions in the sentence. They can either appear after the subject, as they do in (1), or after the verb, as they do in (2). Sometimes objects are also followed by other types of sentence constituents such as prepositional phrases, as in (3).[1] In (1)-(3), the object is indicated in **bold**.

(1) *Objects can follow the subject*:

a. bą̲wux̲ Mabelą̲x̲**sa gukwdzi**
bəwux̌ Mabələx̌**sa gukʷdzi**
bew =ux̌ Mabel=x̌ **=s=a** **gukʷdzi**
leave =3MED Mabel=VIS **=INST=DET** **bighouse**
'Mabel is leaving/left **the Bighouse** (INST).'

b. ṭ̓usux̲ Mabelą̲x̲**wa kwą̲nikw**
ṭ̓usux̌ Mabelə**x̌ʷa** **kʷənikʷ**
ṭ̓us =ux̌ Mabel **=x̌=ʷ=a** **kʷənikʷ**
cut =3MED Mabel **=ACC=3MED=DET** **bread**
'Mabel is cutting/cut **bread** (ACC).'

(2) *Objects can directly follow the verb*:

a. lą̲'misą̲n ką̲ɬą̲la**sa lo'linox̲**
ləm̓isən kələla**sa lol̓inox̌**
lə=ʔm=is =ən kəɬ-la **=s=a** **lol̓inox̌**
AUX=VER=and =1 afraid-CONT **=INST=DET** **ghost**
'I'm afraid of **ghosts** (INST).'

b. la̲’mi Mabel du̲k̲wa̲la̲**x̲a ik̓i̓**
lə̓mi Mabel duqʷəla**x̌a ʔik̓i̓**
lə=ʔm =i Mabel duqʷ-la **=x̌=a** **ʔik̓i̓**
AUX=VER =3DIST Mabel see-CONT **=ACC=DET** **sky**
‘Mabel is looking/looked at **the sky** (**ACC**).’

(3) *Objects can be followed by a prepositional phrase*:

a. kitła̲n**sa walas kidła̲m** k̲e’ida ma̲łik
kiƛən**sa walas kiλəm** qeʔida məłik
kiƛ =ən **=s=a** **walas** **kiλəm** qe =i=da məłik
fish.with.net =1 **=INST=DET** **big** **net** PREP =3DIST=OST sockeye
‘I’m fishing/fished **with a big net** (**INST**) for sockeye.’

b. ga̲łuł’idida t̓sa̲k̲wana**x̲a dala** laxa ka̲lwilas
gəłułʔidida c̓əqʷana**x̌a dala** laxa kəlwilas
gəluł-xʔid =i=da c̓əqʷana **=x̌=a** **dala**
steal-BEC =3DIST=OST bird **=ACC=DET** **money**
la =x̌=a kəlwilas
PREP =ACC=DET store
‘The bird is stealing/stole **money** (**ACC**) from the store.’

Objects in Kʷak̓ʷala are introduced by one of two markers, either **=*s*** or **=*x̌***. Some objects can only be introduced by *=s*, as in the ‘a’ examples in (1)-(3), and some can only be introduced by *=x̌*, as in the ‘b’ examples in (1)-(3). Otherwise, the same object can be introduced by either *=s* or *=x̌* with no obvious difference in meaning, as in the examples in (4).

(4) a. na̲p̓idida ba̲gwana̲m{**sa**, **x̲a**} **siwayu**
nəp̓idida bəgʷanəm{**sa**, **x̌a**} **siwayu**
nəp-xʔid =i=da bəgʷanəm {**=s=a** , **=x̌=a**}
throw-BEC =3DIST=OST man {**=INST=DET**, **=ACC=DET**}
six̌ʷ-„ayu
paddle-INST.PASS
‘The man is throwing/threw **a paddle** {**INST**, **ACC**}.’

Speaker’s comment: “It’s the same [with either *=s* or *=x̌*].”

[1] In Kʷak̓ʷala, sentences without tense markers can have either a past tense or a present tense interpretation. This is why more than one possible English translation is provided for many of the examples below.

b. tɬumux̲ Shellix̲ babą̲’la {**sux̲**, **x̲ux̲**} **Hopix̲**
ƛumux̌ Shellix̌ babəl̓a{**sux̌**, **x̌ux̌**} **Hopix̌**
ƛum =ux̌ Shelly=x̌ babəl̓a {**=s=ux̌** , **=x̌=ux̌**}
really =3MED Shelly=VIS jealous {**=INST=3MED** , **=ACC=3MED**}
Hope=x̌
Hope=VIS
‘Shelly is really jealous of **Hope** {**INST**, **ACC**}.’

c. gi’stą̲nux̲ Mabela{**sa**, **x̲a**} **dą̲mxą̲sg̲ą̲m** lax̲a ’wap
giʔstənux̌ Mabela{**sa**, **x̌a**} **dəmxəsǧəm** lax̌a ẇap
gi-ʔst-xʔid =ux̌ Mabel {**=s=a** , **=x̌=a**}
LOC-water-BEC =3MED Mabel {**=INST=DET** , **=ACC=DET**}
dəmxəsǧəm la =x̌=a ẇap
jar PREP =ACC=DET water
‘Mabel is putting/put **the jars** {**INST**, **ACC**} into the water.’

The markers *=s* and *=x̌* are markers of **object case**. For our purposes, we can think of case as something that indicates a noun’s role in a sentence. The form ***=s*** is called **instrumental case**, and the form ***=x̌*** and is called **accusative case**. When an object is introduced with *=s*, we say that it is ‘in’ instrumental case, or is ‘marked’ instrumental. When an object is introduced with *=x̌*, we say that it is ‘in’ accusative case, or is ‘marked’ accusative. When either *=s* or *=x̌* can appear in a sentence marking the same object, as in (4), we call this **case alternation**. I’ll use curly brackets ‘{*=s*, *=x̌*}’ to indicate places where case alternation is possible.

Something to know about object case markers in Kʷak̓ʷala is that they are **clitics**. Clitics are unstressed words which lean on other words.[2] More specifically, object case markers are **enclitics**, which means that they are pronounced as part of the previous word.[3] An example of an enclitic from English is *=ll* in *I’ll*, which is a contraction of the two words ‘I will’. Object case markers are often followed by other enclitics, such as *=ən*, *=ux̌*, *=i*, *=a*, etc. These enclitics give information about whether the object is first person, second person, or third person, whether the object is possessed, and the object’s location relative to the speaker.

Something to be aware of is that the forms *=s* and *=x̌* have other functions in the language besides marking case on objects. For instance, an enclitic *=s* marks some third person possessors, as in (5), while an enclitic *=x̌* marks some time adverbials, as in (6).

[2] Clitics are indicated by an equals sign (‘=’), while suffixes are indicated by a dash (‘-’).
[3] Clitics which are pronounced as part of the following word are called **proclitics**.

(5) *=s introduces a third person possessor*:

ha̱’laluxw̱ bagwa̱ns a̱ba̱mpe’**suxw̱ Mabelxw̱**
həl̓aluxw̌ bagʷəns ʔəbəmpe?**suxw̌ Mabelxw̌**
həl̓al =uxw̌ bagʷəns ʔəbəmp=eʔ **=s=uxw̌** **Mabel=xw̌**
hesitant =3MED visit mother=INVIS **=3POSS=3MED** **Mabel=VIS**
‘**Mabel’s** mother is hesitant to visit.’

(6) *=x̌ introduces a temporal adverbial phrase*:

p̓a̱lx̱a̱latɬux̱ **x̱a ła̱nstle’**
p̓əlx̌əlaƛux̌ **x̌a łənsƛeʔ**
p̓əlx̌-la=ƛ =ux̌ **=x̌=a** **łənsƛeʔ**
fog-CONT=FUT =3MED **=ACC=DET** **tomorrow**
‘It’s going to be foggy **tomorrow**.’

In this essay, I’ll only be concerned with the *=s* that marks instrumental objects and the *=x̌* that marks accusative objects — that is, with the use of these forms as **object case markers**. Two criteria are useful for identifying *=s* and *=x̌* in their object case marking function. First, the object case forms *=s* and *=x̌* consistently show up in the sentence positions that were shown in (1)-(4), while the *=s* and *=x̌* in (5)-(6) can appear in a wider range of positions in the sentence. Second, objects can be identified by the fact that they are always associated with the verb in a sentence. In other words, objects only appear in sentences where the verb selects an object. This is different from the nominals introduced by *=s* and *=x̌* in (5)-(6) because *=s* marked possessors and *=x̌* marked temporal phrases are not dependent on which verb is present.

Now that we’ve discussed what objects and case are, we’re ready to consider the central question of this essay, which is the following:

> **Central Question:**
> If we want to construct a Kʷak̓ʷala sentence that contains an object, how do we know whether to express it in instrumental (*=s*) case, in accusative (*=x̌*) case, or in either case?

It turns out that the answer to this question depends on what *meaning* you’re trying to convey. Object case in Kʷak̓ʷala is determined by **semantics**, which means that which object case that appears in a sentence — instrumental (*=s*) or accusative (*=x̌*) — has an effect on a sentence’s meaning. We will see below that it is possible to state instructions for deciding which case to use when constructing a Kʷak̓ʷala sentence with an object. This means that we don’t have to memorize when to use one case or the other, but can follow instructions to create new sentences.

The meaning that is conveyed through object case marking is quite abstract. To understand what meaning is conveyed by object case, we'll need to learn a few semantic concepts first. Three concepts in particular will be crucial for understanding object case: the notion of an *event*, the notion of an *event role*, and the notion of a *subevent*.

First, what do we mean by 'event'? In daily life, we tend to think about events as periods of time set aside for people to gather for some particular purpose. A birthday party is an event, as are potlatches, dances, meetings, and funerals. An event of this sort is something we might write down on a calendar, invite people to, and plan for. Events of this sort also tend to be special in comparison with the other things we do in our day-to-day life.

In linguistics however, the word 'event' has a more abstract meaning than this: it basically stands for any *particular occurrence*. While going to a birthday party still counts as an 'event' in this sense, so do the following occurrences: my walking to my friend's house for the birthday party — my ringing the doorbell — my waiting for an answer at the door — my hearing footsteps inside the house — my friend's answering the door — etc. An **event**, in the way linguists use this term, is any coherent chunk of experience that can be thought of as a particular occurrence. Consider, for instance, a news article that describes a sequence of events leading up to a forest fire: someone lights a campfire in the woods (a lighting-a-campfire-in-the-woods event); that person leaves the fire unattended (a leaving-the-fire-unattended event); the wind blows sparks from the fire into the woods (a wind-blowing-sparks-into-the-wood event); and some nearby trees catch on fire (a trees-catching-on-fire event). The use of the term 'event' here to refer to particular occurrences in the world is what linguists mean when they talk about events.

Something to keep in mind about events is that they can either take up time (that is, have duration) or be instantaneous. For example, an event in which *I listen to the radio* can last for minutes or hours, whereas an event in which *I turn off the radio* usually only lasts an instant. Though they differ in terms of duration, both listening to a radio and turning off a radio are types of events.

Something else to know about events is that they have *participants*. To get a feel for what an event participant is, consider the examples in (7)-(12) below, each of which describes a sewing event.

(7) ḵ̓a̱ni Mabel
q̓əni Mabel
q̓ən =i Mabel
sew =3DIST Mabel
'Mabel is sewing/sewed.'

(8) k̲ə̲ni Mabel la̲x̲a xwak̓wə̲na
q̓əni Mabel lax̌a xʷak̓ʷəna
q̓ən =i Mabel la =x̌=a xʷak̓ʷəna
sew =3DIST Mabel PREP =ACC=DET canoe
'Mabel is sewing/sewed in a canoe.'

(9) k̲ə̲ni Mabel k̲a Monica
q̓əni Mabel qa Monica
q̓ən =i Mabel qa Monica
sew =3DIST Mabel PREP Monica
'Mabel is sewing/sewed because of Monica.' OR
'Mabel is sewing/sewed for Monica.'

(10) k̲ə̲ni Mabelesa walas k̲ə̲nayu
q̓əni Mabelesa walas q̓ənayu
q̓ən =i Mabel =s=a walas q̓ənayu
sew =3DIST Mabel =INST=DET big sewing.needle
'Mabel is sewing/sewed with a big sewing needle.'

(11) k̲ə̲ni Mabele̲x̲a ɬə̲nx̲stu k̓wə̲mdzu'yu
q̓əni Mabelex̌a ɬənx̌stu q̓ʷəmdzuy̓u
q̓ən =i Mabel =x̌=a ɬənx̌stu q̓ʷəmdzuy̓u
sew =3DIST Mabel =ACC=DET green.colour dress
'Mabel is sewing/sewed a green dress.'

(12) k̲ə̲ni Mabele̲x̲a ɬə̲nx̲stu k̓wə̲mdzu'yu k̲a Monica la̲x̲a xwak̓wə̲na
q̓əni Mabelex̌a ɬənx̌stu q̓ʷəmdzuy̓u qa Monica lax̌a xʷak̓ʷəna
q̓ən =i Mabel =x̌=a ɬənx̌stu q̓ʷəmdzuy̓u
sew =3DIST Mabel =ACC=DET green.colour dress
qa Monica la =x̌=a xʷak̓ʷəna
PREP Monica PREP =ACC=DET canoe
'Mabel is sewing/sewed a green dress for Monica in a canoe.'

Mabel is an event participant in all of the events above, since she's the one doing the sewing. In (7) she's the sole event participant, while in (8) there are two event participants: Mabel, and a canoe. Notice that the fact that a canoe counts as an event participant means that something doesn't have to be alive to 'participate' in an event. In (9), there are again two participants, Mabel and Monica. In (10), Mabel and a big needle are participants. In (11), Mabel and a green

dress (that she's either sewing or has already sewn) are participants. Example (12) then has four participants: Mabel, a green dress, Monica, and a canoe.

An **event participant**, then, is any entity that plays a role in an event.[4] The type of role that an event participant plays is called an **event role**. In (13), the five event roles represented in (7)-(12) are given names.

(13) Event roles represented in (7)-(12):[5]

Mabel	=	*Initiator*
canoe	=	*Location*
Monica	=	*Reason*
big needle	=	*Co-initiator*
green dress	=	*Non-initiator*

An ***Initiator*** is anything that initiates, or causes, an event to come about. In (7)-(12) Mabel is the one doing the sewing, so she is the *Initiator* of each sewing event. In Kʷaḵʷala, *Initiators* appear in subject position.[6] A ***Location*** is the place where an event occurs. In (8), a canoe is the place where Mabel sews, so it is the *Location* of the event. In Kʷaḵʷala, *Locations* are introduced by the preposition *la* immediately followed by *=x̌*, or by one of the forms *gax̌ən* 'me', *gax̌ənʔs* 'us (including you)' or *gax̌ənuʔx̌* 'us (and not you)'. A ***Reason*** is anything that serves either as the reason <u>for</u> something happening or the reason <u>why</u> something happens. In (9), Monica is the motivation for Mabel's sewing, and this makes her a *Reason*. In Kʷaḵʷala, *Reasons* are introduced by the preposition *qa*. I will have more to say about what it means to be a *Co-initiator* and a *Non-initiator* below, since these event roles are associated with object case. To understand these event roles however, we'll first need to learn one more semantic concept: the concept of a *subevent*.

In addition to having *participants*, events have *parts* which are called **subevents**. We can think of events as each consisting of up to two subevents. Intuitively, we can grasp the idea of a subevent by thinking in terms of two oppositions. The first opposition has to do with time, and is the opposition between the *beginning* of an event versus the *end* of an event. The second opposition has to do with causation, and is the opposition between the *cause* of an event and the *result* of an event. Intuitively, the *beginning* of an event and the *cause* of an event are related and form a single category, which I'll refer to as an ***initiating* subevent**. Likewise, the *end* of an

[4] Note that an 'event participant' can involve more than one individual. For instance, in the sentence 'Mabel sewed three green dresses', 'three green dresses' is a single event participant, though one which consists of three individuals.

[5] Event roles are capitalized and italicized throughout the dissertation, including this Appendix.

[6] Note, though, that not all subjects are *Initiators*. For instance, in the sentence *təp̓idux̌da kʷəʔsta* 'The cup broke', the cup is a subject of the sentence, but it is not an *Initiator*.

event and the *result* or *effect* of an event are related and form a single category, which I'll refer to as a ***non-initiating*** **subevent**. These oppositions are summarized in (14).[7]

(14)	a.	***initiating*** **subevents**	b.	***non-initiating*** **subevents**
		i. Beginning		i. End
		ii. Cause		ii. Result / Effect

With the notion of a subevent in mind, we can define four basic kinds of events. Doing so will give us practice in identifying the **event structure** of particular events, which is a skill that will be useful when we talk about object case below.

First, there are events that consist of two subevents. These events have both an *initiating* subevent and a *non-initiating* subevent. The event described in (15), for instance, is one in which the wind (*yola*) is the *Initiator* of a sinking event, and a canoe's sinking is the result. In the event described in (16), Eddie is the *Initiator* of an event of fixing a car, which thereby gets fixed. In the event described in (17), Norman is the *Initiator* of a running event which ends once Norman gets to the store. In all three cases, the event has both a clear *initiating* phase and a clear *non-initiating* phase.

(15) wa̲ns'idi yola̲xa xwak̓wa̲na
wənsʔidi yolaǎxa xʷak̓ʷəna
wəns-xʔid =i yu-la =x̌=a xʷak̓ʷəna
sunken-BEC =3DIST wind-CONT =ACC=DET canoe
'The wind is sinking/sunk the canoe (ACC).'

(16) hiɬ'idi Eddi̲xa ka̲lka̲lsi'sa̲la
hiɬʔidi Eddiǎxa kəlkəlsiʔsəla
hiɬ-xʔid =i Eddie =x̌=a kəlkəlsiʔsəla
fix-BEC =3DIST Eddie =ACC=DET car
'Eddie is fixing/fixed the car (ACC).'

(17) dza̲lxwa̲li Norman la̲xa ka̲lwilas
dzəlxʷəli Norman laǎxa kəlwilas
dzəlxʷ-la =i Norman la =x̌=a kəlwilas
run-CONT =3DIST Norman PREP =ACC=DET store
'Norman is running/ran to the store.'

Events consisting of two subevents of this sort are called **accomplishments**.

[7] Since the concept of a subevent will be crucial below, it might be worth taking a moment to stop and think about these two categories until they begin to feel intuitive.

Secondly, there are events which have a beginning or cause, but no specified end or result. These events consist of an *initiating* subevent only. In (18) for instance, Mabel is the *Initiator* of a singing event in which no end or result is specified. Likewise in (19), Norman is the *Initiator* of a running event in which the endpoint is again unspecified (compare this with (17) above). Note that even though it's reasonable to assume that these events will eventually come to an end in the real world, there is nothing in the way that the events are described in these sentences which tells us what that end would look like, or what it's results would be. For this reason, we say that these events lack a *non-initiating* subevent.

(18) dan̲x̲ali Mabel
dənx̌ali Mabel
dənx̌-la =i Mabel
sing-CONT =3DIST Mabel
'Mabel is singing/sang.'

(19) dza̲lxwali Norman
dzəlx^{w}ali Norman
dzəlx^{w}-la =i Norman
run-CONT =3DIST Norman
'Norman is running/ran.'

Events of this sort are referred to as **activities**. Accomplishments and activities which have duration are also sometimes together referred to as **processes**.

Thirdly, there are events which consist of a transition of some kind. In (20) for instance, there is a transition between Monica not having a wallet, to her having found a wallet. Likewise in (21), there's a moment where Simon transitions from not being at school, to being at school. Events of this sort consist of two subevents: the part of the event prior to the transition is the *initiating* subevent, while the part of the event following the transition is the *non-initiating* subevent.[8]

(20) k̓a̲'i Monicax̲a da'lat̓si
q̓aʔi Monicax̌a dal̓ac̓i
q̓a =i Monica =x̌=a dal̓ac̓i
find =3DIST Monica =ACC=DET wallet
'Monica found a wallet (ACC).'

[8] Linguists have differing opinions on whether events of this sort consist of both an *initiating* and *non-initiating* subevent, or only a *non-initiating* subevent. This is partly due to the fact that with events of this type, little or nothing is entailed (that is, specified in the meaning of the verb) about the *initiating* subevent that precedes the transition.

(21) lagaʼi Simon laxa kʼakʼutɬaʼatʼsi
lagəʔi Simon laxa qʼaqʼuƛʼaʔacʼi
lagəʔ =i Simon la =x̌=a qʼaqʼuƛʼaʔacʼi
arrive =3DIST Simon PREP =ACC=DET school
‘Simon arrived at school.’

Events of this sort are referred to as **achievements** or **transitions**. One characteristics of events of this type is that they tend occur instantaneously.

Finally, some events don’t seem to have any parts at all. These events don’t describe the way things begin, end, are caused, or affected — they describe the way things *are*. In (22) for instance, Betty is said to be a certain way, literally to ‘have heart/mind’, which in Kʷakʼʷala is a way of saying that someone has wisdom or wholeness. In (23), Bill is described as being a teacher.

(22) nogadi Betti
noǧadi Betti
noq-$_{w}$ad =i Betty
heart.mind-have =3DIST Betty
‘Betty is wise.’

(23) kʼakʼutɬamasi Bill
qʼaqʼuƛʼamasi Bill
qʼaqʼuƛʼamas =i Bill
teacher =3DIST Bill
‘Bill is a teacher.’

Events of this sort are referred to as **states**.[9]

In summary, events can be described as having between zero and two subevents. Learning to identify which subevents an event consists of — that is, it’s **subevental structure** — is what will allow us to predict which case to use in constructing Kʷakʼʷala sentences with objects. We’re now ready to see how this works.

The principles for determining which object case to use in a Kʷakʼʷala sentence can be explained in terms of subevental structure. The basic idea is that event participants (other than *Initiators*) that are associated with an *initiating* subevent are expressed as instrumental (=*s*) objects, while event participants that are associated with a *non-initiating* subevent are expressed

[9] Some linguists don’t consider states to be ‘events’; they reserve this term for describing occurrences that are dynamic, which states obviously aren’t. A useful cover term for both dynamic and stative occurrences which linguists do agree on is the term ‘eventuality’. I’m won’t be concerned here with whether we consider states to be ‘events’ or not, but it is an issue to be aware of.

as accusative (=*x̌*) objects. In terms of event roles, instrumental (=*s*) objects have the event role ***Co-initiator***, while accusative (=*x̌*) objects have the event role ***Non-initiator***. This basic set of ideas is summarized in (24).

(24) **The basic idea:**
- a. Instrumental (=*s*) objects are associated with the *initiating* subevent (*Co-initiators*)
- b. Accusative (=*x̌*) objects are associated with the *non-initiating* subevent (*Non-initiators*)

Correspondences between subevental structure, event roles, and object cases are summarized in (25).

(25)

a. ***initiating* subevent**	b. ***non-initiating* subevent**
i. Beginning	i. End
ii. Cause	ii. Result / Effect / Target
iii. Possessed	iii. Obtained[10]
|	|
Co-initiators	***Non-initiators***
=*s* objects	**=*x̌* objects**

In order to figure out which object case an event participant should be in, we need to decide which of the two categories in (25) it falls into. There are a few useful questions we can use to do this, which are listed in (26)-(28).

(26) **Question 1:**
Is the event participant associated with the beginning of the event, or the end of the event?

Answer 1:
- a. If the event participant is associated with the beginning of the event, it is a *Co-initiator*: use instrumental (=*s*).
- b. If the event participant is associated with the the end of the event, it is a *Non-initiator*: use accusative (=*x̌*).

(27) **Question 2:**
Is the event participant associated with the cause of the event, or the result or effect of the event?

[10] The opposition 'Possessed' versus 'Obtained' added here will be discussed shortly.

Answer 2:

a. If the event participant is associated with the cause of the event, it is a *Co-initiator*: use instrumental (=*s*).

b. If the event participant is associated with the result or effect of the event, it is a *Non-initiator*: use accusative (=*x̌*).

We'll also come across examples later on where we'll see that the notions of possession and obtaining are also relevant, as expressed by a third question.

(28) **Question 3:**

Is the event participant possessed by the *Initiator* at the beginning of the event, or obtained by the *Initiator* by the end of the event?

Answer 3:

a. If the event participant is possessed by the *Initiator* at the beginning of the event, it is a *Co-initiator*: use instrumental (=*s*).

b. If the event participant is obtained by the *Initiator* by the end of the event, it is a *Non-initiator*: use accusative (=*x̌*).

The notion of possession intended in Question 3 is a more general type of possession than general ownership. Something that's possessed by the *Initiator* could be owned only temporarily, or could even be something that's just 'with' the *Initiator* in some relevant sense, like something the *Initiator* is holding or wearing. This abstract notion of possession should become clearer once we look at a few examples.

First off, we can look at how event participants associated with the beginning of an event (other than the *Initiator*, that is) are *Co-initiators* and are marked instrumental (=*s*). Consider, for instance, the event described in (29). The *Initiator* is at the Bighouse at the beginning of the event, but is no longer at the Bighouse once she's left it. Similarly in (30), the *Initiator* has cancer at the beginning of the event, but doesn't once she's healed from it. The property of being with the *Initiator* at the beginning of the event makes both the Bighouse in (29) and cancer in (30) *Co-initiators*. This is why they are expressed with instrumental (=*s*) case. In English, event participants of this sort are sometimes introduced with the preposition 'from'.

(29) ba̱wux̱ Mabela̱x̱**sa gukwdzi**

bəwux̌ Mabələx̌**sa gukʷdzi**

bew =ux̌	Mabel=x̌	**=s=a**	**gukʷdzi**
leave =3MED	Mabel=VIS	**=INST=DET**	**bighouse**

'Mabel left **the Bighouse** (**INST**).'

(30) i'kilakwux̱ Monica**sa *cancer***
ʔiʔkilakʷux̌ Monica**sa *cancer***

ʔiʔkil-akʷ	=ux̌	Monica	**=s=a**	**cancer**
heal/bless-PART	=3MED	Monica	**=INST=DET**	**cancer**

'Monica has been healed from **cancer** (**INST**).'

In contrast, event participants that are associated with the end of an event are *Non-initiators* and are marked accusative (=*x̌*). In (31), for instance, the dress comes into existence in the course of the sewing event. Likewise in (32), the image of a sun comes into existence as the painting event proceeds. These event participants don't even exist at the beginning of an event — they only exist by the time the event ends. This property of coming into existence makes them associated with the end of events, and this makes them *Non-initiators*.

(31) ḵ̓a̱nx'ida̱n**x̱wa ḵ̓ux̱wt̓s̓o'yix̱**
q̓ənxʔidən**x̌ʷa q̓ux̌ʷc̓oy̓ix̌**

q̓ən-xʔid	=ən	**=x̌=ʷ=a**	**q̓ux̌ʷc̓oy̓=x̌**
sew-BEC	=1	**=ACC=3MED=DET**	**attire=VIS**

'I'm sewing/sewed **a dress** (**ACC**).'

(32) g̱a̱lsida t̓sa̱daḵe**x̱a t̓łisa̱la** lax̱a gukw
ǧəlsida c̓ədaqe**x̌a ƛ̓isəla** lax̌a gukʷ

ǧəls	=i=da	c̓ədaq	**=x̌=a**	**ƛ̓isəla**	la	=x̌=a
paint	=3DIST=OST	woman	**=ACC=DET**	**sun**	PREP	=ACC=DET

gukʷ
house

'The woman is painting/painted [an image of] **a sun** (**ACC**) onto a house.'

Now, let's consider how event participants that are associated with an event's cause (other than the *Initiator*) are *Co-initiators* and are marked instrumental (=*s*). Tools and instruments are clear examples of event participants of this kind. In (33) for instance, Toby is using his hands as a tool for eating. Likewise in (34), the woman is using salmonberries to pay with. Both Toby's hands in (33) and the woman's salmonberries in (34) are used by the *Initiator* to cause something to come about.

(33) ha̱'mapox̱ Tobi a̱x̱a̱la**sis i'a̱'ya̱sux̱**
həm̓apox̌ Tobi ʔəx̌əla**sis ʔiʔəy̓əsux̌**

həm̓ap	=ox̌	Toby	ʔəx̌-la	**=s=is**	**ʔi~ʔəy̓əsu=x̌**
eat	=3MED	Toby	DO-CONT	**=INST=3REFL.POSS**	**RED~hand/arm=VIS**

'Toby's eating using **his hands** (**INST**).'

(34) ha̲łak̲ida t̓sa̲dak̲e**sa k̲̓a̲mdzukw**
həłaqida c̓ədaqe**sa q̓əmdzukʷ**
həłaq =i=da c̓ədaq **=s=a q̓əmdzukʷ**
pay =3DIST=OST woman **=INST=DET salmonberry**
'The woman's paying with **salmonberries** (**INST**).'

In contrast, event participants that are associated with the <u>result</u> or <u>effects</u> of an event are *Non-initiators* and are marked accusative (=*x̌*). Typically, these are event participants which undergo some change in the course of the event. In (35) for instance, the plate changes when it's broken by Monica. Likewise in (36), the house changes in appearance as it's painted.[11]

(35) ta̲p̓idi Monica**x̲a piła̲ga**
təp̓idi Monica**x̌a piłəga**
təp-xʔid =i Monica **=x̌=a piłəga**
broken-BEC =3DIST Monica **=ACC-DET plate**
'Monica broke **a plate** (**ACC**).'

(36) g̲a̲ls'idida ba̲gwana̲me**x̲a gukw**
ğəlsʔidida bəgʷanəme**x̌a gukʷ**
ğəls-xʔid =i=da bəgʷanəm **=x̌=a gukʷ**
paint-BEC =3DIST=OST man **=ACC=DET house**
'The man painted (on) **a house** (**ACC**).'

Next, event participants that are <u>possessed</u> by the *Initiator* at the start of the event are *Co-initiators* and are marked instrumental (=*s*). For instance, the object of the verb *ʔəx̌ənugʷad-* 'own' is marked this way (37).

(37) a̲x̲a̲nugwadida g̲a̲nana̲me**sa kat̓sa̲nak̲**
ʔəx̌ənugʷadida gənanəme**sa kac̓ənaq**
ʔəx̌-nukʷ-ʷad =i=da gənanəm **=s=a kac̓ənaq**
do-have-have =3DIST=OST child **=INST=DET spoon**
'The child has **a spoon** (**INST**).'[12]

[11] It's worth taking a moment to think about how the way the *gukʷ* 'house' is interpreted here differs from how the *ƛ̓isəla* 'sun' is interpreted in (32). Both are *Non-initiators*, but are *Non-initiators* of slightly different types: while the *gukʷ* in (36) exists prior to the event and is affected by it, the *ƛ̓isəla* in (32) actually comes into existence in the course of the event. The *ƛ̓isəla* 'sun' has a role which is referred to in the linguistics literature as a 'Representation Source', while the *gukʷ* 'house'in (36) might be referred to as a 'Patient' or 'Undergoer'. Both, however, could also be referred to by the single label 'Incremental Theme', because of the fact that they both serve to measure out the event in some way (as discussed in Tenny 1994).
[12] The meaning of *ʔəx̌ənugʷad-* can also be compared to the English phrase 'be endowed with'. Some modern Kʷakʷala speakers allow case alternation {=*s*, =*x̌*} with *ʔəx̌ənugʷad* 'own', while some only accept =*s*.

In contrast, event participants that are obtained by the *Initiator* by the end of the event are *Non-initiators* and are marked accusative (=*x̌*). For instance, event participants that are obtained (38) or bought (39) are expressed as accusative objects.

(38) lotłox̲ Katiya̲**x̲a** **k̲ə̓a̲sa̲ne'**
loƛox̌ Katiye**x̌a** **q̓əsəne?**
lə-uƛ =ux̌ Katie **=x̌=a** **q̓əsəne?**
AUX-obtain =3MED Katie **=ACC=DET** **shirt**
'Katie got **the shirt** (ACC).'

(39) ka̲lxwox̲da babagwa̲me**x̲a** **tła̲ta̲mł**
kəlxʷox̌da babagʷəme**x̌a** **ƛ̓ətəmł**
kəlxʷ =ox̌=da babagʷəm **=x̌=a** **ƛ̓ətəmł**
buy =3MED=OST little.boy **=ACC=DET** **hat**
'The little boy bought **a hat** (ACC).'

In summary, we've just seen that it's possible to define a set of **semantic criteria** to figure out which event role a given event participant has, and to use these semantic criteria to determine which case to use when building sentences.

There are, however, many situations where an event participant meets the criteria for being *both* a *Co-initiator* and a *Non-initiator* simultaneously. We might guess, then, that these event participants should be able to appear in either instrumental case or accusative case — and in fact, this is what happens. This generalization is called the **Alternation Condition**, and it is stated in (40).

(40) **Alternation Condition:**
An event participant which satisfies the conditions for being both a *Co-initiator* and a *Non-initiator* may appear in either instrumental (=*s*) or accusative (=*x̌*) case.

The Alternation Condition can be met in a number of different ways. For instance, the Alternation Condition can be met because an event participant helps cause an event and is also affected by the same event in some way. Or the Alternation Condition can be met because an event participant is possessed by the *Initiator* at the beginning of an event and is given away by the end of the event (and so undergoes a change in possession). To get a feel for some of the different ways that the Alternation Condition can be met, let's look at a few examples.

First, consider the event described in (41) with the verb *ʔəx̌c̓ud-* 'to put something inside something'. The event participant that is 'put inside' the fridge — here, *məɬik* 'sockeye' — starts out in with the *Initiator* at the start of the event, making it a *Co-initiator*, and then undergoes a change of location, making it a *Non-initiator*. Hope is both doing something 'with' the sockeye,

and doing something 'to' the sockeye. In fact, all verbs with a meaning similar to 'put' allow their object to be in either case. Another example like this is *q̓uǰʷc̓ud-* 'to put clothes on, dress', shown in (42). The event participant that is put on — here, *ʔik ǧʷiɬǧʷela* 'nice clothes' — starts out with the *Initiator* at the start of the event, making it a *Co-initiator*, and then undergoes a change of location when it's put on, making it a *Non-initiator*. The verb *giʔstənd* 'to put into water, submerge' from example (4c) above is another example of this sort.

(41) a̲x̲t̓sudu̲x̲ Hope{**sida**, **x̲ida**} **ma̲lik** la̲x̲a 'wa̲da̲'at̓si
ʔəǰc̓uduǰ Hope{**sida**, **ǰida**} **məɬik** laǰa ẇədəʔac̓i

ʔəǰ-c̓u-xʔid	=uǰ	Hope {**=s=i=da** , **=ǰ=i=da**}
DO-inside-BEC	=3MED	Hope {**=INST=3DIST=OST** , **=ACC=3DIST=OST**}
la	=ǰ=a	ẇədəʔac̓i
PREP	=ACC=DET	fridge

'Hope put **the sockeye** {**INST**, **ACC**} into the fridge.'

(42) la̲'mu̲x̲ Simon k̓u̲x̲wt̓sud{**sis**, **x̲is**} **ik g̲wiɬg̲wela**
ləm̓uǰ Simon q̓uǰʷc̓ud{**sis**, **ǰis**} **ʔik ǧʷiɬǧʷela**

lə=ʔm	=uǰ	Simon	q̓uǰʷ-c̓u-xʔid	{**=s=is**,
AUX=VER	=3MED	Simon	dress-inside-BEC	{**=INST=3REFL.POSS**,
=ǰ=is}		**ʔik**	**ǧʷiɬǧʷela**	
=ACC=3REFL.POSS}		**good clothes**		

'Simon put on **his nice clothes** {**INST**, **ACC**}.'

In fact, any event participant which starts out with the *Initiator* and undergoes a change of location can appear in either object case. The object of *kʷis-* 'spit' (43) is an example of this sort, as is the object of *nəp-* 'throw' in (4a) above. Even though these Kʷak̓ʷala verbs aren't translated using the English verb 'put', their meaning is quite similar. When you *kʷis-* 'spit' something out, your spit starts off with you, making it a *Co-initiator*, and then gets spat somewhere else, making it a *Non-initiator*. Similarly, when you *nəp-* 'throw' something, what you throw starts off with you, making it a *Co-initiator*, and then gets thrown to some other location, making it a *Non-initiator*.

(43) kwis'idida ba̲gwana̲me{**sis**, **x̲is**} **gwa̲lik** la̲x̲a ba̲s
kʷisʔidida bəgʷanəme{**sis**, **ǰis**} **gʷəlik** laǰa bəs

kʷis-xʔid	=i=da	bəgʷanəm	{**=s=is**	, **=ǰ=is**}
spit-BEC	=3DIST=OST	man	{**=INST=3REFL.POSS**	, **=ACC=3REFL.POSS**}
gʷəlik	la	=ǰ=a	bəs	
gum	PREP	=ACC=DET	bus	

'The man spit out **his gum** {**INST**, **ACC**} on the bus.'

Next, consider a verb like *muk*^{w}- 'tie' in (44). The event participant that is 'tied' — here, *dənəm* 'rope' — is held and directly manipulated by the *Initiator* throughout the event — in other words, it is something that the *Initiator* ties 'with' — which makes it a *Co-initiator*. The *dənəm* 'rope' also undergoes a change in the course of the event, becoming tied, which makes it a *Non-initiator*. Because it meets the semantic criteria for being both a *Co-initiator* and a *Non-initiator*, it is able to undergo case alternation.

(44) mukwux̲ Simon{**sa**, **x̲a**} **da̲na̲m**
mukʷuǩ Simon{**sa**, **ǩa**} **dənəm**
muk^{w} =uǩ Simon {**=s=a** , **=ǩ=a**} **dənəm**
tie =3MED Simon {**=INST=DET** , **=ACC=DET**} **rope**
'Simon tied (with) **the rope** {INST, ACC}.'

With verbs naming events having to do with emotions or mental processes, it can be a little harder to predict which object case(s) should be possible. Let's consider (4-b), with *babəl̓-* 'jealous'. In this example, the person that the *Initiator* (Shelly) is jealous of can appear in either instrumental or accusative case. Conceivably, this is because what an *Initiator* is jealous of is simultaneously a cause of their jealousy, making it a *Co-initiator*, and the target of their jealousy, making it a *Non-initiator*. This would explain why this event participant is able to undergo case alternation.

Whenever the Alternation Condition is met, then, case alternation is possible. This also means that if the Alternation Condition is *not* met, case alternation should *not* be possible. In example (10), for instance, the big sewing needle that Mabel is sewing with is associated with the beginning and cause of the event, but not with its end or result; therefore, this event participant is only a *Co-initiator*, and can only be marked instrumental (*=s*). Similarly in (11), the green dress that Mabel is sewing is a result of the event, and not part of its cause; therefore, this event participant is only a *Non-initiator*, and can only be marked accusative (*=ǩ*). Before moving on, you might find it useful to go back and study the examples we have already seen, to consider why each example has an accusative (*=ǩ*) object, an instrumental (*=s*) object, or an alternating {*=s*, *=ǩ*} object.

Sometimes the Alternation Condition is met even though we might not expect it to be based on the meaning of the verb alone. For instance, the verb *təp̓id-* 'break' typically takes an accusative (*=ǩ*) object, the event participant that changes, or gets 'broken'. However, in a context where the *Initiator* picks up a cup and smashes it on something in order to break it, the event participant that is 'broken' — namely, the cup — is both a *Co-initiator* and a *Non-initiator*. It is a *Co-initiator* because it is directly manipulated by the *Initiator* (like the rope in (44)), and it's a *Non-initiator* because it undergoes change. This makes case alternation possible, as shown in (45).

(45) *Context: A woman picked up a cup in her hand and smashed the cup down on her (clam) digging stick, causing the cup to break.*

tap̓idida ṫs̲ad̲ak̲e{**sa, x̲a**} **k̓wa̲̓'sta** la̲x̲is dzigayu
təp̓idida c̓ədaqe{**sa, x̌a**} **k̓ʷəʔsta** laxǐs dzigayu

təp-xʔid	=i=da	c̓ədaq	{**=s=a**	, **=x̌=a**}
broken-BEC	=3DIST=OST	woman	{**=INST=DET**	, **=ACC=DET**}

k̓ʷəʔšta	la	=x̌=is	dzik-$_{w}$ayu
cup	PREP	=ACC=3REFL.POSS	dig-INST.PASS

'The woman broke **a cup** {**INST**, **ACC**} on her digging stick.'

More generally, whenever an *Initiator* both (a) directly manipulates an event participant and (b) brings about some change in the same event participant, the event participant in question can appear in either instrumental (*=s*) or accusative (*=x̌*) case.[13]

Another place where the Alternation Condition is met even though we wouldn't expect it to be based on the meaning of the verb alone is illustrated in (46) with the verb *q̓əy̓ak-* 'kick'. This verb usually takes a *Non-initiator* object that is marked accusative (*=x̌*) — the event participant that is 'kicked'. When an event is described involving something that is kicked *in a specified direction*, the event participant that is kicked can suddenly appear in either case. This is because in a context where this event participant is kicked in a specific direction, it meets the Alternation Condition: it qualifies as a *Co-initiator* because it starts out with the *Initiator*, and it qualifies as a *Non-initiator* because it undergoes a change, namely a change in location.[14]

(46) k̓a̲̓'yaksudi Simon{**sa, x̲a**} **lux̲wsa̲m k̓a̲̓'yakasu'** la̲x̲a ha̲nx̲so'las
q̓əy̓aksudi Simona{**sa, x̌a**} **lux̌ʷsəm q̓əy̓akasuʔ** laxa hənx̌sol̓as

q̓əy̓ak-(x)so-xʔid	=i	Simon {**=s=a**,	**=x̌=a**} **lux̌ʷsəm**
kick-through-BEC	=3DIST	Simon {**=INST=DET**,	**=ACC=DET**} **spherical**

q̓əy̓ak-a-səw̓	la	=x̌=a	hənx̌-(x)so-la-ʔas
kick-A-ACC.PASS	PREP	=ACC=DET	look-through-CONT-LOC.PASS

'Simon kicked **the ball** {**INST**, **ACC**} through a window.'

Notice how in this context, the verb *q̓əy̓ak-* takes on a meaning that's similar to the meaning of a verb like *nəp-* 'throw': both verbs are used to describe events where something is projected away from the *Initiator* to some other location. This abstract meaning goes hand-in-hand with object case alternation: whenever an event participant undergoes caused motion in a direction, it can appear in either object case.

[13] Elsewhere in the dissertation, this phenomenon is referred to as the **Direct Manipulation Alternation**.
[14] Elsewhere in the dissertation, this phenomenon is referred to as the **Caused Motion Alternation**.

What examples like (45) and (46) show us is that it's not enough to just memorize which verbs co-occur with which object case(s). Instead, we always have to take into account what type of event is being described. Then, event participants which meet the criteria for being *Co-initiators* are marked instrumental (=*s*), while event participants that meet the criteria for being *Non-initiators* are marked accusative (=*x̌*). Event participants that meet the criteria for both event roles simultaneously can be marked by either case.

Another way of thinking about the distinction between =*s* objects and =*x̌* objects is in terms of the following English-based heuristic: =*s* objects are things you do something 'with', while =*x̌* objects are things you do something 'to'. Alternating objects, then, are things you simultaneously do something 'with' and 'to'. This heuristic is not perfect: for instance, the phrase 'do with' doesn't really explain the use of instrumental case in examples (1a)/(29), (2a), (4b), (30), and (37), and the phrase 'do to' doesn't really explain the use of accusative case in examples (2b), (4b), (32), and (38). But this heuristic does work fairly often, so its a good thing to keep in mind.

It's now time to take stock of what we've seen, and consider how to go about answering the central question stated above. When Kʷak̓ʷala speakers produce sentences, we can think of them as following **rules** of a special sort — rules which they are wholly unconscious of. In order to construct a Kʷak̓ʷala sentence as a non-native speaker, the closest we can do is approximate the rules that native speakers use, by consciously following **instructions** that mimic native speakers' rules. In (47), I've summarized the set of instructions introduced in this essay which, as far as I can tell, approximate the unconscious rules native speakers use to create sentences with objects in Kʷak̓ʷala.

(47) **Instructions for determining object case possibilities in Kʷak̓ʷala**

I. If an event participant is not itself an *Initiator* and is associated with the beginning of the event, with the cause of the event, and/or is possessed by the *Initiator* at the beginning of the event, it is a *Co-initiator*: **use instrumental (=*s*)**.

1. If an event participant is associated with the end of the event, with the result or effect of the event, or is obtained by the *Initiator* by the end of the event, it is a *Non-initiator*: **use accusative (=*x̌*)**.

I. If an event participant is both a *Co-initiator* and a *Non-initiator*, **use either instrumental (=*s*) or accusative (=*x̌*)**.

These instructions are intended to enable anyone to build Kʷak̓ʷala sentences with instrumental (=*s*) and accusative (=*x̌*) objects and communicate like a native speaker.

A.2 Choosing between object cases

Turning now to situations where both instrumental (=*s*) and accusative (=*x̌*) case are possible, we're faced with another question: when the Alternation Condition in (40) is met, how do we choose between =*s* and =*x̌* for expressing an object?

In one sense, when the Alternation Condition is met, whether instrumental (=*s*) or accusative (=*x̌*) case is chosen really is optional. In fact, Kʷak̓ʷala speakers generally don't find either case to be wrong in these situations, and report that the sentence means pretty much the same thing no matter which case is used (for instance, note what the speaker says about example (4a)). Nevertheless, Kʷak̓ʷala speakers still do sometimes *prefer* one case to the other. In other words, case choice is not just random. In this section, I'll describe two different strategies which seem to approximate the unconscious strategies speakers follow when they have to decide which object case to use. The two strategies are called *disambiguation* and *subevent highlighting*. While the existence of these strategies is somewhat tentative at this point, I've included them here because case choice is an important issue that anyone who wants to learn Kʷak̓ʷala will have to face.[15]

Sometimes sentences are **ambiguous**, which means that the sentence has more than one possible meaning. For instance, the sentence in (48) is ambiguous because the object, which here is marked accusative (=*x̌*), can be interpreted in two different ways: either as an event participant that's thrown (48i), or as an event participant which is thrown *at* (and possibly hit) (48ii).

(48) nax̱p̓idi Eddie**x̱a tɬax̱aməɬ**
nəp̓idi Eddi**x̌a ƛ̓ətəmɬ**
nəp-xʔid =i Eddie **=x̌=a** **ƛ̓ətəmɬ**
throw-BEC =3DIST Eddie **=ACC=DET** **hat**
i. 'Eddie is throwing/threw **a hat** (ACC) (at someone/something).[16]' (ƛ̓ətəmɬ = *Co-initiator & Non-initiator*)
ii. 'Eddie is throwing/threw (something) at **a hat** (ACC).' (ƛ̓ətəmɬ = *Non-initiator*)

If a Kʷak̓ʷala speaker wants to communicate the meaning in (48-i), they can use either instrumental or accusative case, since the event participant that's thrown meets the Alternation Condition. On the other hand, if the speaker wants to communicate the meaning in (48-ii), they

[15] In the dissertation, the findings of this section are presented very briefly at the end of Chapter 7, in a section devoted to topics for further research. I have elevated the importance of this topic here, however, because it is a crucial one for Kʷak̓ʷala learners.

[16] The verb *nəp-* 'throw' describes events that involve three event participants: a thrower, something that's thrown, and something that is thrown at. When a Kʷak̓ʷala speaker hears a sentence like (48) in which one of these three event participants is missing, he or she will still assume that the missing third event participant exists. The missing third event participant is indicated in parentheses in these translations.

can only use accusative case because the event participant which is thrown *at* only qualifies as a *Non-initiator*. When a sentence is potentially ambiguous, as (48) is, speakers tend to choose the object case which eliminates ambiguity, whenever possible. This means that if a Kʷaḵʷala speaker wants to communicate the meaning in (48-i), 'Eddie is throwing/threw a hat', he or she will tend to say (49) instead of (48), where instrumental case has been chosen instead of accusative case. The sentence in (49) has only one interpretation — that the hat is what is/was thrown. By choosing *=s* instead of *=x̌* to communicate this meaning, the speaker has avoided the potential ambiguity in (48).

(49) nap̓idi Eddi**sa tɬaṯamɬ**
nəp̓idi Eddi**sa ƛ̓ətəmɬ**
nəp-xʔid =i Eddie **=s=a** **ƛ̓ətəmɬ**
throw-BEC =3DIST Eddie **=INST=DET hat**
'Eddie is throwing/threw **a hat** (**INST**).' (ƛ̓ətəmɬ = *Co-initiator*)

When speakers choose an object case in order to avoid ambiguity, we can say that they are using a **disambiguation strategy**.

The second strategy speakers seem to use in choosing between object cases I call **subevent highlighting**. The basic idea is that speakers can choose object case in a way that 'highlights' one subevent as being more relevant to what's being talked about. In particular, speakers choose *=s* to draw attention to the starting phase or cause of an event (its *initiating* subevent), while speakers choose *=x̌* to draw attention to the completion or result of an event (it's *non-initiating* subevent).

Subevent highlighting is illustrated in (50) and (51). In these examples, the speaker was asked to describe events while she watched them happen. Both events involved Katie putting a pot of soup onto the stove, but differed in terms of which *part* of the event the speaker was asked to describe. Since what is put on the stove (here, *sup* 'soup') meets the Alternation Condition, the speaker had to make a choice between instrumental case and accusative case in order to say each sentence. In (50), the speaker describes an event in which Katie is in the process of putting a pot of soup onto the stove — that is, where the event had started, but hadn't yet been completed. To describe this event, the speaker chooses instrumental (*=s*) case, thereby 'highlighting' the initial part of the event. In (51) on the other hand, the speaker describes an event in which Katie had just put the pot of soup onto the stove, and the event had been completed. In this context, the speaker chose accusative (*=x̌*), thereby 'highlighting' the fact that the event had been completed.

(50) *Context: The speaker is watching Katie putting a pot onto the stove.*

a. la̱’mux̱ Katiya̱x̱ ha̱nxtɬa̱n**dsa sup** lax̱wa la̱g̱wilat̓six̱
ləm̓ǔx̌ Katiyəx̌ hənxƛən**dsa sup** laǩʷa ləǧʷilac̓ix̌
lə=ʔm =uǩ Katie=x̌ hən-xƛ-xʔid
AUX=VER =3MED Katie=VIS hollow.container.upright-on.fire-BEC
=s=a **sup** la =x̌=ʷ=a ləǧʷilac̓i=x̌
=INST=DET **soup** PREP =ACC=3MED=DET stove=VIS
‘Katie is putting **the soup** (**INST**) on the stove.’

(51) *Context: Katie has just put a pot onto the stove, and the speaker has seen her do it.*

b. la̱’mux̱ ha̱nxtɬa̱ndux̱ Katiya̱x̱**wa supix̱** lax̱wa la̱g̱wilat̓six̱
ləm̓ǔx̌ hənxƛənduǩ Katiyəx̌ʷ**a supix̌** laǩʷa ləǧʷilac̓ix̌
lə=ʔm =uǩ hən-xƛ-xʔid =uǩ Katie
AUX=VER =3MED hollow.container.upright-on.fire-BEC =3MED Katie
=x̌=ʷ=a **sup=x̌** la =x̌=ʷ=a ləǧʷilac̓i=x̌
=ACC=3MED=DET **soup=VIS** PREP =ACC=3MED=DET stove=VIS
Speaker: “Katie has put the pot of **soup** (**ACC**) on the stove.”

More generally, speakers will tend to choose instrumental case (=*s*) when describing events that are in-progress, since these are events which have started but have not yet reached their *non-initiating* phase. Similarly, speakers will tend to choose accusative case (=*x̌*) when describing events that are completed and therefore have reached their *non-initiating* phase. However, it’s important to remember that regardless of which case is chosen, either case is still *possible* as long as the Alternation Condition is met. For instance, it is not wrong to use =*x̌* in (50) or =*s* in (51).

In summary, we’ve seen that when the Alternation Condition is met and a case choice must be made, Kʷak̓ʷala speakers don’t just randomly choose one object case or the other. Instead, speakers seem to make use of (at least) two strategies for choosing between instrumental (=*s*) and accusative (=*x̌*) case: disambiguation and subevent highlighting. The disambiguation strategy involves choosing an object case in a way which avoids potential ambiguity. Subevent highlighting involves choosing an object case in a way which highlights one part of the event as more relevant — either its beginning or cause (using =*s*) or its completion or result (using =*x̌*).

A.3 Variation between speakers

An important question that remains at this point is whether *all* Kʷak̓ʷala speakers speak the way I’ve described. The short answer to this question is that I don’t know. Though I’ve closely

studied the speech of six Kʷaḵʷala speakers, it's important to acknowledge that all of them speak either the central Kʷaḵʷala dialect (Kingcome Inlet, Fort Rupert, Hopetown, and Alert Bay) or the northern 'Nakʷəla dialect (C'əlǧʷadi). It could be that other Kʷaḵʷala speakers from other areas have different rules for object case than what I've described above.

Several of the Kʷaḵʷala speakers I have worked with have told me that there does seem to be variation within the Kʷaḵʷala-speaking community in how *=s* and *=x̌* are used to mark objects. One particular way that Kʷaḵʷala speakers probably differ from each other is in how they make case choices (as described in Section A.2). Consider that there are many situations where either object case is possible (that is, when the Alternation Condition is met) and where in order to say a sentence, a speaker has to choose between *=s* and *=x̌*. Now imagine that you are a Kʷaḵʷala speaker, and you hear another Kʷaḵʷala speaker making a *different* case choice from the one you yourself would make. You would probably think this speaker was following different rules than you. Really, however, this speaker could be using the same set of rules as you (the ones in (47)), but just *making case choices* differently. For instance, he or she could be using the disambiguation strategy, while you would have preferred to use subevent highlighting (or some other strategy) at that same moment. The fact that speakers often have to choose between *=s* and *=x̌*, combined with the fact that there are multiple possible strategies for making this choice, may explain why the use of *=s* and *=x̌* appears to vary amongst Kʷaḵʷala speakers.

On the other hand, there might also be actual grammatical variation within the community — that is, actual differences in what the underlying rules for object case are for different speakers. As we learn more about Kʷaḵʷala, it will be important to pay attention to differences between speakers, to see whether the instructions I've stated in (47) need to be added to or changed. It's worth noting, though, that even if some speakers do have different rules for object case than the ones I've described, these differences are probably not very large. This is because if the rules were *too* different, speakers would have a hard time communicating with each other. The fact that speakers don't have a hard time communicating with each other suggests that any differences which do exist between speakers are relatively small.

Thus, it's important to acknowledge that the instructions I've presented in this essay may be incomplete. By continuing to elicit the knowledge of Kʷaḵʷala-speaking elders, and keeping an open mind to the new things they tell us, we can continue to discover and improve our understanding of the unconscious rules that structure the Kʷaḵʷala language.

A.4 What Kʷaḵʷala's object case system tells us about language in general

With a basic story of how object case works in Kʷaḵʷala in place, we are in a good position to reflect on what this case system tells us about language in general.

What makes Kʷaḵʷala's object case system particularly interesting from a cross-linguistic perspective is that out of Kʷaḵʷala's two object cases, only instrumental (*=s*) case has a **positive semantic value**, meaning that only instrumental case actually *adds* meaning onto sentences.

Another way of saying this is that instrumental case is **semantically interpretable**. Accusative (=*x̌*) case, on the other hand, doesn't actually *add* meaning to the sentence. Accusative case is, in other words, **semantically uninterpretable**.[17]

What's interesting about Kʷak̓ʷala as compared with other languages has to do specifically with the fact that Kʷak̓ʷala possesses a semantically interpretable object case tied to the *initial* subevent of an event, namely instrumental (=*s*), while the object case tied to the *non-initiating* or *final* subevent of an event, namely accusative (=*x̌*), is uninterpretable. This makes Kʷak̓ʷala's object case system interesting for two reasons. First, Kʷak̓ʷala's system is interesting because it is the first two-object case system of its kind (as far as I know) to be reported in the scientific literature on the world's languages. Second, Kʷak̓ʷala's system is interesting because having an interpretable object case tied to the *initial* subevent of an event is the mirror-opposite of a pattern which we do see in many of the world's languages. Finnish, for instance, is similar to Kʷak̓ʷala in possessing two object cases: partitive and accusative. In Finnish however, the case associated with the *non-initiating* subevent is interpretable — namely accusative — while the partitive case is uninterpretable (as discussed in Leino 1982, Heinämäki 1984, 1994, Vainikka 1989, and Kratzer 2004). More specifically, the presence of accusative case on an object in Finnish gives rise to the meaning that an event being described has a natural endpoint, or in other words is completed, bounded, or telic. In (52a) for instance, the presence of a partitive object implies that the event has not been completed (here, the book has not been fully read). In (52b), however, the presence of an accusative object gives rise to the interpretation that the event has been completed successfully (here, the book has been fully read).

(52) a. Terttu luki **kirjaa**
Terttu read **book.PART**
'Tertu was reading **a book** (**PART**).'

b. Terttu luki **kirjan**
Terttu read **book.ACC**
'Tertu read (**all**) **the book** (**ACC**).' (Heinämäki 1994: p. 213)

In Kʷak̓ʷala, in contrast, sentences with accusative (=*x̌*) objects do not necessarily describe bounded or completed events. The first translation of the sentence in (53a), for instance, suggests that a completed event is being described. However, the fact that it's possible to continue this sentence as in (53b) shows that the event described in (53a) is not necessarily a completed event, and that the first translation in (53a) is only one possible interpretation of this

[17] Another way of stating this contrast is to say that instrumental case is the **marked** category, while accusative case is the **unmarked** category. I've used the terms **semantically interpretable** versus **semantically uninterpretable** here instead, however, in order to be consistent with the terminology I use in the dissertation. The evidence for this

sentence. In fact, (53a) can also be translated as 'The man is fixing my car', where the event is ongoing.[18]

(53) a. hił'idoxda bągwanąma**xan ka**
hiɬʔidoxda bəgʷanəma**x̌ən ka**
hił-xʔid =ox̌=da bəgʷanəm **=x̌=ən** **ka**
fix-BEC =3MED=OST man **=ACC=1POSS** **car**
i. 'The man fixed **my car** (ACC).'
ii. 'The man is fixing **my car** (ACC).'

b. ki̓'s'mox gwałoxda bągwanąm hił'i**xan ka**
ki̓ʔsm̓ox ǧʷałox̌da bəgʷanəm hiɬʔi**x̌ən ka**
ki̓ʔs=ʔm =ox̌ ǧʷał =ox̌=da bəgʷanəm hił-xʔid **=x̌=ən** **ka**
NEG=VER =3MED finish =3MED=OST man fix-BEC **=ACC=1POSS** **car**
'But the man didn't finish fixing **my car** (ACC).' (Greene 2013:44)

In short, the presence of an accusative object in Finnish signals that the event being described is bounded or completed, while the presence of accusative case in Kʷak̓ʷala can does not guarantee this meaning. This difference arises specifically because accusative case is interpretable in Finnish, but uninterpretable in Kʷak̓ʷala.

A fascinating consequence of the way that Kʷak̓ʷala's case system is structured, then, is that it turns out to be the mirror image of the object case system in Finnish. In Kʷak̓ʷala, an interpretable object case is associated with the *initiating* subevent (namely, instrumental), while in Finnish, an interpretable object case is associated with the *non-initiating* subevent (namely, accusative). Yet even beyond this comparison with Finnish, this finding is interesting because it demonstrates — apparently for the first time — the possibility of having an object case system which is oriented towards the *initiating* subevent of an event. This finding supports a recent proposal in the field of language typology, which is that the grammar of some languages is more oriented towards the end of events (which are therefore called Delimiting or D-languages), while the grammar of other languages is more oriented towards the initiation of events (which are therefore called Initiator or I-languages) (Ritter & Rosen 2000). Kʷak̓ʷala fits into this typology because its object case system is oriented towards the *initiating* subevent, making it an I-language. Kʷak̓ʷala turns out to be the first reported language which can be classified as an I-language on the basis of its object case system.

More generally, the finding that object-marking is associated with event structure in Kʷak̓ʷala provides insight into the conceptual distinctions speakers make use of, unconsciously,

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finding is pretty complicated, so I've avoided discussing it here. Readers who want to know more should consult Chapter 4, Section 4.3.

[18] This means that sentences like (53a) are ambiguous in Kʷak̓ʷala in a way that they are not in English.

to talk about events in the world. Kʷakʷala's case system is interesting for the study of language both because it is unique, and because it fits into a larger pattern, like a puzzle piece we didn't know was missing. In this way, Kʷakʷala's object case system expands our knowledge of what a possible language looks like.

Appendix B: Orthographic Conventions

Throughout the dissertation, Kʷak̓ʷala examples are provided in the NAPA (University of Victoria) orthography, with the exception that in place of the symbol 'dᶻ', I've used the digraph 'dz'. Kʷak̓ʷala examples in Appendix A are provided in both U'mista and NAPA (UVic) orthographies to make them more immediately accessible to those Kʷakʷakəw̓akʷ community members who do not have experience with the NAPA (UVic) orthography. The use of these two orthographies side-by-side may also facilitate learning the correspondences between the U'mista and NAPA (UVic) orthographies, for those who are interested in doing so.

The following tables outline six existing systems of orthographic correspondences for written Kʷak̓ʷala, including:

- International Phonetic Alphabet (IPA)
- North American Phonetic Alphabet (University of Victoria variety)
- North American Phonetic Alphabet (University of British Columbia variety)
- U'mista (U'mista Cultural Center, Alert Bay)
- Grubb (Grubb 1977)
- Boas (1947)

The Tables below are derived from ones presented in Littell (2016: p. 33-4).

Table B.1: Orthographic correspondences: oral stops and affricates

IPA	NAPA (UVic)	NAPA (UBC)	U'mista	Grubb	Boas 1947
p	p	p	p	p	p
p'	ṗ	ṗ	ṗ	p'	p!
b	b	b	b	b	b
t	t	t	t	t	t
t'	t̓	t̓	t̓	t'	t!
d	d	d	d	d	d
ts	c	c	ts	ts	ts
t's	ċ	ċ	t̓s	ts'	ts!
dz	dᶻ	dᶻ	dz	dz	dz
tɬ	ƛ	ƛ	tɬ	tl	ʟ
t'ɬ	ƛ̓	ƛ̓	t'ɬ	tl'	ʟ!
dɬ	λ	λ	dɬ	dl	ʟ̣
kʲ	k	k	k	k	k·
k'ʲ	k̓	k̓	k̓	k'	k·!
gʲ	g	g	g	g	g
kʷ	kʷ	kʷ	kw	kw	kᵘ, kw
k'ʷ	k̓ʷ	k̓ʷ	k'w	kw'	k!ᵘ, k!w
gʷ	gʷ	gʷ	gw	gw	gᵘ, gw
q	q	q	k	k	q
q'	q̓	q̓	k̓	k'	q!
ɢ	ǧ	ɢ	g	g	g
qʷ	qʷ	qʷ	kw	kw	qᵘ, qw
q'ʷ	q̓ʷ	q̓ʷ	k'w	kw'	q!ᵘ, q!w
ɢʷ	ǧʷ	ɢʷ	gw	gw	gᵘ, gw
ʔ	ʔ	ʔ	'	7	ɛ

Table B.2: Orthographic correspondences: fricatives

IPA	NAPA (UVic)	NAPA (UBC)	U'mista	Grubb	Boas 1947
s	s	s	s	s	s
ɬ	ɬ	ɬ	ɬ	lh	ɬ
x^j	x	x	x	x	x·
x^w	x^w	x^w	xw	xw	x^u, xw
χ	x̌	χ	x	x	x
$χ^w$	x̌^{w}	$χ^w$	xw	xw	x^u, xw
h	h	h	h	h	h, ḥ

Table B.3: Orthographic correspondences: resonants

IPA	NAPA (UVic)	NAPA (UBC)	U'mista	Grubb	Boas 1947
m	m	m	m	m	m
n	n	n	n	n	n
l	l	l	l	l	l
y	y	y	y	y	y
w	w	w	w	w	w
ʔm	ṁ	ṁ	ʼm	ṁ	ɛm
ʔn	ṅ	ṅ	ʼn	ṅ	ɛn
ʔl	l̓	l̓	ʼl	l̓	ɛl
ʔy	ẏ	ẏ	ʼy	ẏ	ɛy
ʔw	ẇ	ẇ	ʼw	ẇ	ɛw
a	a	a	a	a	a, ā
ɛ, e	e	e	e	eh	ä, ë, e
i	i	i	i	i	i, ī, î, e, ē
o	o	o	o	o	â, ô
u	u	u	u	u	u, ū, o, ō
ə, ɪ, ʊ	ə	ə	a	e	ɛ, ă, a

Appendix C: The Means-PP Analysis

C.1 Introduction

In Section 1.2, I introduced the notion of *canonical object position* — a position in clausal syntax where either an instrumental (=*s*) or accusative (=*x̌*) object may appear (1).

(1) Canonical object position

i.		V	S	**O**	PP*
ii.	Aux	V	S	**O**	PP*
iii.	Aux	S	V	**O**	PP*

I also claimed there (by assumption) that =*s* initial noun phrases which occur to the right of canonical object position are actually covert prepositional phrases denoting Means. This analysis is restated in (2).

(2) **Means-PP Analysis (∅$_P$=*s*)**
=*s* marked phrases which appear to the right of canonical object position are Means-PPs headed by a covert preposition which assigns inherent means case.[1]

The purpose of this Appendix is to provide some preliminary empirical support for the Means-PP Analysis. I'll begin by discussing the significance of the fact that some =*s* initial phrases can be ordered after adjunct PPs (Section C.2). Following this, I'll discuss the significance of data involving preposition insertion which suggest that K^{w}ak^{w}ala can only realize one direct object per clause (Section C.3).

The empirical arguments in C.2 and C.3 are specifically geared towards establishing the claim that =*s* phrases outside of canonical object position are covert PPs. A related claim — the claim that (at least some) =*s* initial phrases appearing in canonical object position are direct objects (in accordance with the syntactic analysis presented in Chapter 6, Section 6.4.2) is difficult to prove, one of the reasons being that passive constructions in K^{w}ak^{w}ala are related to object case realization but do not clearly differentiate arguments from adjuncts (see for instance Sherer 2014: p. 20-1, 80, 100). I have left the task of establishing this latter claim to future research, and focus on presenting evidence for the former one.

C.2 Ordering relative to adjunct PPs

A first type of evidence supporting the Means-PP Analysis comes from the observation that some =*s* initial phrases can be reordered relative to adjunct PPs on the right periphery of the clause. This finding provides partial support the analysis in (2) insofar as it suggests that those =*s* initial phrases which are reorderable relative to adjunct PPs are in fact (covert) PPs themselves.

Take for instance the verb *ğəls-* 'paint', which has only one obligatory argument, an Agent (3a). When this verb takes an =*s* initial phrase denoting the Medium of painting, this argument

[1] The phrase 'means case' is adopted here to avoid any potential confusion which could result from referring to this as inherent instrumental case, though this is an equally appropriate label.

can appear in three positions in the clause: in canonical object position (3b), to the immediate right of an accusative object (3c), or ordered after a prepositional *la* adjunct (3d).

(3) a. laƛən ğəlsʔiƛ
la=ƛ =ən ğəls-xʔid=ƛ
go=FUT =1 paint-BEC=FUT
'I'm gonna go paint.' (VF)

b. ğəlsida ċədaqe**sa ƛ̓iṅa** laǰis ğuğəṁeʔ
ğəls =i=da ċədaq **=s=a** **ƛ̓iṅa**
paint =3DIST=OST woman **=INST=DET** **eulachon.grease**
la =ǰ=is ğuğəṁeʔ
PREP =ACC=3REFL.POSS face
'The lady is painting **eulachon grease** (**INST**) on her face.' (VF)

c. ğəlsida ċədaqəǰis ğuğəṁeẏe**sa ƛ̓iṅa**
ğəls =i=da ċədaq la =ǰ=is
paint =3DIST=OST woman PREP =ACC=3REFL.POSS
ğuğəmeʔ **=s=a** **ƛ̓iṅa**
face **=MEANS=DET** **eulachon.grease**
'The lady is painting her face (ACC) **with eulachon grease**.' (VF)

d. ğəlsida ċədaq laǰis ğuğəṁeẏe**sa ƛ̓iṅa**
ğəls =i=da ċədaq la =ǰ=is
paint =3DIST=OST woman PREP =ACC=3REFL.POSS
ğuğəmeʔ **=s=a** **ƛ̓iṅa**
face **=MEANS=DET** **eulachon.grease**
'The lady is painting on her face **with eulachon grease** (**INST**).' (JF)

The fact that the *=s* initial phrase in (3d) can to be ordered after a PP adjunct suggests that this phrase is a PP, hence analyzable as in (2). If we accept this conclusion, then this means that at least some *=s* initial phrases are in fact covert PPs.

Note that this data does not, however, help us decide whether the *=s* initial phrases in (3b) and (3c) are direct arguments or covert PPs.[2]

C.3 Preposition insertion

Another type of evidence which would be consistent with the Means-PP analysis in (2) is evidence suggesting that Kʷaḵʷala allows at most one direct object per clause, realized in

[2] One of the reasons I'm unable to say more in this section is that much of the field data I collected on this topic (reordering *=s* initial phrases) was subsequently found to contain confounds, due to the fact that *=s* initial phrases are also used to introduce third person possessors. This topic requires further research.

canonical object position.[3] On this analysis, *=s* initial phrases to the right of canonical object position are covert PPs, despite looking morphologically just like case-marked objects.

One kind of evidence for this type of analysis comes from observing *preposition insertion* — a phenomenon whereby in sentences with two expressed internal arguments, a preposition must be inserted to carry the argument which is expressed outside of canonical object position. This pattern is shown in (4) with the verb *kuǩʷsʔənd* 'split in half', which takes a Patient argument in accusative case (4a). When both an Instrument and a Patient are expressed with this verb and the Instrument realized in canonical object position, the preposition *la* must be inserted to carry the Patient argument (4b)-(4c). Another similar example is shown in (5), with the verb *kəlxʷ-* 'buy', which takes an argument denoting Obtained Goods in accusative case (5a). When an Instrument is realized in canonical object position, the preposition *la* must get inserted to carry the Obtained Goods argument (5b)-(5c). Crucially, in neither (4) nor (5) does preposition insertion change the truth-conditional meaning of the sentence in any discernible way.[4]

(4) *Context: Talking about a karate teacher.*

a. kuǩʷsʔəndida q̓aq̓uƛ̓amasǩa ləqʷa
kuǩʷ-(x)sʔ-xʔid =i=da q̓aq̓uƛ̓amas =ǩ=a ləqʷa
split-across-BEC =3DIST=OST teacher =ACC=DET firewood
'The teacher split a piece of firewood (ACC).' (JF)

b. kuǩʷsʔəndida q̓aq̓uƛ̓amasasis ʔəy̓əʔsu **la**ǩa ləqʷa
kuǩʷ-(x)sʔ-xʔid =i=da q̓aq̓uƛ̓amas =s=is
split-across-BEC =3DIST=OST teacher =INST=3REFL.POSS
ʔəy̓əʔsu **la** =ǩ=a ləqʷa
hand/arm **PREP** =ACC=DET firewood
'The teacher split a piece of firewood with his hand (INST).' (JF)

c. * kuǩʷsʔəndida q̓aq̓uƛ̓amasasis ʔəy̓əʔsuǩa ləqʷa
kuǩʷ-(x)sʔ-xʔid =i=da q̓aq̓uƛ̓amas =s=is
split-across-BEC =3DIST=OST teacher =INST=3REFL.POSS
ʔəy̓əʔsu =ǩ=a ləqʷa
hand/arm =ACC=DET firewood
'The teacher split a piece of firewood with his hand (INST).' (JF)

(5) *Context: Shelly bought a car, and she paid for it in food rather than money.*

a. kəlxʷoǩ Shelliǩa kəlkəlsəla
kəlxʷ =oǩ Shelly =ǩ=a kəlkəlsəla
buy =3MED Shelly =ACC=DET car
'Shelly bought a car (ACC).' (VF)

[3] Finnish is another language with a one-object constraint, which is referred to as Siro's Law (see for instance Kiparsky 2001: p. 323). If a one-object constraint does hold in Kʷak̓ʷala, then this is yet another similarity between these two languages (see Chapter 6, Sections 6.2, 6.4 for discussion of other similarities).

[4] This finding is contrary to the following claim in Boas (1911: p. 544): "On the whole, objective is used only when the action directly affects the object; while in other cases, where a direction toward an object is expressed, periphrastic forms are used." This may reflect an historical change in the language.

b. kəlxʷoǩ Shellisa hishəm̓eʔ **la**ǩa kəlkəlsəla
kəlxʷ =oǩ Shelly =s=a hishəm̓eʔ **la** =ǩ=a kəlkəlsəla
buy =3MED Shelly =INST=DET foodstuffs **PREP** =ACC=DET car
'Shelly bought a car with foodstuffs (INST).' (JF)

c. * kəlxʷoǩ Shellisa hishəm̓eʔǩa kəlkəlsəla
kəlxʷ =oǩ Shelly =s=a hishəm̓eʔ =ǩ=a kəlkəlsəla
buy =3MED Shelly =INST=DET foodstuff =ACC=DET car
'Shelly bought a car with food-stuffs (INST).' (JF)

Data like (4)-(5) suggest the existence of a clausal constraint on object expression in Kʷak̓ʷala, with preposition insertion serving as a repair mechanism to enable the expression of additional strict-accusative arguments.

If there is a one-object constraint in Kʷak̓ʷala, then an analogous process of preposition insertion would also be expected to occur whenever the strict-accusative argument in (4)-(5) is expressed in canonical object position, as in (6)-(7). By analogy with (4b) and (5b) above, the *=s* initial phrases at the right-periphery in (6) with *kuǩʷsʔənd* 'snap in half' and (7) with *kəlxʷ-* 'buy' would be Means-PPs, headed by a covert preposition inserted to carry the additional argument in these clauses.

(6) [*Same context as* (4)]

kuǩʷsʔəndida q̓aq̓uƛ̓amasaǩa ləqʷa**sis ʔəy̓əʔsu**
kuǩʷ-(x)sʔ-xʔid =i=da q̓aq̓uƛ̓amas =ǩ=a ləqʷa
split-across-BEC =3DIST=OST teacher =ACC=DET firewood
=s=is ʔəy̓əʔsu
=MEANS=3REFL.POSS hand/arm
'The teacher split a piece of firewood (ACC) **with his hand**.' (VF)

(7) [*Same context as* (5)]

kəlxʷoǩ Shelliǩa kəlkəlsəla**sa hishəm̓eʔ**
kəlxʷ =oǩ Shelly =ǩ=a kəlkəlsəla
buy =3MED Shelly =ACC=DET car
=s=a hishəm̓eʔ
=MEANS=DET foodstuffs
'Shelly bought a car (ACC) **with food-stuffs**.' (JF)

The argument goes as follows: the fact that preposition insertion is obligatory in (4b) and (5b) suggests that there can be only one direct object in the clause, and that preposition insertion is occurring in these instances to carry whatever argument is 'extra' in the clause. If we are willing to accept that preposition insertion is occurring in (6) and (7) as well, then we arrive at the Means-PP analysis in (2). On this view, the *=s* initial phrases in (6) and (7) would be covert PPs as claimed in (2), despite the fact that they are morphologically identical to *=s* objects.

Note that while the analysis I've just stated is *consistent* with the data, there is (at least) one other alternative analysis consistent with the data. Namely, the *=s* initial phrases in (4b) and (5b)

could themselves be covert PPs, in which case preposition insertion in these examples could be triggered just because these accusative-marked constituents are in the domain of PPs, and therefore must be expressed as PPs themselves. This alternative analysis would run counter to my syntactic analysis of instrumental case in Section 6.4.2. Further research is ultimately needed to decide definitively between these two analyses.

Regardless of which analysis is correct, the data in (4)-(5) demonstrate flexibility in K^{w}ak^{w}ala in terms of the way internal arguments are syntactically encoded. In particular, examples (4) and (5) demonstrate that core arguments (denoting Patients and Obtained Goods, respectively) can be realized either as *=x̌* objects or as the objects of the preposition *la* without any obvious change in a sentence's meaning. A further assumption that I have made in this dissertation is that Instruments may be realized either as *=s* objects, in which case they are direct arguments (see Chapter 6, Section 6.4.2) or as the objects of a covert preposition. While this analysis is consistent with the data, more research is needed on the syntax of these constructions to be certain of it.

Appendix D: Sources of telicity in Kʷaḵʷala

In Chapter 6, Section 6.3.1, I provided evidence showing that object case realization and telicity are determined independently in Kʷaḵʷala. The purpose of this section is to describe five sources of telic interpretation in Kʷaḵʷala. They include context (D.1), endpoint modifiers (D.2), lexical aspect (D.3), derivation of unaccusatives with *-xʔid* 'momentaneous, inchoative aspect' (D.4), and implicature (D.5).

In (D.6), I briefly discuss implications of the fact that there is no compelling evidence for telicity being grammaticalized in Kʷaḵʷala.

D.1 Context

An important source of telic interpretation in Kʷaḵʷala is context. The context in example (1), for instance, is one in which the speaker (who is speaking on behalf of a character, Eddie) is reporting on a past event. The sentence in (1) is interpreted as telic, then, because the context in which it is uttered constrains its interpretation so that it *must* be interpreted as telic. Note that in this particular example, a telic interpretation arises in this context regardless of which object case is expressed.

(1) *Context: Shelly did a huge load of laundry, but she didn't have time to finish hanging it to dry. So she asked her husband Eddie to do it. He started hanging up the laundry, but he got a phone call partway through, stopped, and never finished. Shelly calls him later, and finds out he didn't finish. She's upset because somethings needed to get dry. So she asks him what got hung up, and what didn't. Eddie responds…*

ğiǩʷaƛələn ƛa{**sa**, **ǩa**} **q̓əsəneʔ**. ḵiʔsən ğiǩʷaƛəla{**sa**, **ǩa**} **qəǩsis**
ğiǩʷ-aƛ-la =ən ƛa {**=s=a** , **=ǩ=a**} **q̓əsəneʔ**
hang-on-CONT =1 CONN {**=INST=DET** , **=ACC=DET**} **shirt**
ḵiʔs =ən ğiǩʷaƛ-la {**=s=a** ,**=ǩ=a**} **qəǩ-(x)sis**
neg =1 hang-on.surface-CONT {**=INST=DET** ,**=ACC=DET**} **ring-foot/leg**
'I hung up **the shirts** {**INST**, **ACC**}. I didn't hang up **the pants** {**INST**, **ACC**}.' (JF, VF)

This example illustrates the fact that telic interpretations of events are not necessarily determined solely by linguistic sources of information; they are also determined by properties of the world in which sentences are uttered.

D.2 Endpoint modifiers

Another source of telic interpretation in Kʷaḵʷala comes from the use of modifiers that are used to assert that an event has culminated. Kʷaḵʷala lacks an unambiguous 'in an hour' type phrase for achieving this purpose (Greene 2013: p.49-53). Two examples of modifiers which do generate telic interpretations are *ǧʷałˑ-* 'finish, stop, quit' (2) and *labənd* 'go to the end' (3).

(2) ləm̓uǰ Scottiǰ laǰudǰa kəlkəlsəla leʔəǰ **ǧʷał** hiɬʔidəǰʷ
lə=ʔm =uǰ Scott=ǰ laǰ-u-xʔid =ǰ=a kəlkəlsəla
AUX=VER =3MED Scott=VIS sell-off/out-BEC =ACC=DET car
l=a=ǰ **ǧʷał** hiɬ-xʔid =ǰ=ʷ
AUX=EMBED=VIS **finish** fix-BEC =ACC=3MED
'Then Scott sold the car (ACC), when he had **finished** fixing it (ACC).' (VF)

(3) məʔɬṗəni Abbi **labənd** dənǰəlaǰa *Amazing Grace*
məʔɬ-ṗən =i Abby **la-ba-xʔid** dənǰ-la
two-time =3DIST Abby **go-end-BEC** sing-CONT
=ǰ=a Amazing Grace
=ACC=DET Amazing Grace
'Abby sang Amazing Grace (ACC) **all the way through** two times.' (VF)

Speaker: "*labənd* means sang 'all the way'."

Note that the fact that these modifiers are not redundant in these examples suggests that telicity is not entailed by the literal content of these utterances.

D.3 Lexical aspect

Another source of telicity in Kʷak̓ʷala is lexical aspect. Greene (2013) proposes three lexical aspect classes in Kʷak̓ʷala: states, processes, and transitions. Of these classes, Greene finds only transitions to be inherently telic. Their inherent telicity gives rise to three empirical patterns: in their bare forms, transitions only receive past-tense translations (4); transitions cannot be modified with *galabənd* 'start to' (5); and transitions are infelicitous with the 'momentaneous'/'inchoative' aspect marker, *-xʔid* (6) (Greene 2013: p. 39-41, 96-101).

(4) Bare transitions have a past interpretation

q̓ida gudanǰa ǰətəm
q̓(a) =i=da gudan =ǰ=a ǰətəm
find =3DIST=OST horse =ACC=DET carrot
Can mean: 'The horse found the carrot (ACC).'
Can't mean: 'The horse is finding the carrot (ACC).' (Greene 2013, p. 40)

(5) Transitions cannot be modified with *galabənd* 'start to'

ləm̓oǰ galabəndoǰ Catherine q̓aǰis wayas
lə-ʔm =oǰ galabənd =oǰ Catherine
AUX-VER =3MED start =3MED Catherine
q̓(a) =ǰ=is wayas
find =ACC=3REFL.POSS honey
Intended: 'Catherine has started to find her honey (ACC).' (Greene 2013, p. 41)

Speaker: "You either have or you haven't found your *wayas*."

(6) Transitions cannot co-occur with *-xʔid*

a. * gaxˇ**ʔid**ida dagʷadaxˇʷa ṅala
gaxˇ-**xʔid** =i=da dagʷada =xˇ=ʷ=a ṅala
come-**BEC** =3DIST=OST doctor =ACC=3MED=DET day
Intended: 'A doctor came today.' (Greene 2013, p. 97)

b. gaxˇida dagʷadaxˇʷa ṅala
gaxˇ =i=da dagʷada =xˇ=ʷ=a ṅala
come =3DIST=OST doctor =ACC=3MED=DET day
'A doctor came today.' (Greene 2013, p. 97)

On Greene's analysis, the impossibility of realizing *-xʔid* with transitions arises due to the fact that transitions already lexically encode a BECOME subevent, making *-xʔid* redundant (see D.4 for discussion of *-xʔid*).

Wherever bare transition predicates are used, a telic interpretation results.

D.4 Unaccusatives derived from states

Another source of telic interpretation in Kʷaḵʷala is the derivation of telic unaccusative predicates from stative roots with the 'momentaneous, inchoative' suffix *-xʔid*. The denotation of *-xʔid* is shown in (7).

(7) Denotation of *-xʔid*
$[\![xʔid]\!] = \lambda P_{<v,<s,t>>}.\lambda t_i.\lambda w_s.\exists e.(\text{BECOME}(P))(e)(w)\ \&\ \text{time}(e) \subseteq t$ (Greene 2013:88)[1]

An important thing to note about Greene's denotation of *-xʔid* is that it does not entail telicity. This property of *-xʔid* is apparent from the fact that when *-xʔid* is suffixed to process roots,[2] the resulting predicate only entails that a transition into an event has occurred in reference time, not that an entire event has occurred within reference time (Greene 2013: 88-89). In this way, *-xʔid* is not a canonical perfective marker, and therefore cannot be considered to grammaticalize telicity.

When *-xʔid* is suffixed to states, however, the resulting predicate is an inchoative state and thereby telic. An example of how this works is illustrated with the root *təp-* 'be broken' in (8)-(10). In its bare form, this root is stative (8); when suffixed with *-xʔid*, an unaccusative predicate is formed (9); and when an external argument is added to this unaccusative predicate, a causative predicate is formed (10).

(8) naqoxˇ Katie laxˇa **təpa** ḵʷəʔsta
naq =oxˇ Katie la =xˇ=a **təp**-a ḵʷəʔsta
drink =3MED Katie PREP =ACC=DET **broken**-A ḵʷəʔsta
'Katie's drinking out of a **broken** cup.' (VF)

[1] I have substituted *v* for Greene's *l* to represent the type of events to maintain consistency with the convention adopted in this dissertation.
[2] On Greene's (2013) analysis, process roots include Vendler's (1957) activities and accomplishments. Greene's (2013) analysis of lexical aspect in Kʷaḵʷala is discussed more in Appendix E.

(9) təp̓idida k̓ʷəʔsta
təp-xʔid =i=da k̓ʷəʔšta
broken-BEC =3DIST=OST cup
'The cup broke.' (VF)

(10) təp̓idi Pateǩa k̓ʷəʔsta
təp-xʔid =i Pat =ǩ=a k̓ʷəʔšta
broken-BEC =3DIST Pat =ACC=DET cup
'Pat broke the cup (ACC).' (VF)

The fact that examples (9) and (10) are telic is shown by the data in (11)-(12). In (11), which corresponds with (9), we see that culmination of the inchoative *təp̓id* 'get broken' event cannot be felicitously cancelled. In (12), which corresponds with (10), we see that culmination of the causative *təp̓id* 'break' event also cannot be felicitously cancelled.

(11) #təp̓idida k̓ʷəʔsta, k̓iʔst̓oǩ təp̓ida
təp-xʔid =i=da k̓ʷəʔsta k̓iʔs=t̓a =oǩ təp-xʔid-a
broken-BEC =3MED=OST cup NEG=but =3MED broken-BEC-A
Literally: 'The cup broke, but it didn't break.' (JF)

(12) #təp̓idi Patəǩa k̓ʷəʔsta. k̓iʔst̓oǩ k̓ʷəʔsta təp̓ida
təp-xʔid =i Pat =ǩ=a k̓ʷəʔsta k̓iʔs=t̓a =oǩ
broken-BEC =3DIST Pat =ACC=DET cup NEG=BUT =3MED
k̓ʷəʔsta təp-xʔid-a
cup broken-BEC-A
Literally: 'Pat broke the cup (ACC), but the cup didn't break.' (JF)

KS: "Is that a contradiction?"
Speaker: "Yeah, 'he broke the cup, but it didn't break' [*laughter*]."

Only those verbs which fall into Greene's transition class are inherently telic, and the number of those verbs is relatively small. The majority of telic predicates in the language are not lexically telic but are derived, rather, through suffixation of *-xʔid* to an underlyingly stative root.[3]

D.5 Implicature

Greene (2013: p. 39) reports that accomplishment-like predicates are interpreted as telic by default due to implicature. This means that out-of-the-blue, a sentence like (13) with the verb *q̓əy̓ak-* 'kick' will tend to be interpreted as describing a culminated event in the past tense. The fact that culmination is only an implicature however, and is not entailed, is shown by data like in (14). In (14a), which the speaker volunteered, we see that the same accomplishment-like VP (as seen in (13)) can be used to describe a kicking-a-ball event which did not culminate. In (14b),

[3] The data in this section show crucially that not all accomplishment-like predicates in Kʷak̓ʷala are non-culminating (cf. (C) with the examples of non-culminating accomplishments in Section 6.3.1.3). In forthcoming work, I make use of this finding to argue that atelicity in Kʷak̓ʷala NCAs is basic rather than derived as it is, for instance, in Salish (Bar-el et al. 2005).

which was also judged felicitous by the same speaker in the same context, we see that an event formed using the same accomplishment-like VP (as seen in (13)) can have its culmination overtly cancelled in a subsequent clause.

(13) q̓əy̓axʔidi Simona**x̌a luǩʷsəm q̓əy̓akasuʔ**
q̓əy̓ak-xʔid =i Simon **=x̌=a luǩʷsəm q̓əy̓ak-a-səw̓**
kick-BEC =3DIST Simon **=ACC=DET spherical kick-A-ACC.PASS**
'Simon kicked **the ball** (ACC).' (VF)

(14) **KS:** "And then, let's say you're watching him and he — you know, he kicks AT the ball, but he misses it."

a. ƛ̓iqʷi Simon laʔi q̓əy̓axʔid**x̌a luqʷsəm q̓əy̓akasuʔ**
ƛ̓iqʷ =i Simon l=a=i q̓əy̓ak-xʔid
mess.up =3DIST Simon AUX=EMBED=3DIST kick-BEC
=x̌=a luǩʷsəm q̓əy̓ak-a-səw̓
=ACC=DET spherical kick-A-ACC.PASS
'Simon messed up when he kicked at **the ball** (ACC).' (VF)

b. q̓əy̓axʔidi Simona**x̌a luǩʷsəm q̓əy̓akasuʔ**. k̓iʔst̓uǩ ʔolək̓ala q̓əy̓axʔidi Simona**x̌a luǩʷsəm q̓əy̓akasuʔ**

q̓əy̓ak-xʔid =i Simon **=x̌=a luǩʷsəm q̓əy̓ak-a-səw̓**
kick-BEC =3DIST Simon **=ACC=DET spherical kick-A-ACC.PASS**
k̓iʔs=t̓a =uǩ ʔwa-la-k̓al-a q̓əy̓ak-xʔid =i
NEG=but =3MED so-CONT-very-A kick-BEC =3DIST
Simon **=x̌=a luǩʷsəm q̓əy̓ak-a-səw̓**
Simon **=ACC=DET spherical kick-A-ACC.PASS**
Literally: 'Simon kicked **the ball** (ACC). But he didn't really kick **the ball** (ACC).' (JF)

Speaker: "Mhm. You could say it that way. But you've become very technical."

In my experience, telic implicatures in Kʷak̓ʷala seem somewhat weak to speakers. Thus while I've found it to be generally true that speakers will tend to translate sentences like (13) in the past tense, I think its possible that this bias is driven by the fact that in English, accomplishments are more likely to be in the past tense than in the progressive. More research is needed on implicatures of telicity and their interaction with context.

D.6 Implications

Telicity is sometimes assumed to be a category that is grammaticalized in every language. Its hard to know exactly how prevalent this assumption is, but we can see it manifested within several recent theories in the generative literature, such as Borer (2005), Ramchand (2008), and Travis (2010).

In Kʷakʷala, however, there is no compelling evidence for telicity being grammaticalized in the functional structure of the clause. I therefore concur with Greene (2013: p. 39) that process roots (which include both activity-like and accomplishment-like verbs) in Kʷakʷala are lexically atelic.

The idea that accomplishments are lexically atelic is developed in Kratzer (2004). In that same work, however, evidence is also presented for telicity being introduced in the verbal spine in a projection above the VP associated with accusative case assignment (see Chapter 6, Section 6.4.2 for discussion). In Kʷakʷala, we've seen that accusative case is assigned independently of telicity (Section 6.3.1). This suggests that in Kʷakʷala, process roots are born atelic and then simply remain atelic on account of there being no telicity-introducing head grammaticalized in the functional structure of this language. A consequence of this analysis, if it is the right one, is that telicity is *not* universally grammaticalized in the functional structure of all languages. I leave it to future work to test these claims in more depth.

Appendix E: Object case and lexical aspect

E.1 Introduction

The purpose of this section is to show that the semantic analysis of object case marking developed in this dissertation can be integrated with Greene's (2013) analysis of lexical aspect classes in Kʷakʼʷala.

Greene analyzes bare verbal predicates in Kʷakʼʷala as belonging to three classes: states, processes, and transitions. These aspectual classes are associated with the templates in (1), which are inspired by the theory of lexical aspect in Rothstein (2004).

(1) Kʷakʼʷala aspectual verb classes (Greene 2013: p. 30-33)

a. States: $\lambda e.P(e)$
b. Processes: $\lambda e.(\mathrm{DO}(P))(e)$
c. Transitions: $\lambda e.(\mathrm{BECOME}(P))(e)$

The templates associated with processes and transitions involve two semantic operators from Dowty (1979): DO and BECOME. The denotations of these operators are given in (2) and (3), accompanied by notes regarding their truth conditions.

(2) a. $\mathrm{DO}(\alpha, \varphi) \leftrightarrow \varphi$ & u.t.u.c.o.a.(φ)
b. "…the abbreviation [u.t.u.c.o.a.] stands for 'is under the unmediated control of the agent (individual denoted by α)' and is this is of course a blatant fudge since I have no way of giving a standard (explicit model-theoretic) interpretation for this notion." (Dowty 1979: p. 118)

(3) a. [BECOME φ] is true at *I* iff there is an interval *J* containing the initial bound of *I* such that ¬φ is true at *J* and there is an interval *K* containing the final bound of *I* such that φ is true at *K*.
b. Interval: Let *T* be the set of real numbers. Let < be the standard dense linear ordering of *T*. *I* is an interval iff $I \subset T$ and for all moments *t1, t2, t3*, if $t3 \in I$, and $t1 < t2 < t3$, then $t2 \in I$.
c. Initial and final bound: *t* is an initial bound for *I* iff *t* is the latest moment just before *I*. Final bound is defined similarly. (Dowty 1979: p. 139f.)

Greene (2013: p. 31-2) remarks that the DO operator may ultimately need revision in order to be based on a property like [+ stages] (from Landman 1992) or [+dynamic], instead of agentivity. For my purposes here, either semantic analysis of DO will suffice.

Greene's (2013) analysis of Kʷakʼʷala lexical aspect classes is designed to capture the interpretation of bare verbal predicates independently of their interactions with argument structure. Integrating Greene's proposal with the semantic analysis of object case in this dissertation requires three steps: first, ascertaining where subevental structure exists relative to the lexical aspect templates in (1); second, considering what predictions subevental structure

makes for how verbs in each lexical aspect class realize (or fail to realize) objects; and third, seeing whether these predictions line up with the predictions of the Initiating Subevent Theory.

In the remainder of this appendix I will discuss transitions (Section E.2), processes (Section E.3), and states (Section E.4), and will then summarize the results (Section E.5).

E.2 Transitions

On Greene's (2013) analysis, transitions lexically encode a change from one state to another state, making use of Dowty's BECOME operator (4).

(4) Transitions: $\lambda e.(\text{BECOME}(P))(e)$

Greene's transition template can be mapped onto subevental structure by identifying the interval preceding the lexicalized transition point as an *initiating* subevent, and the interval following the transition point as a *non-initiating* subevent. Then, since transitions lexically encode both *initiating* and *non-initiating* subevents, we predict that in theory there could be transitions with instrumental objects, transitions with accusative objects, and transitions with alternating objects. More specifically, we predict that any internal argument which is an event participant in the phase prior to the lexicalized transition point will qualify as a *Co-initiator* and be marked instrumental; any internal argument which participates in the event phase that is subsequent to the transition point will qualify as a *Non-initiator* and be marked accusative; and any internal argument which participates in the event both prior to and subsequent to the lexicalized transition will undergo case alternation.

These predictions are borne out, as illustrated in (5)-(7) with three transition verbs: the verb *bəw-* 'leave', which takes an instrumental object (5); the verb *q̓a-* 'find', which takes an accusative object (6); and the verb *c̓o-* 'give', which takes an alternating object (7).

(5) Transitions can take an instrumental object

ləm̓uǰ Hannahǰ	λəẇuǰ	Katiyəǰ	ǧʷałała	qəs	bəweʔ**suǰ caǰisiǰ**
lə=ʔm =uǰ	Hannah=ǰ	λəẇ	=uǰ		Katie=ǰ
AUX=VER =3MED	Hannah=VIS	CONJ	=3MED		Katie=VIS
ǧʷał-ała	qa =is		bəw=eʔ		**=s=uǰ**
finish-STAT	PREP =3REFL.POSS		leave=NMZ		**=3POSS=3MED**
caǰis=ǰ					
Fort.Rupert=VIS					

'Hannah and Katie are getting ready to leave **Fort Rupert** (**INST**).' (VF)

(6) Transitions can take an accusative object

q̓am̓i Katiyə**ǰus**	**dal̓aĉ̓i**			
q̓(a)=ʔm =i	Katie	**=ǰ=us**	**dala-ʻʻaĉ̓i**	
find=VER =3DIST	Katie	**=ACC=3REFL.POSS**	**money-container**	

'Katie did find **her wallet** (**ACC**).' (VF)

(7) Transitions can take an alternating object

ċowən x̌a{**sa**, **x̌a**} **ƛ̓ətəmɬ**
ċo =ən x̌a {**=s=a** , **=x̌=a**} **ƛ̓ətəmɬ**
give =1 CONN {**=INST=DET** , **=ACC=DET**} **hat**
'I gave **the hat** {**INST**, **ACC**}.' (VF, VF)

Once the semantics of Dowty's BECOME operator is explicitly connected with the notions of subevental structure I have employed here, the existence of transitions with instrumental objects, accusative objects, and alternating objects shows that the predictions of the Initiating Subevent Theory are aligned with Greene's analysis of this verb class.

E.2 Processes

On Greene's (2013) analysis, processes lexically encode an event defined in terms of Dowty's DO operator (8).

(8) Processes: $\lambda e.(\mathrm{DO}(P))(e)$

In terms of their subevental structure, processes are predicates with at least one subevent — namely, the subevent which satisfies the condition placed on the DO operator, which I identify as an *initiating* subevent. Beyond this, Greene's analysis is consistent with processes being subdivided into two classes based on whether they consist of an *initiating* subevent only, or consist of both *initiating* and *non-initiating* subevents. These two subtypes of processes correspond to Vendler's (1957) activity and accomplishment classes, respectively. Given the assumptions of the Initiating Subevent Theory, we then predict that activity-like processes should only take instrumental objects, since they only possess an *initiating* subevent, while accomplishment-like processes should be able to take accusative objects, possibly in addition to other instrumental or alternating objects.

Evaluating these predictions is not always straightforward, as it is sometimes not obvious whether a given root needs to be lexically-specified as either an activity or an accomplishment. Many roots can occur, for instance, be expressed in either activity-like or accomplishment-like frames. This is illustrated below in (9)-(10) with the root *qas-* 'walk', which can fit a variety of syntactic frames. This root can be used in activity-like predicates in an intransitive frame (9a) or in a transitive one with an instrumental object (9b); or it can be used as an accomplishment-like predicate with an accusative object (10a), an accomplishment-like predicate with a Path-denoting PP (10b), or an accomplishment-like predicate with both an alternating object and a Path-denoting PP (10c).

(9) Activity-like processes: *qas-* 'walk'

a. ləm̓is ʔoʔəm n̓ix qəs leʔ qasʔida qəs λ̓iweʔəx̌a təp̓i
lə=ʔm=is ʔwa=ʔm n̓ik q(a) =is la=iʔ
AUX=VER=and so=VER say PREP =3REFL.POSS go=NMZ
qas-xʔid-a q(a) =is λ̓iweʔ =x̌=a təp-xʔid
walk-BEC-A PREP =3REFL.POSS forget =ACC=DET break-BEC
'So he just decided to go walking to forget about what he had broken (ACC).' (VF)

b. qasux̌ Norman**sa sik̓ağawe?**
qas =ux̌ Norman **=s=a** **sik̓ağawe?**
walk =3MED Norman **=INST=DET** **cane**
'Norman's walking **with a cane** (**INST**).' (VF)

(10) Accomplishment-like processes: *qas-* 'walk'

a. qasəndi Vickiyə**x̌a λoʔs** qaʔs leʔ laxa ʔəpsud
qas-ʔ[1]-xʔid =i Vicky **=x̌=a** **λoʔs** qa =is
walk-ʔ-BEC =3DIST Vicky **=ACC=DET** **tree** PREP =3REFL.POSS
la=iʔ la =x̌=a ʔəpsud
go=NMZ PREP =ACC=DET other.side
'Vicky walked across **the tree** (**ACC**) to get to the other side.' (VF)

b. ʔəx̌ʔex̌sdən qən qasʔideʔ **laxa kəlwilas**
ʔəx̌-ʔex̌sd =1 qa =ən qas-xʔid=eʔ **la** **=x̌=a**
DO-desire =1 PREP =1POSS walk-BEC=NMZ **PREP** **=ACC=DET**
kəlwilas
store
'I want to walk **to the store** (***la***).' (VF)

c. lux̌ Shellix̌ qasa{**sida, x̌ida**} **ẇac̓i laxa λ̓əmaʔis**
lə =ux̌ Shelly=x̌ qas-a {**=s=i=da**,
AUX =3MED Shelly=VIS walk-A {**=INST=3DIST=OST,**
=x̌=i=da} **ẇac̓i** **la** **=x̌=a** **λ̓əmaʔis**
=ACC=3DIST=OST} **dog** **PREP** **=ACC=DET** **beach**
'Shelly's walking **the dog** {**INST**, **ACC**} **to the beach**.' (VF, JF)

A reasonable assumption is that *qas-* 'walk' is an activity-like process which occurs in accomplishment-like frames as a results of grammatical processes which modify event structure. On the other hand, strongly transitive roots like *-(g)ila* 'make, do' may need to be lexically specified as accomplishment-like processes. In any case, the predictions regarding case marking are clear once we have decided, for any given root, whether it is an activity-like process or an accomplishment-like one. To the best of my knowledge, the predictions regarding case possibilities with process predicates are generally borne out.

[1] The form of *-xʔid* here (*-nd*) is the form which usally signals the presence of a lexical suffix. It's possible that the suffix *-(x)sʔ* 'across' is here, but inaudible to me.

It's worth noting here that researchers have, in recent years, posited even more fine-grained subevental structure than this, for instance positing *process* and *result* subevents (Ramchand 2009, Tatevosov 2008) corresponding to a subdivision within what I've been referring to as *non-initiating* subevents. Since object case marking in Kʷakʷala only directly reflects the distinction between *initiating* and *non-initiating* subevents, I leave the possibility of further decomposition for future research.

E.4 States

Finally, let's consider Greene's class of states, which have the lexical aspect template in (11).

(11) States: $\lambda e.P(e)$

Given that states lack subevental structure, we predict that it will be impossible to realize case-marked objects with lexical states.

To the best of my knowledge, this prediction is borne out only with respect to a specific subset of the predicates which satisfy Greene's tests for being states: namely, states which express permanent or essential properties, which Carlson (1977) refers to as individual-level states. Examples of stative roots of this kind include *ṗisa* 'hard' (12) and *gəltə̓x̌st* 'tall' (13).

(12) ṗisox̌da dzəxʔən
ṗis =ox̌=da dzəxʔən
hard =3MED=OST metal
'The metal is/was hard.' (Greene 2013, p. 34)

(13) *Context: Hannah's been very tall for her age her entire life.*

gəltə̓x̌sti
gəlt-ₕx̌st =i
long-hind.end =3DIST
'She is tall'. (Greene 2013, p. 90)

I have not come across examples of bare individual-level state predicates with instrumental or accusative objects, though it's possible that more research on these predicates would uncover examples. If individual-level states with objects were found to exist, they would require an explanation which the Initiating Subevent Theory currently does not provide.

On the other hand, states which name transitory or accidental properties — Carlson's (ibid.) stage-level states — can take case-marked arguments, despite meeting Greene's (2013) criteria for state-hood. Some examples of state-like predicates with objects include *q̓ut-* 'full' (14), *kʷ̓ənq-* 'wet' (15), and *ɬawis-* 'angry' (16).

(14) *Context: There is a bowl on the table, and it's half-full of apples.*

ʔoṁuǰ qaquṭ̓uǰda łuʔǰʷəgeʔǰ**sa ʔabəls**
ʔwa=ʔm =uǰ qa~quṭ̓ =uǰ=da łuʔxʷəgeʔ=ǰ
so=VER =3MED REDUP~full =3MED=OST bowl=VIS
=s=a ʔabəls
=INST=DET apple
'The bowl is somewhat full **of apples** (INST).' (VF)

(15) k̓ʷənquǰda həṁxdəṁiɬiǰ**sa ẁap**
k̓ʷənq =uǰ=da həṁxdəṁiɬ=ǰ **=s=a ẁap**
wet =3MED=OST table=VIS **=INST=DET water**
'The table is wet **from water** (INST).' (JF)

(16) *Context: Katie was having a good day, but then the bus came a half hour late.*

ławisoǰ Katiyə**ǰʷa bəs**
ławis =oǰ Katie **=ǰ=ʷ=a** **bəs**
angry =3MED Katie **=ACC=3MED=DET** **bus**
Speaker: "Katie got mad **at the bus** (ACC)." (VF)

One possible explanation for the ability to realize objects in stage-level state predicates is that these predicates are not actually interpreted as states, but are interpreted as covert (non-agentive) processes (14)-(15) or transitions (16). If this were the case, then the events described by these predicates would possess covertly-signalled subevental structure, and the realization of objects in these examples could be captured by the Initiating Subevent Theory. Otherwise, the realization of instrumental and accusative objects in these state-like predicates is a challenge to my theory in its current form.

E.5 Conclusion

In this Appendix, I've proposed an integration of Greene's (2013) analysis of lexical aspect classes in Kʷak̓ʷala with the Initiating Subevent Theory of object case. Greene's lexical aspect templates are restated in (17), and in (18) I've summarized what predictions are associated with these templates pertaining to object realization. A 'yes' in (18) indicates that the Initiating Subevent Theory predicts that with verbs from the indicated lexical aspect class, the indicated object type should in principle be possible.

(17) Kʷak̓ʷala aspectual verb classes (Greene 2013: p. 30-33)

a. States: $\lambda e.P(e)$
b. Processes: $\lambda e.(\mathrm{DO}(P))(e)$
c. Transitions: $\lambda e.(\mathrm{BECOME}(P))(e)$

(18) Predicted possible case frames, by lexical aspect class

	Verb class	**INST**	**ACC**	**INST/ACC**
a.	Transitions	yes	yes	yes
b.	Activity-like processes	yes	no	no
c.	Accomplishment-like processes	yes	yes	yes
d.	States	no	no	no

While the predictions in (18) regarding transitions and processes are satisfied, the predictions made about states are not satisfied in the case of stage-level states. More investigation is needed in order to see whether there is any justification for considering the events described by these predicates as possessing subevental structure. With the possible exception of stage-level states, Greene's (2013) analysis of lexical aspect classes in K^{w}ak^{w}ala is in alignment with the predictions of the Initiating Subevent Theory.