A Grammar of Relationship
How Mi'kmaw Verbs Indicate the Relationship Between Participants in a Sentence

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We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

Supervisory Committee

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Abstract

In this thesis we ask, how are arguments introduced and mapped to grammatical positions in Mi'kmaw? We build on insights from Piggott (1989), Wiltschko (2014), and Harley (2017) and use a corpus of over 150 verb stems in 1500+ clauses. We propose that Mi'kmaw verb stems are classified by whether they are unergative or unaccusative. Three functional categories: little *v*, Animacy agreement, and Voice introduce the other argument and then map the arguments to grammatical positions through two overlapping processes. We illustrate active, passive, antipassive, and possessor raising constructions.

These argument-building and mapping systems work without exception throughout the language. This thesis represents a fresh analysis of Mi'kmaw which accounts for transitivity, valence, and grammatical voice in a way that the traditional Bloomfieldian analysis (Inglis 1986, Fidelholtz 1999, McCulloch 2013) has not. We believe that our findings are only possible because of my close collaboration with Mi'kmaw colleagues, our decision to systematically investigate how the functional categories pattern with a large set of verb stems, and our decision to study the syntax of the verbs in complete clauses.

Table of Contents

List of Tables

List of Figures

Abbreviations

AB	absentative
AI	intransitive verb with animate subject
AI+O	verb whose morphology is AI but takes an object
AN	animate
APPL	applicative
DEM	demonstrative
DER	derivational morpheme
DIR	directional from one point to another
DP	determiner phrase
EMPH	emphatic
ep	epenthesis
EV	evidential
excl	exclusive
II	intransitive verb with inanimate subject
IMP	imperative
IN	inanimate
incl	inclusive
IRR	irrealis form
LOC	locative suffix
IRR	irrealis form
NP	noun phrase
OB	obviative
S+O	subject plus object inflection
p	plural
POSS	possessive
s	singular
S argument	single argument of monovalent predicate
SAP	speech act participant
TA	transitive verb with animate object
TA+O	verb whose morphology is TA but has two objects
TI	transitive verb with inanimate object
v	little *v* category
VP	verb phrase
1	first-person
2	second-person
3	third-person
1s>3s	first-person singular subject acts on third-person singular object.
*	a sentence is ungrammatical
#	a sentence is accepted as grammatical by some but not all speakers

Abbreviations used in examples and quotations from other works are glossed in a footnote accompanying the text.

Acknowledgments

The Mi'kmaw language belongs to the Mi'kmaq and this research is carried out with language revitalisation as a primary focus. Elizabeth Paul, Arlene Stevens, Barbara Sylliboy, and Yvonne Denny are my research colleagues and I collaborate with them in everything. They are involved in language revitalisation and teaching the language and I appreciate their insightful participation in the discoveries. I thank Barbara Sylliboy for being on my committee and have benefitted from her in so many ways, among which is her incredible knowledge of the Mi'kmaw language. I also thank Helen Sylliboy-*o'q*, Elizabeth Matthews-*o'q*, Serge Paul, Carol Anne Johnson, and Wilfred Joseph Paul for their friendship and collaboration as Mi'kmaw Elders and knowledge-keepers.

This research was carried out under the supervision of Drs. Leslie Saxon and Heather Bliss. I have learned so much from them in the process of writing and revising this dissertation. I am really beyond grateful to them. Leslie opened the door at every key point in the process of doing the thesis. Heather always trusted my intuitions and offered invaluable expertise from her perspective as an Algonquianist. I appreciate Charlotte Loppie and her expertise in Indigenous methodologies and am grateful for her input as a Mi'kmaw on my committee. I appreciate Julie Brittain, the external examiner for my oral exam, for her careful assessment of my thesis; her encouraging comments as another Algonquian linguist mean a lot to me.

Many thanks for the detail-oriented Jasmine Hoover, my librarian friend who proofread the references. Any mistakes that remain in them are all mine.

This research stands firmly on the foundation of Mi'kmaw verb analysis by Stephanie Inglis. I appreciate her mentorship during the first few years I worked in the Mi'kmaw community. I thank Dr. Martha McGinnis for her insightful comments on my candidacy paper that marked the beginning of this research. I thank my fellow grad students especially Hailey Ceong, Janet Leonard, and Adar Anisman for our discussions. I also acknowledge Carol Rose Little for sharing with me some pivotal information about direct objects and *-eke* in Migmaq. I appreciate the guidance and teaching of my SIL grammar teachers and consultants in other languages, Pam Cope, Mark Vanderkooi, Keith Snider, Steven Anderson, Rhonda Thwing, Keith and Mari Beaven, Doris and Tom Payne. Also, the collaboration with my SIL colleagues in Mi'kmaw, especially Colleen Boyd, Meg Billingsly, and Bill and Norma-Jean Jancewicz. And I so appreciate my friends who supported me through the process. A special thanks to Gwen Scott, Carmen Fleuren, Jasmine Hoover, and Terri Carabin who read the nontechnical summary and made comments.

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Dedication

This thesis is dedicated to the Mi’kmaw teachers, curriculum builders, translators, and language warriors who work in various ways to pass on their language to the next generation.

Preface

"Methodology, methodology, methodology."

That is what my supervisor Leslie Saxon says and that is what I have found to be true. I used to think it was assumptions, assumptions, assumptions, but assumptions can be found to be mistaken by good methodology and you just go on learning.

I prayed for two things concerning my research for this degree. First, I wanted that it would benefit the Mi'kmaw community: the speakers, learners, teachers, and language activists who want to preserve and promote their language. Second, I prayed that the actual research would be valuable to the academic community. That we would discover things that are important to the way the language works that would apply to the larger Algonquian family.

We believe it is our methodology that is key to our discoveries.

The first and most important thing about our methodology is that it is ours (not mine). I am a learner who has joined with a small group of first-language Mi'kmaw speakers and thinkers who live and work in the Mi'kmaw community. They work in the domains of curriculum-building for the Mi'kmaw immersion school and in language mentorship. Everything I do is based on collaboration with my colleagues. They have told me on more than one occasion that the only reason I have learned what I have is because I hang out with them. I come to the reserve, and I learn. We co-author papers and presentations.

I come to the table as one who grew up with a father whose first language was Plautdietch, or Low German as my family called it. He spoke no English until he went to school when he was seven. There at school, it was only English and he would be beaten if he spoke his mother tongue. By the time he was a teenager, the language spoken at home shifted to English and his younger brother grew up understanding Low German but never calling himself a speaker. When my dad grew up, he moved out of the language area and married my mother who was a non-speaker, so the language spoken in our home was only English. He considered teaching us Low German but never did. Every year we would spend our holidays back at his father's farm. The family gatherings were joyful things full of laughter since Low German is a language with a lot of humour. I would pester my dad to explain the jokes, but he said they didn't make sense in English. I had relatives who only spoke Low German and I couldn't speak with them at all. When I went into grade 10, I had an option to learn German or Latin. I 'should' have taken Latin because I wanted a career in science, but I took German so I could talk with my relatives (or so I thought). I worked hard all that first year to learn as much as I could, and when we went out west to the farm for holidays that summer, I went with great anticipation of communication. How sad I was to discover that what they called "High German" was a completely different language than Low German. Over the years of not using his language, my father came to the point around age 55 where he could no longer speak his mother tongue.

In later years I wondered if Low German had been a written language, and taught in schools, would it have been different for my father and my family?

After spending part of my life in science, it was no wonder that I started to study linguistics and ended up going overseas with SIL International to work with the Moloko community, speakers of one of the thousands of unwritten languages in the world. I spent ten years in Africa, mostly in one small village that is part of a speech community of about 10,000. During my time there collaborating with the community, we developed a

writing system, literacy classes, written resources, and translations of things the community desired. In the process of life there, I learned about respecting and valuing colleagues from another speech community with a very different world view, daily life, and cultural constraints than I grew up with. I learned about working within the community, and the long-lasting and solid results of working together. I also experienced the disasterous consequences when one nation, group, or person doesn't value another, and I learned more about trusting God who can and does bring good out of everything.

When I moved back to Canada, I began to be involved in the Mi'kmaw community in the same capacity. I continue to learn about respect and value and trust. As a student at UVIC, I discovered that the way I work is actually the way the UVIC ethics also prescribes. I now know that this methodology has been expressed by others like Shawn Wilson and Ewa Czaykowska-Higgins in terms of "Indigenous paradigm" and "working with." To me it is about respect and value and trust.

So, this thesis is my work, but it is really our work. Its results would never be achieved without the collaboration I describe with my awesome Mi'kmaw colleagues and awesome committee. For this reason, I use 'we' and not 'I' when talking about the thesis research.

Methodology, methodology, methodology.

Chapter 1 Introduction

Mi'kmaw is an Eastern Algonquian language which is the language most often spoken at home by 7,730 people in Canada.[1] 'Mi'kmaw and 'Mi'gmaq' represent different dialects and orthographies of the same language found in different regions. It is the first language of my collaborators: Yvonne Denny, Elizabeth Paul-*o'q*,[2] Arlene Stevens, and Barbara Sylliboy. They speak the Cape Breton dialect.

We set out to describe and analyse how the Mi'kmaw verb signals the relationships between participants and we began with the Mi'kmaw morpheme *-eke*.[3] Sylliboy et al. (2015, 2016, 2017), Friesen and Denny (2019), Denny et al. (2018, 2021), Paul et al. (2019), Sylliboy et al. (2020, in press), and Stevens et al., (2021a and b) mark the conference presentations and subsequent proceedings papers that marked milestones along our investigation. This thesis expounds on discoveries made along the way.

Briefly, these are the key findings of our research. Verb stems are classified according to whether they are associated with an internal or an external argument. Three categories of suffixes follow the stem and are responsible for adding another argument (or not) and then mapping those arguments to syntactic roles. Figure 1 shows our analysis of the Mi'kmaw verb word.

Figure 1. Analysis of Mi'kmaw verb word

verb stem	*v*	Animacy agreement	Voice	inflection

[1] Statistics Canada 2016 census http://www.statcan.gc.ca/daily-quotidien/170817/t002a-eng.htm
[2] The *-o'q* suffix is added to names of people who are deceased. Elizabeth died in December 2019.
[3] I say 'we' in this thesis since I work in community and in a close manner with my colleagues. Although this thesis represents my efforts, nothing could have been accomplished without my Mi'kmaw colleagues and academic supervisors.

The little *v*-Animacy combination is involved in the introduction of other arguments and the Animacy-Voice combination maps those arguments to grammatical roles (grammatical voice). We show active, passive, and antipassive voice as well as possessor raising. Figure 2 illustrates the two systems.

Figure 2. Two overlapping systems

<table>
<tr><th>stem</th><th>little v</th><th>Animacy</th><th>Voice</th></tr>
<tr><td rowspan="2">internal or
external argument</td><td colspan="2">adds argument</td><td></td></tr>
<tr><td></td><td colspan="2">grammatical voice
maps arguments to grammatical positions</td></tr>
</table>

Some constructions require the entire *v*-Animacy-Voice combination to add an argument. Our analysis builds on previous research in Mi'kmaw and other Algonquian languages since these languages all have cognate morphemes and show similar features in verb structure and syntax. Our results inform the analysis of other Algonquian languages for the same reason. One main difference between Mi'kmaw and some other Algonquian languages is that Mi'kmaw verb inflectional agreement is through verb suffixes; there are no person prefixes.

1.1 Outline

Chapter 1 gives the background for the work. Chapter 2 discusses the methodology. The thesis is presented in three successive spirals in order to acknowledge the individual contributions of each morpheme and the complex relations between them. The first spiral describes and compares the morphemes of each grammatical category, stem, *v*, Animacy, Voice (chapter 3). The second spiral studies adjacent categories; as each member of one category selects the members of the previous category (chapter 4 is how little *v* selects stem, chapter 5 is how Animacy selects little *v*, and chapter 6 is how Voice selects Animacy). The third spiral considers the entire stem-*v*-Animacy-Voice

constructions and the process of how these build arguments and morphemes map them onto grammatical roles (chapter 7). Chapter 8 explores implications and relevance of the findings.

Figure 3. Three spirals

Verb stem and three categories	stem-*v* *v*-Animacy Animacy-Voice	stem-*v*-Animacy-Voice
Chapter 3	**Chapters 4-6**	**Chapter 7**

While research within each spiral is independent of the other spirals, we do add information about the verb stem at the end of each chapter, since the constructions show a dependency on the argument associated with the verb stem.

1.2 Background

This oral history and background information is given by Barbara Sylliboy, an Elder in the Mi'kmaq community of Eskasoni and is adapted from our first paper (Sylliboy et al 2017).

Mi'kmaw is a language in the Algonquian family spoken by the Mi'kmaq/Mi'kmaw people, also known as *L'nu*.[4] Traditionally the Mi'kmaw homeland, called *Mi'kma'ki,* covers Nova Scotia, Prince Edward Island, parts of New Brunswick, Newfoundland and Quebec, and extends into north-eastern Maine. *Mi'kma'ki* is divided

[4] Mi'kmaw is an adjective and Mi'kmaq is a collective noun; hence 'the Mi'kmaq' are 'the Mi'kmaw people.'

into seven districts: *Unama'ki* (Cape Breton), *Eskikewa'kik* (Antigonish and Guysborough area), *Piktuk* and *Epekwit* (Pictou area and Prince Edward Island), *Sipekne'katik* (Amherst and New Brunswick area), *Kespukwitk* (Yarmouth area), and *Kespe'k* (Gaspé region of Quebec and New Brunswick). Mi'kmaw is the name of the people and their language. The Mi'kmaq in all districts speak Mi'kmaw with different dialects. The three main dialects are in New Brunswick, Quebec, and Nova Scotia, but there are sub-dialects within each region. Within Cape Breton for example, the dialects of Eskasoni, Wagmatcook, and We'koqma'q vary in pronunciation, vocabulary, and speed of utterance.

Prior to European contact, the Mi'kmaq recorded some history in petroglyphs which can still be seen today in historic sites such as Kejimukujik Park, McGowan Lake, Bedford Barrens, and Klu'skap Caves. History, legends, and teachings are passed down orally by the Elders. Children learn them from an early age. In addition, Mi'kmaw treaties are preserved in wampum belts which the Putu's of the Sante' Mawiomi (wampum keeper of the Grand Council) reiterated each year at the annual gathering on Chapel Island. These wampum belts are mnemonic cues to assist in remembering the peace and friendship agreement between two tribes. One wampum belt was read annually until the mid-1900s when the last reader of the wampum belt, Isaac Alex, passed away. That wampum belt disappeared after his passing and has never been found.

It was with the first European contact in the 1600s that Mi'kmaq language began to be written down. The French missionaries saw that the Mi'kmaq used birchbark with symbols on it and they employed these symbols and added more to develop literature. The symbols are called Mi'kmaw hieroglyphics. Father Maillard first made the

Hieroglyphic Prayer Book (Kauder 1866). The prayers and readings in hieroglyphics were read until the last fluent reader, William Jeddore, passed away. There are other orthographies. In the 1700s, Reverend Silas T. Rand, a Protestant missionary, and Father Pacifique, a Catholic missionary, each developed an orthography to assist them in teaching prayers and religion. Reverend Rand wrote a lexicon of English to Mi'kmaw words (Rand 1888) and also transcribed legends from Mi'kmaw to English (Rand 1894). He also produced a small Mi'kmaw grammar book (Rand 1875). Father Pacifique published several prayer books as well as catechisms (Pacifique 1921) and a grammar. The Pacifique writing system was used extensively until the 1950s. Then it started to be written and read only by Elders. The Union of Nova Scotia Indians and Mi'kmaq Association of Cultural Studies decided in the mid 1970s to hire a linguist to create an easier orthography. This is the Smith-Francis orthography, which is used primarily in Nova Scotia, Prince Edward Island, and parts of Newfoundland and New Brunswick. Pacifique's 1921 grammar has been recently revised to the Smith-Francis orthography and released in 2016 (Francis and Hewson, 2016). The Francis and Hewson grammar is widely used today.

The Mi'kmaw language is classified as 'threatened' by the Ethnologue (Eberhardt et al. 2020) in that the language is used for face-to-face communication within all generations, but there are fewer speakers and it is no longer the norm that children and youth learn and use this language. Intergenerational transmission is in the process of being broken, but some of the child-bearing generation can still use the language so it is possible that revitalisation efforts could restore transmission of the language in the home. In some communities, only older adults speak and there are only a few speakers in 5

communities. Eskasoni is the largest Mi'kmaq community with a population of over 4000 people. Many Mi'kmaw communities consider Eskasoni to be the strongest Mi'kmaw-speaking community. However, in reality, the majority of speakers are adults and Elders, as well as several families who believe it is important to teach Mi'kmaw to their children. To offset this trend, the Eskasoni Band put into operation a Mi'kmaq immersion program. This program has been in effect since 2000 and is in its sixth year as a separate education facility called Essissoqnikewey Siawa'sik-l'nuey Kina'matnewo'kuo'm (E.S.K.). Through the immersion program, many more young people understand and can carry on conversations in Mi'kmaw. Mi'kmaw language is also taught as a subject in schools and universities.

The provincial organization *Mi'kmaw Kina'matnewey* is also making strides in promoting and preserving Mi'kmaq language. They have created Mi'kmaq Language apps to use with iPhone and Macintosh Apple computers. They have published children's books in the Mi'kmaq language and included CD recordings of these books being narrated by Mi'kmaq speakers. In addition, they operate a Master-Apprentice Mi'kmaq language program for those communities where the language has dwindled to several speakers. They are in their fifth year of the mentor-apprentice language learning initiative where some 10-15 adult learners each pair with a fluent mentor to study the language for 400 hours each year. This past year, Eskasoni launched a Mi'kmaw Language Initiative for language revisalisation. Much more work still needs to be done.

1.3 Developing our research questions

When I was planning my doctoral studies, I spoke with several Mi'kmaw language activists, asking them for guidance in what I could study. All of them advised me to study

something that would benefit language learners and teachers who wanted to pass the language on to the next generation.

Our early research was with the morpheme *-eke* (Sylliboy et al. 2017). This morpheme, thought to be a detransitivising suffix by others studying Mi'kmaw (Inglis 1986 and McCulloch 2013), we discovered also in transitive clauses. We found that this was one instance of the apparent non-correspondence between verb morphology and syntax that is reported by linguists researching other Algonquian languages (Wolfart 1973 for Cree, Dahlstrom 2014 for Meskwaki, Frantz 2017 for Blackfoot, and Oxford 2017 for Algonquian in general).

We (Sylliboy et al. 2017) demonstrated that whether or not the clause has a direct object is related to the presence or absence of another morpheme preceding *-eke*. Clearly, there is more to the relationship between morphology and syntax than the current understanding communicates. These observations sent us along a different line of understanding how these morphemes work.

Building on the discoveries from previous works in Algonquian and especially in Mi'kmaw, we focus our research question on the entire clause and the mechanics of grammatical voice – how the argument structure is built and mapped to the grammatical form. Following Piggott (1989), we assume that the verb stem carries elements of the argument structure and the verb suffixes modify that structure and add arguments.[5] We ask, how does the complex verb morphology between the stem and inflection relate to the syntax?

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[5] Frantz (1970) and Armoskaite (2011) and Genee (2013) also argue that roots are subcategorised for inherent transitivity which affects the verb affixes that suffix to them.

1.4 Proposal

We propose that at least some of the reported non-correspondence between the Algonquian verbal classification system (AI, II, TA, TI) and the syntax of the verb word is explained by the *relationship* between verbal stems and functional categories. We propose three categories between the verb stem and inflection: little *v*, Animacy, and Voice. We argue that verb stems are associated with either an internal argument or external argument, and that different patterns of selection in the three categories introduce another argument to yield transitive clauses. The Animacy-Voice combination maps these arguments to grammatical roles to yield grammatical voice.

Because of the complexity of the Mi'kmaw verb, we demonstrate our proposal by a step-by-step analysis of verb stems and the three functional categories in the context of full clauses. As noted in the outline, we make three spirals into the data, learning and demonstrating more at each step before we consider the verb as a whole. This investigative model focusses the study, then gradually adds some of the complexities a stage at a time.

Chapter 2 Methodology

Adams et al. (2015:1), writing on community-based research, quotes H. Selye:

> The unexamined assumptions of the scientist both determine and limit what he or she will discover…Most people do not fully realize to what extent the spirit of scientific research and the lessons learned from it depend upon the personal viewpoints of the discoverers.

We feel that three features of our methodology for this research are key to our results. First, the research is community-based and linked with language revitalisation efforts in the Mi'kmaw communities; I collaborated closely with four Mi'kmaw colleagues as a learner and in the context of their language work in the community. Second, we systematically investigate how the functional categories pattern with a large number of stems. Third, we study the syntax of the verbs in complete clauses.

Studying voice constructions in narratives in relation to participants in the discourse was part of my original plan for this thesis. The COVID 19 pandemic prevented us from engaging in more than a preliminary glance at the way that our discoveries relate to the language as a whole. We make a few notes in the discussion of the significance of our findings and leave to future research a full investigation of the role of grammatical voice in discourse.

Section 2.1 expands on what community-based research means to our study and section 2.2 discusses how we focussed the research. Section 2.3 discusses how the discussions in our work sessions were conducted. Section 2.4 introduces the assumptions,

definitions, and technical terminology. Section 2.5 discusses the phonology needed to understand the work. Finally, section 2.6 discusses how we gloss inflections in the thesis.

2.1 Community-based research

This research focuses on the dialect of Mi'kmaw spoken in Cape Breton, where there are five communities. Mi'kmaw is, as noted before, the first language of my co-workers Elizabeth Paul-*o'q*,[6] Arlene Sylliboy, Yvonne Denny, and Barbara Sylliboy. Their roles involve building curriculum for the Mi'kmaw immersion school in Eskasoni, translating various documents and resources into Mi'kmaw, teaching the language, and mentoring others. I am a non-speaker who is learning Mi'kmaw. Part of my language learning efforts was in a mentor-apprentice program where Yvonne was my mentor.[7] We all work in close collaboration with each other. I have worked in the Mi'kmaw community for about twelve years and have found it invaluable to do language research in collaboration with the language community in the manner outlined in Rice and Saxon (2002), Wilson (2007), Czaykowska-Higgins (2009), Leonard and Haynes (2010), Cruz and Woodbury (2013), Adams et al. (2015), Kovach (2015), Ahenakew (2016), Smith et al. (2016), Snow et al. (2016), Hall and Cusack (2018), Gone (2019), Pidgeon (2019), Piper et al. (2019), Walter and Suina (2019), Ryder et al. (2020), Smith (2021), Hall (2021), and Friesen (2021). I have found that linguistic study carried out in cultural, social, and physical context with an eye to empowering the community leads to valuable insights that I have found indispensable. (cf. Gerdts 2017). In their toolbox on research principles

[6] Adding the absentative suffix *-o'q* to a name indicates that the person has passed on.

[7] The mentor-apprentice program in Nova Scotia is funded by Canadian Heritage and Mi'kmaw Kina'matnewey. This project is in collaboration with NE*L*TOLNEW 'One Mind One People,' a language revitalisation project supported by SSHRC led by Drs. Onowa McIvor and Peter Jacobs.

in an Aboriginal context, Adams et al. (2015:8) put forth as central the values of respect, co-capacity building, authentic relationships, and trust in the conception of the research, research design, knowledge dissemination, and implementation of research findings:

> Although there will be shared experience among collaborators in the roles … knowledge base, and capacity throughout these stages, much of the engaged research process occurs through collaborators working beside one another from their own worldview, knowledge base, and method of inquiry … towards shared outcomes.

I involve myself in the Mi'kmaw community by engaging in learning the language, volunteering in the Mi'kmaw immersion program curriculum office, attending cultural events, and making friends. My Mi'kmaw colleagues have told me on more than one occasion that the only reason I make novel discoveries in their language is that I "hang out" with them – I come to the reserve to work and to visit. They have said about linguistic work in general, "We feel that you should know us in order to understand our language." While I made the decision to work like this out of respect gained from years of experience with Indigenous communities in Africa (Friesen 2021), I acknowledge it as an essential part of my current methodology for this dissertation.

2.2 Focussing the work

Mi'kmaw verbs are complex, so we focus the work and learn what we can from a clear subset of the whole. Then we can look outward with what we know and perhaps understand better the bigger picture. We focus our investigation on the verb suffixes between the stem and the inflection since these suffixes are known to be involved in

transitivity in Mi'kmaw and other Algonquian languages. We study the effect that different suffixes have on the transitivity of the clause and features of its arguments.

We investigate a fairly large number of verb stems to give us a broad investigation into the topic and we elicit sentences with as many different combinations of subjects and objects in the clause as possible so as to elicit many different combinations of suffixes in the verb. We study full clauses because investigating syntax is our purpose. This thesis investigates over 150 stems in over 1500 sentences.[8] Because of the intricacy of morpheme interactions (see Chapter 3), patterns that actually are robust may not emerge with a smaller data set. Investigating a large number allows patterns to emerge in the data and then be further investigated. For example, in just 6 out of the 100 stems from our initial discussions, we found that *-eke* appears in clauses that actually required a direct object, contrary to earlier observations in Mi'kmaw by Inglis (1986:15) and McCulloch (2013:21). This did not surprise my Mi'kmaw colleagues, but it woke me up to some of the interesting aspects of Mi'kmaw grammar that have challenged other linguists. Subsequent discussions with my Mi'kmaw colleagues revealed a much more common pattern involving *-eke* that just didn't emerge earlier because it wasn't expected.

We select a range of verbs making sure to include (1) verb stems which are known cross-linguistically to be monovalent (clauses with only one participant), (2) verb stems which are known cross-linguistically to be bivalent (clauses with two participants), (3) verb stems from Sylliboy (in press) that can occur in three or four of the seven

[8] We limit our study to 100 stems out of the total number studied (169) since some stems only occurr with little *v* morphemes that we exclude from the study and some stems only occur in intransitive clauses.

conjugation groups classified by Francis and Hewson (2016), and (4) other verb stems which my colleagues proposed during discussions.

We narrow our focus in several ways since the Mi'kmaw verb word can be complex with the inclusion of optional morphemes, including preverbs,[9] medials,[10] finals,[11] the applicative morpheme,[12] and evidential,[13] absentative,[14] obviative,[15] negative, and plural markers (see Inglis 1986, McCulloch 2013, and Hamilton 2015). We choose verb stems that are composed of a single morpheme.[16] We further focus the corpus by eliminating verb stems which *only* occur in monovalent clauses in Mi'kmaw. We also avoid discussion of weather verbs and other impersonal verbs.

After an initial overview of the stems in various tense/aspect and inflectional contrasts, we decided to eliminate variations that would detract from making our examples comparable. To avoid the inflectional complexities, we show examples with

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[9] Preverbs add adverbial, aspectual, or adjectival information to the verb (Inglis 1986:49).

[10] Medials are dependant on the roots or stems which precede them and they modify those roots. They usually have a nominal sense (Inglis 1986:12, 68).

[11] Verb finals indicate the transitivity of the stem which they end and the overall verb in which they are found (Inglis 1986: 91)., and the animacy of one of its arguments. They are classed in the Bloomfieldian system as II, AI, TI, or TA. II and AI verb finals often exist in pairs, as do TI and TA finals. One member of the pair indicates an animate argument and the other an inanimate.

[12] The applicative morpheme is first described by Hamilton (2015). The applicative head introduces a goal DP. Our research shows that applicatives also occur with some verbs to introduce an internal argument (see the applicative diagnostic in section 4.2). We find two allomorphs: [w] and [a] (see section 2.5.4).

[13] Evidential morphemes are first described in Mi'kmaw by Inglis (2002). They include the attestive *-p*, suppositive *-s*, and deferential *-s~~i~~p*.

[14] Inglis (2004) describes the absentative morpheme as part of the evidential system since it is used to indicate that the referent is inaccessible (for example, absent, dead, or asleep). Animate and inanimate nouns are marked and there is verbal agreement.

[15] Obviative marking is used to distinguish two animate third-person referents in a clause. Manyakina (2012) discusses obviation in Mi'kmaw as salience. Obviative nouns (less salient in the sentence) are marked with *-l* and there is verbal agreement. Proximate referents (more salient in the sentence) are unmarked.

[16] Choosing simple stems and avoiding the applicative morpheme effectively eliminates what Algonquianists refer to as 'secondary derivation.' We do need to illustrate some examples that have complex stems or applicative; we indicate this in the text. We also develop a diagnostic which indicates the right edge of the verb stem. This is the emphatic diagnostic which is discussed in section 2.4.3.3.

'present tense' conjugations[17] with singular subjects and objects, avoiding applicatives, reflexives, and the morpheme *-uksi* which is involved in some passive and inverse constructions.[18] We leave past, future, conditional, and negative forms to future research. When doing our initial overview, we considered the potential influence of each factor and assume that these restrictions to our data would not mask what we are studying.

We work within the Indigenist paradigm (Wilson 2007) where the author as a learner collaborates fully with her Mi'kmaw colleagues in the context of their work building language curriculum. This allows us to think 'outside the box' and results in some of our insights and discoveries.[19]

2.3 Work sessions and glossing of examples

With the verb list, my colleagues and I meet repeatedly to discuss each of the verb stems, using guidelines from Matthewson (2004) and exploring morphological contexts in transitive or intransitive clauses and with animate or inanimate objects. We discuss each stem, producing multiple sentences with as much variation in the three sets of morphemes as each stem would allow. My colleagues judge the grammaticality of clauses using each verb stem and we discuss if it is possible to create a context where the

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[17] Present indicative tense (Francis and Hewson 2016) is realis mood (Inglis 2002).

[18] Inglis (1986:104) analyses *-uksi* as two morphemes *-uk* (inverse marker) and *-si* (AI verb final meaning middle voice). Hamilton (2015) called *-uksi* an inverse morpheme in Mi'kmaw; "the *-ugsi* theme sign only appears when the subject is third person and the object is a plural Speech Act Participant (i.e., first or second person)" (Hamilton 2015:41, cf. Coon and Bale 2014). We agree with Inglis that *-uksi* is not a single morpheme. We propose that this morpheme is at least bi-morphemic: *-uk* and *-si*, since *-ekw* is the Proto-Algonquian inverse form (Proulx 1990) and *-si* is a marker for middle voice (Inglis 1986) or reflexive (McCulloch 2013). We suggest that it is possible that *-uksi* has three morphemes, since *-u* is a Voice morpheme (section 3.3). Hamilton (2017a:7) says, "the 3>SAP and inverse theme signs are portmanteau affixes which index the person features of both the subject and the object." We find no evidence that *-uksi* has both subject and object agreement. Because of these complexities, we exclude verbs containing *-uksi* from this thesis, leaving these for future research.

[19] Not to mention excellent supervision and insights from Leslie Saxon and my whole committee.

same stem with different morphology can occur or if the clauses produced are grammatical with or without an object. For example, we discuss what kind of objects are grammatical (animate or inanimate) and discuss the contexts for each case. Further discussions involve whether the sentences are the most felicitous for a particular context. Initially, we discuss each stem with a first-person subject and a possible third-person singular object. Further discussions explore the subject and object restrictions in terms of animacy and person features for different verb stems. Other discussions focus on discussing contexts for pluractional events or resultant states.

The 1500+ full sentences are now in Excel, with morpheme divisions according to our discussions. Our systematic investigation of how the morphemes function proceeds through three investigative spirals that study each morpheme in its context within the verb and clause. In the first spiral, we introduce the morphemes from each category and begin to define their functions through contrasting each morpheme with others in the same category. In the second spiral, we study the relations between adjacent morphemes, each contiguous pair studied independently of the other categories. In the third spiral, we study the entire verb in its context.

Through our three investigative spirals, we study the members of each of what we now call ‘little *v*,’ ‘Animacy,’ and ‘Voice,’ and how they relate to one another. In multiple conversations with my colleagues, we tease out the function of each morpheme through its interactions with others and how changing one morpheme changes the meaning of the clause or the kind of participants in the clause. Further questions and applications to teaching Mi’kmaw emerge through our discussions. This dissertation

presents our findings and conclusions about how these morphemes work together in managing the expression of the participants in the clause.

All examples in this paper are generated and tested by my collaborators, except those identified as originating in other works. In the examples in the thesis, the orthographic representation is shown in the first line, the second line shows the morpheme breaks, the third line provides morpheme glosses, and the fourth line is the sentential gloss.

The first line of our examples is written in the Francis-Smith orthography used by Mi'kmaw Kina'matnewey and Ta'n L'nuey Etl-mawlukwatmumk as described in Francis and Hewson (2016) unless otherwise specified. Stops are voiceless [p t k], written *p, t, k* in the orthography. The letters *q, y,* and *j* correspond to phonetic [χ], [j], and [ʤ] respectively. Apostrophe indicates vowel length. The Listuguj orthography, in contrast, writes stops with the letters *b, d,* and *g* and represents schwa as apostrophe. Apostrophe is also employed to indicate vowel length.

Some words have variant pronunciations among my colleagues. The examples show the spelling as used by the Ta'n L'nuey Etl-mawlukwatmumk and variants are mentioned in footnotes.

In general, the sentential gloss is the translation my colleagues supplied when we discussed the example. Glosses are taken as a guide; Matthewson (2004:389) reminds us that "translations should always be treated as a clue rather than a result." Verbal aspect is beyond the scope of this thesis and the glosses have hints that aspect is a significant feature in Mi'kmaw; for example, note the differences in glossing in (1). By the gloss, (1a) appears to express an event in progress while (1b) expresses an event not yet begun.

1. (a) *Ke's**o'tu** kmu'j.*
   ke's-**o'-t-u**-Ø kmu'j
   put.in.fire-*v*-An-Voice-1s wood(IN)
   'I am putting wood into the fire.'

   (b) *Ke's**a'tu** kmu'j.*
   ke's-**a'-t-u**-Ø kmu'j
   put.in.fire-*v*-An-Voice-1s wood(IN)
   'I am going to put a stick into the fire.'

These differences in glossing are related to aspect and I did not alter the glosses as provided by my colleagues to standardise the way they express aspect.

The sentential glosses sometimes supply referents that do not appear in the individual morphemes in the Mi'kmaw text. For example, 'people' in (2), 'something' in (3), and 'money' in (4).

2. *Kejkapa'l**ue**y.*
   kejkap-a'-l-**ue**-y
   make.a.scratch-*v*-An-Voice-1s
   'I like to scratch [people].'

3. *Ekna'**teke**y.*
   ekn-a'-**t-eke**-y
   decorate-*v*-An-Voice-1s
   'I am going to decorate [something].'

4. *Ika'**teke**y.*
   ik-a'-**t-eke**-y
   put-*v*-An-Voice-1s
   'I am putting [money] down (betting).'

The fact that my colleagues supplied referents in the glosses is a clue concerning the valence of these clauses; this clue proved to be important in determining the grammatical voice expressed by the construction. In these sentential glosses, I insert square brackets around referents that are not explicitly expressed by the morphemes in the Mi'kmaw sentence.

In some cases, alternate sentential glosses are given (5).

5. *Wissukwalut jakej.*
   wissukw-a-l-u-t jakej
   cook-*v*-An-Voice-3s lobster(AN)
   'The lobster is being cooked.'/ '[Someone] is cooking the lobster.'

These cases represent passive voice where the agent of the event is unspecified in the Mi'kmaw morphemes; my Mi'kmaw colleagues translated these passive sentences either using the English passive or supplying the unspecified agent 'someone.'

The context where my colleagues employ the clause may be indicated in parentheses (4) above and (6)-(8).

6. *O'pl-wissukway.*
   o'pli-wissukw-a-Ø-Ø-y
   wrongly-cook-*v*-An-Voice-1s
   'I am wrongly cooking.' (I cooked the wrong food)

7. *Na tel**a'**tu* [speaker demonstrates].
   na tel-**a'**-t-u-Ø
   this thus-*v*-An-Voice-1s
   'This is how I **do** it.' (e.g., math problem or Rubik's cube)

8. *Na tel**o'**tu.* [speaker demonstrates].
   na tel-**o'**-t-u-Ø
   this thus-*v*-An-Voice-1s
   'This is how I **do** it.' (e.g., braid hair, flute a pie crust)

In these cases, the text of the dissertation requires that a context be supplied, either to understand better what the sentence means or to clarify how the sentence is used in cases where it might sound ungrammatical or infelicitous in English.

2.4 Assumptions and definitions

I am a learner of Mi'kmaw and I come in that role when I study the grammar with my colleagues. They (and I) feel that this is one of the reasons that we have discovered something new. My first training in linguistics used Ilah Fleming's (1988) communication analysis. My work until coming to the University of Victoria involved

(among other things) descriptive grammar using this functional approach. Since coming to UVIC, I am learning minimalist generative theory. I find insights from both perspectives invaluable. As such, this is the mindset I brought to the table: I assume that all morphemes have meaning. I believe that morphology must relate to syntax and communication situation. I attempt to understand the linguistic system of Mi'kmaw on its own terms.

When we look at the literature of theoretical studies of Mi'kmaw verbs, we see that others have already pointed in the same direction. This work builds on the work of many researchers focussed on Mi'kmaw and other Algonquian languages. We try to acknowledge these, as well as highlighting where previous work has gone in other directions.

This section discusses some of the definitions and theoretical assumptions we adopt to analyse what we observe. These topics include the Mirror Principle (section 2.4.1), functional categories in syntactic theory (section 2.4.2), defining the verb stem (section 2.4.3), definitions of transitivity and valence (section 2.4.4), and grammatical voice (section 2.4.5).

2.4.1 The Mirror Principle

The Merriam-Webster dictionary defines syntax as the way in which linguistic elements such as words are put together to form phrases or clauses. Minimalism asserts that sentence structure is governed by principles, rules, and processes (Chomsky 1995). This sentence structure is modeled by a tree diagram of the sentence which is a hierarchical arrangement of sentence constituents. The order of these elements in the tree is governed by, among others, the Mirror Principle.

Baker (1985) proposed that the linear order of morphemes ‘mirrors’ how those morphemes appear in a syntactic structure. Lochbihler (2012:21), studying Ojibwe, says, “What the Mirror Principle proposes is that, in the simplest cases, the order of morphemes will directly relate to the order of syntactic elements they correspond to.” For example, in suffixing languages, the last suffix of a word corresponds with the highest morpheme in a syntactic tree. In other syntactic studies of verbs in Algonquian languages, researchers have found that assumption of the Mirror Principle has yielded insightful analyses. We build on previous research and follow them in assuming the Mirror Principle. We assume that the final order of the morphemes of verbs is reached due to successive upward movement of the head of a category (see figures in section 3.4).

2.4.2 Functional categories in syntactic theory

The sentence constituents (phrases, words, and morphemes) belong to lexical and/or functional categories. A syntactic category such as ‘nouns’ is a family of expressions that can substitute for one another without loss of grammaticality. Functional categories are involved in the mechanics of the syntax. In the verb domain, the functional categories involved might include little *v*, Voice, aspect, and tense (Wiltschko 2014). In any given language, not all of these categories may exist, there may or may not be explicit morphemes in the categories that do exist, and the specific functions associated with each category may be bundled in different ways (Harley 2017). It is the task of the syntactician to explore the structure, tease out the functions, and outline the relationships between the categories in a language.

The verb and clause make up a hierarchical structure that is built up from the stem (the lexical unit that inflections are added to, see section 2.4.3.1) by each successive

category selecting the one lower by a process called category selection (originating from Grimshaw 1979). The verbal projection in Mi'kmaw includes little *v*, Animacy agreement, and Voice.

In this work, we analyse certain lexical items as belonging to the functional categories little *v*, Animacy agreement, and Voice. These terms are further defined in Chapter 3. Following Harley's (2017) proposal, we assume that features of *v* and Voice can be bundled or carried by separate categories in different ways in different languages. This is to say that in any particular language, little *v* and Voice both need a refined definition based on the syntax of that language. We work in this thesis to determine the Mi'kmaw-specific definitions of these categories.

Since Voice, Animacy, and *v* are functional heads, we propose that there may be zero morphemes; i.e., a category may be occupied by a morpheme with no phonological expression but one that carries grammatical value. The principle of contrast (Trubetzkoy 1939, Saussure 1967 [1916], as cited in Wiltschko 2014:6ff) dictates that functional categories may contain zero morphemes (silent units of language) to mark a complementary value for a feature. The features of these zero morphemes fit into the paradigms provided by the other members of each category.

We assume that morphemes may work in concert in syntactic constructions. Construction grammar theory accounts for how morphemes work in combination (see Hoffmann and Trousdale 2017). Goldberg (1995) defines a 'construction' as a form-meaning pairing which is not completely predictable from its parts or from other existing constructions. She refines this to "conventionalized pairings of form and function" and adds that constructionist approaches "emphasize the role of grammatical

CONSTRUCTIONS" and "generally emphasize that languages are learned—that they are CONSTRUCTED on the basis of the input together with general cognitive, pragmatic, and processing constraints" (Goldberg 2006:3, emphasis hers). Booij (2017: 260) studies morphological constructions noting that a morphological construction "may have holistic properties that are not derivable from the properties of its constituents." Booij (2017: 256) notes further, "This means that the meaning of a morphological construction must indeed be specified as a property of the construction as a whole."

Examples of grammatical constructions in English include idioms like "*going great guns*" and "*jog* <someone's> *memory*" Goldberg (2006:5). The passive in English is also a construction, e.g., "t*he armadillo was hit by a car*" Goldberg (2006:5).

Goldberg (2006) and Carlson et al. (2021) review the points of agreement and divergence in construction grammar as compared with minimalist theory. Goldberg (2006:4) notes that generative approaches are "studying formal structures independently of their semantic or discourse functions" as compared with construction grammar. Carlson et al. (2021) conclude with a key comparison, noting that construction grammar "takes constructions as the minimal building blocks, i.e., the construction itself gives a template that defines some structural properties. In this sense, one could argue that in Minimalism and other generative approaches, construction-like units are second-order objects used to associate the syntactic structure with the information of other levels – semantics and phonology – but never centrally involved in building the structure itself" (Carlson et al. 2021: 12). In this thesis we utilise the insights from construction theory as well as minimalism to understand and interpret how the Mi'kmaw verb relates to participants in the clause.

The rest of the thesis uses the terminology and theories just outlined and it also expands on some of the concepts as they relate directly to the Mi'kmaw language.

2.4.3 Verb stem

In our work we analyse "stems" and not "roots." Section 2.4.3.1 identifies our definition of "verb stem" with the Algonquianist "verb root." Section 2.4.3.2 contrasts our definition of "verb stem" with that in broader Algonquian works. Section 2.4.3.3 introduces the diagnostic we employ to delimit the verb stem.

2.4.3.1 Verb "root" vs. verb "stem"

A "root" is the smallest unit of lexical meaning, an irreducible unit of meaning. Some works on Algonquian and other languages assume that roots are acategorial i.e., category independent (cf. Marantz 1997, Borer 2009). "The same root may be the origin of either a noun or a verb depending on the category-defining functional morpheme that follows it" (McCulloch 2013:31-32, writing about Mi'gmaq). Roots in Algonquian are considered to receive their classification as a noun or verb by their suffixes according to some authors (Hirose 2000 for Plains Cree, Slavin 2012 for Oji-Cree, McCulloch 2013 and Manyakina 2015 for Mi'gmaq, and Oxford 2014b for Algonquian in general).

Not all Algonquianists hold this assumption. Armoskaite (2011:233) argues that verb roots in Blackfoot are not acategorial. She reports "no verbalizers are attested in Blackfoot, unless one views light verb constructions as instances of verbalization."

We also find no evidence that Mi'kmaw roots require a categorising suffix to classify them as verbs or nouns; i.e., some apparently bare roots are identified as N and others are identified as V. Most or all Mi'kmaw roots are limited to function as either a noun or a verb but not both. For example, noun incorporation incorporates *noun* roots. Manyakina

(2015) discusses noun incorporation constructions in Mi'gmaq (c.f. Brittain 2003 for Algonquian in general). The nouns that are incorporated do not require morphology that indicates that they are nouns; i.e., they are, at least on the surface, bare forms. We concur with these findings and further observe that noun incorporation occurs in constructions with particular *v*-Animacy-Voice combinations.[20]

Another reason that we argue for distinct noun and verb categories is that we share the view of many other Algonquianists that apparently bare roots must carry features that relate to arguments, transitivity, and voice. For example, Piggott (1989) argues that root features in Ojibwe include the argument structure. Déchaine and Weber (2015a) argue that roots are involved in determination of valency and event structure.

We conclude that roots must be category assigned as nouns or verbs. If all roots were acategorial, i.e., if apparently bare roots lack category-defining morphology or properties, any root at all ought to be a candidate for noun incorporation or as a noun or verb initial. This is not the case in our data. We therefore reject the assumption that roots are acategorial in Mi'kmaw and assume that there are noun and verb categories. Further study of noun incorporation, and derivational processes of nominalisation and verbalisation is beyond the scope of the thesis so we use the term "verb stem" in the thesis since "stem" is the lexical unit that is inflected in a verb.

Unfortunately, using the term "verb stem" gets us into another confusion of terminology since the Bloomfieldian tradition defines it otherwise. In this thesis, we use the term "verb stem" to be the lexical core of the verb. The verb stem carries the principal

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[20] We excluded three noun incorporation constructions from our dataset because these constructions are intransitive and the stems did not occur in transitive clauses.

lexical content of the verb and is the lexical unit that inflections are added to. What we label "stem" in Mi'kmaw corresponds to what is called "root" or "initial" in many Algonquian works (for example, McCulloch 2013 for Mi'gmaq).

2.4.3.2 The verb stem in our work and in the Algonquianist tradition

Figure 4, reproduced from Figure 1 in the introduction to Chapter 1 shows our analysis of the Mi'kmaw verb word.

Figure 4. Analysis of Mi'kmaw verb word

verb stem	*v*	Animacy agreement	Voice	inflection

The Bloomfieldian (1946) verb template defines the verb stem as being made up of an initial (root), an optional medial and at least one final. Some generative Algonquianists interpret finals as little *v* (see section 2.4.2.1). The Bloomfieldian stem so analysed is shown in Figure 5.

Figure 5. Bloomfieldian verb stem and inflection for all Algonquian languages

root/ initial	(medial)	final(*v*)	Theme sign	inflection
Bloomfieldian stem				

Diverging in part from this view, we consider that little *v* and Voice categories, as part of the syntax, are not part of the verb stem.

(9) illustrates the stem *elue'w-* 'angry.'

9. *Elue'wa'lɨk So'sep.*
elue'w-a'-l-Ø-k So'sep
angry-*v*-An-Voice-1s>3s Joseph
'I drive Joseph crazy.'

As detailed in the next section, we use the emphatic form of the verb as a diagnostic to define the edge of the stem (section 2.4.3.3).

2.4.3.3 The emphatic diagnostic

Because there can be ambiguity as to the boundary between the verb stem and functional categories, we use the emphatic suffix as a diagnostic to indicate that boundary. Almost every Mi'kmaw verb has an emphatic variant resulting from the addition of an emphatic suffix (we haven't studied the exceptions in depth). For example, (10a) is the basic verb while (b) adds the emphatic suffix *-likw*.[21]

10. (a)	*Teke'k.*	(b) *Tek**likw**e'k.*
	tek-e'k	tek-**likw**-e'k
	cold-3sIN	cold-EMPH-3sIN
	'It's cold outside.'	'It's #$@!% cold outside.'

The emphatic version expresses irritation and speakers often translate it to English using a swear word. Oral tradition indicates that Mi'kmaw speech had a flat intonation and Elders did not raise their voices – they employed an emphatic suffix for emphasis.[22] Almost every Mi'kmaw verb can be modified with one of these emphatic suffixes. We haven't studied exceptions. Today, such emphatic speech is considered coarse language or even swearing by some families in the community. As a result, teachers at the Mi'kmaw immersion school are instructed not to use these suffixes in their language while at school since it is inappropriate for children.

We include 13 examples of speech with the suffix and they are included, with agreement from my colleagues, to diagnose the boundary of the verb stem. It is not our

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[21] Some stems affixed another emphatic *-noqw*. The words formed with *-onqw* by my colleagues are mostly imperatives. Compare (a) and emphatic (b).

(a) Pija'si!	(b) Piji**noqw**e'se!
pij-a'si	pij-**noqw**-e'se
in-2sIMP	in-EMPH-2sIMP
'Go in there.'	'#$@!% get in there!'

It appears that *-onqw* changes the verb to some kind of reflexive. Because of its unknown properties, we didn't use it as a diagnostic.

[22] We are unaware of a phonetic study of intonation in emphatic speech as compared with ordinary speech.

intention to offend speakers by using these examples and we apologise to any readers who would rather not see these verb forms in writing.

Similar affixes are noted in Passamaquoddy, another Eastern Algonquian language (LeSourd and Quinn 2009), and in Sḵwx̱wú7mesh, a Salish language (Peter Jacobs, p.c. 2016). LeSourd and Quinn (2009:2) noted about what they call the 'objurgative morpheme':

> the distribution of the objurgative morphemes of Maliseet-Passamaquoddy and Penobscot is not prosodically conditioned, however, but is entirely a matter of morphology: the position that an objurgative morpheme occupies within a stem is a function of a tightly organized system of stem structure.

LeSourd and Quinn (2009:13) note that the morpheme occupies a specific slot in the verb stem. LeSourd and Quinn report that similar morphemes are also seen in Delaware (Miller 1996:236, Silver and Miller 1997:164-165) and Pidgin Delaware (Goddard 1997:80).

As is the case in Passamaquoddy and Maliseet, the Mi'kmaw emphatic suffix occurs in a specific place in the verb stem. We find that it suffixes to the verb stem, effectively separating the verb stem from the functional morphemes. Figure 6 illustrates the Mi'kmaw verb with the emphatic suffix.

Figure 6. Analysis of Mi'kmaw verb word with an emphatic suffix

verb stem	**emphatic**	*v*	Animacy agreement	Voice	inflection

In all verbs whose structure is unambiguous, i.e., the stem is a single morpheme and there are clearly distinguishable morphemes in each of the little *v*, Animacy, and

Voice categories and these are followed by the inflection, the emphatic occurs between the stem and little *v*. Examples show unmarked and emphatic versions of stems with several different *v*-An-Voice suffixes. (11a) is the ordinary speech while (11b) might be uttered if the speaker was annoyed about the situation. The emphatic morpheme is bolded.[23]

11. (a) *Tewa'tu kutputi.*

tew-a'-t-u-Ø	kutputi
out-*v*-An-Voice-1s	chair
'I am taking out the chair.'	

(b) *Tew**likw**a'tu kutputi.*

tew-**likw**-a'-t-u-Ø	kutputi
out-EMPH-*v*-An-Voice-1s	chair
'I am #$@!% taking out the chair!'	

Discussing the context for using the emphatic, my colleagues proposed a situation for (11b) that someone is pestering the speaker about what s/he is doing (or not doing) and s/he is angry. Similarly, (12a) represents a normal speech situation whereas (12b) expresses irritation.

12. (a) *Pitkmatm pewjalqek*

pitkm-a-t-m-Ø	pewjalqek
fill-*v*-An-Voice-1s	hole(IN)
'I am filling the hole.'	

(b) *Pitkm**likw**atm pewjalqek.*

pitkm-**likw**-a-t-m-Ø	pewjalqek
fill-EMPH-*v*-An-Voice-1s	hole(IN)
'I am #$@!% filling the hole!'	

The emphatic in (13b) shows the division between verb stem and little *v* morpheme.[24]

13. (a) *Kisitu ke'k.*

kis-i-t-u-Ø	ke'k
already-*v*-An-Voice-1s	cake
'I made a cake.'	

(b) *Kis**likwe**tu ke'k.*

kis-**likw**-i-t-u-Ø	ke'k
already-EMPH-*v*-An-Voice-1s	cake
'I #$@!% made a cake!'	

The clause is ungrammatical if the emphatic is in any other position within the verb word. (14)

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[23] Other dialects of Mi'kmaw spell 'chair' *putkuti*.
[24] Other dialects of Mi'kmaw spell 'cake' *ke'ks.*

14. (a) **Kisi**likw**tu ke'k.*

kis-i-**likw**-t-u-Ø	ke'k
already-*v*-EMPH-An-Voice-1s	cake
Intended: 'I #$@!% made a cake!'	

(b) **Kisit**likw**u ke'k.*

kis-i-t-**likw**-u-Ø	ke'k
already-*v*-An-EMPH-Voice-1s	cake
Intended: 'I #$@!% made a cake!'	

A few verbs are ambiguous as to whether a particular sequence might belong to the verb stem or the functional suffixes. We use the positioning of the emphatic suffix as a diagnostic that shows the boundary between the stem and the affixes in these cases. For example, the question arises in verbs like *kelnmaq* 'I am holding something belonging to someone' (15) or *iknmaq* 'I am giving it to him/her' (16): is the *nm* part of the stem or is it the little *v* morpheme *-n* followed by the Voice morpheme *-m*?[25]

15. *Kelnm waqn.*
'I am holding the knife.'

16. *Iknmaq Pie'l nutapaqn.*
'I am giving Peter my car.'

This is a real consideration since the meaning of *iknm-* 'give' could be derived from *ik-n-m* since *ik-* is the stem 'put' / 'place,' *-n* could be the little *v* morpheme 'by hand' (see section 3.1.2.8), and *-m* could be a Voice morpheme (see section 3.3).

The emphatic version of (15) is (17) and clearly shows that the verb stem is *kel-* and *-n-m* are suffixes since the emphatic suffix occurs between the verb stem and *-n-m*.[26]

17. *Kel**likw**enm waqn.*

kel-likw-en-Ø-m-Ø	waqn
hold-EMPH-*v*-An-Voice-1s	knife(IN)

'I am #$@!% holding the knife.'

[25] Some dialects spell 'car' *tepaqn.*
[26] Sometimes the addition of the emphatic suffix results in a change of the morphemes that follow it.

In contrast, the emphatic diagnostic demonstrates that the *nm* sequence in (16) is part of the verb stem since the emphatic suffix follows the *nm* sequence; the verb stem is *iknm-* ‘give.’ Therefore, we parse the verb as shown in (18).

18. *Iknm**liko**wk Pie’l nutapaqn.*
iknm-**likw**-Ø-Ø-Ø-w-k Pie’l nu-tapaqn
give-EMPH-*v*-An-Voice-APPL-1s>3s Peter 1sPOSS-car(IN)
‘I am #$@!% giving Peter my car.’

As a result of this diagnostic, we consider *iknm-* ‘give’ to be a complex stem and to be removed from the study following our selection criteria (section 2.2). Section 8.2.1 discusses how our analysis accounts for these stems.

In the verb shown in (19b), the emphatic occurs between the verb stem and *-eke*.

19. (a) *Tepekey kutputi nutapaqnk.*
tep-Ø-Ø-eke-y kutputi nu-tapaqn-k
load-*v*-An-Voice-1s chair(IN) 1sPOSS-car-LOCbread(IN)
‘I am throwing the chair on the car.’

(b) *Tep**likw**ekey kutputi nutapaqnk.*
tep-**likw**-Ø-Ø-eke-y kutputi nu-tapaqn-k
load-EMPH-*v*-An-Voice-1s chair(IN) 1sPOSS-car-LOC
‘I am #$@!% throwing the chair on the car!’

This observation demonstrates that *-eke* is a suffix to the verb stem. This consideration is important since the broader Algonquianist literature typically considers *eke* in examples like this as a verb root (e.g., Fidelholtz 1999:100 and Hamilton 2015:50 for Mi’kmaw/Mi’gmaq, cf. Quinn 2006:101 for Penobscott and Dahlstrom 2012:69 for Meskwakie). Our diagnostic clearly demonstrates that *-eke* is a verb suffix.

We use the emphatic diagnostic throughout the thesis to confirm our parsing and determine the complexity of verb stems.

2.4.4 Transitivity and valence

How semantic valency relates to syntactic transitivity is one of the main topics of this thesis. In order to interpret the results from our study, it is important to carefully distinguish transitivity in terms of morphology, syntax, and semantics (cf. Sylliboy et al. 2017).

Transitivity, the number of syntactic arguments (c.f., Kemmer 2003), is a complex subject in Algonquian languages. For the purposes of this thesis I define a syntactic argument as a DP or NP that does not have a locative suffix or prepositional element.[27]

A transitive verb must have either a syntactic object or, to be grammatical, the object referent must be known in the context. For example, (20) shows that the object is required in the clause (a); (b) is ungrammatical unless the object is known in the context.[28]

20. (a) *Elukwatm kutputi*.

elukw-a-t-m-Ø	kutputi	
work-*v*-An-Voice-1s	chair	
'I am working on/fixing the chair.'		

(b) **Elukwatm*.

elukw-a-t-m-Ø
work-*v*-An-Voice-1s
Intended: 'I am working on/fixing it.'

We consider that subject and object are grammatical categories in Mi'kmaw that agree with the inflection. The verb shows inflection for up to two nominals.[29] One is clearly subject; the subject is the sole argument in an intransitive clause and agrees with

[27] In Blackfoot, another Algonquian language, only a DP object is licensed by the verb; a simple NP is not (cf. Bliss 2013). Our work indicates that Mi'kmaw does not make this distinction.
[28] My colleagues tell me that in a context where the chair is a known referent, a person might say, "*Elukwatm*" (I am working on/fixing it). For example, one person might ask *Tal-lukwetu'n kutputi*? 'What are you doing with the chair?' The other person could answer, *Elukwatm*. 'I am fixing it.'
[29] Clauses formed with 'give' verbs or with possessor raising in active voice can have three unmarked nominals.

the inflection. In a clause with two overt unmarked animate nominals, the subject and object are distinguished by agreement with the inflection (see Appendix A).

Grafstein (1984), writing on Ojibwe, argues for the idea that there is no such thing as subject and object in Algonquian languages. Ritter and Rosen (2010:125) find "little evidence that grammatical relations play a role in the grammar of Algonquian languages," citing Ritter and Rosen (2005) and Ritter and Wiltschko (2004) for arguments that these languages lack subjects. Ritter and Rosen (2010:125) note that "traditional Algonquianists use the term ACTOR for the external argument of transitive verb and GOAL for the internal argument, rather than subject and (in)direct object." In spite of these arguments against grammatical roles, Ritter and Rosen (2010:125) use the terms subject and object "for ease of exposition." Likewise, Piggott (1989:206-207) notes that he uses the terms 'subject and object' even though "these functional categories are not considered to be categories in a grammar of Ojibwa." We observe that the inflections shown in our Mi'kmaw examples have no relation whatsoever to semantic role; rather we find that they express the grammatical roles subject or subject plus object (S+O) (see section 2.6 and appendix).

Valence, the number of semantic participants (Drapeau 2014), is defined by the number of semantic roles associated with a particular verb in context (Comrie 1989), as determined by native speaker judgement. For semantic roles we use 'agent,' 'patient,' 'possessor,' and 'benefactive' or 'recipient.'

2.4.5 Grammatical voice

Grammatical voice is the mechanism by which noun phrases are assigned to syntactic positions in the clause (Gerdts 2011). Zúñiga and Kittilä (2019: 4) describe

grammatical voice as a grammatical category whose values correspond to a particular "number of semantic arguments involved in a state of affairs, to how they are involved in it, and to how they are assigned to G[rammatical] R[oles] of varying salience and flexibility." Grammatical voice involves semantic roles and grammatical arguments (subject and object). Grammatical voice maps semantic roles and arguments onto grammatical positions. In the thesis we discuss antipassive voice, passive voice, and possessor raising constructions.

A prototypical antipassive is defined by Zúñiga and Kittilä (2019:103) as having four characteristics: (1) the transitivity is one less than a non-antipassive counterpart,[30] (2) the subject corresponds to the agent-like argument of a bivalent predicate of the non-antipassive, (3) its peripheral or optional argument corresponds to the patient-like argument of a bivalent predicate of the non-antipassive, and (4) it is formally coded on the predicate complex.

Antipassives (or clauses with an unspecified object) are discussed in several Algonquian languages: Blackfoot (Taylor 1969, Frantz 1978), Plains Cree (Wolfart 1973), Meskwaki (Dahlstrom 1986), Delaware (O'Meara 1990), Algonquian in general (Goddard 1990a), Nishnaabemwin (Valentine 2001), Ojibwe (Kyriakaki 2009, Lochbihler 2012), Penobscot (Quinn 2006), Ojibwe (Kyriakaki 2009), Innu (Drapeau 2014, Zúñiga and Kittilä 2019). Zúñiga (2016) reviews antipassives in four Algonquian languages.

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[30] Zúñiga and Kittilä (2019) use the term "syntactic valency" instead of transitivity as we define it (section 2.4.4).

We use the term “passive” to identify a clause in which an unspecified Agent performs or causes the event expressed by the verb. The prototypical passive has four features according to Zúñiga and Kittilä (2019:83): (1) the clause has one less grammatical participant than the active counterpart, (2) the subject of the passive corresponds to the non-subject patient-like argument of the active, (3) a peripheral argument, if present, corresponds to the subject agent-like argument of active voice, and (4) passivization is formally coded on the predicate complex.

The Algonquian literature includes an ongoing discussion concerning passive in Algonquian languages (see Dahlstrom 1986, Dryer 1997, Bruening 2001, Ritter and Rosen 2005, Oxford 2014b, Zúñiga 2016). The discussion revolves around passive vs. the direct and inverse forms, passive vs unspecified agent forms, passive as bivalent or monovalent, and whether there are passive markers or not.

‘Possessor raising’ is a process in which the structure of the clause treats a possessor as a core syntactic constituent of the verb, rather than within the constituent that contains the possessed noun (Payne and Barshi 1999, Deal 2017). Possessor raising is described in Passamaquoddy (LeSourd 2010) and Plains Cree (Dahlstrom 2014) and Mi’kmaw (Hamilton 2017b and Denny et al., 2018). We take the position that possessor raising is a kind of grammatical voice since it is involved with how noun phrases are assigned to syntactic roles and how the possessor is involved in the state of affairs expressed by the verb.

2.5 Relevant phonological processes

This section provides notes on some phonological processes that are necessary to consider in order to understand the examples. These include the facts relating to vowel

length (section 2.5.1), assimilation (section 2.5.2), epenthesis (section 2.5.3), and allomorphs of the applicative morpheme (section 2.5.4).

2.5.1 Vowel length

Vowel length is phonemic in Mi'kmaw as seen in these minimal or near minimal pairs; (a) and (b) differ only in vowel length for *a/a'* (21), *e/e'* (22), *i/i'* (23), and *u/u'* (24). The orthography indicates long vowels with apostrophe.

21. (a) *api* — [api] — 'bow'
    (b) *a'pi* — [a:pi] — 'net'

22. (a) *epit* — [epit^{h}] — 'S/he is sitting.'
    (b) *e'pit* — [e:pit^{h}] — 'woman'

23. (a) *wikk* — [wɪk^{h}] — 'It tastes good.'
    (b) *wi'k* — [wi:k] — 'His/her house.'

24. (a) *kelusit* — [kelusit^{h}] — 'S/he speaks.'
    (b) *kelu'sit* — [kelu:sit^{h}] — 'S/he is beautiful.'

We could not find minimal pairs for *o/o'* but show contrast in similar environments in (25).

25. (a) *noqtm* — [noχtəm] — 'I am choking.'
    (b) *no'qm* — [no:χəm] — 'I am coughing.'

Phonological lengthening of vowels is the result of certain processes; for example, pluralising a noun stem that ends in a short vowel lengthens that vowel. In (26), compare singular and plural forms, (a) and (b), respectively.

26. (a) *kutputi* — chair — 'chair'
    (b) *kutputi'-l* — chair-IN.p — 'chairs'

This process is reflected in the interlinearised line of examples which gives what we consider the underlying form.

2.5.2 Assimilation processes of Animacy morpheme *-l*

The Animacy morpheme *-l* undergoes assimilation when it follows the little *v* morphemes *-i*. First, the sequence *-i-l* becomes [i:]. (27) shows the verb stem *nemi-* 'see' with an inanimate (a) and animate (b) object. In (b), the little *v*-Animacy sequence *-i-l* (bolded) becomes [i:].

27. (a) *Nemitu kutputi.*

nemi-i-t-u-Ø	kutputi
see-*v*-An-Voice-1s	chair(IN)
'I see the chair.'	

(b) *Nemi'k mijua'ji'j.*

nemi-**i-l**-Ø-k	mijua'ji'j
see-*v*-An-Voice-1s>3s	child(AN)
'I see the child.'	

The little *v*-Animacy-Voice morpheme sequence *i-l-u* becomes [iju] and is pronounced as two syllables (28)-(29).

28. *Kis**iu**t tu'aqn.*

kis-**i-l-u**-t	tu'aqn
already-*v*-An-Voice-3s	ball(AN)
'The ball is made.'	

29. *Nem**iu**t mijua'ji'j.*

nemi-**i-l-u**-t	mijua'ji'j
see-*v*-An-Voice-3s	child(AN)
'The child is seen.'	

In one example in our database, the same *-i-l-u* sequence remains unchanged (30). We are not sure why this word doesn't follow the usual assimilation pattern.

30. *Ma'kit kisi-np**ilu**t.*

Ma'kit	kisi-np-**i-l-u**-t
Margaret	already-heal-*v*-An-Voice-3s
'Margaret was healed.'	

In verb stems that end in *ji*, the sequence *jilu* is pronounced [tʃu:] (31)-(32).

31. *We'**ju'**t mijua'ji'j.*
    we'**ji-i-l-u**-t mijua'ji'j
    come.from-*v*-An-Voice-3s child(AN)
    'The child is found.'

32. *Nitap ke**ju'**t welmɨtoq.*
    n-itap ke**ji-i-l-u**-t welmɨtoq
    1sPOSS-friend know-*v*-An-Voice-3s s/he.is.good
    'My friend is known to be a kind person.'

We consider that there is an allomorph for *-o'-l* for some stems. When *-l* follows the little *v* morpheme *-o'*, the *-o'-l* sequence is expressed as *-o'-l* for some verb stems (33) and as *-(w)-ey* for others (34).

33. *Pesko'lɨk ki'kli'kwej*.
    pesk-o'**-l**-Ø-k ki'kli'kwej
    pluck-*v*-An-Voice-1s>3s chicken(AN)
    'I am plucking a chicken.'

34. *Kweseyaq nijan.*
    kwes-o'**-l**-Ø-w-k nijan
    take.good.care-*v*-An-Voice-APPL-1s>3s my.child(AN)
    'I take good care of my child.'

Further study is required for this potential allomorphy.

2.5.3 Epenthesis

A syllable with a long vowel cannot have a coda consisting of two consonants; schwa (*ɨ* in the orthography) is inserted between the two consonants to make a new syllable. Hewson (1986) noted that schwa is inserted when a consonant is suffixed to what he calls an "extra heavy syllable" to provide a nucleus for the new syllable. We illustrate two examples which both suffix the 1s>3s inflection *-k*. (35) has what Hewson (1986) calls a heavy syllable *sal* and in (36), *sa'l* is an extra heavy syllable because of the long vowel.

35. (a) *Kesalk mijua'ji'j.*
kes-a-l-Ø-k mijua'ji'j
love-*v*-An-Voice-1s>3s child(AN)
'I love the child.'

36. *Nisa'l~~i~~k mijua'ji'j kutputi-iktuk.*
nis-a'-l-Ø-k mijua'ji'j kutputi-iktuk
down-*v*-An-Voice-1s>3s child(AN) chair-LOC
'Take the child down from the chair.'

Hewson (1986) argues that the syllable pattern CVCC is permitted, so *salk* is permitted as one syllable in (35). However, the pattern CVVC is extra heavy and another consonant may not be added. Instead, a nucleus must be provided by inserting schwa and a new syllable is created (*sa'.l~~i~~k*).

2.5.4 Applicative allomorphs

Although the thesis does not concern applicatives, these morphemes do appear in some of the examples needed to compare other forms and in a diagnostic we employ. There are two allomorphs of the applicative morpheme: [w] and [a]. [a] occurs between consonants and [w] elsewhere.[31] In our study of the complete Mi'kmaw verb paradigms, we noticed that when the verb to which the applicative attaches ends in a vowel, the applicative form is invariably [w] (37).

37. *Ketapekiewk Pie'l.*
ketapek-ie-Ø-w-k Pie'l
sing-*v*-An-Voice-APPL-1s>3s Peter
'I am singing for Peter.'

When the verb ends in a consonant, [w] occurs when the inflection begins with a vowel and [a] when it begins with a consonant.[32] (38) shows the verb stem *kwil-* 'seek'

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[31] We have not observed these patterns in other cases of /w/ or /u/ including the Voice morpheme *-u*.
[32] Using these same examples with the verbs *kwilaq* and *kwiluin* Fidelholtz (1968:266-268) proposed that the stems end in *ua* and there is a *u*-dropping rule when *ua* is followed by a consonant and an *a*-dropping rule when *ua* is followed by a vowel.

with the applicative morpheme followed by the 3s>1s inflection *-it*. The applicative takes the form [w] and the Francis-Smith orthography spells it '*u*.'

38. *Kwiluit Pie'l.*
kwil-Ø-Ø-w-it Pie'l
seek-*v*-An-Voice-APPL-3s>1s Peter
'Peter is looking for me.'

(39) shows the same verb stem *kwil-* 'seek' with the applicative morpheme followed by the 1s>3s inflection *-k*. The applicative takes the form [a].

39. *Kwilaq Pie'l.*
kwil-Ø-Ø-w-k Pie'l
seek-*v*-An-Voice-APPL-1s>3s Peter
'I am looking for Peter.'

Note also the phonological change in the inflection: *-k* becomes *-q* [χ] when it follows a back vowel like [a] (Inglis 1986: 9).

The applicative morpheme is deleted when the inflection begins with *-u* (Fidelholtz 1968: 440). (40) shows the same stem *kwil-* 'seek' with the applicative morpheme followed by the 1s>2s inflection *-ul*.

40. *Kwilul.*
kwil-Ø-Ø-w-ul
seek-*v*-An-Voice-APPL-1s>2s
'I am looking for you.'

We conclude that [w] and [a] are allomoprhs of the applicative morpheme where [a] occurs between consonants and [w] is elsewhere. [w] is phonologically deleted when it precedes *-u*.

2.6 How inflection is glossed

As stated in section 2.2, because we focus our investigation on the verb suffixes between the stem and the inflection, we seek examples with simpler inflections that do not add other factors to our examples. For the purposes of the thesis, we consider

‘inflection’ as the morpheme(s) that follow the Voice category. We show examples with ‘present tense’ conjugations with singular subjects and objects and we include a note if plural morphology is involved. We narrow our focus by avoiding optional morphemes such as evidential, absentative, obviative, negative, applicative, reflexive, and *-uksi* morphemes.

In any case, inflection must be indicated in the morpheme glosses. Pacifique (Francis and Hewson 2016) describes what he calls seven conjugations of verbs in Mi’kmaw. There are three intransitive conjugations (*-i*, *-ai*, and *-ei*), two TI conjugations (*-m* and *-u*), and two TA conjugations (called TA verbs and ‘two goal’ TA verbs). Our analysis simplifies his analysis of inflection. According to what we learn from our analysis of the Mi’kmaw verb, we conclude that there are two types of inflection: subject-only and subject plus object. Appendix A parses Pacifique’s seven conjugations according to our findings. We show in that appendix what Pacifique terms ‘present indicative.’ The conjugations show that the intransitive *-i*, *-ai*, and *-ei* conjugations as well as the *-m* and *-u* TI conjugations have the same subject inflection and the TA conjugations have S+O inflections. Pacifique’s ‘two goal’ TA verbs include the applicative morpheme.

How inflection is glossed in the thesis is outlined in this section. So that the reader can understand our glossing in the rest of the thesis, we label inflection as subject-only and S+O. Subject-only inflections are observed in the intransitive verbs, for example (41) shows the stem *nep-* ‘sleep.’

41. *Nepay.*
    nep-a-Ø-Ø-y
    sleep-*v*-An-Voice-1s
    ‘I am sleeping.’

Subject-only inflections also occur in verbs with an inanimate object. (42) illustrates the stem *nemi-* 'see.' We gloss objects with their animacy feature; *kutputi* is inanimate.[33]

42. *Nemitu kutputi*.
nemi-i-t-u-Ø kutputi
see-*v*-An-Voice-1s chair(IN)
'I see the chair.'

In verbs with animate objects, we gloss S+O inflections but we don't parse them further since inflection is not the focus of the thesis. The inflection in (43) in its entirety indicates third-person animate singular subject and object. When the > symbol appears, what comes before it is the subject person and number and what comes after is the object person and number: 3s>3sOB indicates a 3s subject and 3s obviative object.

43. *Kesalatl Pie'l mijua'ji'jl.*
kes-a-l-Ø-atl Pie'l mijua'ji'j-l
like-*v*-An-Voice-3s>3sOB Peter child(AN)-OB
"Peter likes the child."

The inflection in (43) could be further parsed *-a-t-l* where *-a* indicates a third-person object, *-t* a third-person subject, and *-l* an obviative object (cf. Fidelholtz 1999 for Mi'kmaw, Oxford 2014b for ProtoAlgonquian). This thesis is not concerned with how the inflection is parsed.

For consistency and ease of understanding and comparison among the examples in this thesis, we illustrate examples in active and antipassive voice with a 1s subject. Active 1s>3s inflected examples illustrate the distinctive features of each Voice morpheme so if a clause contains an animate object, we illustrate the example with a 3s object. All subjects and objects are animate unless otherwise specified and inanimate

[33] Inanimate objects are only indicated in the inflection when there is a third-person subject (see Appendix A). When its object is plural, only the plurality is indicated by the inflection.

objects and subjects are marked in the gloss. As we stated in our methodology (section 2.2), we investigated examples with animate subjects and objects of different person. The contrasts illustrated in this thesis occur with all inflections. Passive examples are illustrated with third-person singular subjects since the verbs occurring with all other subjects are marked with the morpheme *-uksi* which we exclude from the study due to its complexity (see section 6.9.3 for further discussion on this situation).

2.7 Chapter 2 summary

This chapter presents the methodology we employ in the thesis, giving definitions, stating assumptions, and making explicit the principles we use and need to know to obtain and analyse the verbs and clauses in Mi'kmaw. Chapter 3 presents the first spiral into our investigation.

Chapter 3 The first spiral. Little *v*, Animacy, and Voice categories

This chapter is the first spiral of our analysis of the morphemes of the verbal projection, little *v*, Animacy agreement, and Voice. Here we introduce the morphemes and begin to define their functions. The properties of a morpheme are illustrated through contrasting it with others in the same category. This spiral can't show the fullness of meaning and function of each category because these emerge only in their context within the verb and clause.

Figure 7. First spiral

Three categories	stem-*v* *v*-Animacy Animacy-Voice	stem-*v*-Animacy-Voice
Chapter 3	Chapters 4-6	Chapter 7

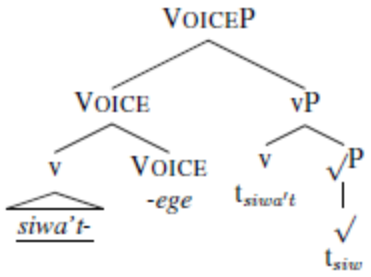
In this thesis we argue that the Mi'kmaw verbal projection includes the functional categories little *v,* Animacy agreement, and Voice. Chomsky (1981), Larson (1988), and others identify a syntactic category, 'little *v*' that selects the VP, to accommodate the structure of ditransitive verbs. Kratzer (1996) introduces Voice, establishing that the external argument is introduced by this "quasi-functional" head that also assigns Case to the object. Harley (2013) argues for the necessity of a three-layered structure because of evidence from causatives, passives, and applicatives: VoiceP (introducing external

arguments), *v*P (making explicit any relationship between external argument and event), and √P (introducing the root and selected internal arguments).

McCulloch (2013) provides some inspiration for our work. She shows that both little *v* and Voice heads are necessary to analyse Mi'gmaq; she argues that little *v* creates verbs from acategorial roots and that Voice controls the external argument. She analyses *-eke* as instantiating the Voice head and *-a't* as instantiating the little *v* head. This three-layered structure (root, little *v*, and Voice) is captured by McCulloch's tree shown in Figure 8, which shows the structure of (1).[34] in the Listuguj orthography, *-eke* is spelled *-ege*.

1. *siw-a't-ege-t*
   tire-VTI-NONSP-3
   's/he annoys (people), is tiresome, annoying, a pest' (McCulloch 2013:21)

Figure 8. -eke *is a Voice head*
(McCulloch 2013:22)



McCulloch (2013) notes that she draws on Harley (2013), Slavin (2012), and Oxford (2014a) in making a distinction between *v* and Voice. We adapt McCulloch's *v*-Voice analysis, with added insights from Harley's (2017) bundling hypothesis. Harley, with data from nine typologically and genetically diverse languages,[35] says that little *v* plus

[34] McCulloch's abbreviations are VTI 'verb transitive inanimate,' NONSP 'nonspecific object,' and 3 'third-person.'
[35] These languages are Chemehuevi, Chol, Finnish, Hiaki, Italian, Japanese, Korean, Persian, and Turkish.

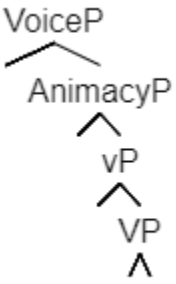
Voice, can be bundled as one head or subdivided (Harley 2017:3). The two core verbal heads,

> variously (i) checked accusative case, (ii) served as a verbalizer for the head of its complement, (iii) introduced agentive or causative semantics and/or (iv) an initiating subevent, and (v) delimited a cyclic domain.

We consider that Mi'kmaw has an extended verb phrase with phonologically identifiable functional morphemes for *v* and Voice as McCulloch (2013) proposes, and a third morpheme: Animacy agreement. In contrast to McCulloch, however, we propose that the bundled functions of these categories are not distributed among these morphemes as she describes (see section 3.4 for contrasting structures).

In this chapter, we identify three distinct functional categories within the Mi'kmaw verb phrase (VP) projection, with three distinct functions. In Mi'kmaw's extended VP projection; we propose, from lower to higher, *v*P, AnimacyP, and VoiceP (Figure 9).

Figure 9. Mi'kmaw verb phrases projection



We employ these terms since members of each of the distinct morpheme sets display functions appropriate to each category. These categories are introduced and

discussed in sections 3.1, 3.2, and 3.3, respectively. We show that characteristics of little *v* include its light verb meanings and aspectual properties, Animacy indicates the animacy of the internal argument, and Voice restricts features of the subject and object. Section 3.4 summarises. The next spiral begins to analyse combinations of two categories at a time (chapters 4-6).

One of the keys that we feel unlocks the verb system for us is that we analyse what in traditional Algonquian analysis is one morpheme as two categories, little *v* and Animacy agreement. Bloomfield and others describe pairs of finals for animate and inanimate arguments (cf. Inglis 1986 and McCulloch 2013 for Mi'kmaw/Mi'gmaq). This reflects an implicit acknowledgement that the finals are composed of two distinct morphemes.Figure 10 illustrates the two categories we propose and compares them with the Bloomfieldian final.

Figure 10. Little v and Animacy categories

v	Animacy
Bloomfieldian final	

Bloomfield (1946) recognises *t* as inanimate in Algonquian, although he doesn't parse it as a separate morpheme. We notice, similar to Bloomfield, that in these pairs in Mi'kmaw, a morpheme ending in *t* correlates with inanimate internal arguments. Further, we notice that a morpheme ending in a sonorant (*l*, *m*, or *y*) correlates with animate syntactic objects. Based on these findings, we consider that the Animacy agreement is a separate morpheme.

The introduction of the Animacy category as distinct from *v* and Voice is suggested by the different manners that the Mi'kmaw verb is parsed by different researchers, as is illustrated in Table 1.

Table 1. Parsing of Mi'kmaw verb by different researchers

Reference	**Parsing**					**Gloss**
Inglis (1986:285)	*amal-lukw*	***-at***		***-m***		'decorate'
Fidelholtz (1999:101)	*amallukw**a**-*		***-tm***			'decorate up'
Hamilton (2015:34)	*elukw-*	***-atm***			*-u-i-t*	's/he fixes it for me'
Our analysis	*elukw-*	***-a***	***-t***	***-m***		'I am working [on] it.'

Inglis (1986) and McCulloch (2013) follow the Bloomfieldian analysis in treating *-at* as one morpheme. Fidelholtz (1999) merges the *-a* with the verb stem and considers *-t-m* as being one morpheme. Hamilton (2015, cf. Bruening 2001 for Passamaquoddy) considers *-atm* as one morpheme.[36] Our analysis recognises all of these morpheme boundaries and parses stem-*v*-Animacy-Voice.

Sections 3.1-3.3 discuss the categories little *v*, Animacy agreement, and Voice.

3.1 Little *v*

In studies of particular languages and in crosslinguistic works, it is observed that little *v* has a range of functions. What we see in Mi'kmaw matches what has been observed crosslinguistically. Section 3.1.1 reviews little *v* in the generative literature and specifically in Algonquian studies. Sections 3.1.2 compares the Mi'kmaw little *v* morphemes in our study with each other. Section 3.1.3 summarises.

3.1.1 Background to little *v* in Algonquian languages

Little *v* is involved in showing the causal relationship between the external argument and event (Kratzer 1996, Harley 2013). Little *v* morphemes cross-linguistically are often also associated with aspectual features (Kratzer 1996, Arad 2002, Harley 2017).

[36] It is interesting that Pacifique (Francis and Hewson 2016:110, 149) splits off *-t* from what we analyse as little *v* in some of the conjugations; e.g., *mena'-tu* 'I remove it' and *kisi-taq* 'I make for him.' However, his parsing in other places does not consistently parse in this way; e.g., *ne-mi'k* 'I see him' (p. 135) divides what we would analyse as the root *nemi-* 'see.'

Our work with little *v* sits firmly in this analytic paradigm. In Mi'kmaw, little *v* is associated with aspect, but we can only show part of the aspect story in this chapter (and thesis).

For several Algonquian languages, linguists interpret the Bloomfield category of "finals" as little *v.* These languages include Plains Cree (Hirose 2000), Naskapi (Brittain 2003), Penobscot (Quinn 2006), Ojibwe (Mathieu 2008, Lochbihler 2012), Blackfoot (Ritter and Rosen 2010), Oji-Cree (Slavin 2012), Mi'gmaq (McCulloch 2013, Manyakina 2015, Hamilton 2015), and Northern East Cree (Brittain and Acton 2014). Branigan et al. (2005:76) propose that in Algonquian in general, "all 'final' morphemes (probably) originate in *v*."

Denny and Mailhot (1976) discuss verb finals in Algonquian languages in two broad classes, concrete and abstract. Concrete finals introduce some lexical meaning in addition to the category of verb (e.g., Valentine 2001). McCulloch (2013:18) gives some Mi'kmaw examples of concrete finals like *-am, -ap* 'look, visual appearance' or *-i'si* 'speak, call.' Denny (1978, 1984) distinguishes abstract finals from concrete. While this distinction is adopted by many, Bliss (2010) discusses how that distinction is not always clear in some languages (citing Denny 1978 and Mathieu 2008 who study Ojibwe, see also Johansson 2009, who discusses Blackfoot).

Hirose (2000) proposes a multi-layered *v*P in Plains Cree with one *v* head for intransitives, two for transitives, and three for ditransitives (cf. Mathieu 2008 in Ojibwe). Riccomini (2019) has two *v*Ps. Quinn (2006:9) notes that "verbal argument structure is built up in the syntax by 'light' predicate heads that introduce arguments individually."

Little *v* in the Algonquian literature has been proposed to have many different functions. Table 2 describes some of these functions.

Table 2. Functions of little v in the Algonquian literature

Reference	**Language**	**Function of little *v***
Brittain (2003)	Algonquian in general	Functional head that categorises a stem as a verb
McCulloch (2013)	Mi'gmaq	Functional head that categorises a stem as a verb
Tollan and Oxford (2018)	Algonquian in general	Functional head that categorises a stem as a verb
Hirose (2000:12)	Plains Cree	Theta role feature and semantico-syntactic feature (temporality)
Quinn (2006:10, 27, 28)	Penobscott	Category-labeling element, acts as the predicate hosting the outermost or only argument, agrees with their argument's animacy feature
Mathieu (2008)	Ojibwe	Broad in lexical meaning, categorial feature
Ritter and Rosen (2010:126, 138, 148)	Blackfoot	Determines whether there is an external argument and whether a DP object is licensed in the syntax, carries lexical features. Does not mark transitivity, does not signal aspect or internal argument structure. Little *v* is a "light verb that theta-marks the external argument DP, and enters into a Case-checking relation with an internal DP argument (cf. Chomsky 1995)" The semantic content of little *v* determines whether the external argument is an agent or experiencer
Slavin (2012:39-41)	Oji-Cree	Little *v* contributes lexical meaning to the stem
Lochbihler (2012:16, 21)	Ojibwe	Introduces external argument, multiple features are checked on *v*, introduces subject and spells out agreement with the object, theme signs are the morphological spell out of *v*.
Brittain and Acton (2014:478)	Northern East Cree	Lexical contribution and functional contribution *-piyi* provides an internal argument in the syntax and a null final provides an external argument in *-piyi* unergatives
Oxford (2014b:32, 100)	Proto-Algonquian	Characterises the root as a verb, contributes aktionsart properties, and introduces the internal argument. Assumes spec of *v*P is the standard argument position for Themes (and spec of VoiceP for agents)
Oxford (2019a)	Algonquian	Reviews Algonquian literature on *v* as the verbalising head The agent-introducing head may be *v* or Voice

We see that the literature is quite diverse in the way it defines little *v* and its functions in Algonquian languages. This chapter investigates Mi'kmaw little *v* and describes some of its features and functions.

3.1.2 Mi'kmaw little *v* morphemes in the study

There are a total of 22 morphemes in Mi'kmaw that we classify as little *v* due to their position in the verb word. We limit this study to five morphemes: *-a', -a, -o', -i*, and *-Ø* that are found in transitive clauses.[37] The other morphemes are mentioned in section 3.1.2.8. Four of the five we choose for the study are similar in that they consist of a single vowel.

Our diagnostics for the presence of an agent (Chapter 4) require monovalent clauses constructed from the same stems as bivalent clauses, and some of the stems that employ the five little *v* morphemes in the study use other little *v* morphemes in monovalent clauses: *-ie/-ia,*[38] *-eyi*, and *-e*. These little *v* morphemes only occur in monovalent clauses.

We predict the possibility of a zero morpheme in this category because little *v* is a functional head. As stated in the introduction to this chapter, the principle of contrast (Trubetzkoy 1939, Saussure 1967 [1916], as cited in Wiltschko 2014:6ff) argues that functional categories may contain zero morphemes to mark a complementary value for a feature.

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[37] In our earlier work (Sylliboy et al. 2017) we classified *-a, -a', -e*, and *-i* in intransitive clauses as being the same category as *-eke* and other morphemes we now categorise as Voice. We now recognise *-a, -a', -e*, and *-i* as little *v* in transitive and intransitive clauses.

[38] *-ie/-ia* are a pair of morphemes that always occur in intransitive clauses. *-ie* occurs with an animate subject and *-ia* with an inanimate one. We study this morpheme only to aid in our investigation of verb stems in transitive clauses; we leave further investigations as to the nature of the morpheme to future research.

We demonstrate in this first spiral only a few features of little *v*; here we show some light verb and aspectual features of the five morphemes. Little *v* morphemes also function to select the stem (Chapter 4) and work in combination with Animacy to introduce an argument (Chapter 5). Some *v*-Animacy-Voice combinations have unique features (Chapter 7). The combinations display features which are greater than the sum of their parts.

The features of the little *v* morphemes begin to be shown through comparison among other little *v* morphemes in transitive clauses (and in minimal pairs as far as that is possible). For example, the minimal triplet clauses shown in (2)-(4) differ only in their little *v* morphemes; all of the verbs have the same stem *tel-* 'thus,' the Animacy morpheme *-t*, the Voice morpheme *-u*, and a 1s subject inflection. Little *v* morphemes and their glosses are bolded in the examples.

2. *Na tel**a'**tu* [speaker demonstrates].
   na tel-**a'**-t-u-Ø
   this thus-*v*-An-Voice-1s
   'This is how I **do** it.' (e.g., math problem or Rubik's cube)

3. *Na tel**o'**tu* [speaker demonstrates].
   na tel-**o'**-t-u-Ø
   this thus-*v*-An-Voice-1s
   'This is how I **do** it.' (e.g., braid hair, flute a pie crust)

4. *Na tel**i**tu* [speaker demonstrates].
   na tel-**i**-t-u-Ø
   this thus-*v*-An-Voice-1s
   'This is how I **make** it.' (e.g., make bread, vase, house, or chair)

When we consider the meaning contrasts, we first observe that little *v* in these contexts specifies the type of event in that it carries some of the classical light verb meanings 'do' and 'make' (cf. Inglis 1986, Grimshaw and Mester 1988, Kearns 1988, Harley 2013, Johns 2007). These examples show us that these light verb features belong

to the little *v* since the rest of the clauses are identical. Secondly, we observe the two types of 'do' shown in (2) and (3). As we see in sections 3.2.2 and 7.2.1, the difference is aspectual in that (2) describes a single action whereas (3) expresses an event made up of multiple actions.

The properties of little *v* in any particular verb stem become clearer when compared with an identical verb stem with another little *v*. Sections 3.1.2.1-3.1.2.6 describe and discuss functions of the focal little *v* morphemes in contrast to one another, specifically studying each in comparison to *-a'*. Section 3.1.2.7 gives examples of the potential little *v* morphemes in our corpus that we exclude from this study. Section 3.1.3 summarises.

3.1.2.1 -o' and -a' express pluractional and single events

This section compares minimal pairs with the little *v* morphemes *-a'* and *-o'* and demonstrates that *-a'* indicates a single action whereas *-o'* expresses a pluractional. Newman (2012:185) describes pluractionals in the world's languages as "verb forms whose function was to indicate plurality of action or event." Chapter 7 demonstrates that *-o'* occurs in pluractional constructions (we need to see the entire *v*-Animacy-Voice construction to demonstrate the function). Here we only see the differences between *-a'* and *-o'*. Much of this section is published in Stevens et al. (2021a).

In the introduction to section 3.1 we illustrate a minimal pair where the clauses only differ by one morpheme *-a'* (2) or *-o'* (3). Verb stems with the morpheme sequence *-o'-t-u* express a pluractional event where the subject performs the same type of action over and over again. The clauses in (5) only differ in that the stem contains *-o'* in (a) and *-a'* in (b).

5. (a) *Kut**o'tu** pɨtewey kops-iktuk.*
kut-**o'-t-u**-Ø pɨtewey kops-iktuk
pour-*v*-An-Voice-1s tea mug-LOC
'I am pouring tea into the mugs.'

(b) *Kut**a'tu** pɨtewey kops-iktuk.*
kut-**a'-t-u**-Ø pɨtewey kops-iktuk
pour-*v*-An-Voice-1s tea mug-LOC
'I am pouring tea into the mug.'

The stem *kut-* 'pour' with *-o'* expresses a pluractional action of pouring tea into many mugs (5a); with *-a'* (5b), the verb stem expresses the single action of pouring tea into one mug. Unlike the English translation, *kops* 'mug' isn't pluralised in (5a). There is neither plural marking on the syntactic object, the verb, nor the oblique in (5).[39] Our corpus includes 36 stems of this type.

Similarly, (6) shows the verb stem *ke's-* 'put in the fire' with *-o'* in (a) and with *-a'* in (b). The clauses are otherwise identical.[40]

6. (a) *Ke's**o'tu** kmu'j.*
ke's-**o'-t-u**-Ø kmu'j
put.in.fire-*v*-An-Voice-1s wood(IN)
'I am putting wood into the fire.'

(b) *Ke's**a'tu** kmu'j.*
ke's-**a'-t-u**-Ø kmu'j
put.in.fire-*v*-An-Voice-1s wood(IN)
'I am going to put a stick into the fire.'

(6a) expresses the same type of action distributed over plural internal arguments (many pieces of firewood) and (6b) the single action of putting one stick of firewood into the fire.

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[39] The syntactic objects in these clauses are non-countable nouns. Count nouns must be pluralised for pluractional actions and the verb has corresponding plural morphology (see below).
[40] This pluractional cannot work in a situation where the subject puts the same stick in over and over (because it fell out, for example).

In (5), the non-countable internal argument *pɨtewey* ‘tea’ is poured into multiple mugs (locations) while in (6), multiple pieces of *kmu’j* ‘firewood’ are put into one location.

(7)-(9) illustrate three more examples. In (7), the subject repeatedly plucks hairs from their head.

7. *Pesk**o’**tu nusapun.*
   pesk-**o’**-t-u-Ø n-usapun
   pluck-*v*-An-Voice-1s 1s-hair(IN)
   ‘I am plucking my hair.’

In (8), the subject puts one chair into the car in (a) and many bags of groceries into the car in (8b).[41]

8. (a) *Tep**a’**tu kutputi nutapaqnk.*
   tep-**a’**-t-u-Ø kutputi nu-tapaqn-k
   load-*v*-An-Voice-1s chair(IN) 1s-car-LOC
   ‘I am putting the chair into my car.’

   (b) *Tep**o’**tu mijipjewey nutapaqnk.*
   tep-**o’**-t-u-Ø mijipjewey nu-tapaqn-k
   load-*v*-An-Voice-1s food(IN) 1s-car-LOC
   ‘I am putting groceries in my car.’

The objects in (5)-(8) are all non-countable nouns (‘firewood,’ ‘hair,’ ‘food,’ and ‘tea’). When the object is a non-countable noun, the verb word is singular, even if there are several objects.

Similarly, in (9), the two verbs are different only in that the object is singular in (9a) and plural in (9b).

9. (a) *Wa’w wiaq**a’**tu ke’ks-iktuk.*
   wa’w wiaq-**a’**-t-u-Ø ke’ks-iktuk
   egg mix-*v*-An-Voice-1s cake-LOC
   ‘I am putting the egg into the cake batter.’

   (b) *Ta’n tujiw eltu lu’sknikn,*
   ta’n tujiw el-Ø-t-u-Ø lu’sknikn,
   when then make-*v*-An-Voice-1s pan bread

[41] Note we tried to create a scenario where the subject acts repeatedly on the same object, e.g., the subject puts the same bag of groceries into the car because it keeps falling off or putting a child into a chair because she keeps jumping out, or standing up flowers because the wind keeps blowing them down, or a scenario where the subject stops the same bus over and over. These scenarios are not expressed with *-o’-t-u*.

*wiaq**o’**tu* baking powder, *salawey*, *aqq wa’w*.
wiaq-**o’**-t-u-Ø baking powder salawey aqq wa’w
mix-*v*-An-Voice-1s baking powder salt and egg
‘When I make bannock, I am mixing together baking powder, salt and egg.’

There are two more non-countable nouns in (9) ‘baking powder’ and ‘salt,’ which, along with one egg (a countable noun) doesn’t affect the plurality of the verb – the verb and its inflection are identical in both (9a) and (9b). *-o’* indicates a multiple event whereas *-a’* little *v* indicates one action with a single object.

When there is a plural object (a countable noun), the verb stem must have a plural inflection (10)-(11).

10. *Amal**o’**tuann kun’tal*.
*amal-**o’**-t-u-Ø-ann* *kun’t-al*
various-*v*-An-Voice-1s-3pIN rock-p
‘I am skipping rocks.’

11. *Enq**o’**tuann pasl.*
enq-**o’**-t-u-ann pas-l
stop-*v*-An-Voice-1s>3p bus-p
‘I am stopping lots of buses.’

Section 4.5 argues that stems that co-occur with *-o’-t-u* have an internal argument. In addition to its aspectual function, the construction adds an external argument that is a causer.

(12) shows two other clauses which differ only in the choice of the same two morphemes. The only difference between (12a) and (12b) is what we here label the little *v* morpheme which is *-a’* in (a) and *-o’* in (b). The little *v* morphemes are bolded in the examples.

12. (a) *Kesisp**a’**tekey.*
kesisp-**a’**-t-eke-y
wash-*v*-An-Voice-1s
‘I am washing [the floor].’

(b) *Kesisp**o’**tekey.*
kesisp-**o’**-t-eke-y
wash-*v*-An-Voice-1s
‘I am washing [dishes].’

Interpretation of these clauses is idiomatic; even though there is no explicit object expressed in this construction, my Mi'kmaw colleagues supply the single object 'floor' in (a), which uses the little *v* morpheme *-a'*, and the multiple object 'dishes' in (b) when the little *v* morpheme is *-o'*. The *-o'* event is seen as a repeated action on multiple objects while the *-a'* event is seen as a single action on one object. In our corpus there are 36 verb stems which occur with both *-a'* and *-o'* in transitive clauses.

(13)-(14) show the little *v* morphemes *-a'* and *-o'* with two other stems. In each case, the only difference in the verb forms in (a) and (b) is the little *v* morpheme. For simplicity, all objects are inanimate in these examples.

13. (a) *El**a'**tu kutputi kwijmuk.*
el-a'-t-u-Ø kutputi kwijmuk
DIR-*v*-An-Voice-1s chair(IN) outside
'I am taking the chair outside.'

(b) *El**o'**tu nutmo'taqn kwijmuk.*
el-o'-t-u-Ø n-utmo'taqn kwijmuk
DIR-*v*-An-Voice-1s 1s-stuff(IN) outside
'I am taking my stuff outside.'

In each case, the object nouns in the pluractional are non-countable nouns.[42]

14. (a) *Tew**a'**tu kutputi.*
tew-**a'**-t-u-Ø kutputi
out-*v*-An-Voice-1s chair(IN)
'I am taking out the chair.'

(b) *Tew**o'**tu puksuk.*
tew-**o'**-t-u-Ø puksuk
out-*v*-An-Voice-1s firewood(IN)
'I am taking the firewood out.'

Inglis (1986:96) interprets *-a't* as action done in one continuous motion, as compared with *-o't* which indicates action done bit by bit.[43] We argue instead that both *-a'* and *-o'* mean 'do,' but have an aspectual difference in that *-a'* is for a single action on one object and *-o'* is a pluractional. Discussions with my colleagues express it this way: "*a't* is for one [action] where *o't* is for a bunch of them."

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[42] For nouns which must be counted, both the noun and verb will show plural morphology (and the verb will still carry the pluractional *-o'*).

[43] Inglis (1986) considers *-a't* and *-o't* as single morphemes (finals) while we analyse them as *-a'-t* and *-o'-t*. See Table 1 for a comparison of our parsing to hers.

We conclude that *-a'* indicates a single action and *-o'* indicates a pluractional event.

In some Algonquian languages, repeated actions are encoded by reduplication (Junker 1994, Dahlstrom 1997, Conathan 2005, Goddard 2010, Mattiola 2019). In contrast to the situation in other Algonquian languages, pluractional actions in Mi'kmaw do not involve reduplication in the verb but instead involve the choice of little *v*.

3.1.2.2 -a and -a' are different morphemes

In this section we demonstrate that the little *v* morphemes *-a* and *-a'* are distinct morphemes; they are not phonological variants of the same morpheme.[44] Their syntactic and semantic differences are discussed in chapter 4.

Earlier researchers of Mi'kmaw consider *-a* and *-a'* as phonological variants or allomorphs. Inglis (1986:279) does not distinguish *-al* from *-a'l*;[45] McCulloch (2013:20) notes, "The length of the vowel in a final, although also not predictable, is at least consistent: if a root calls for a long vowel with one final, such as the VTA final *-a'l*, it will also do so with others, such as the VTI final *-a't* and sometimes even with the intransitive finals."

Although the two morphemes only differ in vowel length and so could be phonological variants, we present three arguments that they are distinct morphemes. First, Mi'kmaw speakers distinguish between the two and the distinctions are represented in the orthography. Second, we demonstrate phonological contrast between /*a*/ (a) and /*a'*/ (b)

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[44] Contrast in identical (or similar) environments is demonstrated between all long and short vowels in the Mi'kmaw Reading and Writing booklet (Stevens et al. in press).

[45] We consider *-al* and *-a'l* as being composed of two morphemes each (*-a-l* and *-a'-l*); section 3.2 provides justification for identifying the two animacy elements as Animacy heads.

in identical phonological environments. The two nouns in (15a) and (b) are a minimal pair.

15. (a) *api* (b) *a'pi*
'bow' 'net'

Third, (16) demonstrates contrast between the morphemes *-a* (16a) and *-a'* (16b), in the context of *kes-* 'like' and *kes-* 'hurt,' a pair of homophonous verb stems.

16. (a) *Kes**a**lul* (b) *Kes**a'**lul.*
kes-**a**-l-Ø-ul kes-**a'**-l-Ø-ul
like-*v*-An-Voice-1s>2s hurt-*v*-An-Voice-1s>2s
'I like/love you.' 'I am hurting you.'

(17)-(19) show contrast in similar phonological/morphological environments; using the wrong vowel is ungrammatical.[46]

17. (a) *Pekw**a**tekey.* **pekw**a'**tekey* (b) *Tukw**a'**tekey* **tukw**a**tekey*
pekw-**a**-t-eke-y tukw-**a'**-t-eke-y
cause-*v*-An-Voice-1s wake-*v*-An-Voice-1s
'I am earning [money].' 'I wake [people] up.'

18. (a) *Ne'p**a**tekey.* **ne'p**a'**tekey* (b) *Nep**a'**tekey.* **nep**a**tekey*
ne'p-**a**-t-eke-y nep-**a'**-t-eke-y
kill-*v*-An-Voice-1s sleep-*v*-An-Voice-1s
'I am a murderer.' 'I am an anesthesiologist.'

19. (a) *#Eskm**a**tekey.* ** Eskm**a'**tekey* (b) *Ekn**a'**tekey.* **ekn**a**tekey*
eskm-**a**-t-eke-y ekn-**a'**-t-eke-y
wait-*v*-An-Voice-1s decorate-*v*-An-Voice-1s
'My job is to wait for somebody.' 'I am going to decorate.'

We argue that *-a* and *-a'* are different morphemes because the two morphemes select different stems. We can see in (17)-(19) that the stems that are selected by *-a* are ungrammatical if we try to use *-a'*, and vice versa.

[46] (19a) is marked with # since not all speakers consider this sentence felicitous.

Some verb stems occur with *-a*. (20)-(24) illustrate five examples. shown with inanimate objects.

20. *Elukw**a**tm paysikl* * *elukw**a'**tm paysikl*
elukw-**a**-t-m-Ø paysikl
work-*v*-An-Voice-1s bicycle
'I am fixing the bicycle.'

In each case, the same clause with *-a'* is ungrammatical.

21. *Se'skw**a**tm* television. * *se'skw**a'**tm* television
se'skw-**a**-t-m-Ø television
shout-*v*-An-Voice-1s TV
'I am shouting at the TV.'

22. *Pewi'k**a**tm msaqsaqt.* * *pewi'k**a'**tm msaqsaqt*
pewi'k-**a**-t-m-Ø msaqsaqt
sweep-*v*-An-Voice-1s floor
'I am sweeping the floor.'

Animate objects are possible with all of these verb stems; these require different Animacy and Voice morphemes so are not shown here (see section 3.2.1).

23. *Ne'p**a**tu suliewey.* * *ne'p**a'**tu suliewey*
ne'p-**a**-t-u-Ø suliewey
die-*v*-An-Voice-1s money
'I am earning money.' (lit. I am killing money)

24. *Pekw**a**tu suliewey.* * *pekw**a'**tu suliewey*
pekw-**a**-t-u-Ø suliewey
add-*v*-An-Voice-1s money
'I am earning money.'

In contrast to (20)-(24) which only occur with *-a*, other verb stems occur with *-a'*. (25)-(29) illustrate five examples.

25. *Elm**a'**tu kutputi.* * *elm**a**tu kutputi*
elm-**a'**-t-u-Ø kutputi
go.home-*v*-An-Voice-1s chair
'I am taking the chair home.'

In each case, the same clause with *-a* is ungrammatical.

26. *Pij**a’**tu tipu’lewey* fridge-*iktuk.* * *pij**a**tu tipu’lewey* fridge-*iktuk*
pij-**a’**-t-u-Ø tipu’lewey fridge-iktuk
in-*v*-An-Voice-1s butter fridge-LOC
‘I am putting the butter in the fridge.’

27. *Kut**a’**tu pɨtewey sink-iktuk.* * *kut**a**tu pɨtewey sink-iktuk*
kut-**a’**-t-u-Ø pɨtewey sink-iktuk
pour-*v*-An-Voice-1s tea sink-LOC
‘I am pouring the tea into the sink.’

28. *Kas**a’**tu sam’qwan.* * *kas**a**tu sam’qwan*
kas-**a’**-t-u-Ø sam’qwan
wipe-*v*-An-Voice-1s water
‘I am wiping up the water.’

29. *Alu**a’**tu wen’ji’kuom.* * *alu**a**tu wen’ji’kuom*
alu-**a’**-t-u-Ø wen’ji’kuom
refuse-*v*-An-Voice-1s house
‘I am refusing the house.’

We conclude that since *-a* and *-a’* select different stems they are distinct morphemes.

3.1.2.3 -i and -a’ express the light verbs ‘make’ and ‘do’

Fourteen verb stems occur with the little *v* morpheme *-i* in transitive clauses.[47] Eight of these stems can be selected by *-i* or *-a’* in transitive clauses. This enables us to see some of the differences between the two little *v* morphemes. In (30), the only difference between the examples in (a) and (b) is that the stem in (a) is selected by the little *v* morpheme *-i* whereas in (b), the same stem is selected by *-a’*.

[47] Unlike the case with the other little *v* morphemes, these verb stems selected by *-i* in transitive clauses do not fall uniformly into one category according to the emphatic diagnostic (section 2.4). The emphatic variant of nine stems retains the little *v* morpheme *-i*: *il-* ‘redo,’ *kis-* ‘already,’ *nep-* ‘heal,’ *pew-* ‘dream,’ *pekis-* ‘arrive,’ and *pem-* ‘along,’ *pilu-* ‘different,’ *tel-* ‘thus,’ and *we’ji-* ‘come from.’ We can’t explain these differences at this point. Due to the small number of stems whose emphatic variant is expressed with little *v* morphemes other than *-i*, we draw no firm conclusions with these stems. These groupings do not correlate with the stem’s compatibility with *-a’*.

30. (a) *Na tel**i**tu* [speaker demonstrates].
na tel-**i**-t-u-Ø
this thus-*v*-An-Voice-1s
'This is how I **make** it.'
(e.g., make bread, vase, house, or chair)

(b) *Na tel**a'**tu* [speaker demonstrates].
na tel-**a'**-t-u-Ø
this thus-*v*-An-Voice-1s
'This is how I **do** it.'
(e.g., math problem or Rubik's cube)

Pem- 'along' expresses the process of 'make' when selected by *-i* but the idiomatic 'carry' (did along) when selected by *-a'* (31).

31. (a) *Pem**i**tu pipnaqn.*
pem-**i**-t-u-Ø pipnaqn
along-*v*-An-Voice-1s bread(IN)
'I am in the process of making the bread.'

(b) *Pem**a'**tu pipnaqn.*
pem-**a'**-t-u-Ø pipnaqn
along-*v*-An-Voice-1s bread(IN)
'I am carrying the bread along.'

Similarly, *kis-* 'already' expresses 'made' when selected by *-i* but the idiomatic 'fix' (did already) when selected by *-a'* (32).

32. (a) *Kis**i**tu paysikl.*
kis-**i**-t-u-Ø paysikl
already-*v*-An-Voice-1s bicycle(IN)
'I made the bicycle .'

(b) *Kis**a'**tu paysikl.*
kis-**a'**-t-u-Ø paysikl
already-*v*-An-Voice-1s bicycle(IN)
'I fixed the bicycle.'

In each case, the verb expresses the idea of 'make' when it occurs with *-i* and 'do' when it occurs with *-a'*, in each case modified by the adverbial stem meaning. *Pilu-* 'different,' with little *v* morpheme *-i* (a) expresses 'make differently' as compared with the same stem selected by little *v -a'* (b) 'do differently.'

33. (a) *Pilu**i**tekey.*
pilu-**i**-t-eke-y
different-*v*-An-Voice-1s
'I make [things] differently.'

(b) *Pilu**a'**tekey.*
pilu-**a'**-t-eke-y
different-*v*-An-Voice-1s
'I do [things] differently.'

Six verb stems that co-occur with *-i* are not compatible with *-a'*. (34)-(36) show three examples of stems which only co-occur with *-i*. The light verb meaning 'make' is not expressed with these stems.

34. *Pekisitu ke'k.* **Pekisa'tu ke'ks.*
pekis-i-t-u-Ø *ke'k*
arrive-*v*-An-Voice-1s cake(IN)
'I brought the cake.'

35. *Nemitu kutputi.* **Nema'tu kutputi.*
nemi-i-t-u-Ø kutputi
see-*v*-An-Voice-1s chair(IN)
'I see the chair.'

36. *Nepitm nipit.* **Nepa'tm nipit.*
nep-i-t-m-Ø *n-ipit*
sleep-*v*-An-Voice-1s 1POSS-tooth(IN)
'I am healing my tooth.' (by giving medicine)

In summary, we only make a few basic observations into the little *v* morpheme *-i* in this first spiral. We contrast the little *v* morpheme *-i* with *-a'* for eight stems and demonstrate that with these stems, *-i* expresses the light verb 'make.' The fact that *-i* and *-a'* can be contrasted with these stems indicates that in these cases, both morphemes may select stems with the same features (see chapter 4). But *-i* doesn't mean 'make' with six stems; these stems also do not co-occur with *-a'*.

3.1.2.4 -ie and -a' express aspectual differences

Seventeen stems are selected by *-ie*; all form intransitive clauses. All 17 of the stems selected by *-ie* may also be selected by *-a'* to form transitive clauses.

37. (a) *El**ie**y malsano'kuo'mk.*
el-**ie**-Ø-Ø-y malsano'kuo'm-k
DIR-*v*-An-Voice-1s store-LOC
'I am going to the store.'

(b) *Ela'tu mun'ti malsano'kuo'mk.*
el-**a'**-t-u-Ø mun'ti malsano'kuo'm-k
DIR-*v*-An-Voice-1s bag(IN) store-LOC
'I am taking my bag to the store.'

The stem with *-ie* yields a verb that indicates "the beginning, the development, and certain movements" (Francis and Hewson 2016:180). In comparison, the same stem when

selected by *-a'* has an idiomatic meaning that expresses a causative (see chapter 4 for argumentation); for example, taking the bag to the store in (37, causing the bag to go to the store) and making the wire straight in (38, causing the wire to stretch).

38. (a) *Iltaq**ie**y.*			(b) *Iltaqa'tu* wire.		
iltaq-**ie**-Ø-Ø-y			iltaq-**a'**t-u-Ø		wire
stretch-*v*-An-Voice-1s			stretch-*v*-An-Voice-1s		wire(IN)
'I am feeling better.'			'I am straightening out the wire.		
(becoming stretched)			(so it goes in the right place)		

Likewise, the stem *pij-* 'in' with *-ie* expresses that the subject is in the ditch (39a). The stem with *-a'* expresses the idiomatic meaning 'do in' putting the butter in the fridge (39b).

39. (a) *Pijiey* ditch-*iktuk.*			(b) *Pija'tu tipu'lewey* fridge-*iktuk.*				
pij-**ie**-Ø-Ø-y	ditch-iktuk		pij-**a'**-t-u-Ø	tipu'lewey	fridge-iktuk		
in-*v*-An-Voice-1s	ditch-LOC		in-*v*-An-Voice-1s	butter(IN)	fridge-LOC		
'I am [stuck] in the ditch.'			'I am putting the butter into the fridge.'				

In (40), the stem *tew-* 'out' with *-ie* expresses that the subject goes outside (a change in location) and with *-a'*, the verb is the causative.

40. (a) *Tew**ie**y.*		(b) *Tewa'tu kutputi*.	
tew-**ie**-Ø-Ø-y		tew-**a'**-t-u-Ø	kutputi
out-*v*-An-Voice-1s		out-*v*-An-Voice-1s	chair(IN)
'I am going outside.'		'I am taking the chair outside.'	

No stem selected by *-ie* is also selected by *-a*. In chapter 4 we consider *-ie* in diagnostics showing that these stems are not associated with an external argument; otherwise we don't investigate stems with *-ie* any further since they only occur in intransitive monovalent clauses.

3.1.2.5 -eyi and -a' express aspectual differences

The little *v* morpheme *-eyi* occurs in seven stems in our corpus. Similar to the situation with *-ie* (section 3.1.2.4), all of the stems selected by *-eyi* may also be selected

by *-a'* to form a transitive clause that expresses a causative. (41) illustrates *mekw-* 'red' and (42) illustrates *waqam-* 'clean.' In each example, (a) illustrates the stem selected by *-eyi* and (b) the same stem selected by *-a'*.

41. (a) *Mekw**eyi**.*
mekw-**eyi**-Ø-Ø-Ø
red-*v*-An-Voice-1s
'I am red.'

(b) *Mekw**a'**tu niknen.*
mekw-**a'**-t-u-Ø n-ik-nen
red-*v*-An-Voice-1s 1Poss-home(IN)-1Pex
'I am colouring my house red.'

42. (a) *Waqam**eyi**.*
waqam-**eyi**-Ø-Ø-Ø
clean-*v*-An-Voice-1s
'I am clean.'

(b) *Waqam**a'**tu niknen.*
waqam-**a'**-t-u-Ø n-ik-nen
clean-*v*-An-Voice-1s 1Poss-home(IN)-1Pex
'I am cleaning my house.'

The stem when selected by *-eyi* yields a verb that expresses a state (Inglis p.c. 2010). In comparison, the same stem when selected by *-a'* expresses a causative (see chapter 4 for argumentation). In chapter 4 we consider *-eyi* in diagnostics showing that these stems are not associated with an external argument; otherwise, we don't investigate stems with *-eyi* any further since they only occur in intransitive monovalent clauses.[48]

3.1.2.6 -e and -a

Just five stems are selected by the little *v* morpheme *-e*. All are in intransitive clauses and all five stems are only selected by *-a* in transitive clauses. (43-45) illustrate transitive and intransitive clauses for each stem.

43. (a) *Elukw**e**y.*
elukw-**e**-Ø-Ø-y
work-*v*-An-Voice-1s
'I am working.'

(b) *Elukw**a**tm paysikl.*
elukw-**a**-t-m-Ø paysikl
work-*v*-An-Voice-1s bicycle(IN)
'I am working on my bicycle.'

44. (a) *Pewi'k**e**y.*
pewi'k-**e**-Ø-Ø-y
sweep-*v*-An-Voice-1s
'I am sweeping.'

(b) *Pewi'k**a**tm msaqsaqt.*
pewi'k-**a**-t-m-Ø msaqsaqt
sweep-*v*-An-Voice-1s floor(IN)
'I am sweeping the floor.'

[48] A similar morpheme *-ey* is an allomorph of *-o'-l* (see sections 2.5.2 and 4.5).

45. (a) *Se'skw**e**y*.
se'skw-**e**-Ø-Ø-y
shout-*v*-An-Voice-1s
'I am shouting.'

(b) *Se'skw**a**tm* TV.
se'skw-**a**-t-m-Ø TV
shout-*v*-An-Voice-1s television(IN)
'I am shouting at the television.'

We can draw no conclusions concerning the differences between these clauses since they are rare in our corpus. We include these examples since we use them in diagnostics in chapter 4.

3.1.2.7 -Ø and -a'

Our analysis of Mi'kmaw includes a zero little *v* morpheme. The features of this zero morpheme fit into the paradigm provided by the other members of the category.

We find two types of stems which are selected by -*Ø* little *v*. Out of the 38 stems selected by -*Ø* little *v*, 34 are also selected by -*a'*. There is a difference between the clauses when stems are selected by -*a'* versus those selected by -*Ø* in terms of the kind of motion they express (see Sylliboy et al. 2016). (46)-(47) are adapted from Sylliboy et al. (2017) and show the same stems selected by -*a'* in (a) and -*Ø* in (b).

46. (a) *Nis**a'**tu tuopɨti*.
*nis-**a'**-t-u-Ø* tuopɨti
down-*v*-An-Voice-1s window(IN)
'I am putting the window down.'

(b) *Nisekey tuopɨti*.
*nis-**Ø**-Ø-eke-y* tuopɨti
down-*v*-An-Voice-1s window(IN)
'I am dropping the window.`

With -*a'* (a), the verb expresses 'put down' and with -*Ø* (b) it expresses 'throw down' or 'drop.' In (47), the stem *ilt-* 'close' with -*a'* is 'close' while with -*Ø* it expresses 'slam.'

47. (a) *Ilt**a’**tu tuopɨti*.
ilt-**a’**-t-u- Ø tuopɨti
close-*v*-An-Voice-1s window(IN)
‘I am closing the window.

(b) *Iltekey tuopɨti*.
ilt-**Ø**-Ø-eke-y tuopɨti
close-*v*-An-Voice-1s window(IN)
‘I am slamming the window shut.’

These are stems involving movement. We (Sylliboy et al. 2017) note that with *-Ø* little *v* the action “implies a brief contact, less hands-on type of action as compared with *a’t-u*, where the action is more deliberate throughout the duration of the action.” We describe the difference between these combinations of *-Ø-Ø-eke* versus *-a’-t-u* as being an aspectual difference like a quick contact between agent and patient as opposed to a continual contact. Pesetsky (1996) noted differences between verbs that encode ballistic versus continual motion. He defined these verbs as those in “a scenario in which the motion is initiated by an external causer or agent, but the continuation of motion results from natural forces such as inertia or gravity” (Pesetsky 1996:137).

Not all of the cases of zero little *v* can be accounted for by this brief contact type of event. In our corpus, four stems are selected by zero little *v* but do not express ballistic motion. These only have transitive forms, for example, *kwil-* ‘seek’ (48) and *nen-* ‘know’ (49).

48. *Kwilm watjm*.
kwil-Ø-Ø-m-Ø *watj-m*
seek-*v*-An-Voice-1s watch(IN)-POSS
‘I am looking for my watch.’

49. *Nen**m** wajju’kat*.
nen-Ø-**Ø-m**-Ø wajju’kat
know-*v*-An-Voice-1s rummy(IN)
‘I know [how to play] rummy.’

These actions are also not ballistic, vigorous, or hands-off. Clearly there is something else going on with zero little *v* other than aspect. Section 4.7 demonstrates the selectional properties of zero little *v*.

3.1.2.8 Other little v morphemes

Besides the eight little *v* morphemes that we show in the previous sections, there are 17 other morphemes in our corpus that we classify as little *v* due to their position in the verb word and occurrence in the little *v* position from emphatic verb testing. In the rest of the dissertation, we focus on five little *v* morphemes: *-a', -a, -o', -i*, and *-Ø*; we include this section for completeness.

Some little *v* morphemes indicate an adverbial instrumental involvement (e.g., eyes, brain, hands, a saw).[49] Inglis (1986) describes several for Mi'kmaw.[50] Frantz (2017: 110) notes that in Blackfoot there are specific finals that "indicate the instrument (usually a body part) involved." Table 3 shows some of the instrumental little *v* morphemes that have been identified in Mi'kmaw.

Table 3. Mi'kmaw instrumental little v

Little *v*	**Gloss**	**Previous work**
-ap/am	'use eyes'	'look'/'see' Inglis (1986:279)
-ite'	'use brain'	'think' Inglis (1986:278)
-(e)n	'use hands'	'by hand' (Inglis 1986:278)
-im	'use speech'	'by speech/by thought' (Inglis 1986:278)
-ates/-etes	'use feet' or 'use body'	'action with feet or body' Inglis (1986:279)
-ikt/-ipu	'use saw'	
-s	'use heat'	
-is	'use voice'	
-i's	'use needle'	'sew' (Inglis 1986: 278)

[49] Slavin (2012:111) notes instrumental finals in Oji-Cree. She cites Rhodes (1980) and Valentine (2001). Dahlstrom (2013), reporting on Kickapoo, Cree, Ojibwe, Menominee, and Meskwakie, notes instrumental finals.

[50] Recall that Inglis (1986) considers *v*-Animacy as one morpheme.

Since most of these morphemes have a vowel and a consonant (and some have two syllables), it is possible that some of them are bimorphemic, with the instrumental being distinct from the little *v*. Parsing these morphemes is beyond the scope of this dissertation.

Other morphemes that appear in the little *v* slot include some we can identify the meaning of, for example, *-ui't* 'name' (Inglis 1986:279), *-mɨt* 'behaviour,' *-(a)tel* 'go,' *-i'pu* 'cause'/'pull,' *-kim* 'send,' *-u'l* or *-ul* 'cause,' *-i'/-il* 'big' (Inglis 1986:245), and others that we cannot gloss at this point, like *-apu*.

3.1.3 Summary of little *v* features

This section demonstrates that aspect is a feature of little *v* in Mi'kmaw, as it is crosslinguistically (Kratzer 1996, Arad 2002, Harley 2017).[51] Little *v* in Mi'kmaw is involved with: aspect, light verb meanings, and selection of particular verb stems.

In this section we see the inklings of aspectual features in the little *v* morphemes as compared with one another. *-o'* yields a verb expressing some kind of multiple action as compared with *-a'* (section 3.1.2.1), *-i* expresses 'make' where *-a'* expresses 'do' (section 3.1.2.3), *-ie* yields a verb expressing the beginning, the development, and certain movements (Francis and Hewson 2016) as compared with *-a'* (section 3.1.2.4), and *-Ø* yields a movement that is ballistic, vigorous or hands off as compared with *-a'* (section

[51] Investigating aspect in Mi'kmaw is a huge area for further research. A more detailed investigation of aspect is beyond the scope of our study but our results point to several avenues of research. From our data, one of the functions of little *v* is to indicate lexical aspect. Denny (1978, 1984) discusses verb classes in Ojibwe, proposing that abstract finals function in determining what he calls 'aspect class' (process, event, state or resultant state, change in position). Denny (1984), discussing Ojibwe, Cree, and Menomini, argues that abstract finals express aspect class (process, event, state), case of subject and object (agent, patient, beneficiary), and case of described participant (agent-descriptive or patient descriptive). Others have argued against the possibility that abstract finals indicate aspect (O'Meara 1990 about Delaware, Ritter and Rosen 2010 about Blackfoot, Slavin 2012 about Oji-Cree). See also Hirose (2000) about Plains Cree and Mathieu (2007) about Ojibwe for arguments that abstract finals involve telicity.

3.1.2.7). We also demonstrate that *-a* and *-a'* are distinct morphemes, even though the difference between *-a* and *-a'* is enigmatic at this point (section 3.1.2.2).

The second thing we demonstrate is that little *v* has some light verb grammatical properties. Table 4 shows the five little *v* morphemes this dissertation studies and the properties that this chapter reveals. Chapters 4 and 5 explore their meaning more fully.

Table 4. Little v *morphemes included in the study*

Little *v*	**Gloss**	**Event features**
-a	do	single action
-a'	do, cause	single action, not ballistic
-o'	do many times	multiple action
-i	make	resultant state, stative
-Ø	do	single action, ballistic

A light verb analysis of little *v* does not present the whole story in Mi'kmaw since these features of little *v* morphemes are not necessarily exhibited in every verb stem. We realise that in this first spiral we are missing much. We notice that many stems may be selected by more than one little *v* to form verbs that express different features; chapter 4 investigates the selection of verb stems by little *v* further.

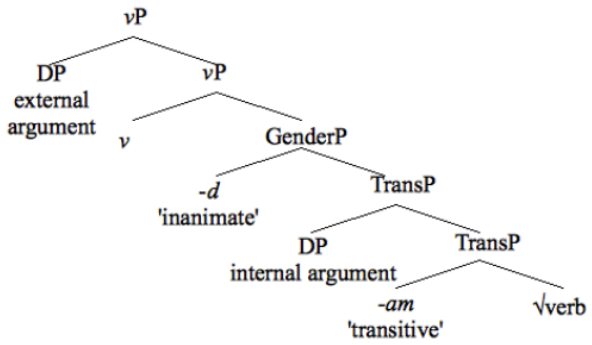
3.2 Animacy agreement

In choosing to call this category 'Animacy agreement,' we adapt a category Lochbihler (2012) uses for animacy agreement with the internal argument in Ojibwe. She proposed a Gender phrase. Her partial structure of the transitive inanimate clause (50) is shown in Figure 11.[52]

50. *n-waab-am-d-am-n*
1-see-TRANS-INAN-VAI-INAN
'I see it (INAN).' Lochbihler (2012: 73)

[52] Lochbihler's (2012) abbreviations include INAN = inanimate, TRANS = transitive, and VAI = animate intransitive verb.

Figure 11. Transitive inanimate structure in Ojibwe from Lochbihler (2012:74)



In Ojibwe there is no overt corresponding morpheme that agrees with an animate internal argument as we have in Mi'kmaw.

This section illustrates three Animacy morphemes (a closed set), *-t*, *-l*, and *-Ø*. We show that the Animacy morpheme agrees with the animacy of the internal argument and that this is only part of the picture. We demonstrate that *-t* and *-l* agree with inanimate and animate internal arguments, respectively (section 3.2.1) and that the zero morpheme is compatible with an animate or inanimate internal argument (section 3.2.2). We show that some verbs contain both *-t* and *-l* (section 3.2.3). In Section 3.2.4 we summarise and illustrate three contexts where the animacy of the internal argument does not determine the choice of Animacy morpheme, highlighting a wider use of *-t*.

3.2.1 *-t* and *-l* agree with inanimate and animate internal arguments

Recall the observation in the introduction to this chapter that Algonquian linguists report that "finals" often exist in inanimate and animate pairs (Bloomfield 1946, Goddard 1967, Wolfart 1973, Inglis 1986). (51) illustrates that *-t* agrees with inanimate internal arguments and *-l* with animate ones and that the use of *-t* with animate internal arguments or *-l* with inanimate internal arguments is ungrammatical. (51a) and (b) have the

inanimate internal argument *lisqeikn* ‘box’; *-t* is grammatical and *-l* is not. (c) and (d) have the animate internal argument *ka’qn* ‘door’; *-l* is grammatical and *-t* is not.

51. (a) *Panta’**t**u lisqeikn.*
pant-a’-**t**-u-Ø lisqeikn
open-*v*-An-Voice-1s box(IN)
‘I am opening the box.’

(b) **Panta**l**u lisqeikn.*
pant-a-**l**-u-Ø lisqeikn
open-*v*-An-Voice-1s box(IN)
Intended: ‘I am opening the box.’

(c) *Panta’**l**~~i~~k ka’qn.*
pant-a’-**l**-Ø-k ka’qn
open-*v*-An-Voice-1s>3s door(AN)
‘I am opening the door.’

(d) **Panta’**t**~~i~~k ka’qn.*
pant-a’-**t**-Ø-~~i~~k ka’qn
open-*v*-An-Voice-1s>3s door(AN)
Intended: ‘I am opening the door.’

(52)-(53) show two pairs of verbs which differ only in that they agree with an inanimate internal argument (a) or animate internal argument (b). The Animacy morphemes are bolded and the animacy of the internal argument is indicated in the gloss. These are not minimal pairs since different Voice morphemes select *-t* and *-l* Animacy and there is verb inflection agreement only with animate objects.

52. (a) *Kesa**t**m wasuek.*
kes-a-**t**-m-Ø wasuek
like-*v*-An-Voice-1s flower(IN)
‘I like the flower.’

(b) *Kesa**l**k l’mu’j.*
kes-a-**l**-Ø-k l’mu’j
like-*v*-An-Voice-1s>3s dog(AN)
‘I like the dog.’

-t agrees with the inanimate internal argument *wasuek* ‘flower’ (a) and *-l* with the animate internal argument *l’mu’j* ‘dog’ (b). (53) shows another example.

53. (a) *Pesko’**t**u nusapun.*
pesk-o’-**t**-u-Ø n-usapun
pluck-*v*-An-Voice-1s 1sPOSS-hair(IN)
‘I am plucking my hair.’

(b) *Pesko’**l**~~i~~k ki’kli’kwej.*
pesk-o’-**l**-Ø-k ki’kli’kwej
pluck-*v*-An-Voice-1s>3s chicken(AN)
‘I am plucking a chicken.’

Likewise, *-t* agrees with the inanimate internal argument *nusapun* ‘my hair’ (a) and *-l* with the animate internal argument *ki’kli’kwej* ‘chicken’ (b). The clauses with an inanimate internal argument (a) uniformly have *-t* following little *v*, while the clauses with an animate internal argument (b) all have *-l*.

The examples above are transitive clauses where the Animacy morpheme agrees with the internal argument which is the syntactic object. We argue that the Animacy morpheme agrees in animacy with the internal argument, and not the syntactic object in the clause, due to the agreement pattern in the passive construction. In the passive construction (discussed further in section 6.5.3), the Animacy morpheme agrees with the internal argument which is the subject. In (54), *-l* agrees with the subject, *ki'kli'kwej* 'chicken.'

54. *Pesko'**l**ut ki'kli'kwej.*
Pesk-o'**-l**-u-t ki'kli'kwej
pluck-*v*-An-Voice-3s chicken(AN)
'The chicken is being plucked.'

We know that *ki'kli'kwej* 'chicken' is the subject because of the third-person animate subject inflection *-t*. (55)-(56) show two more examples.

55. *Kesispa'**l**ut mijua'ji'j.*
kesisp-a'**-l**-u-t mijua'ji'j
wash-*v*-An-Voice-3s child(AN)
'The child is being bathed.'

56. *Kesa**l**ut mijua'ji'j.*
kes-a**-l**-u-t mijua'ji'j
like-*v*-An-Voice-3s child(AN)
'The child is loved.'

In each example, the animate subject *mijua'ji'j* 'child' is the internal argument and the Animacy morpheme *-l* agrees with it. An inanimate internal argument is ungrammatical with *-l*, as evidenced by the ungrammaticality of (57)-(59); these examples illustrate the same stems as (54)-(56) but with inanimate internal arguments.

57. **Pesko'**l**uk nusapun.*
Pesk-o'**-l**-u-k n-usapun
pluck-*v*-An-Voice-3sIN 1sPOSS-hair(IN)
Intended: 'My hair is being plucked.'

In each case, the passive with an inanimate internal argument is ungrammatical with the Animacy morpheme *-l*.[53]

58. **Kesispa'**l**uk kutputi.*
kesisp-a'-**l**-u-k kutputi
wash-*v*-An-Voice-3sIN chair(IN)
Intended: 'The chair is being washed.'

59. **Kesal**l**uk kutputi.*
kes-a-**l**-u-k kutputi
like-*v*-An-Voice-3sIN chair(IN)
Intended: 'The chair is loved.'

We propose the term 'Animacy agreement' as the category of morphemes. The third member of the Animacy category is discussed in section 3.2.2.

3.2.2 *-Ø* allows animate or inanimate internal argument

In our corpus, certain stems don't co-occur with either *-t* or *-l* Animacy. We conclude that these verbs have a zero Animacy agreement morpheme. We find that *-Ø* Animacy is compatible with either an animate or inanimate internal argument.

Stems which co-occur with *-Ø* Animacy fall into two groups. First, stems that may be selected by *-a'*, when instead selected by zero little *v*, don't allow either *-t* or *-l* Animacy, but interestingly, allow animate or inanimate internal arguments. (60)-(62) show minimal pairs of three verb stems with an inanimate internal argument (object) in (a) and an animate internal argument in (b). The verb forms are identical.

60. (a) *Tewekey kutputi.*
tew-Ø-**Ø**-eke-y kutputi
out-*v*-An-Voice-1s chair(IN)
'I am throwing the chair outside.'

(b) *Tewekey tu'aqan.*
tew-Ø-**Ø**-eke-y tu'aqan
out-*v*-An-Voice-1s ball(AN)
'I am throwing the ball outside.'

[53] The grammatically correct forms with inanimate internal argument subjects employ the reflexive morpheme. These are *pesko'**t**asik, kesispa'**t**asik,* and *kesatasik*. In each case, the Animacy morpheme *-t* agrees with an inanimate internal argument. **pesko'**l**asik* and **kesispa'**l**asik* and **kesalasik* are also ungrammatical.

61. (a) *Menuekey pipnaqn.*
menu-Ø-**Ø**-eke-y pipnaqn
want-*v*-An-Voice-1s bread(IN)
'I want bread.'

(b) *Menuekey mlakej.*
menu-Ø-**Ø**-eke-y mlakej
want-*v*-An-Voice-1s milk(AN)
'I want milk.'

62. (a) *Kesispekey lassiet.*
kesisp-Ø-**Ø**-eke-y lassiet
wash-*v*-An-Voice-1s plate(IN)
'I am going to quickly wash the plate.'

(b) *Kesispekey mijua'ji'j.*
kesisp-Ø-**Ø**-eke-y mijua'ji'j
wash-*v*-An-Voice-1s child(AN)
'I am going to quickly wash the child.'

These verbs are ungrammatical with an Animacy morpheme that agrees with a particular animacy value for the internal argument. (63)-(65) show the same verb stems as (60)-(62) but with *-t* or *-l*; all are ungrammatical.

63. (a) **Tewtekey kutputi*.
tew-Ø-**t**-eke-y kutputi
out-*v*-An-Voice-1s chair(IN)
Intended: 'I am throwing the chair outside.'

(b) **Tewlekey tu'aqan.*
tew-Ø-**l**-eke-y tu'aqan
out-*v*-An-Voice-1s ball(AN)
Intended: 'I am throwing the ball outside.'

64. (a) **Menutekey pipnaqn.*
menu-Ø-**t**-eke-y pipnaqn
want-*v*-An-Voice-1s bread(IN)
Intended: 'I want bread.'

(b) **Menulekey mlakej.*
menu-Ø-**l**-eke-y mlakej
want-*v*-An-Voice-1s milk(AN)
Intended: 'I want milk.'

65. (a) **Kesisptekey lassiet.*
kesisp-Ø-**t**-eke-y lassiet
wash-*v*-An-Voice-1s plate(IN)
Intended: 'I am going to quickly wash the plate.'

(b) **Kesisplekey mijua'ji'j.*
kesisp-Ø-**l**-eke-y mijua'ji'j
wash-*v*-An-Voice-1s child(AN)
Intended: 'I am going to quickly wash the child.'

Zero Animacy only selects zero little *v* among the little *v* morphemes in the study.[54] We conclude that zero Animacy allows an internal argument that can be animate or inanimate.

[54] Preliminary studies with the other little *v* morphemes from section 3.1.2.8 shows that some are selected by zero Animacy.

The second group of stems with zero Animacy is always transitive. In our corpus, there are only four members so we only present preliminary observations here. The stems *kwil-* 'seek' (66) and *nen-* 'know' (67), *pepu-* 'shake,' and *wenu-* 'want' don't allow *-t* or *-l* Animacy but do allow animate or inanimate internal arguments. Since animate internal arguments are introduced by the applicative, they are beyond the scope of the study.[55] (66) and (67) illustrate the two verb stems with inanimate objects.

66. *Kwilm watj.*
kwil-Ø-Ø-m-Ø watj
seek-*v*-An-Voice-1s watch(IN)
'I am looking for the watch.'

67. *Nenm wajju'kat.*
nen-Ø-**Ø**-m-Ø wajju'kat
know-*v*-An-Voice-1s rummy(IN)
'I know rummy.'

Inanimate arguments are not indicated in the inflection with first- or second-person subjects. These verbs are ungrammatical with the Animacy morpheme *-t* that agrees with inanimate internal arguments (68)-(69).

68. **Kwil**t**m watj.*
kwil-Ø-**t**-m-Ø watj
seek-*v*-An-Voice-1s watch(IN)
Intended: 'I am looking for the watch.'

69. **Nen**t**m wajju'kat.*
nen-Ø-**t**-m-Ø wajju'kat
know-*v*-An-Voice-1s rummy(IN)
Intended: 'I know rummy.'

[55] Introduction of animate internal argument by applicative is used as a diagnostic in chapter 4; see section 4.2.

We conclude that zero Animacy is compatible with an internal argument that is either animate or inanimate. We distinguish the two groups discussed in this section through further spirals of our investigation.

3.2.3 *-t-l* two Animacy morphemes

Three stems in our corpus have what appear to be two Animacy morphemes; i.e., both *-t* and *-l*. (70) illustrates with the stem *ekn-* 'dress.' [56]

70. *Ekno'**tl**k mijua'ji'j.*
ekn-o'-**t-l**-Ø-k mijua'ji'j
decorate-*v*-An-An-Voice-1s>3s child(AN)
'I am dressing the child.' (in a context where the child can't or won't put clothes on himself/herself)

This clause is trivalent in that the subject is putting clothes on the child. The items of clothing are unspecified in this construction. The plurality of the action is indicated by the little *v* morpheme *-o'* (section 3.1.2.2). The *-l* potentially agrees with *mijua'ji'j* 'the child' and the *-t* with the unspecified items of clothing.

What we analyse as the combination *-o'-t-l* also occurs in the plural event of undressing (71).[57]

71. (a) *Menikno'tlk nijan.*
menikn-o'-t-l-Ø-k n-ijan
remove-*v*-An-An-Voice-1s>3s 1s-child(AN)
'I am taking off my child's [clothes].'

The two Animacy morphemes *-t* and *-l* potentially index both the unspecified clothing (*-t*) and the animate syntactic object *nijan* 'child' (*-l*).

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[56] Inglis 1986:292 notes two other verb stems with *-o't-l*, as she analyses it: *kekn-o't-l-k* 'trim as a Christmas tree', *musik-o't-l-k* 'undress'/ 'untrim.'

[57] It is likely that *menikn* 'remove' is actually two morphemes: *men-* 'remove' and *ikn* for which we have no gloss. The contribution of *-ikn* in the examples is beyond the scope of the study.

(72) shows another example with *-t-l* and a three-place verb with animate syntactic object and an unspecified inanimate participant (a drink). This clause expresses the subject giving a drink to the child.

72. *Esam'qo'**tl**k mijua'ji'j.*
esam'q-o'-**t-l**-Ø-k mijua'ji'j
drink-*v*-An-An-Voice-1s>3s child(AN)
'I am giving the child [a drink].'

Again the *-l* potentially agrees with *mijua'ji'j* 'the child' and the *-t* with the unspecified drink. (73) illustrates the stem *kasik-* 'wash.'

73. *Kasiko'**tl**k mijua'ji'j.*
kasik-o'-**t-l**-Ø-k mijua'ji'j
wash-*v*-An-An-Voice-1s>3s child
'I am washing the child's [face].'

This clause expresses a trivalent action with a possessor and possessed internal argument. The *-l* potentially agrees with *mijua'ji'j* 'the child' and the *-t* with his/her (unspecified) face.

All examples in our data set are with the little *v* morpheme *-o'*. The construction is the only construction in our corpus that expresses a clause where there are three semantic participants and the internal argument is unspecified. As such it fits into the paradigm of constructions in Mi'kmaw where one participant is unspecified (see chapter 7). It also fits into the paradigm of possessor raising constructions since the possessor is raised to object (see chapter 7). Future study can investigate if this phenomenon is more widespread in the language and whether it always occurs with the little *v* morpheme *-o'*.

3.2.4 Summary of Animacy agreement morphemes

Table 5 summarises the properties of the three Animacy morphemes as discussed in this chapter and their agreement with the animacy of the internal argument.

Table 5. Summary of Animacy morphemes

Animacy morpheme	**Animacy of the internal argument**
-t	inanimate
-l	animate
-Ø	compatible with either
-t-l	unspecified internal argument, animate benefactive

This pattern of agreement with the animacy of the internal argument is not absolute throughout the grammar, however. We discuss in the thesis two contexts where the animacy of the internal argument does not determine the choice of Animacy morpheme (sections 6.1.1 and 6.5.2). Both of these exceptional cases involve a wider use of *-t* (and notably, not *-l* or - *Ø*); in these cases, the internal argument is animate yet the Animacy agreement morpheme is *-t*. We conclude that the Animacy morpheme *-t* does not necessarily correspond in animacy with the internal argument. Chapter 6 presents the larger function of the Animacy category in expressing grammatical voice in Mi'kmaw.

3.3 Voice

The next morpheme set in the verbal projection is what we call Voice. Harley (2017) reviews the development of how the Voice category and its properties are analysed, beginning with the split-verb phrase hypothesis of Larson (1988). She argues that the features of *v*P and VoiceP presented in Pylkkänen (2008) may be bundled or separate. Harley (2017) maintains that even when *v* and Voice are not bundled, the functions are tightly correlated.

Lovell (1984:12) is the first to talk about Voice as a category in an Algonquian language. Lovell labelled Theme suffixes in Michif as 'voice' because in this position "occur 'active' themes, 'passive' themes, and 'reflexive' themes – notions frequently associated with voice in other languages." Oxford (2014b, 2019a, 2019b) analyses theme

signs as Voice across Algonquian (cf. Bruening 2005). Tollan and Oxford (2018), focussing on Plains Cree and Oji-Cree, define Voice as introducing the external argument and licensing the internal argument. Johansson (2009) also argues that Voice introduces the external argument in Blackfoot.

Johansson (2009) argues that the causative morpheme *-attsi* in Blackfoot is Voice, noting that it has properties of both *v* and Voice. Bliss (2010) gives evidence that the benefactive *-omo* in Blackfoot is category Voice. McCulloch (2013) considers the middle morpheme *-asi* in some Mi'gmaq verbs as Voice. She also argues that the Mi'gmaq morpheme *-eke* is a Voice head.

Our work is situated within this analytical paradigm. Using established Algonquian terminology, the morphemes we call Voice are called TI theme signs. For example, Lochbihler (2012) reports that Bloomfield (1957) identifies *-am*, a TI suffix that appears to be cognate to Mi'kmaw *-m*, as a theme sign. Valentine (2001:310) calls *-am*, *-oo*, and *-i* theme signs. Lochbihler (2012:80) says that in Ojibwe, "the *-igee/-iwee* suffixes should be recognized as theme-signs because they are in complementary distribution with the other theme-signs, appearing in the same slot as the theme-sign suffix." These suffixes appear to be cognate to Mi'kmaw *-eke* and *-ue*.

Following McCulloch (2013:22), we identify *-eke* and four other morphemes in Mi'kmaw as Voice: *-ue*, *-m*, *-u*, and *-Ø*.[58] Our identification of this set is based on our proposals about the structure of the verb word detailed in chapter 1, in particular our

[58] These Voice morphemes thus are distinguished from what we called 'intransitive' Voice morphemes (*-e*, *-a*, *-ie*, and *-i*) in Sylliboy et al. (2017).

claim that the verb word is made up of stem-*v*-An-Voice-inflection. (74)-(78) is a five-way near-minimal quintuplet with the stem *kes-* 'like.'

74. *Kesat**eke**y*.
kes-a-t-**eke**-y
like-*v*-An-Voice-1s
'I am having an affair.'

75. *Kesat**m** wasuek.*

kes-a-t-**m**-Ø	wasuek
like-*v*-An-Voice-1s	flower(IN)

'I like the flower.'

76. *Kesal**u**t mijua'ji'j*.

kes-a-l-**u**-t	mijua'ji'j
like-*v*-An-Voice-3s	child(AN)

'The child is loved.'

77. *Kesal**ue**y*.
kes-a-l-**ue**-y
like-*v*-An-Voice-1s
'I like [people].'

78. *Kesalk mijua'ji'j*.

kes-a-l-**Ø**-k	mijua'ji'j
like-*v*-An-Voice-1s>3s	child(AN)

'I like the child.'

This quintuplet illustrates the Voice morphemes *-eke, -ue, -m, -u,* and *-Ø*. It is impossible to compare Voice morphemes in an identical context since when the Voice morpheme is different, other morphemes must also be different.

In this first spiral we can only make a few observations about the category Voice morpheme. We compare these particular functional heads: section 3.3.1 discusses *-ue* and *-eke*, section 3.3.2 *-m* and *-u*, and section 3.3.3 *-Ø* in comparison with each of *-m* and *-u*. Section 3.3.4 shows cases where a verb contains two Voice morphemes. Section 3.3.5 summarises.

3.3.1 *-ue* and *-eke*

-ue and *-eke* are considered together here as Voice morphemes since they are both used in antipassive constructions and have what appear to be cognate morphemes in other Algonquian languages which are treated together. We define 'antipassive' as a grammatical voice using the criteria given by Zúñiga and Kittilä (2019), see section 2.4.5. The internal argument is unspecified. Quinn (2011) noted antipassives in Algonquian languages, citing two diagnostic components; "an intransitive/detransitivized verbal form, with an instrumental/oblique-marked notional object." Goddard (1990a:475) calls this construction "suppression of the object." Bloomfield (1962:278-80) called these "verbs of indefinite action."

What appear to be cognates are found in other Algonquian languages. Plains Cree cognates are evidently *-ke/-ike* and *-iwe* (Wolfart 1973). Wolfart (1973) notes that *-iwe* is of similar meaning to *-ike* but indicates an indefinite object that is animate rather than inanimate. Nishnaabemwin cognates are *-ge*/*-ige/-aage* and *-iwe* (Valentine 2001). Valentine (2001: 406) reports that *-iwee* is a detransitivizing suffix that applies to unspecified human goals. Ojibwe cognates are *-igee* and *-iwee* (Lochbihler 2012). Lochbihler (2012:79) observes, "the morphemes *-igee* and *-iwee* have been previously distinguished from each other in terms of the semantic content of the implicit argument they signal. The *-iwee* final is usually considered to denote an implicit human goal… The *-igee* version is a kind of elsewhere allomorph under this view." Kyriakaki (2009) calls the *-ue* cognate in Ojibwe a realisation of the *-eke* cognate. O'Meara (1990) says *-kee* is

unspecified or indefinite object and *-wee* is unspecified or indefinite animate object in Delaware.[59]

In Mi'kmaw, *-ue* implies a human referent while *-eke* doesn't have such a restriction; we argue that the morphological restriction is the same for Mi'kmaw as it is for other Algonquian languages but the semantics of the construction has broadened in some respects with *-eke*. *-ue* is discussed in section 3.3.1.1 and *-eke* in section 3.3.1.2.

3.3.1.1 -ue

Twenty-four stems in our corpus occur with *-ue*. In our corpus, *-ue* only occurs in intransitive clauses with a subject and an unspecified animate referent (antipassive voice). The clauses have implied referents which are without exception human in our corpus. The implied referents are added in square brackets in the examples. (79)-(83) illustrate. (79) illustrates the stem *enq-* 'stop.' In each example, (a) shows the antipassive and (b) demonstrates that the construction is ungrammatical with an object.

79. (a) *Enqa'l**ue**y.*
enq-a'-l-**ue**-y
stop-*v*-An-Voice-1s
'I am a referee (I stop [people]).'

(b) **Enqa'l**ue**y skwijinu'k.*
enq-a'-l-**ue**-y skwijinu-'k
stop-*v*-An-Voice-1s person(AN)-P
Intended: 'I stop people.'

With the stem *enq-* 'stop,' the implied referent is 'people.' The clause is intransitive as evidenced by the fact that (1) no DP referent can be expressed and (2) there is no agreement for object in the inflection.

80. *Nepa'l**ue**y.*
nep-a'-l-**ue**-y
sleep-*v*-An-Voice-1s
'I am an anaesthesiologist (I put [people] to sleep).'

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[59] What appear to be cognates of *-eke* are also reported in Penobscot (*-ahke;* Quinn 2006 and Proulx 1980), Meskwaki (*-ike* and *-hke*; Dahlstrom 2013), Innu (*-tshe/-itshe*; Drapeau 2014), and Blackfoot, (*-aki*; Frantz 2017, Taylor 1969, Armoskaite 2011).

The presence of the Animacy agreement morpheme *-l* is not directly related to transitivity. The clause is invariably intransitive when *-ue* is the Voice morpheme (81a). An explicit object DP is ungrammatical (81b)

81. (a)*Tepa'l**ue**y.*
tep-a'-l-**ue**-y
load-*v*-An-Voice-1s
'I am loading [people] [in my car].'

(b) **Tepa'l**ue**y skwijinu'k.*
tep-a'-l-**ue**-y skwijinu-'k
load-*v*-An-Voice-1s person(AN)-P
Intended: 'I am loading people [in my car].'

The implied referents are without exception human. A gloss with an unspecified inanimate referent 'stuff' is unacceptable (82a).

82. (a) *Ekwija'l**ue**y.*
ekwij-a'-l-**ue**-y
go.in.water-*v*-An-Voice-1s
'I am the person who puts [people/*stuff] in the water.'

(b) **Ekwija'l**ue**y skwijinu'k*
ekwij-a'-l-**ue**-y skwijinu-'k
go.in.water-*v*-An-Voice-1s person(AN)-P
Intended: 'I am the person who puts people in the water.'

-ue selects *-l* with these stems (83a), never *-t* (83b).

83. (a) *Pija'l**ue**y.*
pij-a'-l-**ue**-y
in-*v*-An-Voice-1s
'I am a jailer.' (I put [people] in [jail])

(b)* *Pija'tuey.*
pij-a'-t-**ue**-y
in-*v*-An-Voice-1s
Intended: 'I put [things] in.'

Discussions with my Mi'kmaw-speaking colleagues indicate that the examples with *-ue* carry the connotation that this is what the subject does habitually – the verb expresses what kind of person the subject is and the kinds of things that characterise him/her. As a study of aspect is beyond the scope of the thesis, here we only make a few observations which require further testing.

3.3.1.2 -eke

In Mi'kmaw, *-eke* occurs in intransitive and transitive clauses. These are discussed in sections 3.3.1.2.1 and 3.3.1.2.2, respectively.

3.3.1.2.1 *-eke* in intransitive clauses

(84)-(89) show examples of *-eke* with six stems. For each example, (b) demonstrates that a DP object in the clause is ungrammatical.

84. (a) *We'jit**eke**y.*
we'ji-i-t-**eke**-y
found-*v*-An-Voice-1s
'I found [something].'

(b) **We'jit**eke**y watj.*
we'ji-i-t-**eke**-y watj
found-*v*-An-Voice-1s watch(IN)
Intended: 'I found a watch.

These clauses express antipassive voice. The diagnostics for prototypical antipassives as defined by Zúñiga and Kittilä (2019:103) require comparing transitive and intransitive clauses and understanding how antipassives are coded in Mi'kmaw. We do this in the second spiral of our investigation in section 6.3. For now, we document that the internal argument is unspecified and the clause is intransitive. Sometimes the clause is idiomatic or a particular kind of referent is implied. Even in such cases (85)-(87), the internal argument is unspecified. In (85), the referent is 'clothes.' To specify the referent is ungrammatical with *-eke*.

85. (a) *Jinpeka't**eke**y.*
jinpek-a'-t-**eke**-y
wring-*v*-An-Voice-1s
I am wringing out [the clothes].'

(b) **Jinpeka't**eke**y tapsun.*
jinpek-a'-t-**eke**-y tapsun
wring-*v*-An-Voice-1s clothes(IN)
Intended: 'I am wringing out the clothes.'

Likewise, *pesko'tekey* implies plucking a chicken, yet the clause is ungrammatical if the chicken is specified (86).

86. (a) *Pesko't**eke**y.*
pesk-o'-t-**eke**-y
pluck-*v*-An-Voice-1s
'I am plucking [something].'

(b) **Pesko't**eke**y ki'kli'kwej.*
pesk-o'-t-**eke**-y ki'kli'kwej
pluck-*v*-An-Voice-1s chicken(AN)
Intended: 'I am plucking the chicken.'

Similarly, *ke'so'tekey* implies putting wood into the fire (87a), yet an explicit DP *kmu'j* 'wood' in the clause is ungrammatical (87b).

87. (a) *Ke'so't**eke**y.*
ke's-o'-t-**eke**-y
put.in.fire-*v*-An-Voice-1s
'I am putting [wood] into the fire.'

(b) **Ke'so't**eke**y kmu'j.*
ke's-o'-t-**eke**-y kmu'j
put.in.fire-*v*-An-Voice-1s firewood(IN)
Intended: 'I am putting the wood into the fire.'

88. (a) *Kesispa't**eke**y.*
kesisp-a'-t-**eke**-y
wash-*v*-An-Voice-1s
'I am washing [the floor].'

(b) **Kesispa't**eke**y msaqsaqt.*
kesisp-a'-t-**eke**-y msaqsaqt
wash-*v*-An-Voice-1s floor(AN)
Intended: 'I am washing the floor.'

Discussions with my colleagues who are fluent speakers indicate that, unlike *-ue*, *-eke* is not restricted to animate or inanimate unspecified internal arguments; *ka'qn* 'door' is animate and *tuopɨti* 'window' is inanimate. Regardless of the animacy of the unspecified internal argument, *-eke* selects *-t*. **-l-eke* is ungrammatical, even if the understood referent is animate (89).

89. (a) *Anko't**eke**y.*
ank-o'-t-**eke**-y
care-*v*-An-Voice-1s
'I am babysitting.' (caring for [a child])

(b) **Anko'l**eke**y/*Ankwey**eke**y*
ank-o'-l-**eke**-y
care-*v*-An-Voice-1s
Intended: 'I am babysitting.'

The morpheme *-eke* and apparent cognates in other Algonquian languages has been the subject of much discussion. Valentine considers the cognate morpheme *-ge* in Nishnaabemwin a "detransitivizing suffix" that causes focus on the actor by making it the only role (Valentine 2001:403). Kiriakaki (2009:5) calls *-ige* in Ojibwe an "antipassive suffix." Denny (1984: 257) decomposes *-ike* into two morphemes; proposing that *-e* indicates that the subject is an agent."

In Mi'kmaw, *-eke* is identified by Inglis (1986:15) as being a non-inflectional verb suffix, referred to in the literature as a "final," marking a verb that takes an indefinite semantic object. Inglis reported that the clause does not have a syntactic object. McCulloch (2013) reports that in Mi'gmaq, clauses with *-eke* are ungrammatical with an overt object. She asks whether the morpheme *-eke* "introduces a non-specific internal

argument or deletes/absorbs the internal argument" (2013: 21). She argues that *-eke* reduces the valency of a transitive verb and that it 'absorbs' the object to create AI verbs from TI verbs.

3.3.1.2.2 *-eke* in transitive clauses

In contrast to Inglis (1986) and McCulloch (2013), our early work (Sylliboy et al. 2017) finds that *-eke* can occur in clauses with a direct object and addresses when transitive clauses occur. (90)-(92) illustrate. All three examples are with the same stem *tew-* 'out.' The animacy of the syntactic object (when present) is indicated and *-eke* is bolded. (90) is intransitive.

90. *Tewo't**eke**y.*
tew-o'-t-**eke**-y
out-*v*-An-Voice-1s
'I am taking [stuff] out [on credit].'

(91) is transitive with an animate object.

91. *Tew**eke**y l'mu'j.*
tew-Ø-Ø-**eke**-y l'mu'j
out-*v*-An-Voice-1s dog(AN)
'I am throwing the dog outside.'

(92) is transitive with an inanimate object.

92. *Tew**eke**y kutputi.*
tew-Ø-Ø-**eke**-y kutputi
out-*v*-An-Voice-1s chair(IN)
'I am throwing the chair outside.'

Little (2016c p.c.) also noted the occurrence of *-eke* with an object DP in Mi'gmaq. Hamilton (2015) cites an example where *ege* occurs in a transitive clause (although he does not parse it as a morpheme separate from the root). His example is reproduced here as (93); abbreviations include PST 'past tense' and OBV 'obviative.' We bolded the morpheme *ege*.

93. el**ege**-pn-n tu'aqn-n.
throw-AI-3.PST-OBV ball-OBV
'S/he threw the ball.' Hamilton (2015: 50)

In transitive clauses with *-eke*, the object can be animate (91) or inanimate (92). This situation is similar to the *-eke* antipassives where the unspecified internal arguments may be animate or inanimate. The object must be third-person, however; first- and second-person objects are not possible with *-eke*.[60] (94) and (95) illustrate.

94. **Teweket ni'n.*
tew-Ø-Ø-**eke**-t ni'n
out-*v*-An-Voice-3s 1s
Intended: 'S/he is throwing me outside.'

95. **Tewekey ki'l.*
tew-Ø-Ø-**eke**-y ki'l
out-*v*-An-Voice-1s 2s
Intended: 'I am throwing you outside.'

We conclude that *-eke* restricts objects to third-person.[61]

We demonstrate in Sylliboy et al. (2017) that whether the clause has an object or not is related to the presence or absence of another morpheme. In Sylliboy et al. (2017), we call this morpheme little *v*, following other Algonquian linguists. We have since determined that what we called little *v* in that paper actually has two morphologically distinct parts which we now identify as little *v* and Animacy. The Animacy morpheme is closer to the root than *-eke*, so according to secondary derivation as described in the Algonquian literature (cf. Inglis 1986: 96-98 for Mi'kmaw), the transitivity of the

[60] I thank Little (2016c p.c.) for pointing out that when a verb stem with *-eke* takes an object in the clause, the object can only be third-person (cf. Bruening 2001 for Passamaquoddy).

[61] The grammatical way to state the corresponding verb stem with a speech act participant employs different little *v* and Voice morphemes, and inflections must indicate both the subject and the object: *tew-aqa-l-Ø-it*, out-*v*-An-Voice-3s>1s, 'S/he is throwing me outside.' *tew-aqa-l-u'l*, out-*v*-An-Voice-1s>2s, 'I am throwing you outside.' It is not possible to use *-eke* in these contexts.

complete verb stem should be controlled by *-eke* in both cases. The fact that root + *-eke* + inflection takes a direct object and root + other morpheme + *-eke* + inflection cannot take a direct object cannot be accounted for by secondary derivation. Our model of Mi'kmaw verb structure accounts for these differences; see especially section 6.1. For example, (90)-(92) illustrate the same verb stem. The verb in (90) contains the Animacy morpheme *-t*; this verb is intransitive. The verbs in (91)-(92) have zero Animacy and are transitive.

In the literature, *-eke* or its cognates in these two situations has been analysed in two different ways, by saying that the morpheme *-eke* in intransitive and transitive clauses represents two homophonous morphemes. It is argued that in transitive clauses, *-eke* is a TI stem which means 'throw' (e.g., Fidelholtz 1999 for Mi'kmaw,[62] Quinn 2006 for Penobscot, Dahlstrom 2013 for Meskwaki and Kickapoo) and in intransitive clauses, *-eke* is the antipassive morpheme (e.g., Kyriakaki 2009 for a cognate morpheme in Ojibwe). We present three arguments that *-eke* is not a root. First, the emphatic diagnostic puts *-eke* outside the verb stem in both situations. (96)-(97) show the emphatic versions of (90) and (91).

96. *Tewlikwo't**eke**y.*
tew-likw-o'-t-**eke**-y
out-EMPH-*v*-An-Voice-1s
'I am #$@!% taking [stuff] out [on credit].' (cf. (90))

97. *Tewlikw**eke**y l'mu'j.*
tew-likw-Ø-Ø-**eke**-y l'mu'j
out-EMPH-*v*-An-Voice-1s dog(AN)
'I am #$@!% throwing the dog outside.' (cf. (91))

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[62] Fidelholtz noted that *-eke* doesn't behave like other roots. He notes "certain endings which drop phonologically after the other endings do not drop after *-eke-*" (Fidelholtz 1999:100). Significantly, he noted that the 'markers' *-tm-*, *-tu-*, or *-m-* are always added after TI stems with the exception of *-eke*, which never adds these 'markers.' We argue that the *-eke* is in the same grammatical category as *-u* and *-m*, and therefore in complementary distribution.

In both cases, the positioning of the emphatic *-likw* places *-eke* in the extended projection of the verb rather than as a verb stem.

Next, we argue that 'throw' is not a semantic component of *-eke*. While 'throw' appears to be a part of the meaning of the clauses in (91), (92), and (97), *-eke*, if interpreted as a stem, doesn't have a consistent meaning of 'throw.' In clauses with other stems, 'throw' is clearly not part of the meaning. (98)-(100) show three stems with *-a'-t-u* in (a) and *-Ø-Ø-eke* in (b).

98. (a) *Waqam**a'tu** kutputi.*
waqam-**a'-t-u**-Ø kutputi
clean-*v*-An-Voice-1s chair(IN)
'I am cleaning the chair.'

(b) *Waqam**eke**y kutputi.*
waqam-**Ø-Ø-eke**-y kutputi
clean-*v*-An-Voice-1s chair(IN)
'I am quickly cleaning the chair.'

99. (a) *Kesip**a'tu** pataluti.*
kesip-**a'-t-u**-Ø pataluti
wash-*v*-An-Voice-1s table(IN)
'I am washing the table.'

(b) *Kesip**eke**y pataluti.*
kesip-**Ø-Ø-eke**-y pataluti
wash-*v*-An-Voice-1s table(IN)
'I am wiping the table.'

100. (a) *Kaqam**a'tu** aptu'n.*
kaqam-**a'-t-u**-Ø aptu'n
wash-*v*-An-Voice-1s cane(IN)
'I am standing the cane up.'

(b) *Kaqam**eke**y aptu'n.*
kaqam-**Ø-Ø-eke**-y aptu'n
want-*v*-An-Voice-1s cane(AN)
'I am standing the cane up roughly or quickly.'

The stem with *-eke* in these examples does not carry any idea of throwing. Rather, compared with the stem plus *-a'-t-u*, it conveys the aspectual idea of a fast or rough action, perhaps a metaphorical idea of throwing. We argue that *-eke* is a Voice morpheme which fits into the same paradigm as all other members of the Voice category. Like all other Voice morphemes, *-eke* occurs in transitive and intransitive clauses. We argue that the difference in transitivity in the two forms is due to the differences in the *-a'-t-u* and *-Ø-Ø-eke* constructions.

Verb stems like those in (101)-(103) clearly illustrate that ‘throw’ is not a part of the properties of a verb with *-eke*. These examples contrast *-Ø-Ø-eke* with *-a’-l-Ø* and *-a’-t-u*.

101. *Tukw**a’l**i**k mijua’ji’j.*
tukw-**a’-l-Ø**-k mijua’ji’j
wake.up-*v*-An-Voice-1s>3s child(AN)
‘I am waking up the child.’

(b) *Tukw**eke**y mijua’ji’j.*
tukw-**Ø-Ø-eke**-y mijua’ji’j
wake.up-*v*-An-Voice-1s child(AN)
‘I am shaking the child awake.’

With *-a’-l-Ø* (101a), the child is awakened, whereas with *-Ø-Ø-eke* (b), the idea of vigorous shaking is added. Throwing the child is not a part of this action. Likewise, *-Ø-Ø-eke* is used by some of my colleagues to express remotely locking a car in (102).[63]

102. (a) *Apt**i**sq**a’tu** nutapaqn.*
apt**i**sq-**a’-t-u**-Ø nu-tapaqn
lock-*v*-An-Voice-1s 1sPOSS-car(IN)
‘I am locking my car [with a key].’

(b) *#Apt**i**sq**eke**y nutapaqn.*
apt**i**sq-**Ø-Ø-eke**-y nu-tapaqn
lock-*v*-An-Voice-1s 1sPOSS-car(IN)
‘I am locking my car [with a remote].’

With *-a’-t-u* (102a), the car is locked by physically turning the key in the lock, whereas with *-Ø-Ø-eke* (b), the car is locked by a wireless connection. The action of throwing is not involved. A third example involves the stem *kes-* hurt’ (103).

103. (a) *Kes**a’l**i**k Pie’l.*
*kes-**a’-l-Ø**-k* *Pie’l*
hurt-*v*-An-Voice-1s>3s Peter
‘I am hurting Peter.’

(b) *Kes**eke**y Pie’l.*
*kes-**Ø-Ø-eke**-y* *Pie’l*
hurt-*v*-An-Voice-1s Peter
‘I got Peter good.’ (I was mean to Peter/tricked him/gave him a low blow)

[63] Some dialects spell ‘lock’ *ap**i**sq-*.

(103a) is physical hurting whereas (b) is hurting by tricking.[64] There is no throwing activity.

We conclude that *-Ø-Ø-eke* adds not the idea of 'throwing,' but rather a more ballistic, vigorous, or hands-off action.

Finally, we argue that if *-eke* were a verb stem, the verb in (91) would contain two verb stems *tew-* 'out' and *eke-* 'throw.' As such we would expect the structure preverb-*i*-verb stem as discussed by Inglis (1986) for Mi'kmaw and McCulloch (2013) for Mi'gmaq. Following their observations, it is expected that (91) would be expressed as illustrated in (104). Two possibilities are illustrated because of the possibility of phonological deletion of the [e] in the first syllable of *-eke*.[65]

104. **Tewi-**eke**y/ *Tewi-**ke**y l'mu'j.*

tew-i-**eke**-Ø-Ø-y	l'mu'j
out-i-throw-*v*-An-Voice-1s	dog(AN)

Intended: 'I am throwing the dog outside.'

This is not what we observe, so we conclude that *-eke* is not a stem.

We conclude that *-eke* is not a verb stem but rather is category Voice. The emphatic diagnostic places *-eke* outside the boundary of the verb stem, 'throw' is not a semantic component of *-eke,* and the structure of a verb with *-eke* does not resemble the structure of a verb that is formed from two stems.

To sum up, *-eke* is seen in intransitive verbs that are antipassive as well as transitive verbs that are active. Our early research indicates that active and antipassive verbs with *-eke* involve different morphemes in the Animacy category. We need the second spiral of

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[64] The fact that 103b 'I got Peter good' is translated as past tense in English reflects its nature; speakers note that this is an unplanned event so can't really give it in present.

[65] This phenomenon is called 'initial change' in the Algonquian literature.

our investigation to investigate further how little *v*, Animacy, and Voice interact to determine the properties of the verb as a whole.

3.3.1.3 -eke and -ue

In sections 3.5.1.1 and 3.5.1.2 we show that both *-eke* and *-ue* occur in antipassive constructions, with *-ue* being restricted to human unspecified internal arguments and *-eke* not being restricted.[66] We see that *-eke* also occurs in active transitive clauses, while *-ue* is restricted to antipassive clauses (see section 3.3.1.1). In antipassive clauses, *-eke* selects the Animacy morpheme *-t* where *-ue* selects *-l*.

About half of the verb stems in the study can form antipassives with *-eke* or *-ue*.

Table 6. Verb stems that collocate with -eke and/ or -ue

	Number of stems
Verb stems that allow only *-eke*	44
Verb stems that allow only *-ue*	2
Verb stems that allow both *-eke* and *-ue*	19
Verb stems that allow neither	35
Total	100

The total is 100; we limit our corpus to 100 stems out of the total number studied (169) since some stems only occur with little *v* morphemes that we exclude from the study. Stems that can occur with either *-eke* or *-ue* all occur in intransitive antipassive clauses.[67] (105)-(106) illustrate two stems where the stem with *-ue* (a) implies a specific context involving a human internal argument and *-eke* (b) a specific context involving an inanimate. In (13a), the subject is stopping animate people and in (b) inanimate cars.

[66] Kyriakaki (2009:6) considered the apparent cognates of *-eke* and *-ue* in Ojibwe to be the same morpheme, saying, "the suffix *-(i)ge* (often realized as *-(i)we*)" is antipassive.
[67] Zúñiga and Kittilä (2019:115-116) mention that Innu has two antipassives (*ue-* used only with causativized bases and *tshe-* used only with non-causativized bases). We find that both *-eke* and *-ue* in Mi'kmaw occur with stems with either an internal or external argument.

105. (a) *Enqa'l**ue**y.*
enq-a'-l-**ue**-y
stop-*v*-An-Voice-1s
'I am a referee.' (I stop [people])

(b) *Enqa't**eke**y.*
enq-a'-t-**eke**-y
stop-*v*-An-Voice-1s
'I am stopping [cars on the road].'

In the same way, with the verb stem *tep-* 'load,' *-ue* (a) implies a specific context involving an animate internal argument and *-eke* (b) a specific context involving an inanimate (106).

106. (a) *Tepa'l**ue**y nutapaqnk.*
tep-a'-l-**ue**-y nu-tapaqn-k
load-*v*-An-Voice-1s 1sPOSS-car-LOC
'I am loading [people] in my car.'

(b) *Tepo't**eke**y nutapaqnk.*
tep-o'-t-**eke**-y nu-tapaqn-k
load-*v*-An-Voice-1s 1sPOSS-car-LOC
'I am loading [stuff] in my car.'

Speakers identify people as the internal argument that is unspecified by the verb with *-ue* in (107a) while for the same verb with *-eke*, they supply the inanimate floor (*msaqsaqt*).

107. (a) *#Kesispa'l**ue**y.*
kesisp-a'-l-**ue**-y
wash-*v*-An-Voice-1s
'I am a person who washes [people].'

(b) *Kesispa't**eke**y.*
kesisp-a-t-**eke**-y
wash-*v*-An-Voice-1s
'I am washing [the floor].'

Likewise, with the stem *waqam-* 'clean,' the unspecified internal argument is human with *-ue* in (108a) while for the same verb stem with *-eke*, the internal argument is not restricted to human. (107) and (108) also illustrate a difference between *-ue* and *-eke* we observe with some stems: when the stem co-occurs with *-ue*, it expresses what the subject does habitually while the same stem with *-eke* expresses an action in progress.

108. (a) *#Waqama'l**uey**.*
waqam-a'-l-**ue**-y
clean-*v*-An-Voice-1s
'I clean [people].'

(b) *Waqama't**eke**y.*
waqam-a'-t-**eke**-y
clean-*v*-An-Voice-1s
'I am cleaning.'

In two other examples with the stems *kespukw-* ‘lie’ (109), *ekn-* ‘dress’ (110), and *kejkap-* ‘make a scratch’ (111), the construction with *-ue* again indicates that the unspecified internal argument is human where the one with *-eke* does not.

109. (a) *Kespukwa’l**ue**y.*
kespukw-a’-l-**ue**-y
lie-*v*-An-Voice-1s
‘I am a liar.’/‘I lie [to people].’

(b) *Kespukwa’t**eke**y.*
kespukw-a’-t-**eke**-y
lie-*v*-An-Voice-1s
‘I am lying [to someone].’

110. (a) *Ekna’l**ue**y.*
ekn-a’-l-**ue**-y
decorate-*v*-An-Voice-1s
‘I’m a dresser’/’I dress people.’

(b) *Ekna’t**eke**y.*
ekn-a’-t-**eke**-y
decorate-*v*-An-Voice-1s
‘I am a decorator.’ / ‘I am decorating.’

111. (a) *Kejkapa’l**ue**y.*
kejkap-a’-l-**ue**-y
make.a.scratch-*v*-An-Voice-1s
‘I like to scratch [people].’

(b) *Kejkapa’t**eke**y.*
kejkap-a’-t-**eke**-y
make.a.scratch-*v*-An-Voice-1s
‘I am scratching [stuff].’

For other stems, both *-ue* and *-eke* are found in situations where the implied referent is people. (112)-(115).

112. (a) *Wela’l**ue**y.*
Wel-a’-l-**ue**-y
good-*v*-An-Voice-1s
‘I am a very generous person.’/
‘I make [people] feel good.’/
‘I gave [someone] [something] and made them feel good.’

(b) *Wela’t**eke**y*.
wel-a’-t-**eke**-y
good-*v*-An-Voice-1s
‘I am a person who does good.’

Future research could investigate whether the difference between *-ue* and *-eke* involves *-ue* expressing more the effect of the actions on the people and *-eke* expressing more the actual actions done. In (112), my colleagues’ translations of *wela’luey* indicate that the unspecified people feel good whereas *wela’tekey* expresses that what was done was good. (113)-(117) illustrate five more examples where constructions with both *-ue* and *-eke* express events involving people.

113. (a) *Nepa'l**ue**y.*
nep-a'-l-**ue**-y
'I am an anaesthesiologist.'
(I put [people] to sleep)

(b) *Nepa't**eke**y.*
nep-a'-t-**eke**-y
'I put [people] to sleep.'
(by giving a headlock or anesthetic)

114. (a) *Kesal**ue**y.*
Kes-a-l-**ue**-y
like-*v*-An-Voice-1s
'I love [people].'

(b) *Kesat**eke**y.*
kes-a-t-**eke**-y
like-*v*-An-Voice-1s
'I am having an affair.'

In all cases, *-eke* always selects the Animacy morpheme *-t* and *-ue* always *-l.*

115. (a) *Ekwija'l**ue**y.*
ekwij-a'-l-**ue**-y
go.in.water-*v*-An-Voice-1s
'I am the person who puts [people] in the water.'

(b) *Ekwija't**eke**y.*
ekwij-a'-t-**eke**-y
go.in.water-*v*-An-Voice-1s
'I am the person who puts [objects or people] in the water.'

116. (a) *Eluewa'**lu**ey.*
eluew-a'-l-**ue**-y
angry-*v*-An-Voice-1s
'I am a person who drives [people] crazy.'
'I am aggravating.'

(b) *Eluewa'**teke**y.*
eluew-a'-t-**eke**-y
angry-*v*-An-Voice-1s
'I drive [people] crazy.'

117. (a) *Siwa'l**ue**y.*
siw-a'-l-**ue**-y
lonely-*v*-An-Voice-1s
'[People] are tired of me.'

(b) S*iwa't**eke**y.*
siw-a'-t-**eke**-y
lonely-*v*-An-Voice-1s
'I am a nuisance/ burden.'

In summary, *-eke* and *-ue* are distinguished by the selection of the Animacy agreement morpheme; *-eke* always selects *-t* in antipassive constructions while *-ue* always selects *-l*; *-eke* selects *-Ø* in active constructions. *-ue* only appears in clauses that are antipassive and requires that the unspecified internal argument be human. *-eke,* on the other hand, also appears in clauses that are active voice and transitive. *-eke* does not restrict the animacy of the internal argument in either transitive or antipassive clauses.

Table 7. Summary of distinctions between -ue *and* -eke

	-ue	***-eke***
Animacy morpheme selected	*-l*	*-t* or *-Ø*
Grammatical voice of resulting clause	antipassive	*-t-eke* is antipassive, *-Ø-eke* is active
Transitivity of resulting clause	intransitive	*-t-eke* is intransitive, *-Ø-eke* is transitive
Unspecified internal argument	human	animacy is not restricted

Future research might investigate an apparent semantic difference in that *-eke* often expresses the subject's habitual *activity* while *-ue* expresses the subject's habitual *relationship with people*.[68]

3.3.2 *-m* and *-u* are distinct morphemes

The Voice morpheme *-m* occurs with 27 stems and *-u* occurs with 42 stems. Although the Voice morphemes *-m* and *-u* could potentially be allomorphs since they are both labial sonorants, we demonstrate that they are distinct Voice morphemes.[69] *-m* and *-u* occur in the same phonological environments. Both yield clauses that express active grammatical voice but *-u* is also involved in clauses expressing passive voice. (118) illustrates an example pair where *-m* or *-u* occur in similar morphological environments.[70]

118. (a) *Tepo't**u** tapsun nutapaqnk.*
tep-o'-t-**u**-Ø tapsun nu-tapaqn-k
load-*v*-An-Voice-1s clothes(IN) 1sPOSS-vehicle-LOC
'I am loading the clothes onto my car.'

(b) *Welo't**m** tapsun.*
wel-o'-t-**m**-Ø tapsun
treat.well-*v*-An-Voice-1s clothes(IN)
'I am taking good care of the clothes.'

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[68] Our findings indicate that the unspecified argument with *-ue* must be animate and human but further investigations could study sentience (cf. Johannsson 2007, Little 2016a).
[69] The verbal morphemes *-m* and *-u* are referred to in the literature as theme signs (Inglis 1986).
[70] Fidelholtz (1968:253) found it impossible to predict whether *-tu-* or *-tm-* is suffixed to a verb on phonological grounds. He also shows one stem that is a minimal pair: menōt**u** 'I take things off.' (e.g., clothes from a line) and menōt**m** 'I take it off by unconsciously frigging at it.' (e.g., paint on a table) (Fidelholtz 1968:254). Note that ō is [o:] (which the Francis-Smith orthography writes as *o'*) and m̥ is a syllabic m.

Our dataset includes one verb stem *kwil-* ‘seek’ that co-occurs with *-m* in active voice and *-u* in passive voice (125-126 below). We also demonstrate contrast in similar phonological environments between the *-m* and *-u* phonemes in nouns (119)-(120).

119. (a) *t**m**aqn*
‘pipe’
(b) *t**u**’aqn*
‘ball’

120. (a) *n**m**e’j* *(*n**u**e’j)*
‘fish’
(b) *l’n**u**ey*
‘belonging to people’

Since *-m* and *-u* can appear in the same phonological and morphological environments, we conclude that *-m* and *-u* represent different morphemes. They are considered as distinct morphemes in Mi’kmaw/Mi’gmaq by other researchers (Inglis 1986, McCulloch 2013) and what appear to be cognate morphemes in other Algonquian languages are also considered distinct from one another (cf. Denny 1984 for Ojibwe).

Although we conclude that *-m* and *-u* are distinct morphemes, we can’t contrast their differences at this point, however, since we have only one or two examples of stems that can host both. We need to spiral further into our investigation and see them in combination with other morphemes.

This spiral reveals a few features of these morphemes. Similar to *-eke*, *-m* and *-u* both restrict objects to third-person. In addition, the object must be inanimate for *-m* and *-u*. (121)-(122) illustrate that an inanimate object is grammatical with both.

121. *Kwilm watj*.
kwil-Ø-Ø-m-Ø watj
seek-*v*-An-Voice-1s watch(IN)
‘I am looking for the watch.’

122. *Kesispa’tu kutputi*.
kesisp-a’-t-u-Ø kutputi
wash-*v*-An-Voice-1s chair(IN)
‘I am washing the chair.’

(123)-(124) illustrate the ungrammaticality of animate objects with these morphemes.[71] (a) illustrates an SAP object and (b) a third-person animate object.

123. (a) **Kwilmn ni'n.*
kwil-Ø-Ø-m-n ni'n
seek-*v*-An-Voice-2s 1s
Intended: 'You are looking for me.'

(b) **Kwilm l'mu'j.*
kwil-Ø-Ø-m-Ø l'mu'j
seek-*v*-An-Voice-1s dog(AN)
Intended: 'I am looking for the dog.'

124. (a) **Kesispa'lu ki'l.*
kesisp-a'-l-u-Ø ki'l
wash-*v*-An-Voice-1s 2s
Intended: 'I am washing you.'

(b) **Kesispa'lu l'mu'j.*
kesisp-a'-l-u-Ø l'mu'j
wash-*v*-An-Voice-1s dog(AN)
Intended: 'I am washing the dog.'

A difference between verbs with *-m* as compared with verbs with *-u* is that some verbs with *-u* are passive (125) whereas with *-m*, the grammatical voice is always active (126).

125. *Kwilut mijua'ji'j.*
kwil-Ø-Ø-u-t mijua'ji'j
seek-*v*-An-Voice-3s child(AN)
'The child is being looked for.'

126. *Kwilm watj.*
kwil-Ø-Ø-m-Ø watj
seek-*v*-An-Voice-1s watch(IN)
'I am looking for the watch.'

Morphemes that appear to be cognate to *-u* and *-m* in Mi'kmaw occur in other Algonquian languages. Denny (1984:254) notes for Ojibwe that *-aw*, cognate to Mi'kmaw *-u*, is associated with verbs that are 'patient descriptive' in that the verb expresses what is happening to the patient. Verbs in Ojibwe with the TI abstract final *-am*, cognate to Mi'kmaw *-m*, are 'agent descriptive' in that the verb describes what the agent is doing – "the physical or mental action of the agent." At this point in our analysis,

[71] The grammatical way to state the corresponding verb stems with an animate participant object employs different little *v* and Voice morphemes, and inflections must indicate both the subject and the object.

we cannot comment on whether or not Mi'kmaw *-u* and *-m* express these features. We conclude that these are distinct Voice morphemes. Further spirals of our analysis are required to investigate further.

3.3.3 *-Ø* Voice

Based on the assumptions of our analysis, we are positing a zero Voice morpheme. We begin to see how zero Voice fits into the paradigm of other Voice morphemes when we compare near minimal pairs with *-m* in section 3.3.3.1 and with *-u* in section 3.3.3.2.

3.3.3.1 -Ø and -m

We find near-minimal pairs with *-m* and *-Ø* in two contexts. The first is when we compare transitive clauses with inanimate or animate objects. For example, by our analysis, (127)-(128) show the Voice heads *-m* contrasting with *-Ø* in two verb stems.

127. (a) *Jipat**m** sam'qwan.*
jip-a-t-**m**-Ø sam'qwan
fear-*v*-An-Voice-1s water(IN)
'I am afraid of the water.'

(b) *Jipalk l'mu'j.*
jip-a-l-**Ø**-k l'mu'j
fear-*v*-An-Voice-1s>3s dog(AN)
'I am afraid of the dog.'

128. (a) *Nepit**m** nipit.*
nep-i-t-**m**-Ø n-ipit
heal-*v*-An-Voice-1s 1sPOSS-tooth(IN)
'I am healing my tooth.'

(b) *Nepilk nijan.*
nep-i-l-**Ø**-k nijan
heal-*v*-An-Voice-1s>3s my.child(AN)
'I am healing my child.'

Note especially that both Voice morphemes occur with each stem and where *-m* follows the Animacy morpheme and precedes the (zero) inflection, there is no overt morpheme in the same position in the verb in (b). We propose the zero Voice morpheme occupies this slot. The Animacy morphemes are different for animate versus inanimate objects (*-t* indicating inanimate objects and *-l* indicating animate objects, see section

3.2.1).[72] There is no common morpheme that can be teased out from the S+O inflections that could be Voice (see section 3.2), a required category in every clause according to our model.

The second context compares *-Ø* and *-m* with different subjects. We use the same two stems as in (127)-(128) for ease of comparison. (129a) has a 2s subject and (b) a 3s animate subject with the stem *jip-* 'fear.' We use the 2s subject for comparison since it has an explicit inflection; the 1s inflection in (127) is *-Ø*.

129. (a) *Jipat**m**n sam'qwan.*
jip-a-t-**m**-n sam'qwan
fear-*v*-An-Voice-2s water(IN)
'You are afraid of the water.'

(b) *Jipatk l'mu'j sam'qwan.*
jip-a-t-**Ø**-k l'mu'j sam'qwan
fear-*v*-An-Voice-3s dog water(IN)
'The dog is afraid of the water.'

We find *-m* between the Animacy morpheme *-t* and the 2s inflection *-n* in (a). In the same location in (b), there is no phonetic or phonological element and, according to our analysis, we argue the presence of a zero Voice morpheme. Likewise, (130a) demonstrates the Voice morpheme *-m* between the Animacy agreement morpheme *-t* and the 2s inflection *-n* and zero in the same location in (b).

130. (a) *Nepit**m**n kipit.*
nep-i-t-**m**-Ø k-ipit
heal-*v*-An-Voice-2s 2sPOSS-tooth(IN)
'You are healing your tooth.'

(b) *Nepitk Pie'l wipit.*
nep-i-t-**Ø**-k Pie'l w-ipit
heal-*v*-An-Voice-3s Peter 3sPOSS-tooth(IN)
'Peter is healing his tooth.'

We see that third-person proximate subjects do not employ the Voice morpheme *-m*; we might expect **nepitmt* on the model of (130a). Instead, the Voice morpheme *-Ø* is used with a unique inflection.

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[72] The verbal inflections agree with subjects and animate objects only; the inflections show no agreement with singular inanimate objects.

We conclude that *-Ø* Voice is involved in subject and object restrictions as compared with *-m*. We find *-Ø* with animate and inanimate objects where *-m* restricts objects to inanimate. Also, *-Ø* is employed for third-person proximate subjects in the same contexts where *-m* is employed for other subjects.

3.3.3.2 -Ø and -u

Similar to the situation with *-Ø* and *-m*, with *-Ø* and *-u* we find near-minimal pairs in the same two contexts. The first is when we compare transitive clauses with inanimate or animate objects. For example, (131)-(132) show the Voice heads *-u* and *-Ø* (bolded) each with two different stems (*ke'kw-* 'put on top' and *apaj-* 'return').

131. (a) *Ke'kwa't**u**'n pla'kit npo'qn-iktuk.*

ke'kw-a'-t-**u**-'n	pla'kit	npo'qn-iktuk
put.on.top-*v*-An-Voice-2s	blanket(IN)	bed-LOC

'You are putting the blanket on the bed.'

(b) *Ke'kwa'l~~i~~t mia'wj npo'qn-iktuk.*

ke'kw-a'-l-**Ø**-t	mia'wj	npo'qn-iktuk
put.on.top-*v*-An-Voice-2s>3s	cat(AN)	bed-LOC

'You are putting the cat on the bed.'

In (b), there is nothing phonetically between the Animacy agreement morpheme *-l* and the 2s>3s inflection *-t* besides an epenthetic schwa (see section 2.4.4.3), and we propose a zero Voice morpheme. (132) illustrates another example.

132. (a) *Apaja't**u** pla'kit.*

apaj-a'-t-**u**-Ø	pla'kit
return-*v*-An-Voice-1s	blanket(IN)

'I am returning the blanket.'

(b) *Apaja'l~~i~~k mia'wj.*

apaj-a'-l-**Ø**-k	mia'wj
return-*v*-An-Voice-1s>3s	cat(AN)

'I am returning the cat.'

The second context compares *-Ø* and *-u* for different subjects. (133a) with a 1s subject is repeated from (131) with a 2s subject and (b) has a 3s proximate subject.[73]

133. (a) *Ke'kwa't**u** pla'kit npo'qn-iktuk.*
ke'kw-a'-t-**u**-Ø pla'kit npo'qn-iktuk
put.on.top-*v*-An-Voice-1s blanket(IN) bed-LOC
'I am putting the blanket on the bed.'

(b) *Ke'kwa'toq mijua'ji'j pla'kit npo'qn-iktuk.*
ke'kw-a'-t-**Ø**-oq mijua'ji'j pla'kit npo'qn-iktuk
put.on.top-*v*-An-Voice-3s child blanket(IN) bed-LOC
'The child is putting the blanket on the bed.'

With a 1s subject (a), the Voice morpheme *-u* is employed; for a 3s subject, there is a *-Ø* Voice morpheme. Likewise, with the stem *apaj-* 'return' in (134), a 1s subject employs the Voice morpheme *-u* and a 3s proximate subject the Voice morpheme *-Ø*.

134. (a) *Apaja't**u** wasuek.*
apaj-a'-t-**u**-Ø wasuek
return-*v*-An-Voice-1s flower(IN)
'I am returning the flower.'

(b) *Apaja'toq mijua'ji'j wasuek.*
apaj-a'-t-**Ø**-oq mijua'ji'j wasuek
see-*v*-An-Voice-3s child flower(IN)
'The child is returning the flower.'

Considering the findings in this section and the last, we conclude that there is a pairing between verbs with inanimate objects and the same verb with an animate object; verbs that co-occur with *-m* or *-u* Voice when they have an inanimate object will occur with *-Ø* Voice with an animate object.[74] Table 8 illustrates.

Table 8. Voice morpheme and animacy of object

Object	**Voice morpheme**	
inanimate	*-m*	*-u*
animate	*-Ø*	

[73] Similar to the situation with third-person with *-u*, the 3s obviative inflection follows the pattern set by SAP subjects, i.e., *ke'kwa't**u**lij Pie'l wte'pitml pla'kit po'qn-iktuk*
*ke'kw-a'-t-**u**-lij Pie'l w-t-e'pit-m-l pla'kit npo'qn-iktuk*
put.on.top-*v*-An-Voice-3sOB Peter 3sPOSS-ep-woman-Poss-OB pla'kit bed-LOC
'Peter's wife is putting the blanket on the bed.'

[74] Appendix A discusses this observation as a case of differential object marking (cf. Aissen 2003) in Mi'kmaw.

Similarly, there is a second pairing for different subjects; a verb stem that co-occurs with *-m* or *-u* for a non-third-person proximate subject will employ *-Ø* Voice for a third-person proximate subject. Table 9 illustrates.

Table 9. Voice morpheme and subject

Subject	**Voice morpheme**	
non-third-person proximate	*-m*	*-u*
third-person proximate	*-Ø*	

We argue that these properties are due to subject and object restrictions by the different Voice morphemes.

Oxford (2017) for Algonquian in general and Riccomini (2019) for Ojibwe argue that the TI theme sign (*-m* and *-u* in the examples in this section) is 'redundant' because the verb finals already indicate that the verb is transitive with an inanimate object. From our perspective as speakers and a learner of Mi'kmaw, we believe that all parts of a word contain information about the event expressed. We argue instead that we need to look for all of the properties of each morpheme. This section has demonstrated some of those properties for *-Ø* Voice.

3.3.4 Two co-occurring Voice morphemes

The Voice morphemes *-m-u* can co-occur in the same verb in one particular situation involving possessor raising. This situation is discussed below and elaborated in section 6.6.

(135)-(136) illustrates two examples.

135. *Anko't**mu**t Pie'l sulieweym.*

ank-o'-t-**m**-**u**-t	Pie'l	suliewey-m
care-*v*-An-Voice-Voice-3s	Peter	money(IN)-POSS

'Peter's money is being take care of.'/ '[Someone] is taking care of Peter's money.

136. *Nen**mu**t Pie'l wutapaqn msɨt tami.*

nen-Ø-**Ø-m-u**-t	Pie'l	w-tapaqn	msɨt	tami
know-*v*-An-Voice-3s	Peter	3POSS-car(IN)	all	where

'Peter's car is known everywhere.'

In our corpus, we find that no other Voice morphemes co-occur in Mi'kmaw. Two voice/valence categories are noted in other languages. Rice (2006) argues that more than one voice/valence element can appear within a Dene (Athapaskan) verb and that the ordering is a consequence of the semantic relationship between voice and valence. Dene languages have a causativizer, middle voice marker, and a third marker that indicates both. Also, Young et al. (1992) report two voice/valence markers in Navajo and Golla (1970) in Hupa (these are the middle voice and causative markers). Rice (2006) assigns them different functional status because they can occur together.

3.3.5 Summary and discussion

This section identifies five members of category Voice in Mi'kmaw and illustrates a few of their features. We consider that these morphemes are all in the same functional category that immediately dominates Animacy in the verb structure since they all function in a similar manner to select the Animacy morpheme (section 3.3.5.1) and to restrict features of the subject and object (section 3.3.5.2). Section 3.3.5.3 makes some transitional comments.

3.3.5.1 Voice selects Animacy

One of the functions of category Voice is to select the Animacy category. The Voice morphemes differ in terms of which Animacy morphemes they select. For example, *-eke* selects *-t* but not *-l* (137).

137. (a) *Kesispa'**t**ekey.* (b) * *Kesispa'**l**ekey.*
*kesisp-a'-**t**-eke-y* kesisp-a'-**l**-eke-y
wash-*v*-An-Voice-1s wash-*v*-An-Voice-1s
'I am washing [the floor (IN)].' Intended: 'I am washing [the door (AN)].'

In contrast, *-ue* selects *-l* but not *-t* (138)

138. (a) *Kesispa'**l**uey.* (b) * *Kesispa'**t**uey.*
*kesisp-a'-**l**-ue-y* kesisp-a'-**t**-ue-y
wash-*v*-An-Voice-1s wash-*v*-An-Voice-1s
'I am a person who washes [people].' Intended: 'I am a person who washes [floors].'

Since *-eke* never selects *-l* and *-ue* never selects *-t,* one might assume that *-eke* marks antipassive with an unspecified internal argument that is inanimate and *-ue* marks antipassive with an unspecified internal argument that is animate, due to the Animacy morpheme agreement. In other Algonquian languages, morphemes apparently cognate to *-eke* occur in contexts with inanimate internal argument referents and those cognate to *-ue* animate internal argument referents (see section 3.3.1.3). In Mi'kmaw, antipassives formed with *-ue* involve exclusively animate referents (see section 6.2) but, in contrast to the other Algonquian languages, *-eke* is used in contexts with both animate and inanimate referents (see sections 3.3.1.2 and 6.1).

-eke also selects *-Ø* Animacy to yield a transitive clause. This transitive construction is already discussed in section 3.3.1.2.2; we show one example here (139).

139. *Amalekey tu'aqn.*
amal-Ø-Ø-eke-y tu'aqn
various-*v*-An-Voice-1s ball(AN)
'I am throwing the ball around.'

The Voice morphemes *-u* and *-m* select either *-t, -l,* or *-Ø* (140)-(141). (140a) shows the stem *kesisp-* 'wash' with *-t-u* and (b) illustrates *-l-u*.

140. (a) *Kesispa'tu msaqsaqt.* (b) *Kesispa'lut l'mu'j.*

kesisp-a'-t-u-Ø	msaqsaqt	kesisp-a'-l-u-t	l'mu'j
wash-*v*-An-Voice-1s	floor(IN)	wash-*v*-An-Voice-3s	dog(AN)
'I am washing the floor.'		'The dog is being bathed.'	

There are many things that are different in these clauses even though they have the same stem, little *v*, and Voice morphemes. Chapter 6 investigates some of these differences.

(141) shows *-u* selecting *-Ø* Animacy.

141. *Kwil**u**t l'mu'j.*

kwil-Ø-**Ø**-**u**-t	l'mu'j
seek-*v*-An-Voice-3s	dog(AN)
'The dog is being looked for.'	

(142) shows that *-m* selects *-t* (a) but is ungrammatical with **-l* (b).

142. (a) *Wissukwa**tm** wius.* (b) **Wissukwa**lm** jakej.*

*wissukw-a-**t**-**m**-Ø*	*wius*	*wissukw-a-**l**-**m**-Ø*	*jakej*
cook-*v*-An-Voice-1s	meat(IN)	cook-*v*-An-Voice-1s	lobster(AN)
'I am cooking meat.'		Intended: 'I am cooking lobster.'	

(143) illustrates *-m* selecting *-Ø* Animacy.

143. *Kwil**m** watj.*

kwil-Ø-**Ø**-**m**-Ø	watj
seek-*v*-An-Voice-1s	watch(IN)
'I am looking for the watch.'	

Table 10 summarises the selection of Animacy by Voice. Ungrammatical cells are shaded.

Table 10. Summary of selection of Animacy by Voice

Voice	**Selects *-t***	**Selects *-l***	**Selects *-Ø***
-eke	✓	*	✓
-ue	*	✓	✓
-m	✓	*	✓
-u	✓	✓	✓
-Ø	✓	✓	✓

We see that selectional properties distinguish all Voice morphemes except two pairs: *-eke* vs. *-m,* and *-u* vs. *-Ø*. Chapter 6 looks further into the selection of Animacy by Voice.

3.3.5.2 Voice restricts subject and object features

This section demonstrates that Voice restricts subject and object features. Table 11 shows a summary which includes the Animacy selection.

Table 11. Voice restricts subject and object features and selects Animacy

Voice	**Subject**	**Object**	**Selects *-t***	**Selects *-l***	**Selects *-Ø***
-eke	any	3rd person only	*	*	✓
	any	*	✓	*	*
-ue	any	3rd person only	*	✓	✓
-m	non 3rd proximate	3rd person only	✓	*	✓
-u	non 3rd proximate	3rd person only	✓	*	*
	3rd proximate	*	*	✓	✓
		3rd person only	✓	*	*
-m-u	3rd proximate	3rd person only	✓	*	✓
-Ø	any	any person	✓	✓	✓

The only combinations that require intransitive clauses are *-t-eke, -l-u* and *-Ø-u* (hence * in the Object column for these cases).

3.3.5.3 Concluding remarks

Section 3.3.2 demonstrates that *-m* and *-u* are distinct Voice morphemes, but it is still unclear at this point in our analysis when or why one is used over the other.

We notice that the terminology we use to describe Voice is different from that used to describe the Animacy agreement category in that for Animacy we talk about agreement with the internal argument and not transitivity. For Voice, we need to talk about grammatical roles. We can begin to see that Voice is the location for the mapping of internal and external arguments to grammatical roles, i.e., grammatical voice.

At the beginning of section 3.3, we illustrated a five-way near minimal quintuplet (74)-(78). Similarly, (144)-(149) illustrates four of the Voice morphemes in six examples that make a near minimal set. *-ue* and *-eke* are shown in (144) and (145).

144. *Kesispa'l**ue**y.*
kesisp-a'-l-**ue**-y
wash-*v*-An-Voice-1s
'I am a person who washes [people].'

145. *Kesispa't**eke**y.*
kesisp-a'-t-**eke**-Ø
wash-*v*-An-Voice-1s
'I am washing [the floor].

These clauses are antipassive. Other Algonquianists have considered *-eke* as an antipassive morpheme (e.g., Dahlstrom (2013). Yet we can also find *-eke* in active clauses (146).

146. *Kesisp**eke**y msaqsaqt.*
kesisp-Ø-Ø-**eke**-Ø msaqsaqt
wash-*v*-An-Voice-1s floor(IN)
'I am quickly wiping the floor.

We find *-u* in an active clause (147) and a passive one (148).

147. *Kesispa't**u** kutputi.*
kesisp-a'-t-**u**-Ø kutputi
wash-*v*-An-Voice-1s chair (IN)
'I am washing the chair.'

148. *Kesispa'l**u**t l'mu'j.*
kesisp-a'-l-**u**-t l'mu'j
wash-*v*-An-Voice-3s dog (AN)
'The dog is being washed.'

(149) shows *-Ø* Voice.

149. *Kesispa'l~~i~~k l'mu'j.*
kesisp-a'-l-**Ø**-k l'mu'j
wash-*v*-An-Voice-1s>3s dog (AN)
'I am washing the dog.' '

We observe differences in grammatical voice in these examples, but questions remain. But we haven't yet seen the whole picture because the morphemes *-u* and *-eke* are found in clauses of different grammatical voice. We would expect the grammatical voice to be the same for any given Voice morpheme if Voice is responsible for grammatical voice. Sylliboy et al. (2017) note a dependency between the Voice head *-eke* and what we now term the Animacy head, in relation to transitivity. In this section we establish a foundation so that the second and third spirals of our investigation can go deeper to follow these threads when considering the combinations of morphemes.

3.4 Chapter 3 summary and discussion

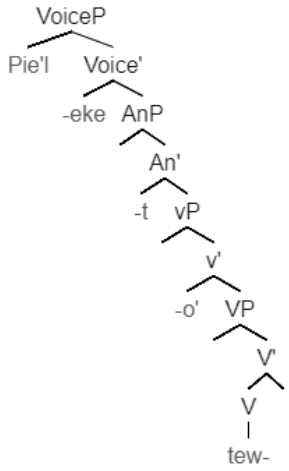
We are now at the end of the first spiral of our investigation. On the basis of morphological patterning, semantic properties, and selection, we argue that Mi'kmaw verbal projections contain three functional categories, little *v*, Animacy, and Voice. This chapter shows a few basic properties of each morpheme set. Little *v* morphemes (*-a, -a', -i, -o', -Ø*) have aspectual properties and properties associated with a light verb. These are consistent with what is presented in the literature for little *v*. The Animacy agreement morpheme is involved with animacy of the internal argument. *-l* agrees with an animate internal argument. While *-t* generally agrees with an inanimate internal argument, it has a broader function in certain contexts that invites further investigation. *-Ø* Animacy allows either animate or inanimate internal arguments. The Voice morphemes (*-eke, -ue, -m, -u*, and *-Ø*) restrict some features of the grammatical subject, internal argument, and transitivity.

Two Animacy morphemes (*-t-l*) may co-occur in the same verb and two Voice morphemes (*-m-u*) may co-occur on the same verb. Each of these situations occurs in a particular context. We conclude that it is possible for these categories to be doubled.

The Mirror Principle (Baker 1985) supports the view that the order of the three sets of suffixes reflects the hierarchical order of functional categories in Mi'kmaw. Our proposed partial structure for the verbal projection is shown in Figure 12, which illustrates (150).

150. *Pie'l tewo'teket.*
Pie'l tew-o'-t-eke-t
Peter out-*v*-An-Voice-3s
'Peter is taking [things out on credit].'

Figure 12. Proposed partial structure for (150)

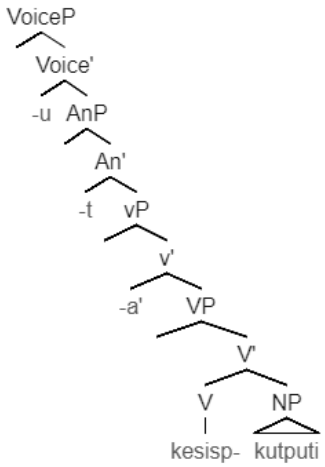


We assume head movement to arrive at the morpheme sequence of the verb word.

Figure 13 illustrates (151).

151. *Kesispa'tu* *kutputi.*
kesisp-a'-t-u-Ø kutputi
wash-*v*-An-Voice-1s chair
'I am washing the chair.'

Figure 13. Proposed partial structure for (151)



In concluding this first spiral of our investigation, we observe that as we consider the three categories little *v*, Animacy, and Voice, there is a progression of function. Close to the verb stem, the little *v* and Animacy categories are involved with valency and internal/external arguments, while Voice involves transitivity and grammatical subject features. For example, Animacy agreement is with the internal argument and not with the syntactic object, whereas the Voice restrictions involve transitivity, unspecified participants, and grammatical subject and object, but not the internal and external arguments.

Before we proceed to the second spiral, we discuss how this analysis in general and the proposal of zero morphemes in each category compares with that in the broader Algonquian literature (sections 3.4.1 and 3.4.2).

3.4.1 Comparison with Algonquian

Most Algonquianists use the verb stem structure and system of classifying verbs developed by Bloomfield in 1946.[75] For example, McCulloch (2013:5) assumes Bloomfield's analysis in that "all Mi'gmaq verbs consist minimally of three morphemes: two parts of the stem that are known in the tradition of Bloomfield (1946) as the INITIAL and the FINAL, plus person marking" (emphasis hers). This basic root-final-inflection structure (cf. Inglis 1986 for Mi'kmaw) is illustrated in Figure 14 with an example (152).[76]

Figure 14. Bloomfieldian stem structure

initial/root	verb final	inflection
stem		

152. *tem* *-a'l* *-ɨk*
root TA.verb.final inflection
'I break him/her in two.' Inglis (1986:11)

Some TI and TA stems may also have a "theme sign." "The theme sign is a segment of the inflectional ending complex that gives information about the gender and person of

[75] Others who assume the classification include (and I give their latest works that talk about classification along with the language): Slavin (2012), Oji-Cree; Bliss, (2010, 2018), Blackfoot; Brittain (2001), Montagnais; Bruening (2001), Passamaquoddy; Dahlstrom (2013), Meskwaki; Déchaine and Weber (2015b), Algonquian in general; Déchaine and Wiltschko (2014). Blackfoot and Plains Cree; Denny (1984), Ojibwe; Drapeau (2015), Innu; Frantz (2017), Blackfoot; Genee (2016), Blackfoot; Goddard (1990a), Algonquian in general; Grafstein (1984), Ojibwe; Hamilton (2015, 2017b), Mi'gmaq; Hirose (2000), Plains Cree; Humber (1971), Newfoundland Mi'kmaw; Johansson (2011), Algonquian in general; Jolley (1982), Plains Cree; Junker (2003), East Cree; Lambert-Brétière (2020), Innu, Lochbihler (2012), Ojibwe; Lockwood (2017), Potawatomi; Mathieu (2012, 2013), Ojibwe; Meadows and Johnson (2013), Blackfoot; Melchin et al., (2020), Ojibwe, O'Meara (1992), Delaware; Oxford (2014b), Algonquian in general; Proulx (1978), Mi'kmaq; Proulx (1990), Proto-algonquian; Rhodes (1976), Ojibwe; Riccomini (2019), Ojibwe; Ritter (2014) and Ritter and Rosen (2010), Blackfoot; Slavin (2012), Ojibwe and Oji-Cree; Thomason (2003), Meskwaki; Valentine (2001), Ojibwe; Weaver (1982), Michif; Wolfart (1996), Plains Cree; Wolvengrey (2011), Plains Cree.

[76] The Bloomfieldian basic verb structure also includes an optional "medial" which occurs between the "root" and "final."

the subject and object" (Goddard 1990a:450 citing Bloomfield 1962:142, 145).[77] "Theme signs" are also classified as TA or TI.

"Finals" are glossed by their "verb-defining status plus animacy and transitivity" (McCulloch 2013:5). Under this classification, finals are identified as intransitive with an animate or inanimate subject (AI or II, respectively) or transitive with an animate or inanimate object (TA or TI, respectively). The standard Algonquianist analysis is that the "verb stems are categorized according to the verb final in which they end" (Inglis 1986:93-94). The last final indicates the transitivity of the stem and clause. McCulloch (2013:17) illustrates with the Mi'kmaw examples we reproduce in Table 12.[78]

Table 12. Transitive and intransitive verbs as classed by "finals"

"Root": *sewisg-* 'break'	**Animate**	**Inanimate**
Intransitive	*sewisg-ie-t* break-VAI-3 'it.AN breaks up'	*sewisg-ia-g* break-VII-0 'it.IN breaks up'
Transitive	*sewisg-a'l-at-l* break-VTA-3>4-OBV 's/he breaks it.AN'	*sewisg-a't-oq* break-VTI-3 's/he breaks it.IN'

The conclusions from this chapter mark a significant departure from the presentation of verb stems and transitivity in the Algonquian literature, but the analysis is entirely consistent with explicit and implicit recognition within these works of the distinct characteristics of the three proposed categories.

[77] The TI theme sign indicates an animate subject and inanimate object. Oxford (2017) identifies three types of TI theme signs in Proto-Algonquian: TI1 (*-am*), TI2 (*-aw, -a, -o*) and TI3 (no theme sign).

[78] Abbreviations are AN 'animate,' IN 'inanimate,' VAI 'verb animate intransitive,' VII 'verb inanimate intransitive,' VTA 'verb transitive animate,' VTI 'verb transitive inanimate,' 0 'inanimate,' 3 'third-person,' 4 'obviative.'

Figure 15 links our analysis of the Mi'kmaw verb (non-bolded) to established Algonquian terminology (bolded).

Figure 15. Comparing established Algonquian analysis with our analysis

<table>
<tr><td colspan="3">Stem (II, AI, TI, TA)</td><td>TI theme sign</td><td>TA theme sign</td><td>Inflection</td></tr>
<tr><td>Root/ initial</td><td colspan="2">Finals (II, AI, TI, TA) (Little v)</td><td colspan="2">Theme sign (Voice)</td><td></td></tr>
<tr><td>Stem</td><td>Little v</td><td>Animacy agreement</td><td>Voice</td><td colspan="2">Inflection</td></tr>
</table>

The main differences in the two approaches involve what is encompassed in the verb stem, our analysis of three morphemes between stem and inflection, and our consideration of what are termed "TI theme signs" as a distinct category from what are termed "TA theme signs." We consider TI theme signs as Voice and TA theme signs with the inflection.

Regarding Animacy as a distinct category, many linguists recognise that "finals" in Algonquian languages are in pairs (Jones 1911, Bloomfield 1946, cf. Inglis 1986 for Mi'kmaw). This reflects an implicit recognition that they are bimorphemic. The members of the pairs are distinguished by the common *t* for the inanimate-indicating morphemes and the sonorant for the animate-indicating morphemes. We reproduce two examples from the appendix of Inglis (1986) where she lists Mi'kmaw verb and noun morphemes with examples. (153)-(154) show her two examples with the two morphemes bolded.

153. *jip-**al**-k*
'fear, afraid of' Inglis (1986:285)

154. *jip-**at**-m*
'fear, afraid of' Inglis (1986:285)

(155)-(156) represent our analysis of the same verbs.

155. *Jipalk.*
jip-a-l-Ø-k
fear-*v*-An-Voice-1s>3s
'I fear him/her.'

156. *Jipatm.*
jip-a-t-m-Ø
fear-*v*-An-Voice-1s
'I fear it.'

The 'pairing' in Inglis' analysis is accomplished through the final consonant *-t* or *-l*, which we analyse as being a separate morpheme Animacy; the little *v* is the same in both examples (*-a*). Studying the closely-related language Penobscot, Quinn (2006:36) isolates "*t*" and "*l*", calling them "the segment of each Final held to be agreeing with the Primary Object." We name these not as a segment of a final but as a separate category in Mi'kmaw.

We find the Animacy morphemes *-t* and *-l* pattern differently than *-Ø*; *-t* and *-l* occur only in bivalent clauses (that may be transitive or intransitive) whereas zero Animacy occurs in monovalent and bivalent clauses. By monovalent I mean that the clauses have only one participant. Bivalent clauses have two participants. Intransitive clauses may be bivalent; *-eke* and *-u* can occur in intransitive clauses with an implied unspecified participant (see sections 6.1.1 and 6.5.3).

Regarding the functional category Voice, linguists note a distinction between "finals" and "theme signs" in their study of Algonquian languages. Analysing a range of languages, many Algonquian linguists recognise finals as little *v* and theme signs as Animacy (e.g., Brittain 1999 for Naskapi) or Voice (Oxford 2014b for Algonquian in general). In contrast, McCulloch (2013) argues for Mi'gmaq that "theme signs" and

"second order finals" like *-eke* are in the same category, which she calls Voice. McCulloch 2013:28 says (capitalisation is hers):

> Oxford (2013 [2014a]), among other authors, also proposes a VOICE head in Algonquian, but does so for different reasons. In Oxford's proposal, VOICE is the location of the theme sign, and he does not consider verbs with more than one final. Although Mi'gmaq does have theme signs (Hamilton 2013), note that a theme sign and a second final cannot co-occur on the same verb stem, so I think it is coherent to say that they belong to the same projection, especially when there are independent reasons to place them both on VOICE.

While "theme signs" are considered a category in the broader Algonquian literature, some analysts consider TI theme signs as distinct from TA theme signs. TI theme signs are defined as part of the "verb stem" for Mi'kmaw (Proulx 1977, Inglis 1986) and Ojibwe (Piggott 1979, Denny 1984) while TA theme signs are defined as part of the inflection (Algonquian in general: Goddard 1990a:450).

For Mi'kmaw, we agree with this distinction and we analyse TI theme signs as Voice and what corresponds to TA theme signs we consider object agreement following Rhodes (1976 for Ojibwe), Goddard (1979 for Delaware), Brittain (1999 for Western Naskapi), and McGinnis (1999 for Ojibwe).

Although our analysis appears to differ only in a few small details from that in other Algonquian studies, we find that it constructs a congruent picture of the Mi'kmaw verb that is significantly different than what we find in the Algonquian literature, as the following spirals of the investigation show.

3.4.2 Zero morphemes

We propose in the thesis that there are zero morphemes in each of little *v*, Animacy, and Voice categories. The proposal that there are some Algonquian verb finals that are null goes back as far as Bloomfield (1927, 1962:274, 332), Goddard (1990a:451), and Brittain and Acton (2014). McCulloch (2013:20) includes zero verb finals in her list of verb finals however no examples are given. Inglis (1986:107-108) remarked that *kwilm* is among a small list of verbs that "appear to occur without verb finals." Manyakina (2015:19) also proposes zero morphemes, citing Bloomfield (1946), Wolfart (1973), and Goddard (1990b). Frantz (2017:109) also proposes 'zero' (null) finals." Little (2016a) gives an example of a null final marker glossing it as TA in one example and TI in another. She also describes the verb as having "no final."

We extend their findings in that the features of these zero morphemes in Mi'kmaw fit into the paradigms provided by the other members of each category. *-Ø* little *v* has aspectual features that distinguish it from other little *v* morphemes, as shown in Table 13, modified from Table 4 in section 3.1.3. In these cases of ballistic/hands-off motion, We argue in Chapter 4 that *-Ø* little *v* only selects stems associated with an internal argument.

Table 13. Summary of little v *morphemes*

Little *v*	**Light verb features**	**Event features**	**Stem argument**
-a	do	single action	external argument
-a'	do, cause	single action not ballistic	internal argument
-o'	do many times	multiple action	either
-i	make	resultant state, stative	internal argument
-Ø	do	single action, ballistic	internal argument
		single action not ballistic	either (rare in our corpus)

Zero Animacy allows internal arguments of any animacy, as shown in Table 5 reproduced from section 3.2.4.

Table 14. Summary of Animacy morphemes

Animacy morpheme	**Animacy of the internal argument**
-t	inanimate (and also animate in possessor raising and antipassive constructions)
-l	animate
-Ø	compatible with either
-t-l	unspecified internal argument

Zero Voice also has features that distinguish it from the other Voice morphemes as shown in Table 15 reproduced from Table 11 in section 3.3.5.

Table 15. Summary of features of Voice

Voice	**Subject**	**Object**	**Selects *-t***	**Selects *-l***	**Selects *-Ø***
-eke	any	3rd person only	*	*	✓
	any	*	✓	*	*
-ue	any	3rd person only	*	✓	✓
-m	non 3rd proximate	3rd person only	✓	*	✓
-u	non 3rd proximate	3rd person only	✓	*	*
	3rd proximate	*	*	✓	✓
		3rd person only	✓	*	*
-m-u	3rd proximate	3rd person only	✓	*	✓
-Ø	any	Any person	✓	✓	✓

As we (Friesen and Denny 2019) illustrated, there are verbs with zero morphemes in all three categories. (157) and (158) illustrate two roots. The zero little *v* in all examples allows an internal argument of either animacy.

(157) shows an example pair where (a) illustrates an inanimate internal argument, and (b) the same stem with an animate internal argument. The verbal inflections agree with the animate recipient.

157. (a) *Kwilk Helen wenju'su'n.*
kwil-**Ø**-**Ø**-**Ø**-k Helen wenju'su'n
seek-*v*-An-Voice-3S Helen apple(IN)
'Helen is looking for the apple.'

(b) *Kwiluatl Helen l'mujl*.
kwil-**Ø-Ø-Ø**-w-atl Helen l'muj-l
give-*v*-An-Voice-APPL-3S>3SOB Helen dog(AN)-OB
'Helen is looking for the dog.'

(158) shows an example pair where (a) illustrates an inanimate internal argument, and (b) the same stem with an animate internal argument.

158. (a) *Kekkunk mijua'ji'j*.
kekkun-**Ø-Ø-Ø**-k mijua'ji'j
have-*v*-An-Voice -1S>3S child(AN)
'I have a child.'

(b) *Kekkunk mijua'ji'j papitaqn*.
kekkun-**Ø-Ø-Ø**-k mijua'ji'j papitaqn
have-*v*-An-Voice -3S child(AN) toy(IN)
'The child has a toy.'

Note the 1s subject in (158a) and the 3s subject in (158b). These are necessary to make a minimal pair.

The differences between our approach and that found in the broader Algonquian literature as shown in this chapter are few but significant. First, what the broader Algonquian literature terms "root" we call stem since it carries verbal features. Second, we analyse three morphemes between stem and inflection, splitting the Algonquian "final" into two morphemes: little *v* and Animacy agreement. Third, we consider "TI theme signs" as a distinct category from "TA theme signs." Finally, we argue that there are zero morphemes in each of the three categories in the verbal projection. These zero morphemes fit into the paradigms for each of the three categories. We now proceed to the second spiral of our investigation which studies each category in combination with the one next to it.

Chapter 4 The beginning of the second spiral. Little *v* selects the verb stem

Chapter 4 marks the beginning of the second spiral of the analysis into how the Mi'kmaw verbal system indicates the relationship of participants in a clause. This spiral looks at the relations between adjacent morphemes; Chapter 4 investigates what we can learn from the stem-little *v* combinations, Chapter 5 the little *v*-Animacy combinations, and Chapter 6 the Animacy-Voice combinations.

Figure 16. Second spiral

Three categories	**stem-*v***	stem-*v*-Animacy-Voice
	***v*-Animacy**	
	Animacy-Voice	
Chapter 3	**Chapters 4-6**	Chapter 7

Chapter 4 argues that there are classes of verb stems (we distinguish what we call "verb stem" from "root" in section 2.4.3). The verb stem is classified as a verb and is associated with an internal or external argument, cf. the unaccusative hypothesis (Perlmutter 1978). The verb classes we argue for are distinguished according to argument structure.[79] We base this claim on the results of diagnostics outlined in section 4.2.

[79] Piggott (1989) and Dahlstrom (2013) argue that verb roots have an argument structure in Ojibwe and Meskwaki, respectively.

Chapter 4 reports that not every stem is selected by every little *v*. We can learn about the properties of each category from these selectional restrictions. First, section 4.1 looks at the selectional properties of individual little *v* morphemes and demonstrates first that about half of the verb stems are selected by just one little *v* morpheme, either *-a', -a, -o'*, *-i* or *-Ø*. We demonstrate that little *v* morphemes themselves fall into groups in that *-a'*, *-o',* and *-i* can select the same stem in bivalent clauses, while *-a* selects a completely separate subset of stems. Section 4.2 introduces three diagnostics. Sections 4.3-4.7 apply these diagnostics to stems selected by each little *v* morpheme. Section 4.8 summarises.

4.1 Stems are selected by different little *v* morphemes

We make a few general observations in this section before proceeding to the study of individual little *v* morphemes and their selectional properties. First, about half the stems in our corpus are selected by only one little *v* morpheme. For example, *kespukw-* 'tell a lie' is only selected by *-a'*, *wissukw-* 'cook' is only selected by *-a*, *kwes-* 'cherish' is only selected by *-o'*, *we'ji-* 'find' is only selected by *-i*, and *kwil-* 'seek' is only selected by *-Ø*. Table 16 summarises.

Table 16. Little v selects stem: sample of items

Stem	***-a'***	***-a***	***-o'***	***-i***	***-Ø***
kespukw- 'lie'	✓	*	*	*	*
wissukw- 'cook'	*	✓	*	*	*
kwes- 'cherish'	*	*	✓	*	*
we'ji- 'find'	*	*	*	✓	*
kwil- 'seek'	*	*	*	*	✓

(1) illustrates the stem *kespukw-* 'lie' selected by each little *v*; it is only grammatical when selected by *-a'*.

1. (a) *Kespukw**a’**l**ɨ**k mijua’ji’j*.
   kespukw-**a’**-l-Ø-k mijua’ji’j
   lie-*v*-An-Voice-1s>3s child(AN)
   ‘I am lying to the child.’

   (b) **kespukw**a**lk / *kespukw**i**lk/ *kespukw**o’**l**ɨ**k/ *kespukw**Ø**i**ɨ**k*

   Likewise, the stem *wissukw-* ‘cook’ is only selected by *-a* (2).

2. (a) *Wissukw**a**tm wius.*
   wissukw-**a**-t-m-Ø wius
   cook-*v*-An-Voice-1s meat(IN)
   ‘I am cooking the meat.’

   (b) **wissukw**a’**tm/ * wissukw**i**tm / * wissukw**o’**tm / * wissukw**Ø**tm*

In this study there are 100 stems that co-occur with one of the five little *v* morphemes in bivalent clauses; *-a’, -a, -o’/ -(w)ey, -i,* or *-Ø*.[80] Fifty-one stems are selected by just one of these little *v* morphemes in bivalent clauses (i.e., about half of the total of 100 stems in the study). The remaining stems may be selected by at least two little *v* morphemes. The stems are listed in Appendix A. Sixty-five stems are selected by *-a’,* 15 are selected by *-a*, 49 are selected by *-o’/-(w)ey*, 13 are selected by *-i*, and 37 by *-Ø*. Table 18 summarises. In our corpus there are six pairs of homophonous stems. These are illustrated in Table 17.

[80] We limit our study to 100 stems out of the total number studied (169) since the other stems are morphologically complex or only occur in monovalent clauses; others occur with little *v* morphemes that we exclude from the study (see section 3.2.1.8).

Table 17. Pairs of homophonous stems

Stem associated with an internal argument		**Stem associated with an external argument**	
stem-*v*	**gloss**	**stem-*v***	**gloss**
enq-a'	'stop'	*enq-a*	'loan'
kes-a'	'hurt'	*kes-a*	'like'/ 'love'
kis-i	'made'	*kis-ey*	'fool'
tek-a'	'cold'	*tek-o'/ tek-wey*	'take part' /'stay with'
tel-a'-t-u	'thus I do'	*tel-o'/ tel-ey*	'thus I think/feel/sense'
wel-a'	'do good'	*wel-o'/ wel-ey*	'treat well'

We demonstrate in this chapter that one stem of each pair is associated with an internal argument and the other an external argument.[81]

Table 18. Verb stems selected by little v *in bivalent clauses*

Little *v*	**Number of stems selected**
-a'	65
-a	14
-o'/-(w)ey	48
-i	14
-Ø	39
Total	180

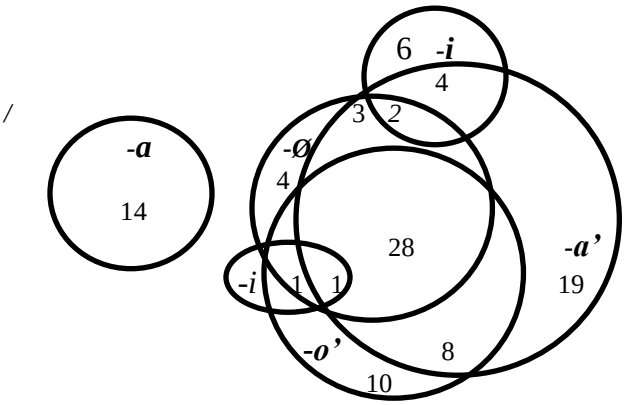
The total for Table 18 is 180. This number is greater than the total number of stems (100) since 49 stems can be selected by more than one little *v* in bivalent clauses.

Patterns concerning which stems are selected by different little *v* morphemes begin to emerge. Looking at the members of the groupings, we see that 37 of the 49 stems selected by *-o'* are also selected by *-a'* and six of the stems selected by *-i* are also selected by *-a'*. Pointing in the same direction, chapter 3 compared *-a'* with *-o'*, *-a'* with *-i*, *-a'* with *-Ø*, and *-a'* with the monovalent *v -ie* in verbs with the same stem, so we can assume that these five morphemes select stems with the same features. Figure 17

[81] I first was understanding the change in meaning to be due to the different little *v* morphemes. I thank Ives Goddard (p.c. 2019) who first suggested to me that instead, these are homophonous stems.

illustrates that there is considerable overlap among the little *v* morphemes in terms of stem selection. In contrast, *-a* selects a completely different group of stems.

Figure 17. Stem selection by little v morpheme in bivalent clauses



McCulloch (2013:20) reports for Mi'gmaq, "In a few cases, the final is predictable from semantic factors, as when stems that contain body-part morphemes often have the VAI/VII final *-a* and states often have the VAI final *-e'*, but in many circumstances the choice between one or more finals in a quadrant is unclear." We argue in this chapter that a key feature involved in selection is the argument associated with a particular stem. We study bivalent clauses here and leave the interaction of *v* and stem in monovalent clauses to future research [82]

We illustrate using two Mi'kmaw stems, previewing a pattern observed in this chapter. We argue in section 4.4 below that *ekwij-* 'go into the water' is associated with

[82] Our preliminary studies indicate that *-a, -i,* and *-e* in monovalent clauses may select stems with either an internal or external argument but that *-a'* and *-ie* always select stems with an internal argument.

an internal argument (unaccusative) and the bivalent form adds the causer argument (3). (3a) is a bivalent clause and (3b) a monovalent.[83]

3. (a) *Ekwija'tu kutputi.*
ekwij-a'-t-u-Ø kutputi
go.in.water-*v*-An-Voice-1s chair(IN)
'I am putting the chair into the water.'

(b) *Ekwijiaq kutputi.*
ekwij-ia-Ø-Ø-k kutputi
go.in.water-*v*-An-Voice-3sIN chair(IN)
'The chair is falling into the water.'

The monovalent clause in (3b) expresses what is happening to the subject – the chair is going into the water, while the bivalent clause adds the information that the 1s agent argument (the subject of the bivalent clause) is causing the theme argument, the chair, to go into the water.

We assume that it is not little *v* that introduces the argument expressed in the monovalent clause since different little *v* morphemes are used in the bivalent and monovalent clauses with the stem *ekwij-* 'go in the water.' Rather, it is the verb stem that is associated with either the agent or patient argument.

We argue that *wissukw-* 'cook' is associated with an external argument (unergative) and the bivalent form adds the internal argument (4). (4a) is bivalent and (4b) monovalent.[84]

4. (a) *Wissukwatm wius.*
wissukw-a-t-m-Ø wius
cook-*v*-An-Voice-1s meat(IN)
'I am cooking meat.'

(b) *Wissukway.*
wissukw-a-Ø-Ø-y
cook-*v*-An-Voice-1s
'I am cooking [#for myself].'

In contrast to the situation with the stem *ekwij-* 'go into the water' in (3), the subject in (4b) is the agent of the event expressed in the monovalent clause. In the bivalent

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[83] *-ie* and *-ia* are an allomorphic pair. *-ie* occurs with an animate subject and *-ia* occurs with an inanimate subject.
[84] One of my colleagues translated this 'I am cooking *for myself.*' As such it sounds reflexive or benefactive in English. There is no benefactive or reflexive morphology on this verb. Preliminary studies of the little *v* morpheme *-a* in monovalent clauses indicates that *-a* occurs when the subject is affected by the event expressed by the verb stem.

clause, the subject is the agent and performs the event expressed by the verb stem *wissukw-* 'cook' on the object of the clause, the theme argument *wius* 'meat.'

Section 4.2 shows two diagnostics for agents; only verbs with an agent can form imperatives and co-occur with the agentive preverb *o'pli-* 'wrongly.' It also introduces the applicative diagnostic that we use to demonstrate that particular verb stems are *not* associated with an internal argument; i.e., that they are unergative rather than unaccusative.

4.2 Three diagnostics

This section illustrates and discusses the rationales behind two diagnostics for the presence of an agent and one that demonstrates that a stem is not associated with an internal argument.[85] The first diagnostic, ability to form an imperative, is based on the fact that semantically and pragmatically, imperatives require an agent. Crosslinguistic evidence shows that agents are invariably mapped to subject position (Dowty 1979:112, 1991), which is the position of the external argument. We assume therefore that the presence of an agent implies the presence of an external argument. (While this is true, the reverse, that the presence of an external argument implies an agent, is not necessarily true, since experiencers are external arguments that are not agents.)

[85] There are other tests for unaccusativity that could be applied in future work. Hirose (2003) names the half-way test (unaccusatives can take 'half-way' but unergatives can't, and compatibility with resultant state adjectives like 'the ice froze hard' where 'hard' is the resultant state of the ice after freezing. An unergative verb is incompatible with a resultant state adjective; e.g., 'the student ran tired' in English expresses not the resultative of running but rather the state of the subject all through the running. Another test is that only agentive verbs are compatible with a purpose clause (Brittain and Acton 2014, Davis and Demirdache 2000). Slavin (2012:89-90) uses the preverb *caaki-* 'exhaustively' as a diagnostic for argument position (internal or external argument) in Oji-Cree since it can appear on different positions to indicate either the internal or external argument or only the internal argument. Potential Mi'kmaw equivalents include *kaqi-* 'completely,' *kesp-* 'end,' or *mawi-* 'together.'

We illustrate the diagnostics with two stems in monovalent clauses which preview our findings that there are unergative and unaccusative stems. (5) illustrates *elukw-* 'work' in active voice (a) and imperative (b).[86]

5. (a) *Elukwey.*
elukw-e-Ø-Ø-y
work-*v*-An-Voice-1s
'I am working.'

(b) *Lukwe!*
elukw-e-Ø
work.IRR-*v*-2sIMP
'Work!'

The grammaticality of the imperative indicates the presence of an agent and implies the presence of an external argument. (6) illustrates *mekw-* 'red.'

6. (a) *Mekweyi.*
mekw-eyi-Ø-Ø-Ø
red-*v*-An-Voice-1s
'I am red.'

(b) **Mkweyi!*
mekw-eyi-Ø
red.IRR-*v*-2sIMP
Intended: 'Be red!'

In contrast to the situation with *elukw-* 'work,' an imperative composed from *mekw-* 'red' is ungrammatical; we conclude that there is no agent and that instead, the stem is associated with an internal argument.

The second diagnostic for the presence of an agent is grammaticality with an agent-oriented preverb.[87] We illustrate the diagnostic with the same two stems. *Elukw-* 'work' is grammatical with the agentive preverb *o'pli-* 'wrongly' (7) whereas *mekw-* 'red' is not (8).

7. *O'pl-lukwey.*
o'pli-lukw-e-Ø-Ø-y
wrongly-work-*v*-An-Voice-1s
'I am wrongly working.' (I am doing it wrong)

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[86] Imperative form employs the irrealis root (Inglis 2002) where *e* in the first syllable is reduced.

[87] Other agentive preverbs include *jaqal-* and *kesikaw-* 'quickly,' *sankewi-* and *kekwi-* 'slowly,' *amal-* 'doing for fun,' *awan-* 'poorly,' *kim-* 'secretively,' *me'si-* 'unable to.' Further studies could test whether these preverbs are compatible with different stems. Some diagnostic tests for Agent include sentience and volitional control (Dowty 1991, Meadows and Johnson 2013). The presence of a preverb necessitates the reduced form of the stem.

8. **O'pl-mkweyi*.
   o'pli-mekw-eyi-Ø-Ø-Ø
   wrongly-red-*v*-An-Voice-1s
   Intended: 'I am wrongly red.'

The third diagnostic demonstrates that a stem cannot be associated with an internal argument. The bivalent form of some stems in Mi'kmaw employs the applicative morpheme. (9) illustrates the stem *kwil-* 'seek' with an inanimate object (a) and animate object (b).

9. (a) *Kwilm watj*.
   kwil-Ø-Ø-m-Ø watj
   seek-*v*-An-Voice-1s watch(IN)
   'I am looking for the watch.'

   (b) *Kwilaq mijua'ji'j*.
   kwil-Ø-Ø-Ø-a-k mijua'ji'j
   seek-*v*-An-Voice-Appl-1s>3s child(AN)
   'I am looking for the child.'

The inflection with an inanimate object (*-Ø*) marks just the subject but with the animate object, the applicative with subject plus object inflection is required (*-aq*). A complete investigation of the applicative in Mi'kmaw is beyond the scope of this thesis; however, applicatives occur with many of the stems in our corpus when they have an animate internal argument.[88] This applicative with the S+O inflection is a form of differential object marking (Aissen 2003, see Appendix A). We reason that since an animate internal argument is introduced by the applicative in these stems, the stem itself cannot be associated with an internal argument. We thus argue that a stem requiring the applicative to introduce an animate internal argument is itself associated with an external argument.

[88] Our preliminary investigations of the applicative indicate that its role is to introduce an animate argument. That argument may be an internal argument or a benefactive; we reason that some verb stems require that an animate internal argument be introduced by the applicative.

There are limitations to these diagnostics for agency since agency is not associated only with external arguments; in some languages like English, animate internal arguments of unaccusative verbs can be interpreted as agents.[89] We assume, however, that since these diagnostics do demonstrate different results for different stems, these diagnostics are useful to us in Mi'kmaw.

In sections 4.3-4.7, we consider each little *v* in turn and apply these diagnostics to stems selected by them. An important finding that we demonstrate is that certain little *v* morphemes distinguish unergative from unaccusative stems.

4.3 *-a* selects stems associated with an external argument

In monovalent clauses, *-a* selects 14 of the 100 stems in our study. Of these 14, ten have both bivalent and monovalent forms. We use two diagnostics to demonstrate that these stems are associated with an agent.[90]

By our tests, a stem associated with an agent will be able to form an imperative in the monovalent form and the monovalent form will be compatible with the agentive preverb *o'pli-* 'wrongly.' (10)-(16) illustrates the stems which form bivalent clauses through selection by *-a*; (a) is the imperative form and (b) is the verb with *o'pli-* 'wrongly.'

10. (a) *Wissukwa!*	(b) *O'pl-wissukway.*
wissukw-a	o'pli-wissukw-a-Ø-Ø-y
cook-*v*-2sIMP	wrongly-cook-*v*-An-Voice-1s
'Cook!'	'I am wrongly cooking.'

[89] We thank an anonymous reviewer of an earlier part of this work for reminding us that verb stems associated with an internal argument can sometimes form imperatives.

[90] The third diagnostic (applicative) does not apply to these stems since no stem selected by *-a* in bivalent clauses employs the applicative form for an animate object.

My colleagues told me that they would employ (10b) in a context where the speaker cooked the wrong food, e.g., cooking corned beef when they were supposed to cook lobster. (11) and (12) illustrate two more examples. Some stems are not selected by *-a* in the monovalent forms; other little *v* morphemes select the stems.[91]

11. (a) *Pitkme!*	(b) *O'pli-pitkmey.*
pitkm-e	o'pli-pitkm-e-Ø-Ø-y
fill-*v*-2sIMP	wrongly-fill-*v*-An-Voice-1s
'Fill!'	'I am wrongly filling.'

12. (a) *Skma!*	(b) *O'pli-skmay.*
skm-a	o'pli-skm-a-Ø-Ø-y
wait.IRR-*v*-2sIMP	wrongly-wait-*v*-An-Voice-1s
'Wait!'	'I am wrongly waiting.'

Discussions with my colleagues indicate that a possible context for (11b) is when the speaker is filling the wrong container or filling it with the wrong material. (12b) would be used when the speaker is waiting for the wrong person/bus or at the wrong time.

We demonstrate that all stems selected by *-a* to form bivalent verbs have imperative forms (a) and are grammatical with *o'pli-* 'wrongly' (b). Contexts for the verb with *o'pli-* 'wrongly' are supplied for some examples in the gloss.

13. (a) *Pui'ke!*	(b) *O'pl-pui'key.*
pui'k-e	o'pli-pui'k-e-Ø-Ø-y
sweep.IRR-*v*-2sIMP	wrongly-sweep-*v*-An-Voice-1s
'Sweep!'	'I am wrongly sweeping.'

14. (a) *Se'skwe!*	(b) *O'pl-se'skwey.*
se'skw-e	o'pli-se'skw-e-Ø-Ø-y
shout.IRR-*v*-2sIMP	wrongly-shout-*v*-An-Voice-1s
'Shout!'	'I am wrongly shouting.' (since I lost my voice today)

[91] Preliminary research indicates that *-a* in monovalent verbs indicates that the subject is affected by the event in a sense to be clarified by future research. In contrast, *-e* appears to be simply agentive. Compare ***nepay*** 'I am sleeping,' ***wissukway*** 'I am cooking,' ***alasutmay*** 'I am praying,' ***peway*** 'I am dreaming,' ***kwetmay*** 'I am smoking' with ***elukwey*** 'I am working,' ***pitkmey*** 'I am filling,' ***eluskwey*** 'I am spitting,' and ***se'skwey*** 'I am shouting.'

15. (a) *#Luskwe!*
eluskw-e
spit.IRR-*v*-2sIMP
'Spit!'

(b) *#O'pl-luskwey.*
o'pli-luskw-e-Ø-Ø-y
wrongly-spit-v-An-Voice-1s
'I am wrongly spitting.'

16. (a) *Pi'si!*
pi's-i
pee.IRR-*v*-2sIMP
'Pee!'

(b) *#O'pl-pi'sianek.*
o'pli-pi's-i-Ø-Ø-Ø
wrongly-pee-*v*-An-Voice-1s
'I am wrongly peeing.' (I missed the target)

We conclude that the ten stems with monovalent forms and which in bivalent clauses are selected by *-a* are associated with an agent and therefore, by our argumentation, an external argument.

The monovalent form of verb stems selected by *-a* in bivalent clauses is unergative. The bivalent form adds the internal argument. We assume that the four stems selected by *-a* which only appear in bivalent clauses are also associated with an external argument.

4.4 *-a'* selects stems associated with an internal argument

In bivalent clauses, *-a'* selects 65 of the 100 stems.[92] Of these 65, 37 have both bivalent and monovalent forms. We study these clauses using the two diagnostics for agents introduced in section 4.2.

The monovalent counterpart of a bivalent verb with *-a'* is ungrammatical in imperative form.[93] (17)-(18) illustrate two examples.

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[92] It is interesting that stems composed from a borrowed English word in our corpus are always selected by *-a'*. The following example illustrates the borrowed English word 'garbage.'
Garbage-*ewa'tu tapsun.*
garbage-ew-a'-t-u-Ø tapsun
garbage-DER-*v*-An-Voice-1s clothing(IN)
'I am putting clothing in the garbage.'
The verb stem is 'garbage' followed by the suffix *-ew.* Inglis (1986:84) describes the suffix *-ew* as derivational, "a morphological marker which indicates a change in grammatical status." We leave the constraints of borrowed stems to future research

[93] In our database, six stems have imperative forms (all formed with the little *v* morpheme *-ie*). We assume that for these six roots (*el-* 'go', *elm-* 'go home', *nis-* 'down', *tew-* 'out', and *tukw-* 'wake up'), the imperative is grammatical because animate internal arguments of unaccusative verbs can be interpreted as agents.

17. **Kaqam-i! / *Kaqam-a'!*
    Intended: 'Stand up!'

18. **Kwij-ie! / *Kwij-i*! / **Kwij-a'!*
    Intended: 'Go in the water!'

The verbs in monovalent clauses occur with different little *v* morphemes than the bivalent *-a'*.[94] Only two stems are also selected by *-a'* in the monovalent form. Others are selected by *-i*,[95] *-ie*, *-a*, or *-eyi*. However, no matter what little *v* morpheme is employed in the monovalent form, imperatives are ungrammatical with these stems.[96] (19)-(20) show two more stems.

19. **Waqam-ie! / *Waqam-eyi!*
    Intended: 'Be clean!'

20. **Ksnukw-a! / *Ksnukw-a'!*
    Intended: 'Be sick!'

Monovalent verbs formed from stems selected by *-a'* in bivalent verbs are incompatible with *o'pli-* 'wrongly.' (21) illustrates the stem *waqam-* 'clean.'[97]

21. **O'pli-waqam-eyi-k.*
    Intended: 'It is wrongly cleaned.'

(22)-(23) illustrate two more stems.

22. **O'pli-kwij-ia-q.*
    Intended: 'It is going into the water wrongly.'

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[94] The little *v* morphemes employed in monovalent clauses are beyond the scope of this study. We only note here that imperative forms are ungrammatical.

[95] Or *-in*, a sequence beyond the scope of the study that in our preliminary studes is related to *-i*. Francis and Hewson (2016) call these related to *-m* verbs.

[96] Some verb stems have reflexive imperatives, for example, *Qam-a'si!* 'Stand yourself up,' *Kwij-a'si!* 'Put yourself in the water,' *Waqam-alsi!* 'Clean yourself,' *Waqam-ey-asi!* 'Keep yourself clean.' These reflexives all have added morphology which is beyond the scope of this study.

[97] As is the case for imperative forms, a reflexive form for many stems is compatible with *o'pli-* 'wrongly.' However, reflexive forms have other morphology and are beyond the scope of this thesis. In our database, six stems are compatible with *o'pli-* 'wrongly' (*nis-* 'down', *pem-* 'along', *pij-* 'in', *tew-* 'out', *tukw-* 'wake up' and *we'kway-* 'mad'). All of the grammatical forms are composed with the little *v* morpheme *-ie*. We assume that these six stems are grammatical since animate internal arguments of some unaccusative verbs can be interpreted as agents according to the reasoning above.

23. **O'pli-ksnukw-a-y.*
Intended: 'I am wrongly sick.'

Following argumentation based on the two diagnostics for agentivity, we conclude that the 37 stems selected by *-a'* to form bivalent verbs involve no agent. Assuming as we do that imperatives are possible only with agentive stems, we are led to the conclusion that such stems are not associated with an agent. Their argument therefore need not be an external argument (cf. Dowty 1979), and we assume that it is in fact an internal argument. We conclude that the monovalent form of these stems is unaccusative. We will show in section 7.2.1 that the bivalent form adds the causer of the event.

We postulate that the other 28 stems selected by *-a'* in bivalent clauses but for which there is no monovalent counterpart likewise are associated with internal arguments.

We compare what we have noted in this section to the situation with stems selected by *-a* (sections 4.3) The monovalent clause is unergative (subject is the external argument) in stems that, when bivalent, are selected by *-a*, whereas the monovalent clause is unaccusative (subject is internal argument) in stems that, when bivalent, are selected by *-a'*. This indicates that the difference between the little *v* morphemes *-a* and *-a'* is that *-a* selects stems associated with an external argument and *-a'* selects stems associated with an internal argument (Table 19).

Table 19. -a *and* -a' *select different stems in bivalent verbs*

v	**Stem argument**	**Argument added**
-a	external	internal
-a'	internal	external (causer)

4.5 *-o'* selects stems associated with an external or internal argument

Unlike what we found with *-a* and *-a'*, *-o'* selects stems of both unergative and unaccusative stems. In section 4.1 we observe that 48 stems are selected by *-o'*. Thirty-seven of these stems are also selected by *-a'*. Since we conclude in section 4.4 that these stems are unaccusative, not associated with an agent, we will not reiterate the agent diagnostics.

We can employ the applicative diagnostic for eight of the eleven remaining stems selected by *-o'*: *ank-* 'care for,' *jik-* 'watch,' *kis-* 'fool,' *kwes-* 'cherish,' *nuj-* 'manage,' *tek-* 'participate in,' *tel-* 'think thus,' and *wel-* 'treat well.' We demonstrate with this diagnostic that these stems cannot be associated with an internal argument. We illustrate two stems, *jik-* 'watch' (24) and *kwes-* 'cherish' (25). (a) shows the verb with an inanimate internal argument and (b) with an animate. The animate internal argument is introduced by the applicative morpheme (bolded). (c) shows that an animate object is ungrammatical without the applicative.

24. (a) *Jiko'tm wen'ji'kuom.*
jik-o'-t-m-Ø wen'ji'kuom
watch-*v*-An-Voice-1s house(IN)
'I am keeping an eye on the house.'

(b) *Jikey**a**q l'mu'j.*
jik-o'-l-Ø-**w**-k l'mu'j
watch-*v*-An-Voice-Appl-1s>3s dog(AN)
'I am keeping an eye on the dog.'

(c) **Jikoli̶k/*Jikeyk l'mu'j.*
jik-o'-l-Ø-k l'mu'j
watch-*v*-An-Voice-1s>3s dog(AN)
Intended: 'I am keeping an eye on the dog.'

25. (a) *Kweso'tm npitn.*
kwes-o'-t-m-Ø n-pitn
cherish-*v*-An-Voice-1s 1sPOSS-hand(IN)
'I am very careful with my hand.'

(b) *Kwesey**a**q nijan.*
kwes-o'-l-Ø-**w**-k nijan
cherish-*v*-An-Voice-Appl-1s>3s my.child(AN)
'I am fussy the way I look after my child.'

(c) **Kweso'l~~i~~k/*Kweseyk nijan.*
kwes-o'-l-Ø-k nijan
cherish-*v*-An-Voice-1s>3s my.child(AN)
Intended: 'I am fussy the way I look after my child.'

Since the applicative morpheme introduces an animate internal argument into the event expressed by these eight stems, we conclude that the verb stem is not associated with an internal argument but must instead be associated with an external argument. All of these stems employ the allomorph *-ey* instead of *-o'-l* (section 2.5.2).[98]

We conclude that of the 48 stems selected by *-o'*, 37 are associated with an internal argument and eight are associated with an external argument. The remaining three stems selected by *-o'*, *amal-* 'various,' *pesk-* 'pluck,' and *esam'qw-* 'drink' require more investigation.[99]

[98] A similar morpheme to *-ey* occurs with some unaccusative stems in monovalent clauses (see section 3.1.2.5). It is an interesting observation that *-ey* only occurs with unergative stems in bivalent clauses with an animate internal argument and *-eyi* only occurs with unaccusative stems in monovalent clauses. A question for future study is whether these morphemes are related.

[99] Section 4.7 argues that *amal-* 'various' is associated with an internal argument. We assume that *pesk-* 'pluck' is associated with an internal argument since it does not employ the applicative for an animate object. We assume that *esam'qw-* 'drink' is associated with an external argument since an imperative form *sam'qwa*! 'Drink!' is grammatical. *Esam'qw-* 'drink' is only associated with *-o'* in the *-o'tl* construction (see section 3.2.3).

4.6 *-i* selects stems not associated with an agent

We show in this section that *-i* selects stems not associated with an agent with one exception. Stems are either unaccusative or associated with an external argument that is an experiencer.

Fourteen stems are selected by *-i* in bivalent clauses. Of these 14 stems, section 3.1.2.3 showed *-i* in contrast with *-a'* with seven.[100] Section 4.3 demonstrates that the stems selected by *-a'* are not associated with an agent. Since it is the same stems, we conclude that these six stems associate with an internal argument when selected by *-i*. (26)-(27) illustrate two examples. (a) illustrates each stem selected by *-i* and (b) illustrates the same stem selected by *-a'*.

26. (a) *Il**i**tu nuskinikn.*
il-**i**-t-u-Ø nuskinikn
redo-*v*-An-Voice-1s bannock(IN)
'I am remaking the bannock.'

(b) *Il**a'**tu* television.
il-**a'**-t-u-Ø television
redo-*v*-An-Voice-1s TV(IN)
'I am re-adjusting/setting up the TV.'

27. (a) *Pem**i**tu pipnaqn.*
pem-**i**-t-u-Ø pipnaqn
along-*v*-An-Voice-1s bread(IN)
'I am in the process of making the bread.'

(b) *Pem**a'**tu pipnaqn.*
pem-**a'**-t-u-Ø pipnaqn
along-*v*-An-Voice-1s bread(IN)
'I am carrying the bread along.'

Of the remaining seven stems that *-i* selects in bivalent clauses, three also occur in monovalent clauses. The diagnostics for the presence of an agent show different results for these stems.

[100] The emphatic diagnostic shows that they are a unified group; see section 3.1.2.3

These are *pekis-* ‘arrive’, *pew-* ‘dream,’ and *nesp-* ‘babysit for.’ The imperative diagnostic yields ungrammaticality for two of these stems (28)-(29) and grammaticality for *nesp-* ‘babysit’ (29).[101]

28. **Pewa!*
    pew-a-Ø-Ø-Ø
    dream-*v*-An-Voice-2sIMP
    Intended: ‘Dream!’

29. **Pkisi!*
    pekis-i-Ø-Ø-Ø
    arrive-*v*-An-Voice-2sIMP
    Intended: ‘Arrive!’

30. *Nsɨpi!*
    nesp-i-Ø
    babysit-*v*-An-Voice-2sIMP
    ‘Babysit!’

The results are also split for compatibility with *o’pli-* ‘wrongly’ but in a different way. The stem *pew-* ‘dream’ is ungrammatical with *o’pli-* (31) while *pekis-* ‘arrive’ and *nesp-* ‘babysit’ are both grammatical (32)-(33). The context is given with the gloss for some of the stems.

31. **O’pli-peway.*
    o’pli-pew-a-Ø-Ø-y
    wrongly-dream-*v*-An-Voice-1s
    Intended: ‘I am dreaming wrongly.’

32. *O’pli-pkisin.*
    o’pli-pekis-in-Ø-Ø-Ø
    wrongly-arrive-*v*-An-Voice-1s
    ‘I arrived wrongly.’ (I went to another house or arrived at the wrong time)

[101] With a different imperative inflection and an added preverb, the imperative is grammatical for *pekis-* ‘arrive’: *wkji-pkisine’n 4 o’clock* ‘Try to get here at four.’ We leave the study of the potential agentive contribution of the preverb *wkji-* ‘try’ to future study.

33. *O'pli-nsɨpi.*
    o'pli-nesp-i-Ø-Ø-Ø
    wrongly-babysit-*v*-An-Voice-1s
    'I am babysitting wrongly.' (the kids don't listen to me or I am not looking after them properly)

These two diagnostics demonstrate that the stem *nesp*- 'babysit' is associated with an agent and *pew*- 'dream' is not.[102] We note in section 4.2 that in some languages like English, animate internal arguments of unaccusative verbs can be interpreted as agents. We reason that *pekis*- 'arrive' is an example of this situation in Mi'kmaw and we conclude that it is associated with an internal argument.

The applicative diagnostic is not illuminating since all stems selected by *-i* do not employ applicative in bivalent clauses.

Four stems remain; these stems don't have grammatical monovalent forms. We reason that *amal*- 'various' is associated with an internal argument since, like other stems selected by *-a'*, it is also selected by *-i*, *-o'*, and *-Ø* in similar constructions. We propose that the other three stems, *keji*- 'know,' *nemi*- 'see,' and *we'ji*- 'found,' are not associated with an agent because they are experiencer verbs. Imperatives are ungrammatical with the bivalent forms of these verbs (34)-(36).

34. **Kejitu!*
    keji-i-t-u-Ø
    know-*v*-An-Voice-2sIMP
    Intended: 'Know it!'

35. **Nemitu!*
    nemi-i-t-u-Ø
    see-*v*-An-Voice-2sIMP
    Intended: 'See it!'

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[102] The stem *nesp*- 'babysit' is unique in our database in that in bivalent clauses it only occurs in the antipassive construction. This stem never occurs with a specific internal argument.

36. **We'jitu!*
we'ji-i-t-u-Ø
found-*v*-An-Voice-2sIMP
Intended: 'Find it!'

The incompatibility with the imperative indicates that these bivalent verbs are not associated with an agent. We conclude that these stems are associated with an external argument that is an experiencer.

We conclude that nine of the thirteen stems selected by *-i* are associated with an internal argument, three are associated with an external argument experiencer, and one is associated with an external argument (*nesp-* 'babysit').

4.7 *-Ø* selects stems associated with an external or internal argument

This section demonstrates that, like the situation with *-o'*, *-Ø* selects both unergative and unaccusative stems. Thirty-nine stems are selected by *-Ø* little *v* in bivalent clauses. Thirty-four reflect the contrast in aspect between *-a'* and *-Ø* that was demonstrated in section 3.1.2.7. Since these same stems are already demonstrated to be unaccusative (section 4.4), we conclude that these 34 stems are unaccusative. (37)-(38) illustrate two stems.

37. *Ke'sekey kmu'j.*
ke's-**Ø**-Ø-eke-y kmu'j
put.in.fire-*v*-An-Voice-1s firewood(IN)
'I am throwing the wood in the fire.'

38. *Pantekey tuopɨti.*
pant-**Ø**-Ø-eke-y tuopɨti
open-*v*-An-Voice-1s window(IN)
'I am quickly opening the window.'

Three other stems occur in the *-Ø-Ø-eke* construction. These are *amal-* 'various,' *pepu-* 'shake,' and *wenu-* 'want.' These stems only occur in bivalent clauses so we cannot

employ the agentive diagnostics. The stems are compatible with both animate and inanimate internal arguments without employing the applicative morpheme (39).

39. (a) *Pepuekey wasuek.*
pepu-**Ø**-Ø-eke-y wasuek
shake-*v*-An-Voice-1s flower(IN)
'I am shaking the flower.'

(b) *Pepuekey pi'kun.*
pepu-**Ø**-Ø-eke-y pi'kun
shake-*v*-An-Voice-1s feather(AN)
'I am shaking the feather.'

All of these features point to the stems being associated with an internal argument.

Two more stems selected by zero little *v* occur only in bivalent clauses. These are *kwil-* 'seek' and *nen-* 'know.' We can't apply the agentive diagnostics to these stems since they don't occur in monovalent clauses. However, we can demonstrate that the stems *don't* have an internal argument, with the applicative diagnostic (cf. section 4.5 for stems selected by *-o'*). The verb stems *nen-* 'understand' and *kwil-* 'seek' employ the applicative when they have an animate internal argument. (40) illustrates with *nen-* 'know.'

40. (a) *Nenm wajju'kat.*
nen-Ø-Ø-m-Ø wajju'kat
know-*v*-An-Voice-1s rummy(IN)
'I know rummy.'

(b) *Nen**a**q nijan.*
nen-Ø-Ø-**w**-k nijan
know-*v*-An-Voice-Appl-1s>3s my.child(AN)
'I know my child.'

By the applicative diagnostic, the stem cannot already contain an internal argument. We conclude that these are unergative stems.

To summarise, -*Ø* selects particular stems that may be associated with either an internal argument or external argument. Out of a total of 39 stems, we conclude that 2 stems are associated with an agent and 37 are not. One stem is inconclusive according to our diagnostics.

4.8 Chapter 4 summary and comparison with Algonquian

This chapter demonstrates that the little *v* morphemes -*a'* and -*a* select stems according to whether the stem is associated with an internal or external argument. With one exception, -*i* selects stems not associated with an agent. -*o'*, and -*Ø* select stems from both classes. Table 20 shows the number of stems in each verb class.

Table 20. Verb stem classes

Stem argument	**Number of stems**
internal	71
external	29
Total	100

A list of verb stems is in Appendix B along with which little *v* morphemes select them in bivalent and monovalent clauses.[103]

Algonquianists have used other features to classify verbs, verb stems, and roots. The Bloomfieldian system classifies "verb stems" as II, AI, TI, TA, etc. However, some have noted that verb "roots" are associated with an argument and that particular suffixes affix only to particular "roots."

In several Algonquian languages, linguists argue that what they call "roots" are associated with an argument in intransitive clauses (Hirose 2003 for Plains Cree, Ritter

[103] As each section notes, not every stem could be tested using the diagnostics. The others we assume belong in the same category because they pattern the same as the tested stems.

and Rosen 2010 for Blackfoot, Brittain and Acton 2014 for Northern East Cree, Brittain 2014 for Cree-Montagnais-Naskapi, and Tollan and Oxford 2018 for Plains Cree and Oji-Cree). Piggott (1989) argues for argument structure in Ojibwe as a feature of the "root." Piggott (1989:186) argues that "generally, verb roots are lexically specified for at least one argument" (the theme or the agent). He gives the example shown in (41) where the verb "root" specifies the theme argument,[104] which will be the grammatical subject of the verb.

41. bi:n (x-Th) 'clean' Piggott (1989:186)

Piggott (1989:187-188) notes that there are patterns to the affixation of "finals" to "roots"; "for example, the AI-final *-izi* is affixed only to verb roots with the argument structure (x-Th). In comparison, the finals *-i*, *-o:*, and *-am* are affixed only to roots whose argument structures contain an argument linked to the thematic role of Agent." Ritter and Rosen (2010) illustrated that II verb "stems" lack an external argument.

Slavin (2012:19) reports that concrete "finals" in Oji-Cree can combine with "virtually any initial" but abstract "finals" "are limited to combining with only certain ones, and the combinations must be lexically listed." She cites O'Meara (1990) and Drapeau (1980) who noted the same observation in Delaware and Montagnais Cree, respectively.

Slavin (2012:117) studies the Oji-Cree suffix *-ih* in transitive forms of verbs that are unaccusative and unergative. She concludes that *-ih* "cannot attach to unaccusative stems, but only to unergative ones."

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[104] Piggott (1989) cites Hale (1983) and Grafstein (1984) for the formalism of argument structure.

In a similar vein, Armoskaite (2011) argues that the verb "roots" in Blackfoot are subcategorised for transitivity and the suffixes ("finals") are either what she called "deriving" or "agreeing," i.e., the "root" is transitive or intransitive and suffixes either agree with the transitivity or derive it to be the other. She found that when there are multiple suffixes, these occur in sets. Her classification of "roots" is based on her findings that these different sets seem to have the same function but do so for different sets of "roots." We find that transitivity is not the categorising factor in Mi'kmaw but rather the argument associated with the stem. The selectional properties of some of the little *v* morphemes relate to the argument associated with the stem.

In spite of these indications that Algonquian "roots" or "stems" can be classified as unergative or unaccusative and that particular "finals" select "stems" according to their associated argument, the broader Algonquian literature indicates that little *v* classifies "roots" as verbs and also classifies them according to the Bloomfieldian AI, II, TA, and TI. Our findings take to heart what Piggott (1989) observed and demonstrate that, systematically, Mi'kmaw stems are classified as to whether they are associated with an internal argument or an external argument.[105] We also show that some little *v* morphemes select stems according to which argument they are associated with.

Of interest to future studies, we also note unaccusative/unergative pairs of different stems. For example, *waju'pek*- 'fill' (42) and *pitkm*- 'fill' (43).

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[105] We hypothesise that there are verb stems that are not associated with an argument, for example, weather verbs. We also hypothesise that some complex stems may be associated with both an external and an internal argument.

42. *Waju'peka'tu pewjalqek.*
waju'pek-a'-t-u-Ø pewjalqek
fill-*v*-An-Voice-1s hole(IN)
'I am filling up the hole.'

43. *Pitkmatm pewjalqek.*
pitkm-a-t-m-Ø pewjalqek
fill-*v*-An-Voice-1s hole(IN)
'I am filling up the hole.'

The complex stem *waju'pek-* 'fill' is associated with an internal argument and *pitkm-* 'fill' is associated with an external argument as demonstrated by the agentive diagnostics. Imperatives and clauses with *o'pli-* 'wrongly' are ungrammatical for *waju'p-* 'full' (44) and both are grammatical for *pitkm-* 'fill' (45).

44. (a) *W*aju'peyi!*
waju'p-eyi-Ø-Ø-Ø
full-*v*-An-Voice-2sIMP
Intended: 'Be full!'

(b) **O'pli-waju'peyi*
o'pli-waju'p-eyi-Ø-Ø-Ø
wrongly-full-*v*-An-Voice-1s
Intended: 'I am wrongly full.'

45. (a) *Pitkme!*
pitkm-e-Ø-Ø-Ø
fill-*v*-An-Voice-2sIMP
'Fill!'

(b) *O'pli-pitkmey.*
o'pli-pitkm-e-Ø-Ø-y
wrongly-fill-*v*-An-Voice-1s
'I am wrongly filling.'

We conclude from these diagnostics that *waju'p-* 'full' is unaccusative and *pitkm-* 'fill' is unergative.[106]

The stems and *nen-* and *keji-* both are glossed 'know' and represent two different types of knowing. Discussions with my colleagues indicate that while both can be used with the same internal argument and sometimes can be used interchangeably, *keji-* is used in contexts expressing knowing something about the internal argument 46) and *nen-* in contexts expressing recognition (47).

[106] We assume that the complex stem *waju'pek-* 'fill' is likewise associated with an internal argument since no external argument is introduced by the verbal morphology.

46. *Nitap keju't welmɨtoq.*
n-itap keji-i-l-u-t welmɨtoq
1sPOSS-friend know-*v*-An-Voice-3s s/he.is.good
'My friend is known to be a kind person.'

47. *Nenut Pie'l msɨt tami.*
nen-Ø-Ø-u-t Pie'l msɨt tami
know-*v*-An-Voice-3s Peter all where
'Peter is known everywhere.'

These two stems occur only in bivalent clauses in our corpus so we can only use the applicative diagnostic. We show the stems in active clauses with inanimate and animate objects to illustrate that *keji-* 'know' does not employ applicative to introduce the internal argument while *nen-* 'know' does.

48. (a) *Kejitu ta'n tett etek.*
keji-i-t-u-Ø ta'n tett etek
know-*v*-An-Voice-1s when there it.is.there
'I know where it is.'

(b) *Keji'k mijua'ji'j.*
keji-i-l-Ø-k mijua'ji'j
know-*v*-An-Voice-1s>3s child(AN)
'I know the child.'

49. (a) *Nenm wajju'kat.*
nen-Ø-Ø-m-Ø wajju'kat
know-*v*-An-Voice-1s rummy(IN)
'I know [how to play] rummy.'

(b) *Nenaq mijua'ji'j.*
nen-Ø-Ø-Ø-w-k mijua'ji'j
know-*v*-An-Voice-Appl-1s>3s child(AN)
'I know the child.'

Future study could look at how speakers use these different stems in discourse.

Chapter 5 investigates the *v*-Animacy combination and demonstrates how a second argument is introduced. Chapter 6 demonstrates how these arguments are mapped to grammatical positions by means of the Animacy-Voice combination. Chapter 7 illustrates how all three categories work in concert to produce particular constructions.

Chapter 5 Animacy selects little *v*: Valence

This chapter is the second portion of the second spiral; Animacy selects little *v*. Here we look at examples of bivalent clauses where each of the three Animacy morphemes selects each of the five little *v* morphemes in the study. Comparing the selectional properties of Animacy helps us to see more about the properties and functions of little *v* and Animacy morphemes. It also demonstrates that these morphemes are involved in valence but not transitivity.

Section 5.1 shows the selectional properties of Animacy morphemes *-t*, *-l*, and *-Ø*. Section 5.2 introduces diagnostics for the presence of a patient to add to the diagnostics for agent that were introduced in Chapter 4. Sections 5.3 and 5.4 apply the diagnostics to verbs with *-t/-l* and *-Ø* Animacy, respectively. Section 5.5 summarises.

5.1 Animacy selects little *v*

Table 21 shows that almost every combination of little *v* with *-t*, *-l*, or zero is grammatical. Examples of each follow in sections 5.3-5.4.

Table 21. Animacy selects little v

Little *v*	**Animacy agreement**		
	-t	***-l***	***-Ø***
-a	✓	✓	✓
-a'	✓	✓	✓
-i	✓	✓	✓
-o'	✓	✓	*
-Ø	*	*	✓

We see that only three out of the 15 possible little *v*-Animacy combinations are ungrammatical. *-Ø* little *v* is only selected by *-Ø* Animacy and the little *v* morpheme *-o'-Ø* is not grammatical in our corpus.

We observe a clear pattern illustrated in the rest of this chapter that *-a', -a, -o',* and *-i* plus *-t* or *-l* yield bivalent clauses without exception, while *-a', -a,* and *-i* plus *-Ø*

Animacy uniformly yield monovalent clauses. The *-Ø-Ø* combination is always bivalent. A pattern is emerging in that we must look at *combinations* of morphemes, rather than the morphemes themselves, to see the connection with valence.

5.2 Diagnostics for valence

Valence, the number of semantic participants (Drapeau 2014), is defined by the number of semantic roles associated with a particular verb in context (Comrie 1989, cf. section 2.4.4). The valence of a particular clause is determined by native speaker judgement and by diagnostics.

Section 4.2 shows diagnostics for the presence of an agent associated with the stem. These tests validate the observations of my colleagues concerning the valence of these types of examples. One of these diagnostics is compatibility with the agentive preverb *o'pli-* 'wrongly' (see section 4.2 where we introduce this diagnostic for the presence of an agent). We apply this diagnostic to passive constructions to demonstrate that these are associated with an agent, even though the agent is unspecified. We know that passives have an internal argument since the internal argument is the subject, so if the diagnostic demonstrates that they also have an external argument, the clause is bivalent.

We introduce another diagnostic, compatibility with the patientive preverb *aqati-* 'half-way,' as a diagnostic for the presence of a patient. We apply this diagnostic to antipassive clauses to demonstrate that they are associated with a patient argument, even though that argument is unspecified in the clause.[107] We know that antipassives have an

[107] Other potential patient focus preverbs include *ami-* 'partly,' *mawi-* 'most'/ 'all,' *mili-* 'many kinds,' and *nikani-* 'in front.'

external argument subject and so likewise are bivalent if diagnostics demonstrate a patient argument in addition.

We illustrate with the stem *wissukw-* 'cook.' The clause in (1) is monovalent.

1. *Wissukway.*
   wissukw-a-Ø-Ø-y
   cook-*v*-An-Voice-1s
   'I am cooking [# for myself].'

In contrast, there are two arguments in the active clause in (2) with the same stem *wissukw-* 'cook,' the 1s person doing the cooking (the agent) and *jakej* 'the lobster' (the patient).

2. *Wissukwalk jakej.*
   wissukw-a-l-Ø-k jakej
   cook-*v*-An-Voice-1s>3s lobster(AN)
   'I am cooking the lobster.'

(3) illustrates a passive clause with the same stem.

3. *Wissukwalut jakej.*
   wissukw-a-l-u-t jakej
   cook-*v*-An-Voice-3s lobster(AN)
   'The lobster is being cooked.'/ '[Someone] is cooking the lobster.'

Applying both the diagnostic for patient (*a'qati-* 'halfway) in (4a) and the diagnostic for agent (*o'pli-* 'wrongly') in (4b), we discern the presence of both an agent and a patient in this passive.

4. (a) *A'qati-wisukwalut jakej.*
   a'qati-wisukw-a-l-u-t jakej
   halfway-cook-*v*-An-Voice-3s lobster(AN)
   'The lobster is half-cooked.'

   (b) *O'pli-wissukwalut jakej.*
   o'pli-wissukw-a-l-u-t jakej
   wrongly-cook-*v*-An-Voice-3s lobster(AN)
   'The lobster is being wrongly cooked.'

The context of (4b) my colleagues specify is one where the lobster was cooked in a wrong manner, like burnt or cooked without salt in the water.

Likewise, the antipassive constructed from *wissukw-* 'cook' has a patient argument since it is compatible with the patientive preverb *a'qati-* 'halfway' (5).

5. *A'qati-wissukwatekey.*
   a'qati-wissukw-a-t-eke-y
   half-cook-*v*-An-Voice-1s
   'I am halfway cooking.'

My colleagues tell me that they would use (5) in a context where the agent 'I' shuts off the stove when things are only halfway cooked. A question is raised as to whether this diagnostic actually indicates the presence of the patient argument or whether it indicates an aspectual difference between the active and the antipassive. It could be that the antipassive is telic and the addition of the preverb *a'qati-* 'halfway' simply means that the goal of cooking is halfway reached, and not that the lobster is half cooked.[108] Further discussions with speakers indicate that using the monovalent form with past tense/finished aspect is more compatible with the goal of cooking being halfway reached (6).

6. *A'qati-wissukwayanek.*
   a'qati-wissukw-a-Ø-Ø-y-anek
   half-cook-*v*-An-Voice-1s-PST
   'I cooked halfway.'

We gloss *-anek* as 'past tense' or 'finished aspect' but this sequence and its contribution to the clause is relatively unstudied in the literature and is beyond the scope of this dissertation. It is important to note that the monovalent form without this marker is

[108] I thank Martha McGinnis (p.c. June 2021) for this observation concerning the halfway test.

ungrammatical with *a'qati-* 'halfway' (7). A complete study of aspect and tense is left to future investigations.

7. **A'qati-wissukway.*
   a'qati-wissukw-a-Ø-Ø-y
   half-cook-*v*-An-Voice-1s
   'I am cooking halfway.'

My Mi'kmaw-speaking colleagues explain that they would say (6) when they didn't cook the entirety of the meal that they were supposed to; i.e., if they wanted to cook hamburger and lobster and lasagna but only ended up cooking the lasagna and hamburger. These observations point to an aspectual difference between the constructions in (5) and (6) that is a subject for future research.

To clearly express the idea that they stopped when *everything* was half cooked, my colleagues say they would use the construction from (5), as in (8).

8. *A'qati-wissukwatekeyanek.*
   a'qati-wissukw-a-t-eke-y-anek
   half-cook-*v*-An-Voice-1s-PST
   'I cooked halfway.'

Note again the tense/aspect marker *-anek*.

We now apply the diagnostics to *ik-* 'put,' a stem associated with an internal argument. The clause in (9) is judged to have one argument, the 1s subject. *Sku'l-k* 'to school' is clearly marked as a location by the locative *-k*.[109]

9. *Ika'y sku'lk.*

ik-a'-Ø-Ø-y	sku'l-k
put-*v*-An-Voice-1s	school-LOC

'I arrive at school.'

[109] A locative is required for this clause. The inherent argument structure of stems with respect to non-core arguments is a topic for future study.

A clause in active voice (10) has two arguments: the 1s agent and the card.[110]

10. *Ika'l~~i~~k ila'skw patauti-iktuk.*
ik-a'-l-Ø-k ila'skw patauti-iktuk
put-*v*-An-Voice-1s>3s card(AN) table-LOC
'I am putting the card on the table.'

The passive clause is illustrated in (11).

11. *Ika'lut ila'skw patauti-iktuk.*
ik-a'-l-u-t ila'skw patauti-iktuk
put-*v*-An-Voice-3s card(AN) table-LOC
'The card is being put on the table.'/ '[Someone] is putting the card on the table.'

Applying the diagnostic for agent confirms that the passive has an agent argument since it is grammatical with an agentive preverb (12).

12. *O'pli-ika'lut ila'skw patauti-iktuk.*
o'pli-ik-a'-l-u-t ila'skw patauti-iktuk
wrongly-put-*v*-An-Voice-3s card(AN) table-LOC
'The card is being put wrongly on the table.'/ '[Someone] is putting the card wrongly on the table.' (the card is put in the wrong place)

These diagnostics confirm my colleagues' judgement that the passive clause in (11) has two arguments: the card and whoever put it on the table. The agent argument in (11) is unspecified in the passive.

The antipassive for this stem has an idiomatic interpretation that specifies that it is money that is being put down (betting).

13. *Ika'tekey.*
ik-a'-t-eke-y
put-*v*-An-Voice-1s
'I am putting [money] down.' (betting)

My colleagues understand a particular patient argument (money) in their understanding of the clause.

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[110] Other dialects of Mi'kmaw spell 'table' *petawti* or *pataluti*.

The *a'qati-* 'halfway' diagnostic for the presence of a patient is grammatical (14).

14. *A'qati-ika'tekey.*
a'qati-ik-a'-t-eke-y
half-put-*v*-An-Voice-1s
'I am putting half [money] down.'

This example points to our conclusion that the clause is bivalent since an aspectual interpretation is much more difficult with this stem. Speakers say that the context for (14) is where, for example, you have 100 dollars and you bet 50 of it. There is no idea that the speaker has a goal of betting the entire $100 and so has only halfway reached that goal.

In (1)-(14), we took care to use examples where active, passive, and antipassive clauses contain the same little *v* morpheme: *-a* for *wissukw-* 'cook' (1)-(5) and *-a'* for *ik-* (9)-(14). We now apply these diagnostics to clauses composed with other verb stems and different little *v* morphemes in the following sections. Section 5.3 demonstrates that the use of the Animacy morphemes *-t/-l* always yields bivalent clauses. Section 5.4 illustrates *-Ø* Animacy in both bivalent and monovalent clauses.

5.3 *-t* and *-l* select *-a', -a, -i,* and *-o'*: bivalent clauses

All combinations of the little *v* morphemes *-a', -a, -o',* and *-i* selected by the Animacy morphemes *-t* and *-l* result in bivalent clauses without exception. These clauses can be transitive or intransitive. Neither *-t* nor *-l* select *-Ø* little *v*.

Section 5.2 illustrates the diagnostics we use to establish the valency of clauses and, by using the little *v* morphemes *-a* and *-a'* in our examples, we intend to illustrate the generalisation that Animacy *-t* and *-l* invariably yield bivalent clauses when they select *-a* or *-a'*. (15) illustrates the stem *nis-* 'down.' (a) illustrates an active clause with inanimate internal argument; *-t* agrees with that argument. (b) illustrates the antipassive, again with the Animacy morpheme *-t*. (c) shows an active clause with an animate internal argument;

-l agrees with that argument. Finally, (d) shows a passive clause where *-l* agrees with the internal argument subject.

15. (a) *Nis**a’t**u kutputi patauti-iktuk.*
nis-**a’-t**-u-Ø kutputi patauti -iktuk
down-*v*-An-Voice-1s chair(IN) table -LOC
‘I am taking the chair down from the table.’

(b) *Nis**a’t**ekey*.
nis-**a’-t**-eke-y
down-*v*-An-Voice-1s
‘I am going to put down [my cards/my money].’

(c) *Nis**a’l**k l’muj patauti-iktuk.*
nis-**a’-l**-Ø-k l’muj patauti -iktuk
down-*v*-An-Voice-1s>3s dog(AN) table -LOC
‘I am taking the dog down from the table.’

(d) *Nis**a’l**ut l’muj patauti-iktuk.*
nis-**a’-l**-u-t l’muj patauti -iktuk
down-*v*-An-Voice-3s dog(AN) table -LOC
‘The dog is being taken down from the table.’

The diagnostics reveal a patient argument in the antipassive (16) and an agent argument in the passive (17).

16. *A’qati-nis**a’t**ekey.*
A’qati-nis-**a’-t**-eke-y,
half-down-*v*-An-Voice-1s
‘I only am putting down half [of my cards].’

17. *Opli-nis**a’l**ut ila’skw.*
opli-nisk-**o’-l**-u-t ila’skw
wrongly-down-*v*-An-Voice-3s card(AN)
‘The card is being wrongly put down.’

The Mi’kmaw speaking colleagues add that the context for (17) might be while playing *wajju’kat* ‘rummy’; a spectator who sees the player’s cards might say that if the player is putting down the wrong card.

Similarly, the diagnostics demonstrate a patient argument in the antipassive and an agent argument in the antipassive for the stem *kes-* 'like' which is selected by *-a*. (18a) illustrates an active clause with inanimate internal argument; *-t* agrees with that argument. (18b) illustrates the antipassive, again with the Animacy morpheme *-t*. (18c) shows an active clause with an animate internal argument; *-l* agrees with that argument. Finally, (18d) shows a passive clause where *-l* agrees with the internal argument subject.

18. (a) *Kes**at**m nusapun.*
kes-**a**-**t**-m-Ø n-usapun
like-*v*-An-Voice-1s 1s-hair(IN)
'I like my hair.'

(b) *Kes**at**ekey.*
kes-**a**-**t**-eke-y
like-*v*-An-Voice-1s
'I am having an affair.' (lit. I like [stuff])

(c) *Kes**al**k mijua'ji'j.*
kes-**a**-**l**-Ø-k mijua'ji'j
like-*v*-An-Voice-1s>3s child(AN)
'I like the child.'

(d) *Kes**al**ut mijua'ji'j.*
kes-**a**-**l**-u-t mijua'ji'j
like-*v*-An-Voice-3s child(AN)
'The child is loved.'

The diagnostics reveal a patient argument in the antipassive (19) and an agent argument in the passive (20). We use another verb stem to illustrate the antipassive.[111]

19. *A'qati-pitkm**at**ekey.*
A'qati-pitkm-**a**-**t**-eke-y,
half-fill-*v*-An-Voice-1s
'I am halfway filling [something].' (whatever I am filling is halfway filled up)

20. *Opli-ksa'lut mijua'ji'j.*
opli-kes-**a**-**l**-u-t mijua'ji'j
wrongly-like-*v*-An-Voice-3s child(AN)
'The child is being loved the wrong way.' (the child may be abused or parent doesn't care about what their child does).

We now illustrate combinations with *-o'* and *-i*. Each example is basically a minimal quadruplet with the same stem.

[111] Many of the unergative stems are ungrammatical in antipassive voice. In the case of *kes-* 'like,' the antipassive is grammatical but idiomatic and this form is not grammatical with *a'qati-* 'halfway.'

(21) shows the stem *pesk-* ‘pluck’ selected by *-o’*. (21a) illustrates an active clause with inanimate internal argument; *-t* agrees with that argument. (21b) illustrates the antipassive, again with the Animacy morpheme *-t*. (21c) shows an active clause with an animate internal argument; *-l* agrees with that argument. Finally, (21d) shows a passive clause where *-l* agrees with the internal argument subject.

21. (a) *Pesk**o’t**u nusapun.*
pesk-**o’-t**-u-Ø n-usapun
pluck-*v*-An-Voice-1s 1s-hair(IN)
‘I am plucking my hair.’

(b) *Pesk**o’t**ekey.*
pesk-**o’-t**-eke-y
pluck-*v*-An-Voice-1s
‘I am plucking [a chicken/my hair].’

(c) *Pesk**o’l**~~i~~k ki’kli’kwej.*
pesk-**o’-l**-Ø-k ki’kli’kwej
pluck-*v*-An-Voice-1s>3s chicken(AN)
‘I am plucking a chicken.’

(d) *Pesk**o’l**ut ki’kli’kwej.*
pesk-**o’-l**-u-t ki’kli’kwej
pluck-*v*-An-Voice-3s chicken(AN)
‘The chicken is being plucked.’

We illustrate that all clauses are bivalent since my colleagues identify two arguments in each and the diagnostics indicate the presence of a patient argument in the antipassive (22) and an agent argument in the passive (23).

22. *A’qati-pesk**o’t**ekey.*
A’qati-pesk-**o’-t**-eke-y,
half-pluck-*v*-An-Voice-1s
‘I only plucked half [the chicken].’

23. *Opli-pesk**o’l**ut ki’kli’kwej.*
opli-pesk-**o’-l**-u-t ki’kli’kwej
wrongly-pluck-*v*-An-Voice-3s chicken(AN)
‘The chicken is being plucked the wrong way.’

We conclude that both passive and antipassive clauses are bivalent. We highlight the fact that even though these clauses are intransitive, they express both agent and patient. They are intransitive since one of the participants is unspecified. For antipassive voice (21b), the internal argument is unspecified and for passive voice (23b), the external argument is unspecified.

(24) illustrates a minimal quadruplet with the stem *nemi-* 'see' selected by *-i*.

24. (a) *Nem**it**u wenji'kuo'm.*
nemi-**i**-**t**-u-Ø wenji'kuo'm
see-*v*-An-Voice-1s house(IN)
'I see the house.'

(b) *Nem**it**ekey.*
nemi-**i**-**t**-eke-y
see-*v*-An-Voice-1s
'I can see.' ('I see [stuff].)

(c) *Nem**i'**k mijua'ji'j.*
nemi-**i**-**l**-Ø-k mijua'ji'j
see-*v*-An-Voice-1s>3s child(AN)
'I see the child.'

(d) *Nem**i**ut mijua'ji'j.*
nemi-**i**-**l**-u-t mijua'ji'j
see-*v*-An-Voice-3s child(AN)
'The child is seen.'

My colleagues consider that the clauses in (24) all have two arguments. The diagnostics demonstrate the presence of a patient in the antipassive (25).

25. *A'qati-nem**it**ekey.*
A'qati-nemi-**i**-**t**-eke-y,
half-see-*v*-An-Voice-1s
'I hardly can see.'/ 'I am half blind.' ('I half see [stuff]')

The passive form of the stem *nemi-* 'see' is not grammatical with *o'pli-* 'wrongly' (26).

26. **O'pli-nem**i**ut mijua'ji'j.*
o'pli-nemi-**i**-**l**-u-t mijua'ji'j
wrongly-see-*v*-An-Voice-3s child(AN)
Intended: 'The child is seen wrongly.'

Since *o'pli-* 'wrongly' is a diagnostic for agents, we assume that the ungrammaticality is due to the fact that the external argument for this verb stem is an experiencer (see section 4.6).

We make two conclusions. First, though we illustrate just one or two stems with each of *-a', -a, -o',* or *-i* selected by *-t* or *-l*, the patterns are identical with all relevant stems. Second, all verbs where *-t* or *-l* select *-a', -a, -o',* or *-i* yield bivalent clauses. We observe that the clauses are bivalent in clauses which express passive and antipassive voice.

These clauses are intransitive but bivalent. We further conclude that the stem-*v*-Animacy combination is involved in the expression of valence but not transitivity.

5.4 *-Ø* Animacy

We treat selection of little *v* morphemes by *-Ø* Animacy in two sections; when *-Ø* Animacy selects *-Ø* little *v*, the result is a bivalent clause with most stems (section 5.4.1).[112] When *-Ø* Animacy selects overt little *v* morphemes, the result is monovalent clauses (section 5.4.2). Table 22 summarises.

Table 22. Valence of clause for little v-Ø *Animacy combinations*

***v*-Animacy**	**Valence of resulting clause**
-a'-Ø	monovalent
-a-Ø	
-i-Ø	
-o'-Ø	*
-Ø-Ø	bivalent

5.4.1 *-Ø* Animacy selects *-Ø* little *v*: Bivalent clauses

Zero Animacy selects zero little *v* to yield bivalent clauses. (27) shows bivalent clauses with inanimate (a) and animate (b) internal argument/objects and the stem *tew-* 'out.'

27. (a) *Tewekey kutputi.*
tew-**Ø-Ø**-eke-y kutputi
out-*v*-An-Voice-1s chair(IN)
'I am throwing the chair outside.'

(b) *Tewekey l'mu'j.*
tew-**Ø-Ø**-eke-y l'mu'j
out-*v*-An-Voice-1s dog(AN)
'I am throwing the dog outside.'

Such clauses are clearly bivalent with subject and object overtly expressing the arguments. These stems fall into two groups when we consider antipassive and passive

[112] Our larger corpus includes two stems that we excluded from our database since they are intransitive and monovalent. These are *nep-Ø-Ø-m* 'I am dying' and *no'q-Ø-Ø-m* 'I am coughing.'

voice. Stems associated with an internal argument are not grammatical as antipassives (28a) or passives (28b).

28. (a) **Tewekey / tewuey.*
tew-**Ø-Ø**-eke-y / tew-**Ø-Ø**-ue-y
out-*v*-An-Voice-1s out-*v*-An-Voice-1s
Intended: 'I am throwing [stuff] outside.'

(b) **Tewut l'mu'j.*
tew-**Ø-Ø**-u-t l'mu'j
out-*v*-An-Voice-1s dog(AN)
Intended: 'The dog is being thrown outside.'

Stems associated with an external argument occur in active and passive clauses but not antipassive. There are only two such stems in our corpus. (29) illustrates the stem *kwil-* 'seek' in active (a) and passive (b) clauses.

29. (a) *Kwilm watjm.*
kwil-**Ø-Ø**-m-Ø watj-m
seek-*v*-An-Voice-1s watch(IN)-POSS
'I am looking for my watch.'

(b) *Kwilut mijua'ji'j.*
kwil-**Ø-Ø**-u-t mijua'ji'j
seek-*v*-An-Voice-3s child(AN)
'The child is being looked for.'

Both of these clauses are bivalent; (29b) is compatible with the agentive preverb *o'pli-* 'wrongly' (30) revealing the unexpressed agent argument.

30. *Opli-kwilut mijua'ji'j.*
opli-kwil-Ø-Ø-u-t mijua'ji'j
wrongly-seek-*v*-An-Voice-3s child(AN)
'The child is being searched for wrongly.' (if they went the wrong place and the child was somewhere else)

Both stems associated with an external argument are ungrammatical in antipassive clauses. (31a) illustrates *kwil-* 'seek' and (31b) illustrates *nen-* 'know.'

31. (a) **Kwilekey.*
kwil-**Ø-Ø**-eke-y
seek-*v*-An-Voice-1s
Intended: 'I am looking for [stuff].'

(b) **Nenekey.*
nen-**Ø-Ø**-eke-y
know-*v*-An-Voice-1s
Intended: 'I know [stuff].'

Although it is not clear to us at this point why *-Ø* Animacy limits the potential for antipassive or passive forms, we conclude that *-Ø-Ø v*-Animacy yields bivalent clauses. Section 7.2.4 discusses the contribution of the entire construction and presents our

analysis of why antipassives are ungrammatical with these verbs and why the two groups differ in terms of the grammaticality of the passive form.

5.4.2 *-Ø* Animacy selects *-a'*, *-a*, and *-i*: Monovalent clauses

In contrast with the patterns of bivalency that we have just reviewed, verbs where *-Ø* Animacy selects *-a'*, *-a*, and *-i* yield monovalent clauses. A complete study of monovalent clauses is beyond the scope of the dissertation. Here, we illustrate a few representative examples that are either associated with an external or internal argument but not both. (32)-(36) illustrate three stems with different little *v* morphemes. (32) exemplifies *-a-Ø* with the stem *wissukw-* 'cook.'

32. *Wissukw**a**y.*
wissukw-**a**-**Ø**-Ø-y
cook-*v*-An-Voice-1s
'I am cooking [#for myself].'

(33a) illustrates that this stem is associated with an external argument and (33b) that it is not associated with an internal argument.[113]

33. (a) *O'pli-wissukw**a**y.*
o'pli-wissukw-**a**-**Ø**-Ø-y
wrongly-cook-*v*-An-Voice-1s
'I am wrongly cooking.'

(b) **A'qati-wissukw**a**y.*
a'qati-wissukw-**a**-**Ø**-Ø-y
half-cook-*v*-An-Voice-1s
Intended: 'I am half cooking.'

(34) exemplifies *-a'-Ø* with *kesk-* 'disappear.'[114]

34. *Kesk**a'**y.*
kesk-**a'**-**Ø**-Ø-y
disappear-*v*-An-Voice-1s
'I am lost.'

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[113] My colleagues inform me that *a'qati-wissukway* might be grammatical in a context where I am halfway along in the *process* of cooking.

[114] *-a'-Ø* also occurs in intransitive clauses with three stems in our larger corpus: *sesak-a'-Ø-m-Ø* 'I am barefoot,' *mk~~i~~sn-a'-Ø-m-Ø* 'I am wearing moccasins,' and *wen'juksnan-a'-Ø-m-Ø* 'I am wearing shoes.'

(35a) illustrates that this stem is not associated with an external argument and (35b) that it is associated with an internal argument.

35. (a) **O'pli-kesk**a'**y*.
o'pli-kesk-**a'-Ø**-Ø-y
wrongly-lost-*v*-An-Voice-1s
Intended: 'I am wrongly lost.'

(b) *A'qati-kesk**a'**y*.
a'qati-kesk-**a'-Ø**-Ø-y
half-lost-*v*-An-Voice-1s
'I am half lost.'

(36) exemplifies *-i-Ø* with *tek-* 'cold.'

36. *Tek**i***.
tek-**i-Ø**-Ø-Ø
cold-*v*-An-Voice-1s
'I am cold.'

(37a) illustrates that this stem is not associated with an external argument.

37. (a) **O'pli-tk**i***.
o'pli-tek-**i-Ø**-Ø-Ø
wrongly-cold-*v*-An-Voice-1s
Intended: 'I am wrongly cold.'

**-o'-Ø* is ungrammatical, as exemplified in (38).

38. **Kesk**o'**q tapsun.*
kesk-**o'-Ø**-Ø-k tapsun
lost-*v*-An-Voice-3sIN clothes(IN)
Intended: 'Clothes are repeatedly lost.'

Every verb in which *-o'* occurs is bivalent.

We analyse a zero morpheme in the Animacy category because it fits the paradigm. Another possibility to consider is that monovalent clauses have a different structure, i.e., instead of zero morphemes, the structure of these clauses lacks Animacy and Voice categories. Since zero Animacy is the only Animacy morpheme permitted in monovalent clauses in Mi'kmaw, it might appear that an Animacy category is not needed in these clauses. However, *-Ø* Animacy has distinctive features as compared with *-t* and *-l*; *-Ø* is the only Animacy morpheme that selects zero little *v*, and indeed this combination yields

a bivalent clause. Therefore, we conclude that there is an Animacy head occupied by a zero morpheme in monovalent clauses as well as in some bivalent clauses, and that all clauses include an Animacy head.[115]

5.5 Chapter 5 summary and relation to Algonquian literature

This chapter demonstrates that the combination of little *v* plus Animacy is associated with valence. In particular, *-a', -a, -o',* and *-i* plus *-t* or *-l* yield bivalent clauses without exception while *-a', -a,* and *-i* plus *-Ø* Animacy uniformly yield monovalent clauses. A *-Ø-Ø v*-Animacy combination yields a bivalent clause in our corpus. Table 23 illustrates the combinations as related to valency.

Table 23. Valence of little v-Animacy combinations

Little *v*	***-t***	***-l***	***-Ø***
-a'	bivalent	bivalent	monovalent
-a	bivalent	bivalent	monovalent
-i	bivalent	bivalent	monovalent
-o'	bivalent	bivalent	*
-Ø	*	*	bivalent (rare in our corpus)

This chapter demonstrates that Mi'kmaw antipassives and passives have two arguments. We ask, if active, passive, and antipassive clauses share bivalent argument structure, how do they differ? How the external and internal arguments are mapped to syntactic roles is the subject of chapter 6.

We also demonstrate in this chapter the system in Mi'kmaw of how arguments are added to stems associated with either an external or internal argument. For example, *-a-t*

[115] In Blackfoot, Ritter and Rosen (2010) present different structures for intransitive and transitive. Transitive structure has a *v*P, a *v*' which has the TA, TI, or AI final, and VP which has Patient and verb root and intransitive has only *v*P and a VP. We argue in this thesis that the Animacy agreement category is present in all clauses in Mi'kmaw since all clauses do express grammatical voice and grammatical voice is expressed by the Animacy-Voice combination (see chapter 6).

and *-a-l* add an internal argument to a stem associated with an external argument while *-a'-t* and *-a'-l* add an external argument to a stem associated with an internal argument.

Relating our work to other Algonquian work, what we analyse as little *v* plus Animacy basically corresponds with the Algonquian "final." The fact that little *v* and Animacy function in combination is probably a factor in the analyses in the broader Algonquian literature considering them a single morpheme. In contrast to the Algonquian classification of "finals" as expressing transitivity, we demonstrate that these morphemes are associated with valence.

We observe that little *v* plus Animacy does *not* yield the transitivity of the clause. Contrast Table 24 with Table 23.

Table 24. Syntactic transitivity of little v*-Animacy combinations*

Little *v*	***-t***	***-l***	***-Ø***
-a'	transitive or intransitive	transitive or intransitive	intransitive
-a	transitive or intransitive	transitive or intransitive	intransitive
-i	transitive or intransitive	transitive or intransitive	intransitive
-o'	transitive or intransitive	transitive or intransitive	*
-Ø	*	*	transitive (rare)

Only the combinations with *-Ø* Animacy correlate with the transitivity of the clause; with explicit little *v* morphemes (*-a', -a, -i-Ø,* and *-ie-Ø*) the clause is always intransitive and the *-Ø-Ø* combination (only two stems) yields a transitive clause. All other combinations are seen in transitive and intransitive clauses.

Chapter 6 investigates the next portion of the second spiral of our study, looking at how Voice selects Animacy. We conclude from our discussion of that chapter that the

Animacy-Voice combination determines the transitivity and the grammatical voice of the clause.

Chapter 6 Voice selects Animacy: Grammatical voice

This chapter is the third portion of the second spiral of our investigation and discusses how Voice selects Animacy. This chapter demonstrates that the Animacy-Voice combination expresses grammatical voice in Mi'kmaw; i.e., how the arguments associated with the stem and introduced by little *v* and Animacy are mapped to grammatical roles. It is a straight-forward system where the combination of one of the three Animacy morphemes with one of the five Voice morphemes yields without exception a particular grammatical voice. We illustrate active, passive, and antipassive voice as well as possessor raising and demonstrate the way that arguments are mapped onto grammatical roles. We concentrate on bivalent constructions, leaving other constructions to future study. In all active voice constructions, the external argument is mapped to subject position and the internal argument is mapped to object position. In all passive voice constructions, the internal argument is mapped to subject position and the external argument is unspecified. In all antipassive constructions, the external argument is mapped to subject position and the internal argument is unspecified. In possessor raising constructions in active voice, the external argument is mapped to subject position and the possessor is raised to object position. In passive voice constructions with possessor raising, the possessor is raised to subject position and the external argument is unspecified.

There are several combinations that yield each of active, passive, and antipassive voice and possessor raising constructions. The fact that there are several combinations that indicate each of active, passive, and antipassive and that there are ungrammatical combinations is indicative that more is going on than just grammatical voice with these

constructions. The distinctive features of each become apparent when we consider the argument associated with the stem and study the entire stem-*v*-Animacy-Voice combinations in chapter 7.

The key to this analysis is parsing three categories following the verb stem: little *v*, Animacy, and Voice. Since only Animacy interacts with Voice to yield grammatical voice; grammatical voice is independent of the little *v* category. Argument mapping through grammatical voice is independent of the argument associated with the stem or how other arguments are introduced. This is the reason why the traditional Bloomfieldian analysis, which considers *v*-Animacy to be one "final" morpheme, renders the grammatical voice system opaque.

Chapter 3 makes some initial observations about selection of Animacy by Voice. Table 25 summarises the observations.[116]

Table 25. Summary of selection of Animacy by Voice

Animacy morphemes	**Voice morphemes**				
	-eke	***-ue***	***-u***	***-m***	***-Ø***
-t	✓	*	✓	✓	✓
-l	*	✓	✓	*	✓
-Ø	✓	*	✓	✓	✓

It can be seen that almost every Voice morpheme can select almost every Animacy morpheme. The only exceptions are that *-ue* never selects *-t*,[117] *-eke* never selects *-l*, and **-l-m* is ungrammatical in our dataset.[118]

[116] There are subject and object restrictions for some of these; e.g., zero Voice selects *-t* but only with a third-person proximate subject or in an applicative construction; *-m* and *-u* both select *-t* but only with a non-third-person proximate subject.

[117] *-Ø-ue* occurs in our larger corpus.

[118] **-l-m* is ungrammatical in our dataset but this combination may occur with more complex stems that occur in intransitive clauses like *pem-tukw-i'm* 'I am running.' We leave these stems to future research.

Table 26 shows the transitivity of the clause for each combination.

Table 26. Voice selects Animacy, yielding transitivity alternations

	-eke	***-ue***	***-u***	***-m***	***-Ø***
-t	intransitive	*	transitive	transitive	transitive
-l	*	intransitive	intransitive	*	transitive
-Ø	transitive	*	transitive or intransitive	transitive (rare)	transitive

Some of these combinations are rare in our dataset; only two stems have the *-Ø-m* combination in transitive clauses; we therefore draw no firm conclusions based on these stems.

Table 26 clearly illustrates that Voice by itself does not correlate with transitivity since transitive and intransitive clauses are possible for most combinations. Instead, it is the particular Animacy-Voice combination that functions in mapping arguments to grammatical roles and so is involved in determining transitivity.

Each section in this chapter illustrates a particular Voice morpheme selecting different Animacy morphemes:

- *-t-eke* and *-Ø-eke* (section 6.1)
- *-l-ue* (section 6.2)
- *-t-m* and *-Ø-m* (section 6.4)
- *-t-u*, *-l-u*, and *-Ø-u* (section 6.5)
- *-t-m-u* and *-Ø-m-u* (section 6.6)
- *-t-Ø*, *-l-Ø* and *-Ø-Ø* (section 6.8)

As noted, **-t-ue* and **-l-eke* are ungrammatical. We illustrate active, antipassive, and passive voice as well as possessor raising constructions. Antipassive and passive are both prototypical, as demonstrated in sections 6.3 and 6.7, respectively.

In the examples in this chapter, Animacy-Voice morphemes are bolded. An unspecified argument and other implied information are marked by square brackets in the gloss. The reader may note aspectual differences in the translations; a full exploration of aspect is beyond the scope of this thesis. We use the following convention to clearly distinguish grammatical voice from the Voice category: grammatical voice is uncapitalised and the Voice category or Voice morpheme is capitalised.

6.1 *-eke* Voice in combination with Animacy determines active or antipassive grammatical voice

This section examines selection by *-eke*: *-t-eke* and *-Ø-eke*. In combination with Animacy, *-eke* makes an active-antipassive voice contrast; *-t-eke* uniformly yields an intransitive antipassive clause (section 6.1.1) and *-Ø-eke* a transitive active clause without exception (section 6.1.2), as shown in Table 27.

Table 27. -eke *Voice in combination with Animacy yields grammatical voice and transitivity of clause*

Animacy-Voice	**Transitivity**	**Grammatical voice**
-t-eke	intransitive	antipassive
-l-eke	*	*
-Ø-eke	transitive	active

Section 6.1.3 summarises.

6.1.1 *-t-eke* Antipassive intransitive

When the Voice morpheme *-eke* selects the Animacy morpheme *-t*, the clause expresses antipassive voice (section 3.3.1). Section 5.3 demonstrated that *-t-eke* yields a bivalent clause; although the clause is syntactically intransitive (i.e., the single noun phrase is the subject, see section 2.4.4); the internal argument must be unspecified and third-person. (1)-(6) illustrate the construction with six stems.

1. *Panta'**teke**y*.
   pant-a'-**t-eke**-y
   open-*v*-An-Voice-1s
   'I open [doors as part of my job].'

Many antipassives formed with *-t-eke* are idiomatic; my Mi'kmaw-speaking colleagues understand the particular unspecified internal argument 'doors' in this construction. Section 6.3 argues that this is a prototypical antipassive construction according to the criteria put forth by Zúñiga and Kittilä (2019). (2)-(3) show two more examples with the stems *nep-* 'sleep' and *ne'p-* 'kill.'

2. *Nepa'**teke**y*.
   nep-a'-**t-eke**-y
   sleep-*v*-An-Voice-1s
   'I am an anaesthesiologist.'/ 'I put [people] to sleep.'

3. *Ne'pa**teke**y*.
   ne'p-a-**t-eke**-y
   kill-*v*-An-Voice-1s
   'I am a murderer.'/ 'I kill [people].'

In (2)-(3), the unspecified third-person internal argument is 'people.' In discussions with my colleagues about the context of these idiomatic expressions, they tell me that 'anaesthesiologist' and 'murderer' are the things that come to their mind when hearing these clauses. Other referents, like a hypnotist who puts people to sleep, or a veterinary anaesthesiologist are not felicitous interpretations.

(4)-(6) illustrate that the unspecified internal argument can be people or inanimate things.

4. *Jiko'**teke**y*.
   jik-o'-**t-eke**-y
   watch-*v*-An-Voice-1s
   'I am a lookout person.'/ 'I am watching [for people].' (e.g., a lookout person who is outside if people are robbing a house)

5. *Nemi**teke**y.*
   nemi-i-**t-eke**-y
   see-*v*-An-Voice-1s
   ‘I can see.’/ ‘I am able to see [things].’

6. *Keji**teke**y.*
   keji-i-**t-eke**-y
   know-*v*-An-Voice-1s
   ‘I am a person that knows [a lot of things].’ (smart/ knowledgeable)

A study of the aspectual properties of the *-t-eke* construction is beyond the scope of this thesis but we make a few notes here to provide direction for future research. The glossing in (1)-(6) expresses the subject’s habitual or characteristic activity. Other verb stems with *-t-eke* express an event in progress (7)-(11).

7. *Enqa’**teke**y.*
   enq-a’-**t-eke**-y
   stop-*v*-An-Voice-1s
   ‘I am stopping [cars on the road].’

8. *Ekna’**teke**y.*
   ekn-a’-**t-eke**-y
   decorate-*v*-An-Voice-1s
   ‘I am going to decorate [something].’

9. *Ika’**teke**y.*
   ik-a’-**t-eke**-y
   put-*v*-An-Voice-1s
   ‘I am putting [money] down (betting).’

10. *Ilto’**teke**y.*
    ilt-o’-**t-eke**-y
    close-*v*-An-Voice-1s
    ‘I am closing up (for the season).’

11. *Apt~~i~~sqo’**teke**y.*
    apt~~i~~sq-o’-**t-eke**-y
    lock-*v*-An-Voice-1s
    ‘I am locking up.’

In contrast to the *-l-ue* construction to be described in section 6.2.1, *-t-eke* doesn’t have the limitation of humanness for its implied participant. Even though *-t* most

typically agrees with inanimate internal arguments (section 3.2.1), discussions with my Mi'kmaw-speaking colleagues about possible scenarios reveal that *-t-eke* is not limited to contexts with inanimate internal arguments in Mi'kmaw. In the case of *-t-eke* antipassives, the internal argument referent can be animate or inanimate. In (12), for example, the subject could be loading chairs (*kutputi'l,* inanimate) or children (*mijua'ji'jk,* animate).

12. *Tepo'**teke**y.*
    tep-o'-**t-eke**-y
    load-*v*-An-Voice-1s
    'I am loading [stuff] on.'

Similarly, in (13), the subject could be discarding toys (*papitaqnn,* inanimate) or balls (*tu'aqnk,* animate).

13. *Ejiklo'**teke**y.*
    ejikl-o'-**t-eke**-y
    discard-*v*-An-Voice-1s
    'I am throwing [stuff] away.'

In fact, with some stems like that illustrated in (14-16), the implied referent *must* be human because of real-world considerations.[119]

14. *Nepa'**teke**y.*
    nep-a'-**t-eke**-y
    sleep-*v*-An-Voice-1s
    'I am an anaesthesiologist/I put [people] to sleep.'

Discussions with speakers indicate that there is no real or imagined context where the referent could be something inanimate. Yet the Animacy agreement morpheme is *-t*

[119] Even in imaginary contexts where chairs could be put to sleep in stories, for example, an inanimate referent is ungrammatical.

and not *-l*. (15)-(16) illustrate two other examples that must have animate, even human referents, yet it is *-t* that indicates that unspecified internal argument referent.

15. *Ne'pa**t**ekey.*
    ne'p-a-**t**-eke-y
    kill-*v*-An-Voice-1S
    'I am a murderer.' (lit. I kill [people])

16. *Anko'**teke**y.*
    ank-o'-**t-eke**-y
    care-*v*-An-Voice-1S
    'I am babysitting.'

This non-correspondence between the Animacy category with the animacy of the implied internal argument is discussed in our previous work (Sylliboy et al. 2016 and Denny et al. 2021). We see in this section that *-t* in combination with *-eke* is a construction that indicates antipassive voice. In this function of expressing grammatical voice, the animacy of the implied referent is immaterial to the construction.

In summary, *-t-eke* yields an antipassive clause: an intransitive clause with an unspecified, implied, third-person internal argument referent.

6.1.2 *-Ø-eke* Active transitive

When *-eke* selects *-Ø*, the clause expresses active Voice and is transitive. The zero Animacy morpheme places no restrictions on the animacy of the object. My colleagues specify that the subject must be animate[120] and the object can be either animate or inanimate. Ex. 17-19 show examples with both inanimate and animate objects in (a) and (b), respectively.

[120] Inanimate subjects are ungrammatical; e.g., **Amsute'kan tepekek lisqeikn* Intended: 'The doll is throwing the box on.'

17. (a) *Tep**eke**y lisqeikn.*
tep-Ø-**Ø-eke**-y lisqeikn
load-*v*-An-Voice-1s box(IN)
'I am throwing the box on.'

(b) *Tep**eke**y l'mu'j.*
tep-Ø-**Ø-eke**-y l'mu'j
load-*v*-An-Voice-1s dog(AN)
'I am throwing the dog on.'

18. (a) *Tew**eke**y kutputi.*
tew-Ø-**Ø-eke**-y kutputi
out-*v*-An-Voice-1S chair(IN)
'I am throwing the chair outside.'

(b) *Tew**eke**y l'mu'j.*
tew-Ø-**Ø-eke**-y l'mu'j
out-*v*-An-Voice-1S dog(AN)
'I am throwing the dog outside.'

When *-eke* selects zero Animacy, zero little *v* is always selected as well.

19. (a) *Nis**eke**y kutputi.*
nis-Ø-**Ø-eke**-y kutputi.
down-*v*-An-Voice-1s chair(IN)
'I am going to throw the chair down.'

(b) *Nis**eke**y tu'aqn.*
nis-Ø-**Ø-eke**-y tu'aqn
down-*v*-An-Voice-1s ball(AN)
'I am going to throw the ball down.'

This construction is discussed further in the third spiral of our investigation (chapter 7).

6.1.3 Summary of constructions with *-eke* Voice and relation to other Algonquian languages

Clauses with *-t* Animacy selected by *-eke* Voice express antipassive voice and are intransitive while those with *-Ø* Animacy selected by *-eke* Voice express active voice and are transitive. Both animate and inanimate internal arguments are permitted and must be third-person, whether that argument is expressed in the clause (as direct object in the active voice construction) or is implied (in the antipassive voice construction). **-l-eke* is ungrammatical.

Morphemes that appear to be cognate to *-eke* in some other Algonquian languages are described as indicating action on an indefinite object (or 'general goal'; Wolfart 1996:72). Delaware shows some antipassives 'derived from TA stems' (O'Meara 1990). Quinn (2008) proposes the cognate to *-eke* in Penobscot is an antipassive suffix. Likewise, Dahlstrom (2013:69) reports *-ike* as an antipassive suffix in Meskwaki. One

way that our analysis differs from that in other Algonquian languages is that we analyse antipassive voice as being expressed by a construction (*-t-eke* in this case), not a single morpheme. The above works in other Algonquian languages do not connect the grammatical voice to constructions with morphemes cognate to Animacy as we do in Mi'kmaw. This difference in our analysis becomes obvious when we consider the transitive *-Ø-eke* construction.

The cognate to *-eke* in transitive clauses is also reported in transitive clauses in other Algonquian languages. In Blackfoot, *-aki* can optionally take a pseudo-incorporated object (Armoskaite 2011, see also Goddard 1974:319 for several Algonquian languages and Dahlstrom 2013 for Meskwaki). Lochbihler (2012) explains that the cognate morpheme *-igee* in Ojibwe is a TI/AI theme sign, i.e., it occurs in either transitive or intransitive clauses. Again, our analysis differs from that in other Algonquian languages since we consider the morpheme *-eke* in combination with Animacy.

Verb stems that can occur with objects of either animacy have been noted in other Algonquian languages, for example Nishnaabemwin (Valentine 2001:218) AI verbs with an optional object have a "capacity to have goals of either gender, animate or inanimate." He gives the examples *daawe* 'sell Y' and *aakzi* 'have a pain in Y [some part of the body]'. Richard Rhodes (2019, p.c.) states that one of the diagnostics of an AI+O verb is that objects can be either animate or inanimate (the other diagnostic he gives is that they cannot have SAP objects). Oxford reviews the literature and notes (2017:31) "AI+O verbs can take an object of either gender (Pentland 1999: 231; Goddard, 2015: 406)."

We now move to constructions with *-ue*; these are uniformly antipassive.

6.2 *-ue* Voice in combination with Animacy determines antipassive voice

In contrast with *-eke*, *-ue* selects *-l* or *-Ø*; **-t-ue* is ungrammatical (see section 3.3.1.1). *-l-ue* yields an antipassive intransitive construction with an animate subject (section 6.2.1). *-Ø-ue* is ungrammatical in our dataset but does occur in the larger corpus with complex stems. Section 6.2.2 summarises.

6.2.1 *-l-ue.* Antipassive intransitive

When *-ue* selects *-l,*[121] the clause is antipassive and therefore invariably bivalent but intransitive (20)-(26).

20. *Enqa'**lue**y.*
enq-a'-**l-ue**-y
stop-*v*-An-Voice-1s
'I am a referee (I stop [people]).'

Like antipassives with *-t-eke*, the subject in verbs with *-l-ue* must be animate and there is an implied third-person unspecified internal argument. This implied argument is marked by square brackets in the gloss. The gloss is often idiomatic.

21. *Nepa'**lue**y.*
nep-a'-**l-ue**-y
sleep-*v*-An-Voice-1s
'I am an anaesthesiologist.' (I put [people] to sleep)

In contrast to the situation with *-t-eke*, my colleagues who are Mi'kmaw speakers explain that the unspecified internal argument must be interpreted as human and is plural. Table 28 summarises.

[121] For information on the allomophs of *-l* in different phonological environments, see section 2.5.2.

Table 28. Animacy of unspecified argument for -t-eke *and* -l-ue

Animacy-Voice combination	**Animacy of unspecified internal argument**	**Plurality of unspecified internal argument**
-t-eke	animate or inanimate	singular or plural
-l-ue	human	plural

We also notice aspectual differences. Although a complete study of aspect is beyond the scope of the thesis, we make a few preliminary observations. Similar to the situation with *-eke*, the *-l-ue* construction expresses habitual aspect in that some verb stems with *-l-ue* express a basic characteristic about a person concerning his/her relationship to other people. (20)-(21) above as well as (22-25) show examples which appear to be statements about the subject's characteristics. For example, discussions with my colleagues indicate that (22) doesn't just indicate that a person is lying on a particular occasion. Rather, it indicates that it is a habitual practice to lie to people.[122]

22. *Kespukwa'**lue**y*.
kespukw-a'-**l-ue**-y
lie-*v*-An-Voice-1s
'I lie [to people].'

Likewise, (23)-(25) express a habitual characteristics of the subject in relation to other people.

23. *Wele**yue**y*.
wel-o'-**l-ue**-y
treat.well-*v*-An-Voice-1s
'I take care [of people].'

24. *Kesa**lue**y*.
kes-a-**l-ue**-y
like-*v*-An-Voice-1s
'I like/love [people].'

[122] **-i-l-ue* is ungrammatical in our corpus. We reason that there is an aspectual incompatibility that merits further investigation.

25. *Pija'**lue**y.*
pij-a'-**l-ue**-y
in-*v*-An-Voice-1s
'I am a jailer.' (I put [people] in [jail])

In (26), the subject is afraid of people in general.

26. *Jipa**lue**y.*
jip-a-**l-ue**-y
fear-*v*-An-Voice-1s
'I am scared [of people].'

We show in section 3.2.1 that *-l* agrees with the animate internal argument. In the light of the *-l-ue* antipassives, we need to note that the internal argument may be unspecified; *-l-ue* as a construction is antipassive with an unspecified *animate* internal argument referent.

6.2.2 Summary of constructions with *-ue* Voice

-l-ue expresses antipassive and occurs in intransitive clauses. The unspecified internal argument referent must be human and third-person.

6.3 Two prototypical antipassive constructions

We consider *-t-eke* and *-l-ue* together in this section to demonstrate their common features. In some other Algonquian languages, the *-eke* cognate by itself is sometimes called an antipassive suffix (e.g., Dahlstrom 2013:68, Meskwaki). In contrast, we consider that antipassive in Mi'kmaw is not achieved by a morpheme but by a construction involving the functional categories Animacy and Voice – the combinations *-t-eke* and *-l-ue*. This is consistent with the fact that different types of grammatical voice are expressed crosslinguistically in different constructions rather than by single morphemes.

A prototypical antipassive is defined by Zúñiga and Kittilä (2019:103) as having four characteristics: (1) the transitivity is one less than a non-antipassive counterpart, (2) the subject corresponds to the agent-like argument of a bivalent predicate of the non-antipassive, (3) its peripheral or optional argument corresponds to the patient-like argument of a bivalent predicate of the non-antipassive, and (4) it is formally coded on the predicate complex (see section 2.4.5).

The two Mi'kmaw antipassives have all of these characteristics. We demonstrate the criteria for prototypical antipassives for *-t-eke* and *-l-ue* using the example pairs in (27)-(28). For each, (a) shows the active transitive (bivalent) clause and (b) shows the antipassive intransitive (bivalent) corresponding clause with the same stem and little *v*. For the stem *ke's-* 'put in the fire', active voice is expressed using *-t-u* with an inanimate internal argument (27a) and *-l-Ø* with an animate (28a).

27. (a) *Ke'so'**tu** kmu'j.*
ke's-o'-**t**-**u**-Ø kmu'j
put.in.fire-*v*-An-Voice-1s firewood(IN)
'I am putting wood into the fire.'

(b) *Ke'so'**teke**y.*
ke's-o'-**t**-**eke**-y
put.in.fire-*v*-An-Voice-1s
'I am stoking the fire.'

28. (a) *Ke'sa'**l**~~l~~k pi'kun.*
ke's-a'-**l**-**Ø**-k pi'kun
put.in.fire-*v*-An-Voice-1s>3s feather(AN)
'I am putting the feather into the fire.'

(b) *Ke'sa'**lue**y.*
ke's-a'-**l**-**ue**-y
put.in.fire-*v*-An-Voice-1s
'I put [people] in the fire.'

The first characteristic is met in that the active voice (a) in (27)-(28) has two syntactic arguments (subject and object) whereas the antipassive (b) has one (the subject).

The 1s subject of the antipassive in each case corresponds to the agent-like argument in a bivalent active clause, meeting the second characteristic.

The third characteristic is met in the *-t-eke* and *-l-ue* constructions in that there is no peripheral object permitted with these antipassives (29)-(30).[123]

29. **Ke'so'**teke**y nutmo'taqn*.
ke's-a'-**t-eke**-y n-utmo'taqn
put.in.fire-*v*-An-Voice-1s 1sPoss-stuff(IN)
Intended: 'I am putting my stuff into the fire.'

30. **Ke'sa'**lue**y skwijinu'k.*
ke's-a'-**l-ue**-y skwijinu'k
put.in.fire-*v*-An-Voice-1s people(AN)
Intended: 'I put people into the fire.'

We conclude in Chapter 5 that antipassive verbs as in (27) and (28) are bivalent. The Animacy agreement morphemes *-t* and *-l* signal the existence of an internal argument (a patient-like argument of a bivalent predicate). But that argument is unspecified and an overt argument is ungrammatical in the clause.

The fourth characteristic, formal coding, is observed in that the combinations *-t-eke* and *-l-ue* are morphologically coded on the verb.

We conclude that the Mi'kmaw *-t-eke* and *-l-eke* antipassive constructions are prototypical antipassives.[124]

6.4 *-m* Voice in combination with Animacy determines active voice

-t Animacy selected by *-m* Voice is a productive active construction (section 6.4.1) and *-Ø* Animacy selected by *-m* Voice, also expressing active voice, is rarely observed in our dataset (with only two stems, section 6.4.2). **-l-m* produces ungrammatical results.

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[123] The situation in Mi'kmaw is unlike the situation in some other languages where an oblique object may complement the antipassive verb. Zúñiga and Kittilä (2019) give Halkomelem as an example where the patient-like argument is marked with an oblique in the antipassive clause, citing Gerdts and Hukari (2000).

[124] Crosslinguistically, the antipassive may carry the idea that the intended effect upon the internal argument may not be attained (see Shibatani 2006). Our preliminary findings indicate that this does not hold for Mi'kmaw verbs.

Constructions with *-m* Voice require an animate non-third-person proximate subject (i.e., SAP or obviative) and an inanimate object.[125] Section 6.4.3 summarises.

6.4.1 *-t-m* Active transitive

When *-m* Voice selects *-t* Animacy, the clause is transitive with an inanimate object. (31)-(33) illustrate this pattern with three stems.

31. *Elukwa**tm** paysikl.*
elukw-a-**t**-**m**-Ø paysikl
work-*v*-An-Voice-1s bicycle(IN)
'I am fixing the bicycle.'

32. *Se'skwa**tm*** television.
se'skw-a-**t**-**m**-Ø television
shout-*v*-An-Voice-1s TV(IN)
'I am shouting at the TV.'

33. *Pitkma**tm** pewjalqek awtik.*
pitkm-a-**t**-**m**-Ø pewjalqek awti-k
fill-*v*-An-Voice-1s hole(IN) road-LOC
'I am filling a hole in the road.'

This *-t-m* construction is active and transitive with an inanimate object without exception. (34)-(36) show three more stems.

34. *Pewi'ka**tm** msaqsaqt.*
pewi'k-a-**t**-**m**-Ø msaqsaqt
sweep-*v*-An-Voice-1s floor(IN)
'I am sweeping the floor.'

35. *Teko'**tm** alame's.*
tek-o'-**t**-**m**-Ø alame's
stay.with-*v*-An-Voice-1s church(IN)
'I go to mass.'

36. *Anko'**tm** wasuek.*
ank-o'-**t**-**m**-Ø wasuek
care-*v*-An-Voice-1s flower(IN)
'I am taking care of the flower.'

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[125] With a third-person proximate subject, these stems employ zero Voice (see section 6.8.1).

The experiencer verbs *kes*- ‘like’ and *jip*- ‘fear’ also occur in this construction when they have inanimate objects (37)-(38).

37. *Kesa**tm** wasuek.*
kes-a-**t**-**m**-Ø wasuek
like-*v*-An-Voice-1s flower(IN)
‘I like the flower.’

38. *Jipa**tm** winikiskɨk.*
jip-a-**t**-**m**-Ø winikiskɨk
fear-*v*-An-Voice-1s bad.weather(IN)
‘I am afraid of bad weather.’

All stems that occur with *-t* Animacy selected by *-m* Voice are equally unergative (see section 7.4.1). Further spirals in the next chapters discuss more properties of the construction in comparison with others.

6.4.2 *-Ø-m* Active (rare)

Only two stems in the database illustrate *-Ø* Animacy selected by *-m* Voice in bivalent clauses; therefore, we make a few tentative observations. All are active voice. (39)-(40) illustrate the stems *kwil*- ‘seek’ and *nen*- ‘know.’ These are transitive with an inanimate object.

39. *Kwil**m** watj*.
kwil-Ø-**Ø**-**m**-Ø watj
seek-*v*-An-Voice-1s watch(IN)
‘I am looking for the watch.’

40. *Nen**m** wajju’kat.*
nen-Ø-**Ø**-**m**-Ø wajju’kat
know-*v*-An-Voice-1s rummy(IN)
‘I know rummy.’

Section 4.7 demonstrates that both *kwil*- ‘seek’ and *nen*- know’ are associated with an external argument.

6.4.3 Summary of constructions with *-m* Voice

All combinations with *-m* yield active voice. Table 29 summarises the features. **-l-m* is ungrammatical. Third-person proximate subjects are ungrammatical with *-m* Voice (see discussion on differential object marking in Appendix A).[126]

Table 29. Transitivity of constructions with -m. *All active voice*

Subject	**Stem class**	***-t-m***	***-Ø-m***	***-l-m***
Third-person proximate subject	any	*	*	*
Non-third-person proximate subject	unergative	transitive	transitive	*
	unaccusative	*	*	*

6.5 *-u* Voice in combination with Animacy determines active or passive grammatical voice

This section examines selection by *-u*: *-t-u*, *-l-u*, and *-Ø-u*. *-t* Animacy selected by *-u* makes an active-passive voice contrast; *-t-u* with a non-third-person proximate subject yields an active clause (section 6.5.1) and *-t-u* with a third-person proximate subject yields a passive clause with possessor raising (section 6.5.2). *-l-u*, and *-Ø-u* uniformly yield an intransitive passive clause (sections 6.5.3 and 6.5.4, respectively). Section 6.5.5 summarises.

Table 30 summarises what this section demonstrates about the properties of the subject and object for clauses where *-u* Voice selects the Animacy morphemes *-t*, *-l*, and *-Ø*. In all cases, the subject must be animate. The *-t-u* possessor raising construction is shown in the shaded boxes.

[126] In our larger corpus, two stems which occur with the *-Ø-m* combination yield intransitive clauses: *nep-* 'sleep' and *no'q-* 'cough.'

Table 30. Summary of subject and object properties: Animacy selected by -u Voice

An-Voice	**Transitivity**	**Subject**	**Subject animacy**	**voice**	**Subject argument**	**Object animacy**	**Object argument**
-t-u	transitive	not 3 Prox	AN	active	external	IN	internal
		3 Prox		passive	possessor	IN or AN	
-l-u	intransitive	3 Prox		passive	internal		
-ø-u 2 stems							

-t Animacy selected by *-u* Voice yields clauses that are always transitive. With a non-third-person proximate subject, the clause is active voice: the external argument is mapped to subject position and the inanimate internal argument is mapped to object position. With a third-person proximate subject, the clause expresses passive voice with possessor raising: the possessor is mapped to subject position and the internal argument (any animacy) is mapped to object position. These constructions are discussed in section 6.5.1. *-l* Animacy selected by *-u* Voice yields clauses that are passive and intransitive with a third-person proximate subject: the internal argument is mapped to subject position and the external argument is unspecified (section 6.5.3). There are just two stems that employ the construction *-Ø-u*, marked with *: *kwil-* 'seek' and *nen-* 'know.' These clauses are passive and intransitive with a third-person proximate subject: the internal argument is mapped to subject position and the external argument is unspecified (section 6.5.4). Section 6.5.5 summarises.

6.5.1 *-t-u*. active (non-third-person proximate subject)

When *-t-u* has a subject that is non-third-person proximate, the clause is active transitive and the syntactic object is inanimate.[127] (41) shows the stem *aptɨsq-* 'lock' and (42) the stem *ekn-* 'decorate.'

41. *Aptɨsqa'**tu** nutapaqn.*
aptɨsq-a'**-t-u**-Ø nu-tapaqn
lock-*v*-An-Voice-1s 1sPOSS-vehicle(IN)
'I am locking my car.'

42. *Ekna'**tu** niknen.*
ekn-a'**-t-u**-Ø n-ik-nen
decorate-*v*-An-Voice-1s 1sPOSS-home(IN)-1pex
'I am going to decorate my house.'

The inanimate internal argument is the object and the external argument is the subject. (43) shows the stem *ne'p-* 'kill' and (44) *pekw-* 'earn.'

43. *Ne'pa**tu** nilu.*
ne'p-a-**t-u**-Ø n-ilu
kill-*v*-An-Voice-1s 1sPOSS-food(IN)
'I am gathering my food (by hunting or fishing or gathering).'

44. *Pekwa**tu** suliewey.*
pekw-a-**t-u**-Ø suliewey
earn-*v*-An-Voice-1s money(IN)
'I am earning money.'

(45) shows the stem *pekis-* 'arrive' and (46) *kis-* 'already.' The idiomatic interpretations that result are discussed in section 3.1.2.3.

45. *Pekisi**tu** ke'ks.*
pekis-i-**t-u**-Ø ke'ks
arrive-*v*-An-Voice-1s cake(IN)
'I brought the cake.'

[127] See section 6.8.1 for a discussion of third-person proximate subjects in the same context.

46. *Kisi**tu** ke'ks*.
kis-i-**t**-**u**-Ø ke'ks
already-*v*-An-Voice-1s cake(IN)
'I made a cake.'

We conclude that all constructions with *-t* Animacy selected by *-u* Voice and a non-third-person proximate subject are active and transitive.

6.5.2 *-t-u.* passive (third-person proximate subject)

When *-u* selects *-t* in the context of a third-person proximate subject, the result is a transitive passive form.[128] In this construction, both the subject and the object must be third-person. (47) illustrates the stem *kis-* 'already.'

47. (a) *Kisi**tu**t Pie'l kutputi*.
kis-i-**t**-**u**-t Pie'l kutputi
already-*v*-An-Voice-3s Peter chair(IN)
'The chair is made for Peter.' (literally 'Peter is made the chair')

(b) *Kisi**tu**tl Pie'l tu'aqnn*.
kis-i-**t**-**u**-t-l Pie'l tu'aqn-l
already-*v*-An-Voice-3s-OB Peter ball(AN)-OB
'The ball is made for Peter.' (literally 'Peter is made the ball')

This transitive passive form is a construction that yields a trivalent interpretation where the external argument is unspecified and not expressed as an argument in the clause. The syntactic subject is interpreted as the recipient/possessor argument *Pie'l* 'Peter.' Possessor raising as defined in section 2.4.5 and discussed in our previous work (Denny et al. 2021) is a process in which the structure of the clause treats a possessor as a core syntactic constituent of the verb, rather than within the constituent that contains the possessed noun.

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[128] This construction is called 'impersonal subject' in Francis and Hewson (2016:159). They give the example: *kisitut* 'one makes it for him.'/'to make it for him.'

If the object is a possessed noun, the sentence is interpreted as involving possessor raising; that is, the passive subject is also the possessor of the object. (48) shows the same two examples as (47) except that the object is possessed.

48. (a) *Kisi**tu**t Pie'l kutputim.*

kis-i-**t**-**u**-t	Pie'l	kutputi-m
already-*v*-An-Voice-3s	Peter	chair(IN)-POSS

'Peter's chair is made.' (literally 'Peter is made his chair')

(b) *Kisi**tu**tl Pie'l tu'aqnml.*

kis-i-**t**-**u**-t-l	Pie'l	tu'aqn-m-l
already-*v*-An-Voice-3s-OB	Peter	ball(AN)-POSS-OB

'Peter's ball is made.' (literally 'Peter is made his ball')

We know that the recipient/possessor argument is raised to subject position because the subject inflection *-t* is the typical 3s animate inflection and this inflection remains the same whether the internal argument is inanimate *kutputi* 'chair' (a) or animate *tu'aqn* 'ball' (b).[129] The internal argument is the syntactic object, and its grammatical animacy is immaterial to the Animacy-Voice construction. The animacy of the internal argument is, however, indicated by another means in the clause: an animate internal argument is marked with the obviative suffix. For example, in (47b), the animate internal argument *tu'aqn* 'ball' is marked with the obviative (*-l*). The Animacy morpheme *-t*, which typically indicates an inanimate internal argument, functions in combination with Voice combination to indicate the way arguments are mapped onto grammatical roles.

(49)-(50) illustrate two other examples of passive constructions with possessor raising. Both have animate objects.

[129] The 3s inanimate subject inflection is *-k*.

49. *Pekisi**tu**tl Aliet wnijann.*
pekis-i-**t**-**u**-t-l Aliet w-nijan-l
arrive-*v*-An-Voice-3s-OB Harriet 3sPOSS-child-OB
'They brought Harriet's child.' / 'Harriet's child is being brought.' (literally, 'Harriet is being brought her child')

Similar to the case in (47), this transitive passive form is a construction that yields a trivalent interpretation (internal and external arguments plus possessor raised to subject).

50. *Nisa'**tu**tl Tuma wnijann.*
nis-a'-**t**-**u**-t-l Tuma w-nijan-l
down-*v*-An-Voice-3s-OB Thomas 3sPOSS-child(AN)-OB
'They are carrying Thomas' child down.' / 'Thomas' child is being carried down.'

The possessor of the internal argument is raised to subject and the internal argument is the object with the same properties as observed for (47b). The external argument is unspecified and not expressed in the clause.

We stress that in possessor-raising passive constructions, animate and inanimate internal arguments are both indexed by *-t* (see section 3.2.4 which discusses the wider use of *-t*). (51) shows a passive made from the stem *kejkap-* 'make a scratch' with a possessed internal argument *Sa'n wtue'ml* 'John's pet.'

51. *Kejkapa'**tu**tl Sa'n wtue'ml.*
kejkap-a'-**t**-**u**-t-l Sa'n w-tue'm-l
make.a.scratch-*v*-An-Voice-3s-OB John 3POSS-pet(AN)-OB
'John's pet is being scratched.'

The internal argument *wtue'ml* 'his pet'/*ntue'm* 'my pet' is animate.

(52) illustrates the same construction as (51) but with an inanimate possessed internal argument.

52. *Kejkap*a'***tu**t Sa'n pataluti'm.*
kejkap-a'-**t**-**u**-t Sa'n pataluti-'m
make.a.scratch-*v*-An-Voice-3s John table(IN)-POSS
'John's table is being scratched.'

Comparing (51) with (52) we can see that regardless of the animacy of the internal argument, the same Animacy-Voice construction is employed for both; this construction indicates possession of the internal argument and it is independent of the animacy of the internal argument.

6.5.3 *-l-u.* passive

When *-u* selects *-l*, a passive construction results and the clause is intransitive (53)-(55). The subject is third-person proximate and animate.

53. *Ekwija'**lu**t Pie'l.*
ekwij-a'**-l-u**-t Pie'l
go.in.water-*v*-An-Voice-3S Peter(AN)
'Peter is being put into the water.'

54. *L'pa'tuj ika'**lu**t* grade *5.*
l'pa'tuj ik-a'**-l-u**-t grade 5
boy(AN) put-*v*-An-Voice-3s grade five
'The boy is being put into grade 5.'

55. *Pitkma**lu**t la'taqsun kwijmuk.*
pitkm-a**-l-u**-t la'taqsun kwijm-uk
fill-*v*-An-Voice-3s pail(AN) outside-LOC
'The pail is being filled outside.'

Sometimes the English translation is 'passive,' with no expressed actor (53)-(55). For other examples, the most natural gloss does not include an English passive construction but instead uses an active form with an unspecified actor 'they' (56)-(58).

(56)-(58) illustrate three more stems with this construction.

56. *Nisa'**lu**t Silipay.*
nis-a'**-l-u**-t Silipay
down-*v*-An-Voice-3s Levi(AN)
'They are carrying Levi down.'

57. *Kesnukwa'**lu**t Elen etl-lukuti'tij.*
kesnukw-a'**-l-u**-t Elen etl-lukuti'tij
sick-*v*-An-Voice-3s Helen(AN) PROG-they.are.working
'They are making Helen sick, the place she is working at.'

58. *Wela'**lu**t Pie'l.*
wel-a'-**l**-**u**-t Pie'l
treat.well-*v*-An-Voice-3s Peter(AN)
'They are doing Peter a favour.' / 'They did something nice for Peter.'

These clauses are bivalent but intransitive (see chapter 5). We know that Pie'l 'Peter' is the internal argument because the Animacy morpheme *-l* agrees with an animate internal argument. We know that the internal argument is the subject because the 3s animate inflection *-t* agrees with the animacy and person of the internal argument. This *-l-u* construction is passive without exception. In each example, the 3s animate subject inflection agrees with animacy and person of the internal argument.

6.5.4 *-Ø-u.* passive

-Ø-u yields an intransitive passive with two stems in our corpus. This construction is employed by only two out of the 100 stems in our corpus so we only make some observations here. (59) illustrates the stem *nen-* 'know' and (60) the stem *kwil-* 'seek.'

59. *Nen**u**t Pie'l msɨt tami.*
nen-Ø-**Ø**-**u**-t Pie'l msɨt tami
know-*v*-An-Voice-3s Peter all where
'Peter is known everywhere.'

60. *Kwil**u**t Pie'l.*
kwil-Ø-**Ø**-**u**-t Pie'l
seek-*v*-An-Voice-3s Peter
'Peter is being looked for.'

Both stems yield an intransitive passive; both stems are shown to be associated with an external argument in section 4.7. *Pie'l* 'Peter' is the subject in both examples since the 3s animate inflection agrees with this argument.

6.5.5 Summary of constructions with *-u* Voice

-t-u with a non-third-person proximate subject yields an active clause.[130] *-t-u* with a third-person proximate subject yields a passive clause, as does *-l-u* and *-Ø-u*.[131]

Table 31 shows the argument structure for the different constructions.

Table 31. Subject and object restrictions

An-Voice	Grammatical voice	Subject	Subject person	Object
-t-u	active	external argument	non-3rd proximate	internal argument
-t-u	passive	possessor	3rd proximate	internal argument
-l-u	passive	internal argument	any	*
-Ø-u	passive	internal argument	any	*

The internal argument is the object in a transitive active or passive with possessor raising. The external argument is the subject is in an active clause. In a passive with possessor raising, the raised possessor or benefactive is subject.

The *-t-u* passive is a construction with possessor raising which is built from verb stems associated with an internal argument. Section 6.6 discusses constructions with *-m-u* which are passives with possessor raising that are built from stems associated with an external argument.

6.6 *-m-u* Voice in combination with Animacy determines passive voice of a possessor-raised construction

As we noted in section 3.3.4, the two Voice morphemes *-m-u* can co-occur in the same verb. In this section, we illustrate *-m-u* in passive constructions with possessor

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[130] An active clause for a third-person proximate subject is achieved using zero Voice and is discussed in section 6.8.1.

[131] A passive clause for a non-third-person proximate subject is achieved using *-uksi*, a morpheme beyond the scope of this thesis. For an inanimate subject, the passive is root-*si-k*; e.g., *kis-it-asi-k kutpiti* 'The chair is made.' A study of the -asi/-si reflexive morpheme is for future research.

raising; i.e., in clauses where the internal argument is possessed and the possessor is a core grammatical relation (i.e., subject or object).

Only stems associated with an external argument employ possessor raising constructions with *-m-u*; stems associated with an internal argument employ *-t-u* for passive voice wih possessor raising (section 6.5.2). The *-t-m-u* construction is discussed in section 6.6.1 and the *-Ø-m-u* construction in section 6.6.2. Section 6.6.3 summarises.

6.6.1 *-t-m-u* Passive with possessor raising

Verb stems which employ the *-t-m* construction for inanimate objects employ both *-m* and *-u* Voice morphemes in passive constructions with possessor raising. (61) illustrates this construction with the stem *elukw-* 'work.'

61. *Elukwa**tmu**t Pie'l paysiklm.*
elukw-a-**t-m-u**-t Pie'l paysikl-m
care-*v*-An-Voice-Voice-3s Peter bicycle-POSS
'Peter's bicycle is being fixed.' (literally, 'Peter is being fixed his bicycle')

This transitive passive form is a construction with possessor raising. It expresses passive voice since the external argument is unspecified and not expressed as an argument in the clause. In contrast with the *-l-u* passive where the internal argument is the subject (section 6.5.3), the possessor argument *Pie'l* 'Peter is raised to subject and the syntactic object is the internal argument. The grammatical animacy of the object is immaterial to the construction; its animacy is indicated by the presence or absence of obviation marking. (62)-(67) show examples with the stem *ank-* 'care for' and a possessed internal argument that is inanimate (a) and animate (b).

62. (a) *Anko'**tmu**t Pie'l wsulieweym.*
ank-o'-**t-m-u**-t Pie'l w-suliewey-m
care-*v*-An-Voice-Voice-3s Peter 3POSS-money(IN)-POSS
'[Someone] is taking care of Peter's money.'/ 'Peter's money is being taken care of.'
(literally, 'Peter is being taken care of his money')

(b) *Anko'**tmu**tl Pie'l wtusl.*
ank-o'-**t**-**m**-**u**-t-l Pie'l w-tus-l
care-*v*-An-Voice-Voice-3s Peter 3POSS-daughter(AN)-OB
'[Someone] is taking care of Peter's daughter.'/ 'Peter's daughter is being taken care of.' (literally, 'Peter is being taken care of his daughter')

The subject of the passive clause is the possessor of the internal argument, which can be animate or inanimate.[132]

The passive constructed from the same stem but without possessor raising is illustrated in (63) (cf. section 6.5.3).

63. *Ankwey**u**t Pie'l.*
ank-o'-l-**u**-t Pie'l
care-*v*-An-Voice-3s Peter
'Peter is being taken care of.'/ '[Someone] is taking care of Peter.

The *-t-m-u* construction doesn't occur unless the internal argument is possessed (64).

64. *Ankweyut Pie'l* **Anko'**tmu**t Pie'l.* **Ankweymut Pie'l.*
ank-o'-**l**-**u**-t Pie'l
care-*v*-An-Voice-3s Peter(AN)
'Peter is being looked after.'

(65) illustrates the possessor raising construction with the stem *kes-* 'like'/ 'love.' (a) shows the construction with the inanimate possessed noun *wi'k* 'her house' and (b) shows the same construction with the animate possessed noun *wtue'ml* 'her pet.'

65. (a) *Kesa**tmu**t Aliet wi'k.*
kes-a-**t**-**m**-**u**-t Aliet w-i'k
like-*v*-An-Voice-Voice-3s Harriet 3POSS-home(IN)
'Harriet's house is liked.'

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[132] The passive of a possessed noun may also be expressed without possessor raising; in this case, a passive construction that has only one argument is employed. In this case, a reflexive is employed.
Anko't**asi**litl Pie'l wkwijl.
ank-o'-t-**asi**-litl Pie'l w-kwij-l
care-*v*-An-Voice-Voice-3sOB Peter 3POSS-mother(AN)-OB
'Peter's mother is being looked after.'/ '[Someone] is looking after Peter's mother.

(b) *Kesa**tmu**tl Aliet wtue'ml.*
kes-a-**t**-**m**-**u**-t-l Aliet w-tue'm-l
like-*v*-An-Voice-Voice-3s-OB Harriet 3POSS-pet(AN)-OB
'Harriet's pet is liked.'

Obviative marking identifies an animate internal argument. Verbs with *-m-u* express passives with possessor raising; *-m-u* indicates that both the possessed noun and its possessor are arguments in the clause. We know that *Aliet* 'Harriet' is the subject in (65) and *wi'ktue'm-l* 'her pet' is the object because of the obviative marking *-l* on *wktue'm-l* 'her pet' which agrees with the obviative marking for object in the verb *kesatmut-l* '[possessed animate object] is liked.'

The passive constructed from the same stem but without possessor raising is illustrated in (66) (cf. section 6.5.3).

66. *Kesal**u**t Aliet.*
kes-a-l-**u**-t Aliet
like-*v*-An-Voice-3s Harriet
'Harriet is loved.'/ 'Someone loves Harriet.

(67) illustrates the passive with possessor raising with the stem *pitkm-* 'fill.'

67. (a) *Pitkma**tmu**t Ma'li wsinkm.*
pitkm-a-**t**-**m**-**u**-t Ma'li w-sink-m
fill-*v*-An-Voice-Voice-3s Mary 3POSS-sink(IN)-POSS
'Mary's sink is being filled.' / '[Someone] is filling Mary's sink.'

(b) *Pitkma**tmu**tl Ma'li la'taqsunml.*
pitkm-a-**t**-**m**-**u**-t-l Ma'li la'taqsun-m-l
fill-*v*-An-Voice-Voice-3s-OB Mary pail(AN)-POSS-OB
'Mary's pail is being filled.'/ '[Someone] is filling Mary's pail.'

The *-t-m-u* passive with possessor raising is used when the possessor of the object is a key participant in the discourse, similar to the situation with the *-t-u* transitive passive construction (section 6.5.2). For example, in a story by the late Sylliboy that is transcribed and translated in DeBlois (1991:30), Sylliboy tells of an *L'nu* hunter who

became lost, and was picked up by an English boat and taken to England for the winter. The following spring, they brought him back to Cape Breton. The story says that the English took good care of the man and his boat. (68) reproduces a clause from the story using the current orthography.

68. *wtul welo'tmut*
w-tul wel-o'-t-m-u-t
3sPOSS-vehicle treat.well-*v*-An-Voice-Voice-3s
'His boat was kept well.' (lit. 'He is treated well his boat)

My colleagues tell me that this construction is used because the story is about the man. The fact that his boat was well cared for reflected that the English took good care of the man.

Both *-t-m-u* and *-t-u* (section 6.4.1.2) occur in passive constructions with possessor raising. Section 6.7 and Chapter 7 notes the differences in argument structure of these verbs, adding the contribution of the stem and little *v*.

6.6.2 *-Ø-m-u* Passive of a possessor raising clause

Similar to the *-t-m-u* construction, for verb stems which employ the *-Ø-m* construction for inanimate objects (section 6.4.2), the passive of a possessor raising clause is *-Ø-m-u* with two Voice morphemes, *-m* and *-u* (see section 3.4.7). This construction is rare in our database, occurring with only two stems. (69) illustrates *nen-* 'know' with inanimate (a) and animate (b) objects.

69. (a) *Nen**mu**t Pie'l wutapaqn msɨt tami.*
nen-Ø-Ø-**m-u**-t Pie'l wu-tapaqn
know-*v*-An-Voice-Voice-3s Peter 3sPOSS-vehicle(IN)
'Peter's car is known everywhere.' (literally 'Peter is known his vehicle everywhere')

(b) *Nen**mu**tl Pie'l wtue'ml msɨt tami.*
nen-Ø-Ø-**m-u**-t-l Pie'l w-tue'm-l
know-*v*-An-Voice-Voice-3s-OB Peter 3sPOSS-pet(AN)-OB
'Peter's dog is known everywhere.' (literally 'Peter is known his dog everywhere')

The passive without possessor raising is illustrated in (70) (cf. section 6.5.4).

70. *Nen**u**t Pie'l msɨt tami.*
nen-Ø-**Ø**-**u**-t Pie'l msɨt tami
know-*v*-An-Voice-3s Peter all where
'Peter is known everywhere.'

(69a) indicates that Peter's car is known everywhere, and not that Peter is known everywhere; only (70) is Peter himself.[133] We know that the subject in both clauses is *Pie'l* 'Peter' because the inflection is 3s animate *-t*. *Wutapaqn* 'his car' is inanimate and we conclude that it is the grammatical object. (69a) illustrates possessor raising since the possessor is raised to subject. The two passives only differ in that the passive with possessor raising contains both *-m* and *-u*. A speaker can identify which participant is being passivized by means of *-m* Voice and *-m-u* Voice.

(71) shows the stem *kwil-* 'seek.'

71. (a) *Kwil**mu**t Pie'l w*-phone-*m*.
kwil-Ø-Ø-**m**-**u**-t-l Pie'l w-phone-m
seek-*v*-An-Voice-Voice-3s-OB Peter 3POSS-phone(IN)-POSS
'Peter's phone is being looked for.' (literally 'Peter is looked for his phone')

(b) *Kwil**mu**tl Pie'l wtue'ml.*
kwil-Ø-Ø-**m**-**u**-t-l Pie'l w-tue'm-l
seek-*v*-An-Voice-Voice-3s-OB Peter 3POSS-pet(AN)-OB
'Peter's dog is being looked for.' (literally 'Peter is looked for his dog')

The possessor 'Peter' is the subject and the internal argument is *w*-phone-*m* 'his phone' in (a) and *w-tue'm-l* 'his pet' in (b). In (71b), we know that Peter is the subject since the obviative inflection *-t-l* indicates a third-person proximate subject and obviative object; the object noun is also marked with the obviative: *wtue'm-l* 'his pet-OB.'

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[133] A reflexive construction is employed when the possessor is not raised: *nenasik Pie'l wutapaqn msɨt tami*. 'Peter's car is known everywhere.' Reflexives are beyond the scope of this thesis.

(72) shows the passive of the same stem without possessor raising.

72. *Kwil**u**t Pie'l.*
kwil-Ø-**Ø**-**u**-t Pie'l
seek-*v*-An-Voice-3s Peter
'Peter is being looked for.'

(71a) indicates that Peter's phone is being searched for, not Peter himself; only (72) expresses Peter being searched for. Again, *Pie'l* 'Peter' is the subject of both clauses. We conclude that *-m-u* indicates a passive with possessor raising where the possessor is raised to subject.

6.6.3 Summary

-t-m-u and *-Ø-m-u* occur in passive clauses with possessor raising. The internal argument is the object and can be animate or inanimate. The possessor is raised to subject.[134]

Table 32. Subject and object properties in -m-u *passives with possessor raising*

Voice	**properties**	***-t-m-u***	***-Ø-m-u***
Passive: Third-person proximate subject	**transitivity**	transitive	transitive
	subject properties	AN: possessor	AN: possessor
	object properties	AN or IN internal argument	AN or IN internal argument

One possible explanation of the examples in this section is that the stem is complex; i.e., in (62a) above, the stem is *anko'tm-* and in (71), the stem is *kwilm-*. The placement of the emphatic suffix in the corresponding emphatic examples is shown in (73) and (74).

73. *Ankuliko'**tmu**t Pie'l wsulieweym.*
ank-likw-o'-**t**-**m**-**u**-t Pie'l w-suliewey-m
care-EMPH-*v*-An-Voice-Voice-3s Peter 3POSS-money(IN)-POSS
'Peter's money is #$@!% being looked after.'

[134] *-t-m-u* and *-Ø-m-u* do not occur in active clauses except with applicative, which is beyond the scope of the thesis.

74. *Kwillikwet**mu**t Pie'l wsulieweym.*
kwil-likw-e-t-**m**-**u**-t Pie'l w-suliewey-m
seek-EMPH-*v*-An-Voice-Voice-3s Peter 3POSS-money(IN)-POSS
'Peter's money is #$@!% being looked for.'

These examples demonstrate that *-m* is not part of the stem and *-m-u* are Voice. We conclude that there are two Voice categories in these verbs with possessor raising. An analysis with two Voice categories is unexpected according to our analysis.[135] Possibly what is happening with this extra morphology relates to what Legate et al. (2020:810) are talking about when they argue that "the absence of passives of passives crosslinguistically supports an analysis of the passive that involves not a passivization rule, be it lexical or syntactic, but rather alternative syntactic structure building." Future research can investigate the function of this larger structure which contains two Voice categories and an extra argument.

It is interesting that both *-t-u* and *-t-m-u* are passive constructions with possessor raising to subject. The *-t-u* passive occurs with stems associated with an internal argument and the *-t-m-u* passive occurs with stems associated with an external argument. Section 6.7 and Chapter 7 explore their differences, taking into account the contribution of the verb stem.

6.7 Two prototypical passive constructions and three non-prototypical

Mi'kmaw has five passive constructions which are sumarised in Table 33. All employ the Voice morpheme *-u*. *-l-u* is an intransitive passive, *-t-u* is a transitive passive with possessor raising, *-Ø-u* with different stems is a transitive (with possessor raising) or intransitive passive. Two passive constructions employ *-m-u* Voice (*-t-m-u* and *-Ø-m-u*).

[135] Our observations also indicate two Animacy categories can occur as well (see section 3.3.4).

Table 33. Passive grammatical voice (AN 3rd proximate subject) with -u *Voice*

An-Voice	**Stem class**	**Transitivity**	**Subject mapping**	**Object animacy**	**Object argument**
-t-u	unaccusative	transitive	possessor/recipient	IN or AN	internal
-l-u	either	intransitive	internal		
-Ø-u 2 stems	unergative				
-t-m-u	unergative	transitive	possessor	IN or AN	internal
-Ø-m-u 2 stems	unergative				
-l-m-u	*	*	*		

The prototypical passive has four features according to Zúñiga and Kittilä (2019:83): (1) the clause has one less grammatical participant than the active counterpart, (2) the subject of the passive corresponds to the non-subject patient-like argument of the active, (3) a peripheral argument, if present, corresponds to the subject agent-like argument of active voice, and (4) passivization is formally coded on the predicate complex.

We discuss each of the similar passive constructions separately. We begin with the *-l-u* intransitive passives. We illustrate using the stem *tew-* 'out' which is associated with an internal argument (75).

75. (a) *Tewa'lɨk l'mu'j.*
tew-a'-l-Ø-k l'mu'j
out-*v*-An-Voice-1s>3s dog(AN)
'I am putting the dog outside.'

(b) *Tewa'**lu**t l'mu'j.*
tew-a'-**l-u**-t l'mu'j
out-*v*-An-Voice-3s dog(AN)
'The dog is being put outside.'

The first criterion is met since the clause in (b) is intransitive (the passive subject *l'mu'j* 'dog'), while the active counterpart in (a) is transitive. The second criterion is that subject of the passive corresponds to the non-subject of the active. The passive subject (*l'mu'j* 'dog') is the object of the clause in (a), where the subject is 1s. Criterion 3 concerns peripheral arguments corresponding to the subject of the active. Chapter 5 argues that these passive clauses are bivalent even though they are intransitive. However, the agent-like argument is unspecified. There is no syntactic agent-like argument

permitted with Mi'kmaw *-l-u* passives. This is illustrated by the ungrammatical example in (76).[136]

76. ***Tewa'lu**t l'mu'j na'tuwen.*
tew-a'-**l-u**-t l'mu'j na'tuwen
out-*v*-An-Voice-3s dog(AN) someone
Intended: 'The dog is being put outside by someone.'

The fourth criterion is that passivization is formally coded on the predicate complex; the *-l-u* construction codes the passive.

We conclude that the *-l-u* construction is a prototypical passive.

Next, we consider the *-Ø-u* intransitive passive illustrated by *kwil-* 'seek' which is associated with an external argument (77). Only two stems in our corpus co-occur with this construction.

77. (a) *Kwilaq l'mu'j.*
kwil-Ø-Ø-Ø-w-k l'mu'j
seek-*v*-An-Voice-APPL-1s>3s dog(AN)
'I am looking for the dog.'

(b) *Kwi**lu**t l'mu'j.*
kwil-Ø-Ø-**Ø**-**u**-t l'mu'j
seek-*v*-An-Voice-3s dog(AN)
'The dog is being looked for.'

The first criterion is met since the clause in (b) is intransitive (the passive subject *l'mu'j* 'dog'), while the active counterpart in (a) is transitive. The second criterion is that subject of the passive corresponds to the non-subject of the active. The passive subject (*l'mu'j* 'dog') is the object of the clause in (a), where the subject is 1s. Criterion 3 concerns peripheral arguments corresponding to the subject of the active. Chapter 5 argues that these passive clauses are bivalent even though they are intransitive. However, the agent-like argument is unspecified. There is no syntactic agent-like argument

[136] This is an important point to consider in an Algonquian language since this characteristic distinguishes the passive from the inverse. These clauses in Mi'kmaw are passive, not inverse (section 2.4.5 summarises the ongoing discussion of passive in Algonquian languages).

permitted with Mi'kmaw *-Ø-u* passives. This is illustrated by the ungrammatical example in (78).

78. ***Kwil**u**t** l'mu'j ji'nm.*
kwil-Ø-**Ø**-**u**-t l'mu'j ji'nm
seek-*v*-An-Voice-3s dog(AN) man
Intended: 'The dog is being looked for by the man.'

The fourth criterion is that passivization is formally coded on the predicate complex; the *-Ø-u* constructions codes the passive.

We conclude that the *-Ø-u* construction is a prototypical passive.

We proceed to the *-t-u* transitive passive with possessor raising. We illustrate *-t-u* with the following examples using *tew-* 'out,' a stem associated with an internal argument (79).

79. (a) *Tewa'taq Pie'l kutputim.*
tew-a'-t-Ø-w-k Pie'l kutputi-'m
out-*v*-An-Voice-APPL-1s>3s Peter(AN) chair(IN)-POSS
'I am taking Peter's chair outside.' (lit. 'I am taking out Peter his chair')

(b) *Tewa'**tu**t Pie'l kutputim.*
tew-a'-**t**-**u**-t Pie'l kutputi-'m
out-*v*-An-Voice-3s Peter(AN) chair(IN)-POSS
'Peter's chair is being taken outside.' (lit. 'Peter is being taken outside his chair')

The clause in (79a) has three syntactic arguments: the 1s subject, the internal argument *kutputim* 'his chair' and *Pie'l* 'Peter,' a possessor which, as we argue in Denny et al. (2021), is raised out of the possessor phrase to take a position as applied object. In (79b) there are two syntactic arguments: the passive subject *Pie'l* 'Peter' and the internal argument *kutputi* 'chair.' *Pie'l* 'Peter' is a possessor which, as we argue in Denny et al. (2021), is raised out of the possessor phrase to take a position as verbal subject.

Concerning their status as prototypical passives, the first criterion is met in both of these example sets since the passive in (b) of each has one less grammatical participant

than the active counterpart in (a). The second criterion is not met since the passive subject (*Pie'l* 'Peter') in (b) does not correspond to the patient-like argument in the active (a); *Pie'l* is the raised possessor argument. Like the other passive construction, there are no peripheral arguments corresponding of the subject to the active. (80) illustrates.

80. **Na'tuwen/*Ji'nm tewa'**tu**tl Pie'l kutputim*.
na'tuwen/ji'nm tew-a'-**t-u**-t-l Pie'l kutputi-'m
someone/man out-*v*-An-Voice-3s-OB Peter(AN) chair(IN)-POSS
Intended: 'Peter's chair is being put outside by someone/ a man.'

The lack of grammatical peripheral arguments meets the third criterion. Passivization is formally coded on the predicate complex by the *-t-u* construction; this meets the fourth criterion.

We conclude that the *-t-u* construction is not a prototypical passive.

Next, we consider the *-t-m-u* passive with possessor raising. As with *-t-u*, the passive subject is a raised possessor. We illustrate this construction with the unergative stem *elukw-* 'work' (81). (a) shows the active construction and (b) the passive.

81. (a) *Elukwatmaq Pie'l paysiklm*.
elukw-a-t-m-w-k Pie'l paysikl-m
work-*v*-An-Voice-APPL-1s>3s Peter(AN) bicycle(IN)-POSS
'I am working on Peter's bicycle.'

(b) *Elukwa**tmu**t Pie'l paysiklm.*
elukw-a-**t-m-u**-t Pie'l paysikl-m
work-*v*-An-Voice-3s Peter(AN) bicycle(IN)-POSS
'Peter's bicycle is being worked on.'

The active clause in (a) has three grammatical arguments: the 1s subject, *Pie'l* 'Peter' the applied object raised possessor (see Denny et al. 2021), and *paysikl* 'bicycle;' the verb's internal argument. The passive clause has one less participant (subject and object), so the first criterion is met. For the second criterion, however, the passive subject is the possessor *Pie'l* 'Peter' which is not a patient-like argument. This does not meet the

second criterion. The third criterion is met in that the subject of active voice may not appear in the passive clause (82).

82. **Elukwa**tmu**tl Pie'l paysiklm na'tuwen.*

elukw-a-**t-m-u**-t	Pie'l	paysikl-m	na'tuwen
work-*v*-An-Voice-3s	Peter(AN)	bicycle(IN)-POSS	someone

Intended: 'Peter's bicycle is being worked on by someone.'

The fourth and final criterion is that passivization is formally coded on the predicate complex by the *-t-m-u* and the rare *-Ø-m-u* constructions.

We conclude that the *-t-m-u* passive with possessor raising is not a prototypical passive.

Finally, we consider the the rare *-Ø-m-u* passive with possessor raising. As with *-t-u* and *-t-m-u*, the passive subject is a raised possessor. We illustrate this construction with the unergative stem *kwil-* 'seek' (83). (a) shows the active construction and (b) the passive.

83. (a) *Kwilmaq Pie'l paysiklm.*

kwil-Ø-Ø-m-w-k	Pie'l	paysikl-m
seek-*v*-An-Voice-APPL-1s>3s	Peter(AN)	bicycle(IN)-POSS

'I am looking for Peter's bicycle.'

(b) *Kwil**mu**t Pie'l paysiklm.*

kwil-Ø-**Ø-m-u**-t	Pie'l	paysikl-m
seek-*v*-An-Voice-3s	Peter(AN)	bicycle(IN)-POSS

'Peter's bicycle is being looked for.'

The active clause in (a) has three grammatical arguments: the 1s subject, *Pie'l* 'Peter,' the applied object raised possessor, and *paysikl* 'bicycle;' the verb's internal argument. The passive clause has one less participant (subject and object), so the first criterion is met. For the second criterion, however, the passive subject is the possessor *Pie'l* 'Peter' which is not a patient-like argument. This does not meet the second criterion. The third

criterion is met in that the subject of active voice may not appear in the passive clause (84).

84. **Kwil**mu**t Pie'l paysiklm ji'nm.*

kwil-Ø-**Ø-m-u**-t	Pie'l	paysikl-m	ji'nm
give-*v*-An-Voice-3s	Peter(AN)	bicycle(IN)-POSS	man

Intended: 'Peter's bicycle is being looked for by the man.'

The fourth and final criterion is that passivization is formally coded on the predicate complex by the *-t-m-u* and the rare *-Ø-m-u* constructions.

We conclude that the *-Ø-m-u* passive with possessor raising is not a prototypial passive.

We conclude that the two passive constructions without possessor raising (*-l-u* and *-Ø-u*) are prototypical passives in Mi'kmaw and the three constructions with possessor raising (*-t-u*, *-t-m-u*, and *-Ø-m-u*) are not prototypical passives.

6.8 *-Ø* Voice in combination with Animacy determines active voice

Verbs containing zero Voice are always active voice. Section 6.8.1 discusses *-t-Ø* which yields an active transitive clause with an inanimate object. Section 6.8.2 deals with *-l-Ø* which yields an active transitive clause with an animate object. Section 6.8.3 discusses *-Ø-Ø*. Section 6.8.4 summarises.

6.8.1 *-t-Ø* Active transitive with inanimate object

The *-t-Ø* construction yields an active bivalent transitive clause with an inanimate object. The subject must be third-person proximate [137] (85)-(87) illustrate three examples.

[137] With a non-third-person proximate subject, the same stems employ the Voice morphemes *-m* or *-u* (see sections 6.4.1 and 6.5.1, respectively).

85. *Panta'**t**oq lisqeikn Pie'l.*
pant-a'-**t-Ø**-oq lisqeikn Pie'l
open-*v*-An-Voice-3s box Peter
'Peter is opening the box.'

86. *Kuto'**t**oq Pie'l sam'qwan msaqsaqtuk.*
kut-o'-**t-Ø**-oq Pie'l sam'qwan msaqsaqt-uk
pour-*v*-An-Voice-3s Peter water floor-LOC
'Peter is pouring water on the floor.'

87. *Nemi**t**oq Pie'l wenji'kuo'm.*
nemi-i-**t-Ø**-oq Pie'l wenji'kuo'm
see-*v*-An-Voice-3s Peter house
'Peter sees the house.'

(88)-(90) show three more examples. Note that there are different inflections in these examples as compared with (85)-(87).[138]

88. *Ma'li wissukwa**t**k wa'w.*
Ma'li wissukw-a-**t-Ø**-k wa'w
Mary cook-*v*-An-Voice-3s egg(IN)
'Mary is cooking an egg.'

89. *Elukwa**t**k Pie'l paysikl.*
elukw-a-**t-Ø**-k Pie'l paysikl
work-*v*-An-Voice-3s Peter bicycle(IN)
'Peter is working on the bicycle.'

90. *Anko'**t**k Ma'li wasuek.*
ank-o'-**t-Ø**-k Ma'li wasuek
care-*v*-An-Voice-3s Mary flower(IN)
'Mary is taking care of the flower.'

Regardless of the inflection, in each case, *-t-Ø* invariably expresses active voice in a transitive clause with a third-person subject and an inanimate object.[139]

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[138] Inflection is beyond the scope of the thesis; here we remark that verbs that employ *-u* Voice with non-third-person proximate subjects conjugate differently in third-person proximate than those that employ *-m* (see Appendix A for more discussion)

[139] It is an interesting question for future consideration why the 3s subject plus inanimate object inflections are identical to the 1s>3s inflections. Another interesting question for future investigation is that the inflections *-oq* and *-(i)k* are both third-person proximate subject inflections. Why these inflections are more like object

6.8.2 *-l-Ø* Active transitive with animate object

When zero Voice selects *-l*, an active transitive clause is the result. The subject can be any person and any animacy[140] and the object is animate. (91)-(97) illustrate seven stems. (a) shows a first-person subject with a third-person object and (b) a third-person proximate subject and third-person obviative object.

91. (a) *Elukwa**l**k tu'aqn.*
elukw-a-**l-Ø**-k tu'aqn
work-*v*-An-Voice-1s>3s ball(AN)
'I am working on the ball.'

(b) *Elukwa**l**atl Pie'l tu'aqnn.*
elukw-a-**l-Ø**-atl Pie'l tu'aqn-l
work-*v*-An-Voice-3s>3sOB Peter ball(AN)-OB
'Peter is working on the ball.'

The inflections with animate objects are subject plus object (see Appendix A). Some, like *-k* in (a) are portmanteau inflections and others, like *-atl* in (b) can be separated into distinct morphemes; in *-atl*, *-a* indicates a third-person object, *-t* a third-person singular subject, and *-l* an obviative. Because this thesis doesn't concern inflection, we simply show the S+O inflection as a unit. (92)-(93) illustrate two more examples.

92. (a) *Kesa**l**k mijua'ji'j.*
kes-a-**l-Ø**-k mijua'ji'j
like-*v*-An-Voice-1s>3s child(AN)
'I like the child.'

(b) *Kesa**l**atl Ma'li mijua'ji'jl.*
kes-a-**l-Ø**-atl Ma'li mijua'ji'j-l
like-*v*-An-Voice-3s>3sOB Mary child(AN)-OB
'Mary likes the child.'

---

inflections than subject inflections (*-k* instead of *-t*, c.f. Little 2016b and Fidelholtz 1968) and why they are different from each other are questions beyond the scope of this study.

[140] Inanimate subjects are only permitted when the semantics of the verb stem would allow an inanimate subject. I only have examples of inanimate subjects with first-person objects. Future study investigates whether this paradigm includes other objects.

93. (a) *Se'skwa**l**k Pie'l.*
se'skw-a-**l-Ø**-k Pie'l
shout-*v*-An-Voice-1s>3s Peter
'I am shouting at Peter.'

(b) *Se'skwa**l**atl Ma'li Pie'lal.*
se'skw-a-**l-Ø**-atl Ma'li Pie'l-al
shout-*v*-An-Voice-3s>3sOB Mary Peter-OB
'Mary is shouting at Peter.'

(94)-(97) illustrate four more examples where the same patterns can be observed.[141]

94. (a) *Ekwija'**l**~~i~~k mijua'ji'j sam'qwan-iktuk.*
ekwij-a'-**l-Ø**-~~i~~k mijua'ji'j sam'qwan-iktuk
go.in.water-*v*-An-Voice-1s>3s child(AN) water-LOC
'I am going to put the child into the water.'

(b) *Ekwija'**l**atl Ma'li mijua'ji'jl sam'qwan-iktuk.*
ekwij-a'-**l-Ø**-atl Ma'li mijua'ji'j-l sam'qwan-iktuk
go.in.water-*v*-An-Voice-3s>3sOB Mary child(AN)-OB water-LOC
'Mary is putting the child into the water.'

95. (a) *Ela'**l**~~i~~k ntue'm* vet-*iktuk.*
el-a'-**l-Ø**-~~i~~k n-tue'm vet-iktuk
DIR-*v*-An-Voice-1s>3s 1sPOSS-pet(AN) vet-LOC
'I am going to take my dog to the vet.'

(b) *Ela'**l**~~i~~k Ma'li wtue'ml* vet-*iktuk.*
el-a'-**l-Ø**-atl Ma'li w-tue'm-l vet-iktuk
DIR-*v*-An-Voice-3s>3sOB Mary 1sPOSS-pet(AN)-OB vet-LOC
'Mary is taking her dog to the vet.'

96. (a) *Pesko'**l**~~i~~k ki'kli'kwej*.
pesk-o'-**l-Ø**-k ki'kli'kwej
pluck-*v*-An-Voice-1s>3s chicken(AN)
'I am plucking a chicken.'

(b) *Pesko'**l**atl Pie'l ki'kli'kwejl.*
pesk-o'-**l-Ø**-atl Pie'l ki'kli'kwej-l
pluck-*v*-An-Voice-3s>3sOB Peter chicken(AN)-OB
'Peter is plucking a chicken.'

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[141] The 1s>3s inflection is *-k*. Epenthetic schwa is inserted after a heavy syllable as in verbs with *-a'-l*. This insertion is for phonetic reasons to facilitate syllable structure (Hewson 1986, see section 2.5.3).

In each case, the -l-Ø combination indicates active voice and the clause is transitive with an animate object (97).[142]

97. (a) *Pekisi**l**k mijua'ji'j* Ben-*ji'j-ek.*
pekis-i-**l-Ø**-k mijua'ji'j Ben-ji'j-ek
arrive-*v*-An-Voice-1s>3s child(AN) Ben's.store-LOC
'I brought the child to Ben's (and we are there).'

(b) *Pekisi**l**atl Ma'li mijua'ji'jl* Ben-*ji'j-ek.*
pekis-i-**l-Ø**-atl Ma'li mijua'ji'j-l Ben-ji'j-ek
arrive-*v*-An-Voice-3s>3sOB Mary child(AN)-OB Ben's.store-LOC
'Mary brought the child to Ben's (and they are there).'

The *-l-Ø* construction is invariably active voice with any subject and an animate object.

6.8.3 *-Ø-Ø* Active

-Ø Animacy selected by *-Ø* Voice yields active voice. The subject must be third-person proximate. [143] Two stems occur with *-Ø-Ø* in bivalent clauses with an inanimate object (98)-(99).

98. *Kwilk mijua'ji'j watj.*
kwil-Ø-**Ø-Ø**-k mijua'ji'j watj
seek-*v*-An-Voice-3s child watch(IN)
'The child is looking for the watch.'

99. *Nenk wajju'kat Elen.*
nen-Ø-**Ø-Ø**-k wajju'kat Elen
know-*v*-An-Voice-3s rummy(IN) Helen
'Helen knows rummy.'

These two stems are associated with an external argument.[144]

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[142] Some of my colleagues use the variant *pekisulk* 'I brought him/her.' These dialect variants are both spoken in Eskasoni.
[143] With a non-third-person proximate subject, the same stems employ *-Ø-m* (see section 6.4.2).
[144] Two stems in our larger corpus which are associated with an internal argument occur with *-Ø-Ø* in an intransitive construction with a third-person proximate subject and *-Ø-m* with a non-third-person subject: *no'q-* 'cough' and *nep-* 'sleep'. Monovalent intransitive clauses also employ *-Ø-Ø* for active voice.

6.8.4 Summary

Table 34 summarises constructions with *-Ø* Voice.

Table 34. Bivalent constructions with -Ø are all active voice

Properties	***-t-Ø***	***-l-Ø***	***-Ø-Ø* (2 stems)**
stem argument	either	either	external
transitivity	transitive	transitive	transitive
subject properties	3rd prox	[any]	AN
animacy of object	IN	AN	IN

These constructions yield active voice without exception.

6.9 Chapter summary and discussion

This chapter demonstrates that the Animacy-Voice combination yields grammatical voice without exception. Table 35 summarises the grammatical voice of each Animacy-Voice combination.

Table 35. Animacy-Voice and grammatical voice

Voice	**Animacy agreement**		
	-t	***-l***	***-Ø***
-Ø	active	active	active
-m	active	*	active (2 stems)
-eke	antipassive	*	active
-ue	*	antipassive	*
-u	active (non-3rd proximate subject) passive with possessor raising (3rd proximate subject)	passive (3rd proximate subject)	passive (3rd proximate subject)
-m-u	passive with possessor raising	*	passive with possessor raising (2 stems)

In the next sections, we discuss three key considerations that emerge out of the findings of this chapter. Section 6.9.1 discusses the fact that in Mi'kmaw, grammatical voice is achieved by means of a construction, and not a single morpheme. Section 6.9.2 considers the fact that active, passive, and antipassive voice are each expressed by several different combinations. Although each combination maps the participants to semantic

roles in the same manner for each grammatical voice, these different constructions occur in different contexts. Section 6.9.3 demonstrates two contexts where Voice is unmarked with a third-person-proximate subject and how these contexts relate to grammatical voice.

6.9.1 Grammatical voice is achieved by means of a construction

Our conclusion that a construction, not a single morpheme, expresses grammatical voice in Mi'kmaw is consistent with other languages crosslinguistically but is a new conclusion for an Algonquian language.

Piggott (1989), studying Ojibwe, presents an analysis where argument structure is one of the features of the "root" and "finals" assign verb category, modify the argument structure, add arguments, and assign theta roles to noun phrases, thus mapping the argument structure onto the syntax. He describes some examples of each. Our research furthers his in that we demonstrate a congruent system of the mechanics of how particular morphemes in Mi'kmaw accomplish these processes.

The broader Algonquian literature usually describes antipassive as a single morpheme. For example, morphemes that appear to be cognate to *-eke* in Mi'kmaw are described as indicating action on an indefinite object or "general goal" (Wolfart 1996 for Plains Cree). They are also called antipassive morphemes (Fidelholtz 1968 for Mi'kmaw; Dahlstrom 1986, 2013 for Meskwaki; O'Meara 1990, Delaware). Quinn (2006) argues that the objectless TI verbs in Penobscot are a type of antipassive.

Likewise for passives, our point of view can be contrasted with that for other Algonquian languages, where morphemes cognate to the Voice-inflection combination

-u-t in Mi'kmaw are considered as being passive markers.[145] Fidelholtz (1968) argues that *-ut* in Mi'kmaw is a passive morpheme. Zúñiga (2016) compares several Algonquian languages. For example, Dahlstrom (1986:60) notes what she calls the conjunct passive morpheme for third-person (*-iht*) in Meskwaki. Ritter and Rosen (2005) review some of the literature that argues for or against a passive analysis for certain Algonquian morphemes. We reason that the passive constructions illustrated fit into the complete paradigm of Animacy-Voice combinations and *-u* is followed by the typical third-person subject inflection *-t*. As such *-u-t* is not a single morpheme and *-u* is not a passive morpheme since it occurs in active as well as passive constructions.[146] We find that the passive constructions fit into a paradigm of Animacy plus Voice.

Our analysis demonstrates that antipassive and passive are expressed by particular Animacy-Voice constructions. As such we present an internally-consistent system where morphemes like *-u* and *-eke* always function in the same category.

6.9.2 Several combinations indicate active, passive, and antipassive

The fact that there are several combinations that indicate each of active, passive, and antipassive and that there are ungrammatical combinations is indicative that more is going on than just grammatical voice with these constructions. Each section in this

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[145] I thank Ives Goddard (p.c., October 2019) for pointing out that cognates of the third-person *-ut* ending in Mi'kmaw is considered a passive morpheme. As such it is equivalent to *-iht* in Plains Cree conjunct forms and *-ind* in Ojibwe (Zúñiga 2016:214). We consider the form in Mi'kmaw to be the Voice morpheme *-u* followed by the 3s subject inflection *-t*.

[146] Fidelholtz (1968:309) argues that *-ut* is a single morpheme in Mi'kmaw, arguing that if there was a morpheme boundary, *-t* would become *-kw*. In his work, Fidelholtz has to explain in other places why stems that by his analysis end in [u] still have *-t* as third-person subject (e.g., Fidelholtz 1968: 154, 244-245, 283 and endnote page 376). Little (2016b) studies the *-t/-g* contrast in Mi'gmaq but doesn't include any passives in her examples. We conclude that, since Fidelholtz' explanation seems inconsistent with his data and Little don't consider passive examples, there is no precedent for assuming that *-u-t* is not phonologically possible.

chapter notes that the stem class (whether unergative or unaccusative) is a factor in determining which particular active, passive, or antipassive voice is employed.

Active voice can be achieved by means of seven different combinations (*-t-u*, *-t-m*, *-t-Ø*, *-Ø-m*, *-Ø-Ø*, *-Ø-eke*, and *-l-Ø*). All occur in transitive clauses. Table 36 summarises some of the differences between each combination as discussed in this chapter.

Table 36. Active grammatical voice constructions in transitive clauses

An-Voice	**Stem class**	**Subject person**	**Object animacy**
-t-u	unaccusative	non-3 prox	IN
-t-m	unergative	non-3 prox	
-t-Ø	either	3 prox	
-Ø-m 2 stems	unergative	non-3 prox	
-Ø-Ø 2 stems	unergative	3 prox	
-Ø-eke	unaccusative	any	IN or AN
-l-Ø	either	any	AN

In this chapter we document some of the distinctive properties for some of these constructions but we won't be able to distinguish all seven until we consider the contribution of the stem and little *v* features in chapter 7.

Likewise, passive voice is achieved by five constructions with *-u* Voice (*-t-u*, *-l-u*, *-Ø-u*, *-t-m-u*, and *-Ø-m-u*). The *-t-u*, *-t-m-u*, and *-Ø-m-u* constructions all express passive voice with possessor raising. Table 37 (repeated from Table 30 from section 6.5) summarises some of the differences between each combination that expresses passive voice as discussed in this chapter.

Table 37. Passive grammatical voice constructions

An-Voice	Stem class	Transitivity	Subject argument	Object animacy	Object argument
-t-u	unaccusative	transitive	possessor/recipient	IN or AN	internal
-l-u	either	intransitive	internal		
-Ø-u 2 stems	unergative				
-t-m-u	unergative	transitive	possessor	IN or AN	internal
-Ø-m-u 2 stems	unergative				

Antipassive voice is expressed by two constructions (*-t-eke* and *-l-ue*). Table 38 summarises some of the differences between each combination that expresses antipassive voice as discussed in this chapter.

Table 38. Antipassive grammatical voice constructions

An-Voice	Stem class	Transitivity	Subject mapping	Unspecified internal argument referent	
				Animacy	Plurality
-t-eke	either	intransitive	external	AN or IN	singular or plural
-l-ue	either	intransitive	external	AN	plural

Chapter 7 investigates further the distinctive features of each, due to the contributions of the verb stem and little *v* to the argument structure of the verb.

To our knowledge, we are the first to demonstrate the clear and invariable relationship between the Animacy-Voice combination and grammatical voice in Mi'kmaw. In other Algonquian languages, active, passive, and antipassive voice is not described as emerging from a unified system. In these languages, passive and antipassive voice are both analysed as effected by a single morpheme. We expect that a similar system to that in Mi'kmaw also exists in these languages since apparently cognate morphemes to both Animacy and Voice occur in these other languages.

6.9.3 Voice is unmarked for a third-person proximate subject in two contexts

This section illustrates two contexts where a third-person proximate is the subject in unmarked Voice contexts. The first situation is that in active voice, the category Voice is unmarked with a third-person proximate subject and an inanimate object (i.e., it employs *-Ø* Voice). The second situation is that a non-third-person proximate subject employs *-uksi* in passive voice, while third-person proximate employs only *-u*. We now outline the two unmarked situations.

First, for stems which employ the Voice morphemes *-m* or *-u* in active voice with a non-third-person subject, when the subject is third-person proximate, *-Ø* Voice is employed to yield an active bivalent transitive clause with an inanimate object. (100) illustrates the verb stem *nep-* 'heal' with a first-person subject. The Animacy-Voice combination is bolded.

100. *Nepi**tm** nipit.*
nep-i-**t-m**-Ø n-ipit
heal-*v*-An-Voice-1s 1sPOSS-tooth(IN)
'I am healing my tooth.

The third-person obviative subject also employs the Voice morpheme *-m* (101).

101. *Nepi**tm**lij Pie'l wte'pitml wipit.*
nep-i-**t-m**-lij Pie'l *wte'pitml* w-ipit
heal-*v*-An-Voice-3sOb Peter 3sPOSS-woman-Ob 3sPOSS-tooth(IN)
'Peter's wife is healing her tooth.

It is only third-person proximate that employs zero Voice (102).

102. *Nepi**t**k Pie'l wipit*.
nep-i-**t-Ø**-k Pie'l w-ipit
heal-*v*-An-Voice-3s Peter 3sPOSS-tooth(IN)
'Peter is healing his tooth.'

(103) illustrates the stem *jip-* 'fear.'

103. (a) *Jipa**tm** winikiskɨk.*
jip-a-**t**-**m**-Ø winikiskɨk
fear-*v*-An-Voice-1s bad.weather(IN)
'I am afraid of bad weather.'

(b) *Pie'l jipa**t**k winikiskɨk.*
Pie'l jip-a-**t**-**Ø**-k winikiskɨk
Peter fear-*v*-An-Voice-3s bad.weather(IN)
'Peter is afraid of bad weather.'

(c) *Pie'l wunijann jipatmlij winikiskɨk.*
Pie'l w-nijan-l jip-a-**t**-**m**-lij winikiskɨk
Peter 3POSS-child-Ob fear-*v*-An-Voice-3sOb bad.weather(IN)
'Peter's child is afraid of bad weather.'

A third-person proximate subject provides the context for unmarked (zero) Voice where all other subjects employ *-m*.

Similarly, with other stems like *tew-* 'out' (104), a third-person proximate subject provides the context for unmarked Voice where all other subjects employ *-u*.[147] (104a) illustrates the same stem with a first-person subject, (104b) with a third-person proximate subject, and (104c) with a third-person obviative subject.

104. (a) *Tewa'**tu** kutputi.*
tew-a'-**t**-**u**-Ø kutputi
out-*v*-An-Voice-1s chair(IN)
'I am taking the chair outside.'

(b) *Pie'l tewa'**t**oq kutputi.*
Pie'l tew-a'-**t**-**Ø**-oq kutputi
Peter out-*v*-An-Voice-3s chair(IN)
'Peter is taking the chair outside.'

(c) *Pie'l wunijann tewa'**tu**lij kutputi.*
Pie'l w-nijan-l tew-a'-**t**-**u**-lij kutputi
Peter 3POSS-child-Ob out-*v*-An-Voice-3sOb chair(IN)
'Peter's child is taking the chair outside.'

A third-person proximate subject is unmarked in that it employs zero Voice where SAP subjects employ *-u*. (105) illustrates the stem *wasoq-* 'light.'[148]

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[147] Some dialects use the third-person obviative inflection of verbs containing the Voice morpheme *-u* using *-m* instead; i.e., *tewa'tmlij* in (104c) and *wasoqa'tmlij* in (105c). We leave to future research this difference in Voice morphemes.

[148] Discussions with Mi'kmaw-speaking colleagues indicate that (c) is used only in particular contexts where Peter is active in the context and so it is necessary to specify that Peter's child (and not Peter himself) lit the candle. In other contexts where Peter's child is more in focus, Peter's child could be the subject of the construction shown in (b).

105. (a) *Wasoqa'**tu*** candle.
wasoq-a'-**t**-**u**-*Ø* candle
light-*v*-An-Voice-1s candle(IN)
'I am lighting the candle.'

(b) *Pie'l wasoqa'**t**oq* candle.
Pie'l wasoq-a'-**t**-**Ø**-oq candle
Peter light-*v*-An-Voice-3s candle(IN)
'Peter is lighting the candle.'

(c) *Pie'l wunijann wasoqa'**tu**lij candle*.
Pie'l w-nijan-l wasoq-a'-**t**-**u**-lij candle
Peter 3POSS-child-Ob light-*v*-An-Voice-3sOb candle(IN)
'Peter's child is lighting the candle.'

We conclude that Voice is unmarked with a third-person proximate subject in active voice (*-Ø* Voice) whereas Voice is marked for SAP and obviative subjects (they employ either *-m* or *-u* for inanimate objects in active voice). Active voice with an animate object is always unmarked (employs *-Ø* Voice with all subjects). These unmarked situations are illustrated in Table 39.

Table 39. Voice is unmarked (-Ø) in the context of a 3rd proximate subject

Subject	Active, IN object	Active, AN object
Non-third-person proximate	*-t-m/-t-u*	*-l-Ø*
Third-person proximate	*-t-Ø*	
Non-third-person proximate	*-Ø-m*	*-Ø-Ø*
Third-person proximate	*-Ø-Ø*	

The second unmarked situation concerns passive voice. A non-third-person proximate subject employs the morpheme *-uksi* in passive voice, while third-person proximate employs the more unmarked Voice morpheme *-u*.

Table 40. Voice is relatively unmarked (-u) for a 3rd proximate subject

Subject	Passive voice
Non-third-person proximate	*-t-uksi/ -l-uksi/ -Ø-uksi*
Third-person proximate	*-t-u / -l-u / -Ø-u*

Because we exclude *-uksi* in this study due to its complexities (see chapter 2), we only show passives with third-person proximate subjects in the thesis.

The Mi'kmaw language treats third-person proximate subjects different than all other persons including the obviative (a third-person participant linked to a proximate participant in the clause). It is well-established that there is universally a major split between speech act participants and third-person (cf. Forchheimer 1953, Benveniste 1971, Harley and Ritter 2002). Likewise, there is a major difference between third-person proximate and obviative in Algonquian languages (cf. Goddard 1990b, Aissen 1997).

In other languages where third-person participants are handled differently than non-third-person participants, linguists have proposed that third-person participants are not marked for the feature [+person] (Benveniste 1971, Noyer 1988, Rice and Saxon 1994, Ritter 1997, Brittain 1999, Harley and Ritter 2002; Anagnostopoulou 2005; Adger and Harbour 2007, Lochbihler 2012).[149] Yet the constructions employed with obviative in Mi'kmaw are the same as for SAP subjects; only the third-person proximate is different. We reason that third-person proximate is the unmarked form in Mi'kmaw and all other forms carry deictic features.[150] Further investigation is invited.

We conclude that the Animacy-Voice combination expresses grammatical voice in Mi'kmaw. We now move to the third spiral in our investigation. This spiral looks at the entire verb and how the stem class, argument-building *v*-Animacy constructions, and argument-mapping Animacy-Voice constructions work in concert.

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[149] Piriawiboon (2007) argues that person features are deleted for obviative in Nishnaabemwin.
[150] I thank Leslie Saxon (p.c. 2020) for this observation.

Chapter 7 The third spiral. Two overlapping systems to add and map arguments

This chapter presents the third spiral of the analysis.

Figure 18. Third spiral

Three categories	stem-*v* *v*-Animacy Animacy-Voice	**stem-*v*-Animacy-Voice**
Chapter 3	Chapters 4-6	**Chapter 7**

The second spiral, chapters 4-6, showed that stems are either unergative or unaccusative. Little *v* has aspectual and light verb features. The *v*-Animacy combination adds an argument to the argument in the stem and the Animacy-Voice combination yields the grammatical voice of the clause. The argument-building and argument-mapping combinations are two overlapping constructions. These two constructions share the Animacy morpheme and therefore there is some degree of dependency between them. This third spiral studies the entire stem-*v*-An-Voice combination. The morphemes work together in introducing arguments and mapping them to syntactic roles. Active, passive, and antipassive constructions map the arguments to syntactic roles in a standard manner and this system is illustrated in Table 41. For active voice, the external argument is mapped to subject position and the internal argument is mapped to object position. For antipassive voice, the external argument is mapped to subject position and the internal argument is unspecified. For passive voice without possessor raising, the internal

argument is mapped to subject position and the external argument is unspecified. In possessor-raising constructions in passive voice, a possessor of the internal argument is raised to subject position.[151]

Table 41. Mapping of arguments by grammatical voice in bivalent clauses

Grammatical voice	**Mapping to grammatical roles**		
	External argument	**Internal argument**	**Possessor**
Active	subject	object	-
Antipassive	subject	unspecified	-
Passive	unspecified	subject	-
Passive with possessor raising	unspecified	object	subject

There are different active, antipassive, and passive constructions that in part depend on whether the stem is unergative or unaccusative.

Section 7.1 discusses the grammaticality of all potential combinations of *v*-Animacy-Voice, which motivates our analysis of three distinct morphemes. In section 7.2, we consider the constructions that are matched with unaccusative stems, in section 7.3 we address constructions built on unergative stems. We consider all constructions even if they are rare in our corpus to understand how our analysis deals with them. We also include some constructions from our larger corpus of 169 stems to show how our analysis accounts for them. Section 7.4 discusses the distinctions between the seven active, two antipassive, and five passive constructions when we consider the argument associated with the stem. Section 7.5 is a summary and points to future directions for research.

[151] In active voice, the possessor is raised to object position. This construction requires the applicative morpheme which is beyond the scope of the dissertation.

7.1 *v*-An-Voice combinations

Table 42 and Table 43 illustrate the grammaticality of all *v*-An-Voice combinations. Ideally, this would require a three-dimensional table. To illustrate these combinations in the most compact manner, we use two tables. Table 42 shows the grammaticality of the little *v* morphemes with each Animacy-Voice combination, mapping little *v* horizontally and the Animacy-Voice combination (grammatical voice) vertically. Shaded cells are ungrammatical.[152]

Table 42. v *combinations with An-Voice in bivalent clauses*

	Little *v*				
An-Voice	***-a'***	***-a***	***-i***	***-o'***	***-Ø***
-t-eke	✓	✓	✓	✓	*
-l-eke	*	*	*	*	*
-t-ue	*	*	*	*	*
-l-ue	✓	✓	*	✓	*
-t-u	✓	✓	✓	✓	*
-l-u	✓	✓	✓	✓	*
-t-m	*	✓	✓	✓	*
-l-m	*	*	*	*	*
-t-Ø	✓	✓	✓	✓	*
-l-Ø	✓	✓	✓	✓	*
-Ø-eke	*	*	*	*	✓
-Ø-ue	*	*	*	*	✓
-Ø-u	*	*	*	*	✓
-Ø-m	*	*	*	*	✓
-Ø-Ø	✓	✓	✓	*	✓

A pattern which is obvious from Table 42 is that in bivalent clauses, *-Ø* Animacy only selects *-Ø* little *v*.

Table 43 illustrates the grammaticality of the little *v*-Animacy combination with each Voice morpheme, mapping *v*-Animacy horizontally and Voice vertically. Using

[152] The *-m-u* Voice patterns the same as *-m* and is not illustrated in the tables.

traditional Bloomfieldian terminology, this table corresponds to different finals mapped with different theme signs.

Table 43. v-An combinations with Voice in bivalent clauses

	Voice				
***v*-An**	***-m***	***-u***	***-eke***	***-ue***	***Ø***
-a'-t	*	✓	✓	*	✓
-a-t	✓	✓	✓	*	✓
-o'-t	✓	✓	✓	*	✓
-i-t	✓	✓	✓	*	✓
-a'l	*	✓	*	✓	✓
-a-l	*	✓	*	✓	✓
-o'-l/ -(w)ey	*	✓	*	✓	✓
-i-l	*	✓	*	*	✓
-Ø-t	*	*	*	*	*
-Ø-l	*	*	*	*	*
-a'-Ø	*	*	*	*	*
-a-Ø	*	*	*	*	*
-o'-Ø	*	*	*	*	*
-i-Ø	*	*	*	*	*
-Ø-Ø	✓	✓	✓	✓	✓

Table 43 makes obvious the nearly complementary distribution of *-eke* and *-ue*.

Out of the possible 75 combinations in Table 42 and Table 43, 34 are grammatical and 41 are not found in our data set. Previous chapters discuss 40 of these ungrammatical combinations. First, **-l-eke*, **-t-ue*, **-i-l-ue* and **-l-m* are ungrammatical (chapter 6). Second, zero little *v* is only selected by zero Animacy (chapter 5). Third, zero Animacy never selects *-o'*[153] and selects *-a'*, *-a*, -and *-i* only in monovalent intransitive clauses (where both Animacy and Voice are *-Ø-Ø*, chapter 5). The only ungrammatical combination not discussed previously is **-a'-t-m*. This apparent incompatibility of *-a'*

[153] The little *v* morpheme *-eyi* in monovalent clauses resembles the *-ey* allomorph of *-o'* (section 2.5.2). Further investigation can confirm whether this is the form of *-o'* that occurs in monovalent clauses.

with *-m*, in spite of the fact that *-a'-t* occurs, as does *-t-m*, indicates a dependency between little *v* and Voice that is a topic for future work.

Grammatical combinations often occur with particular stem classes. Section 7.2 discusses those that occur with unaccusative stems and section 7.3 discusses unergative stems.

7.2 Unaccusative stems

Chapter 4 demonstrates that unaccusative stems are selected by *-a', -o', -i*, and *-Ø* but not *-a*. The properties of *v*-Animacy-Voice combinations that occur with each are treated in sections 7.2.1, 7.2.2, 7.2.3, and 7.2.4, respectively.

7.2.1 *-a'-t* and *-a'-l* form causative constructions

In section 4.4 we demonstrate that *-a'* selects unaccusative stems and in section 5.3 we show that *-a'-t/-a'-l* constructions yield bivalent clauses. Building on these results, we (Sylliboy et al. 2020) demonstrate that the *-a'-t/-a'-l* combinations yield causative constructions (as defined by Zúñiga and Kittilä (2019)). We recap their argument here with (1) and (2) below. For each stem, (a) shows active voice with an inanimate object, (b) expresses active with an animate object, (c) expresses antipassive with *-eke* and (d) is passive. We don't attempt to show every grammatical voice construction in these examples.

1. (a) *Waqam**a't**u kutputi.*
   waqam-**a'-t**-u-Ø kutputi
   clean-*v*-An-Voice-1s chair(IN)
   'I am cleaning the chair.'

   (b) *Waqam**a'l**~~i~~k mijua'ji'j.*
   waqam-**a'-l**-Ø-k mijua'ji'j
   clean-*v*-An-Voice-1s>3s child(AN)
   'I am cleaning the child.'

   (c) *Waqam**a't**ekey.*
   waqam-**a'-t**-eke-y
   clean-*v*-An-Voice-1s
   'I am cleaning.'

   (d) *Waqam**a'l**ut mijua'ji'j.*
   waqam-**a'-l**-u-t mijua'ji'j
   clean-*v*-An-Voice-3s child(AN)
   'The child is being cleaned.'

With active voice (a-b), the external causer argument is mapped to subject position and the internal argument is mapped to object. With antipassive voice (c), the external argument is mapped to subject position and the internal argument is unspecified. With passive voice (d), the internal argument is mapped to subject position and the external argument is unspecified. This mapping pattern is prototypical and occurs in all constructions for each grammatical voice. (2) illustrates the pattern with the unaccusative stem *ekwij-* 'go in the water.'

2. (a) *Ekwij**a'tu kutputi.***
ekwij-**a'-t**-u-Ø kutputi
go.in.water-*v*-An-Voice-1s chair(IN)
'I am putting the chair into the water.'

(b) *Ekwij**a'l**~~i~~**k mijua'ji'j.***
ekwij-**a'-l**-Ø-k mijua'ji'j
go.in.water-*v*-An-Voice-1s>3s child(AN)
'I am putting the child into the water.'

(c) *Ekwij**a't**ekey.*
ekwij-**a-t**-eke-y
go.in.water-*v*-An-Voice-1s
'I am the person who puts [people] into the water.'

(d) *Ekwij**a'l**ut mijua'ji'j.*
ekwij-**a-l**-u-t mijua'ji'j
go.in.water-*v*-An-Voice-3s child(AN)
'The child is being put into the water.'

It is the *-a'-t/-a'-l* construction that introduces the causer. We (Sylliboy et al. 2020) show that each of the morphemes *-a'* and *-t/-l* when not combined in other contexts does not yield a causative. We demonstrate that *-u* is not an integral part of the causative construction as Abtahian and Quinn (2017) report for Mi'kmaw since with an animate internal argument, the Voice morpheme is *-Ø*.[154]

Zúñiga and Kittilä (2019) give four criteria for prototypical causatives: (1) they increase the valency of a non-causativized clause, (2) they add a causer to the argument structure, (3) the clause is expressed with causer as subject, and (4) causativization is coded formally.

[154] We show in Sylliboy et al. (2020) that *-a'-t/-a'-l* is also causative with other Voice morphemes.

-a'-t and *-a'-l* yield prototypical causatives according to the criteria given by Zúñiga and Kittilä (2019). We use (3) to illustrate the criteria. The verb stem *kaqam-* 'stand' is seen in a monovalent clause in (a) and a bivalent clause in (b).

3. (a) *Kaqamit kisiku.*
kaqam-i-t kisiku
stand-*v*-3s old.man
'The old man is standing.'

(b) *Kaqama'l~~i~~k kisiku.*
kaqam-a'-l-Ø-~~i~~k kisiku
stand-*v*-An-Voice-1s>3s old.man
'I am standing the old man up.'

These Mi'kmaw causative construction meet the first criterion, 'increases the valency of a non-causativized clause,' since the valency in (a) is one and in (b) it is two.

For the second criterion, 'add a causer to the argument structure,' recall that the stem *kaqam-* 'stand' has an internal argument (see section 4.4). The intransitive clause expresses the condition or state of the internal argument. The construction adds a causer to that argument structure.

The third criterion is that the causer is the subject of the verb. While the concept 'subject' in Algonquian languages is an issue (see section 2.4.4), we argue that the 1s causer 'I' is subject because the verb inflection is the regular 1s>3s portmanteau S+O inflection.

The fourth criterion is met in that the causative is coded formally by the *-a'-t/-a'-l* construction.

We conclude that *-a'-t* and *-a'-l* derive prototypical causatives. These constructions add an external argument that is a causer to unaccusative verb stems. The Animacy-Voice construction maps these arguments to grammatical roles in standard fashion. (4)

illustrates with the stem *waqam-* ‘clean’; (a) shows active voice with an inanimate object, (b) expresses active with an animate object, (c) expresses antipassive with *-eke* and (d) is passive.

4. (a) *Waqam**a’tu** kutputi*.
waqam-**a’-t-u**-Ø kutputi
clean-*v*-An-Voice-1s chair(IN)
‘I am cleaning the chair.’

(b) *Waqam**a’l**~~i~~k l’mu’j*.
waqam-**a’-l-Ø**-k l’mu’j
clean-*v*-An-Voice-1s>3 dog(AN)
‘I am cleaning the dog.’

(c) *Waqam**a’teke**y*.
waqam-**a’-t-eke**-y
clean-*v*-An-Voice-1s
‘I am cleaning [the floor].’

(d) *Waqam**a’lu**t l’mu’j*.
waqam-**a’-l-u**-t l’mu’j
clean-*v*-An-Voice-3s dog(AN)
‘The dog is being cleaned.’

The clauses are causative no matter what the grammatical voice construction.

7.2.2 *-o’-t* and *-o’-l* form pluractional causatives

We (Stevens et al. 2021a) demonstrate that Mi’kmaw has at least two pluractional constructions. The two constructions involve *-o’-t-u* and *-o’-t-m* in a clause with an inanimate object and *-o’-l-Ø* and *-(w)ey-Ø* plus applicative in a clause with an animate object. We show in section 4.5 that the pluractional construction comprised by the sequence *-o’-t-u* collocates with stems that have an internal argument and yields multiple actions of the same type on multiple internal arguments. The *-o’-t-m* sequence collocates with stems that have an external argument and yields multiple different actions on one internal argument, see Table 44.

Table 44. Pluractional constructions

-o’-t-u	***-o’-t-m***
Same action on multiple internal arguments	Multiple *different* actions on one internal argument
Unaccusative stem	Unergative stem

We discuss the *-o'-t-u/-o'-l-Ø* construction here since it occurs only with unaccusative stems; section 7.3.2 treats the *-o'-t-m/-(w)ey-Ø* construction since it occurs only with unergative stems.

Section 3.1.2.1 reports that minimal pairs can be made from 36 stems that are selected by *-a'* or *-o'*. We (Stevens et al. 2021a) argue that the *-o'-t-u/-o'-l-Ø* construction represents a pluractional where the external argument performs multiple actions of the same type on many internal arguments or locations. We reason that *-o'-t-u* is a causative because of the minimal pairs with *-a'-t-u* and their correspondence in meaning (see section 3.1.2.1); the stems that are selected by *-a'* are unaccusative (see section 4.4). To these stems, *-o'-t/-o'-l* introduces an external argument that is a causer, and the Animacy-Voice combination maps these arguments to grammatical roles in the standard manner. (5)-(6) illustrate. For each stem, (a) shows active voice with an inanimate object, (b) expresses active with an animate object, (c) expresses antipassive with *-eke* and (d) is passive.

5. (a) *Ke's**o'tu** kmu'j.*
ke's-**o'-t-u**-Ø kmu'j
put.in.fire-*v*-An-Voice-1s wood(IN)
'I am putting wood into the fire.'

(b) *Ke's**o'l**~~i~~kik klmwejuwapsk~~i~~k.*
ke's-**o'-l-Ø**-kik klmwejuwapsk-k
put.in.fire-*v*-An-Voice-1s>3P coal(AN)-P
'I am putting coal into the fire.'

(c) *Ke's**o'teke**y.*
ke's-**o'-t-eke**-y
put.in.fire-*v*-An-Voice-1s
'I am putting [wood] in the fire.'

(d) *Ke's**o'lu**jik klmwejuwapsk~~i~~k.*
ke's-**o'-l-u**-tik klmwejuwapsk-k
put.in.fire-*v*-An-Voice-3P coal(AN)-P
'The coal is being put in the fire.'

The inanimate object in (a) is the non-countable noun *kmu'j* 'wood' and the verb inflection does not indicate plural. There are no non-countable animate nouns in Mi'kmaw; the verb with an animate object in (b) must indicate that the object is plural.

The passive form must be pluralised also; a singular subject passive is ungrammatical in this pluractional construction.

(2) illustrates the unaccusative stem *pesk-* 'pluck.'

6. (a) *Pesk**o'tu** nusapun.*
pesk-**o'-t-u**-Ø n-usapun
pluck-*v*-An-Voice-1s 1sPoss-hair(IN)
'I am plucking my hair.'

(b) *Pesk**o'l**ikik pi'kunk.*
pesk-**o'-l-Ø**-kik pi'kun-k
pluck-*v*-An-Voice-1s>3P feather(AN)-P
'I am plucking feathers.'

(c) *Pesk**o'teke**y.*
pesk-**o'-t-eke**-y
pluck-*v*-An-Voice-1s
'I am plucking [a chicken].'

(d) *Pesk**o'lu**jik pi'kunk.*
pesk-**o'-l-u**-jik pi'kun-k
pluck-*v*-An-Voice-3P feather(AN)-P
'The feathers are being plucked.'

The *-o'-t-u* pluractional is a prototypical causative according to the criteria given by Zúñiga and Kittilä (2019). We use the examples in (7) to demonstrate the criteria.

7. (a) *Tewiet l'mu'j.*
tew-ie-Ø-Ø-t l'mu'j
out-*v*-An-Voice-3s dog(AN)
'The dog is going outside.'

(b) *Tew**o'l**ikik l'mu'jk.*
tew-**o'-l**-Ø-kik l'mu'j-k
out-*v*-An-Voice-1s>3P dog(AN)-P
'I am taking the dogs outside.'

The valency is increased since (a) is monovalent and (b) is bivalent (cf. chapter 5). The construction adds a causer, and the clause is expressed with causer as subject. Causativization is coded formally by *-o'-t-u* construction.

Section 4.5 shows that *-o'* selects stems with an internal or an external argument, and section 5.3 showed that verbs with *-o'-t* and *-o'-l* are bivalent. This indicates that *-o'-t* and *-o'-l* do not add a particular argument as *-a'-t/-a'l* and *-a-t/-a-l* do; rather, these constructions simply add whichever argument is not already associated with the stem. For bivalent stems in active voice, *-u* occurs with unaccusative stems for which the *v*-An

combination introduces an external argument and *-m* occurs with unergative stems for which the *v*-An combination adds an internal argument.[155]

7.2.3 *-i-t* and *-i-l* form causative constructions

Section 3.1.2.3 shows minimal pairs from five stems that are selected by *-a'* or *-i*. Similar to the case with the *-o'-t-u* causative (but with different stems), we reason that *-i-t-u* is a causative with these stems because of the minimal pairs with *-a'-t-u*; the stems that co-occur with these two constructions are unaccusative. *-i-t/-i-l* introduces an external argument that is a causer, and the Animacy-Voice combination maps these arguments to grammatical roles in the standard manner. (8)-(9) illustrate. For each stem, (a) shows active voice with an inanimate object, (b) expresses active with an animate object, (c) expresses antipassive with *-eke* and (d) is passive.

8. (a) *Kis**itu** kutputi*.
kis-**i-t-u**-Ø kutputi
already-*v*-An-Voice-1s chair(IN)
'I made the chair.'

(b) *Kis**i'**k tu'aqn.*
kis-**i-l-Ø**-k tu'aqn
already-*v*-An-Voice-1s>3s ball(AN)
'I made the ball.'

(c) *Kis**iteke**y.*
kis-**i-t-eke**-y
already-*v*-An-Voice-1s
'I [am someone who] made things.'

(d) *Kis**iu**t tu'aqn.*
kis-**i-l-u**-t tu'aqn
already-*v*-An-Voice-3s ball(AN)
'The ball is made.'

(9) illustrates the unaccusative stem *pilu-* 'different.'

9. (a) *Pilu**itu** pipnaqn.*
pilu-**i-t-u**-Ø pipnaqn
different-*v*-An-Voice-1s bread(IN)
'I make bread differently.'

(b) *Pilu**i'**k tu'aqn.*
pilu-**i-l-Ø**-k tu'aqn
different-*v*-An-Voice-1s>3s ball(AN)
'I make the ball differently.'

[155] However, two stems in our corpus occur with *-a-t-u* (*pekw-* 'cause' and *ne'p-* 'die') and these we assume are associated with an external argument (see section 7.3.1). Future research can resolve this enigma.

(c) *Pilu**iteke**y.*
pilu-**i-t-eke**-y
different-*v*-An-Voice-1s
'I make [things] differently.'

(d) *Pilu**iu**t tu'aqn.*
pilu-**i-l-u**-t tu'aqn
different-*v*-An-Voice-3s ball(AN)
'The ball is being made differently.'

We assume that the *-i-t-u/-i-l-Ø* construction in these stems is a prototypical causative according to the criteria given by Zúñiga and Kittilä (2019). We can't demonstrate criterion 1 (increases the valency of a non-causativized clause) or 2 (add a causer to the argument structure) since monovalent clauses do not occur with these five stems. We can only demonstrate criteria 3 and 4: The third criterion is that the causer is the subject of the verb. The 1s causer 'I' is subject in (a-c). The fourth criterion is met in that the causative is coded formally by the *-i-t/-i-l* construction. Recall from section 4.4 that we reasoned that all stems that occur with the *-a'-t/-a'l* construction are unaccusative stems. Since the five stems considered in this section also occur with *-a'-t-u*, we assume that they are also unaccusative and that the *-i-t/-i-l* construction therefore adds a causer.

We conclude that *-i-t* and *-i-l* derive prototypical causatives. These constructions add an external argument that is a causer to unaccusative verb stems. The Animacy-Voice construction maps these arguments to grammatical roles in the standard manner.

Future research will investigate the aspectual differences between the *-a'-t/-a'-l* and *-i-t/-i-l* constructions.

7.2.4 *-Ø-Ø-eke* forms causatives with ballistic motion

In section 4.7 we demonstrate that *-Ø* little *v* selects both unergative and unaccusative verb stems. In this section we show that the *-Ø-Ø-eke* combination occurs only with unaccusative stems.[156]

Section 3.1.2.7 compares minimal pairs with the same stem involving *-Ø-Ø-eke* and *-a'-t-u*. Since we demonstrate in section 4.4 that stems with *-a'-t-u* are unaccusative, we conclude from these minimal pairs that the verb stems that collocate with *-Ø-Ø-eke* also are unaccusative. We know that the *-Ø-Ø-eke* construction has a causer subject and object so we conclude that *-Ø-Ø-eke* must introduce an external argument and map it to subject.

Section 4.7 concludes that *-Ø-Ø -v*-Animacy occurs with both unergative and unaccusative stems and we conclude therefore that the entire *-Ø-Ø-eke* construction is required to introduce an external argument that is a causer. The Animacy-Voice combination maps these arguments to grammatical roles in the standard manner. (10) illustrates the stem *nis-* 'down' with *-Ø-Ø-eke*. (a) shows active voice with an inanimate object, (b) expresses active with an animate object, (c) illustrates that the antipassive with *-ue* is ungrammatical, and (d) illustrates that the passive with *-Ø-Ø-u* is also ungrammatical. The verb form is identical with an inanimate or animate object.

10. (a) *Nis**eke**y lisqeikn.*

nis-**Ø-Ø-eke**-y	lisqeikn
down-*v*-An-Voice-1s	box(IN)

'I am throwing down the box.'

(b) *Nis**eke**y l'mu'j.*

nis-**Ø-Ø-eke**-y	l'mu'j
down-*v*-An-Voice-1s	dog(AN)

'I am throwing down the dog.'

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[156] In our larger corpus of 169 stems, we find two unaccusative stems that co-occur with *-Ø-Ø-m* and *-Ø-Ø-Ø*: *nep-* 'sleep' and *no'q-* 'cough.' Both stems in these constructions are monovalent and so are excluded from our study. These stems are ungrammatical with the *-Ø-Ø-u* passive.

(c) **Nis**ue**y.*
nis-**Ø-Ø-ue**-ø
down-*v*-An-Voice-1s
Intended: ‘I throw [people] down.’

(d) **Nis**u**t l’mu’j*
nis-**Ø-Ø-u**-t l’mu’j
down-*v*-An-Voice-3s dog(AN)
Intended: ‘The dog is being thrown down.’

Both antipassive and passive are ungrammatical. A passive equivalent is achieved with the unspecified subject conjugation in active voice (*-mk*) as illustrated in (11).

11. *Nis**eke**mk l’mu’j.*
nis-**Ø-Ø-eke**-mk l’mu’j
down-*v*-An-Voice-3s.unspecified.subject dog(AN)
‘[Someone] is throwing the dog down’/‘ The dog is being thrown down.’

(12) illustrates the stem *tew-* ‘out’ in active and intended antipassive and passive constructions.

12. (a) *Tew**eke**y lisqeikn.*
tew-**Ø-Ø-eke**-y lisqeikn
out-*v*-An-Voice-1S box(IN)
‘I am throwing the box out.’

(b) *Tew**eke**y l’mu’j.*
tew-**Ø-Ø-eke**-y l’mu’j
out-*v*-An-Voice-1S dog(AN)
‘I am throwing the dog out.’

(c) **Tew**ue**y.*
tew-**Ø-Ø-ue**-y
out-*v*-An-Voice-1S
Intended: ‘I throw [people] out.’

(d) **Tew**u**t l’mu’j.*
tew-**Ø-Ø-u**-t l’mu’j
out-*v*-An-Voice-3s dog(AN)
Intended: ‘The dog is being thrown out.’

As we mention above, we conclude that it is the entire *-Ø-Ø-eke* construction that introduces an external argument.

The *-Ø-Ø-eke* construction expresses a prototypical causative. We illustrate the criteria using the stem *kaqam-* ‘stand’ (13).

13. (a) *Kaqam**i**t Piel.*
kaqam-**i-Ø-Ø**-t Pie’l
stand-*v*-An-Voice-3s Peter(AN)
‘Peter is standing.’

(b) *Kaqam**eke**y Pie’l.*
kaqam-**Ø-Ø-eke**-y Pie’l
stand-*v*-An-Voice-3s Peter(AN)
‘I am standing Peter up roughly or fast.’

The valency is increased in the causative since the valency in (a) is one (*Pie’l* ‘Peter’) whereas (b) is bivalent (see chapter 5). In (b) a 1s causer is added to the argument structure. The clause is expressed with the causer as subject. Causativization is coded

formally by the *-Ø-Ø-eke* construction. This meets all four of the criteria of Zúñiga and Kittilä (2019).

We conclude that the *-Ø-Ø-eke* construction adds an external argument that is a causer to an unaccusative stem. The Animacy-Voice construction maps these arguments to grammatical roles in the standard manner.

7.2.5 Summary

All constructions that add arguments to unaccusative stems in Mi'kmaw are prototypical causatives. As we discuss in Sylliboy et al. (2020), causatives are noted in Mi'kmaw in other research; Inglis (1986:291) glosses *-i'* as causative (*ih) in the appendix of her thesis, giving three examples, one of which is reproduced here as (14). Inglis labels this verb as TA.

14. *tel-**i'**-k*
'make as such'; 'make someone' Inglis (1986:291)

Abtahian and Quinn (2017:138) note what they call "the highly productive causative-transitive *-a'tu*" in Mi'kmaw. One of their examples is reproduced here as (15).

15. *sa'se'w**a'tu***
'I change it.' Abtahian and Quinn (2017:138)

Causatives are also noted in other Algonquian languages. In many Algonquian languages, causative is described as a morpheme. The causative morphemes *-ht/-h* are noted in Proto-Algonquian (Goddard 1990a). Similar morphemes are noted in Ojibwe (Piggott 1989), Fox and Menomini (Goddard 1990b), Delaware (O'Meara 1990), Plains Cree (Wolfart 1973, 1996), Innu-aimun (Brittain 1993, Drapeau 2014), Western Naskapi (Brittain 2003), East Cree (Junker 2003), Michif (Mazzoli, 2004), and Oji-Cree (Slavin 2012). Other morphemes considered causative have been reported in Blackfoot

(*-attsi/-atti*, Taylor 1969, Frantz 2017, Johansson 2009, Genee 2016), Fox (*-ane*, Goddard 1990b), Innu-aimun (*-uni*, Brittain 1993, Drapeau 2014), Plains Cree (*-(ji)d*, Hirose 2000), and Michif (*-atoshkaa*, Mazzoli, 2004). We argue in contrast to these works, that causative is expressed in Mi'kmaw through a construction.

There are different kinds of causatives in terms of the verbal structure. Pylkkänen (2008) reviews selectional restrictions on causative heads cross-linguistically proposing that Cause can be stem-selecting, *v*P-selecting or phase-selecting. Our research indicates that Cause in Mi'kmaw is expressed through the combination of *-a', -o', -i*, or *-Ø* little *v* and *-t* or *-l* Animacy. Slavin (2012) proposes that the causative *-ih* is of category Voice while the internal argument is introduced by the *v* head; Tollan and Oxford (2018), focussing on data from Plains Cree and Oji-Cree, propose that it is Voice that hosts the external argument (causer); we demonstrate that in Mi'kmaw, it is the little *v*-Animacy combination or the entire *v*-Animacy-Voice combination.

7.3 Unergative stems

Chapter 4 demonstrates that unergative stems are selected by *-a, -o', -i*, and *-Ø* but not *-a'*. The constructions containing the little *v* morphemes *-a, -o', -i*, and *-Ø* described in these sections add an internal argument to unergative verb stems. The *-a-t/-a-l* construction itself introduces the internal argument (section 7.3.1). In contrast, the entire *v*-Animacy-Voice constructions is required to introduce the internal argument for *-o'-t-m/-o'-l-Ø* (*-(w)ey-Ø*), *-Ø-Ø-m*, *-Ø-Ø-Ø*, and *-Ø-Ø-u* (sections 7.3.2-7.3.4, respectively). In all cases, the Animacy-Voice construction maps the arguments to grammatical roles in the standard manner.

Unergative stems are much fewer in number than unaccusative stems in our dataset (29 as compared with 71, see section 4.8). As a result, a number of combinations that co-occur with unergative stems have very few exemplars; these are noted since it is difficult to make generalisations about these combinations without more research.

7.3.1 *-a-t-m, -a-l-Ø,* and *-a-t-u*

In this section we show constructions formed with *-a-t* and *-a-l*. All are bivalent and include an internal argument introduced by *-a-t* or *-a-l* to the unergative stem. The grammatical voice of the resulting clause differs depending on the Animacy-Voice combination in the entire construction.

(16) illustrates the stems *wissukw-* 'cook' with *-a-t-m/-a-l-Ø*. For each stem, (a) shows active voice with an inanimate object, (b) expresses active with an animate object, (c) expresses antipassive with *-eke* and (d) is passive.

16. (a) *Wissukw**at**m wius.*

wissukw-**a**-**t**-m-Ø	wius
cook-*v*-An-Voice-1s	meat(IN)
'I am cooking meat.'	

(b) *Wissukw**al**k jakej.*

wissukw-**a**-**l**-Ø-k	jakej
cook-*v*-An-Voice-1s>3s	lobster(AN)
'I am cooking lobster.'	

(c) *Wissukw**at**ekey.*

wissukw-**a**-**t**-eke-y	
cook-*v*-An-Voice-1s	
'I am cooking [stuff].'	

(d) *Wissukw**al**ut jakej.*

wissukw-**a**-**l**-u-t	jakej
cook-*v*-An-Voice-3s	lobster(AN)
'The lobster is being cooked.'	

Our analysis accounts for each example using the following reasoning: the stem is unergative, *-a-t/-a-l* introduces an internal argument, and the Animacy-Voice combination maps these arguments to grammatical roles in the standard manner. With active voice (a-b), the external causer argument is mapped to subject position and the internal argument is mapped to object position. With antipassive voice (c), the external argument is mapped to subject position and the internal argument is unspecified. An

antipassive (formed with either *-t-eke* or *-l-ue)* is grammatical with only four of the twelve unergative stems potentially exemplifying this antipassive construction. With passive voice (d), the internal argument is mapped to subject position and the external argument is unspecified. This mapping pattern is stereotypical and occurs in all voice constructions.

All *-a-t/-a-l* constructions add an internal argument to an unergative stem. The Animacy-Voice combination maps these arguments to grammatical roles in the standard manner.[157]

7.3.2 *-o'-t-m* and *–(w)ey-Ø*

In contrast to the situation with *-o'-t-u* and *-o'-l-Ø* (section 7.2.2) verb stems that occur with *-o'-t-m* and *–(w)ey-Ø* are unergative (section 4.5). *-(w)ey* is an allomorph for *-o'-l* that occurs with unergative stems when they are bivalent with an animate internal argument (see sections 2.5.2 and 4.5). The *-o'-t-m/-(w)ey-Ø* construction introduces an internal argument and the Animacy-Voice combination maps these arguments to grammatical roles in the standard manner for bivalent verbs. (17)-(18) illustrate two different stems. For each stem, (a) shows active voice with an inanimate object, (b) expresses active with an animate object, (c) expresses antipassive with *-eke* and (d) is passive.

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[157] Verb stems that occur with *-a-t-u* are rare in our dataset. Only two stems collocate with the combination *-a-t-u*: *pekw-* 'earn' and *ne'p-* 'kill.' We make a few observations here for future study. Both stems are causative: the stem *ne'p-* 'kill' is a causative crosslinguistically and the stem *pekw-* is translated 'earn'/ 'cause'/ 'procure' by Fidelholtz (1999) and Francis and Hewson (2016). We illustrate *pekw-* 'earn.'

(a) *Pekw**at**u suliewey.*	(b) *Pekwa'q l'mu'j.*
pekw-**a-t**-u-Ø suliewey	pekw-a'q l'mu'j
earn-*v*-An-Voice-1s money(IN)	earn-? dog(AN)
'I am earning money.'	'I am earning a dog.'

The two verbs do not employ the Animacy morpheme *-l* with animate internal arguments. The parsing of these verbs is unclear. More study with more stems is needed to address this.

17. (a) *Ank**o’tm** wasuek.*
ank-**o’-t-m**-Ø wasuek
care-*v*-An-Voice-1s flower
‘I am taking care of the flower.’

(b) *Ank**wey**aq mijua’ji’j.*
ank-**o’-l-Ø**-w-k mijua’ji’j
care-*v*-An-Voice-Appl-1s>3s child(AN)
‘I am taking care of the child.’

(c) *Ank**o’teke**y*.
ank-**o’-t-eke**-y
care-*v*-An-Voice-1s
‘I am babysitting.’

(d) *Ank**weyu**t mijua’ji’j*.
ank-**o’-l-u**-t mijua’ji’j
care-*v*-An-Voice-3s child(AN)
‘The child is being taken care of.’

Our data includes nine stems with the same character. (18) illustrates the stem *jik-* ‘watch.’

18. (a) *Jik**o’tm** wenji’kuom*.
jik-**o’-t-m**-Ø wenji’kuom
watch-*v*-An-Voice-1s house
‘I am keeping an eye on the house.’

(b) *Jik**ey**aq mijua’ji’j*.
jik-**o’-l-Ø**-w-k mijua’ji’j
watch-*v*-An-Voice-Appl-1s>3s child(AN)
‘I am keeping an eye on the child.’

(c) *Jik**o’teke**y*.
jik-**o’-t-eke**-y
watch-*v*-An-Voice-1s
‘I am a watchman.’/ ‘I am on watch.’

(d) *Jik**eyu**t mijua’ji’j*.
jik-**o’-l-u**-t mijua’ji’j
watch-*v*-An-Voice-3s child(AN)
‘They are keeping an eye on the child.’

We conclude that the *-o’-t-m/-(w)ey-Ø* construction is a bivalent pluractional that co-occurs with stems with an external argument. The construction adds an internal argument. The arguments are mapped by Animacy-Voice in standard fashion.

The *-o’-t-m/-(w)ey-Ø* construction, which adds an internal argument to an unergative stem, can be contrasted with the *-o’-t-u/-o’-l-Ø* construction that builds on an unaccusative stem (section 7.2.2). When we compare this construction with *-o’-t-u/ -o’-l-Ø* from section 7.2.2, we conclude that it is the entire construction that selects the stem, and not just the little *v* morpheme. We observe that because of the difference in the *v*-Animacy allomorphs (*-o’l* vs –(*w*)*ey*) as well as the different Voice morphemes (*-u* vs *-m*), the two constructions are distinctive except with the antipassive where both unaccusative and unergative stems employ *-o’-t-eke*.

7.3.3 *-i-t* and *-i-l*

Our corpus includes three verbs which we hypothesise to be experiencer verbs,[158] *keji-* 'know,' *nemi-* 'see,' and *we'ji-* 'found.' *-i-t/-i-l* selects these stems and introduces an internal argument.[159] The Animacy-Voice combination maps these arguments to grammatical roles in the standard manner. (19a) illustrates active voice with an inanimate object, (b) expresses active with an animate object, (c) expresses antipassive with *-eke* and (d) is passive.

19. (a) *Nem**itu** kun'tew*.
nem-**i-t-u**-Ø kuntew
see-*v*-An-Voice-1s rock(IN)
'I see the rock.'

(b) *Nem**i'**k mijua'ji'j*.
nem-**i-l-Ø**-k mijua'ji'j
see-*v*-An-Voice-1s>3s child(AN)
'I see the child.'

(c) *Nem**iteke**y*.
nem-**i-t-eke**-y
see-*v*-An-Voice-1s
'I can see.' (lit. 'I see [things]')

(d) *Nem**iu**t mijua'ji'j*.
nem-**i-l-u**-t mijua'ji'j
see-*v*-An-Voice-3s child(AN)
'The child is seen.'

In conclusion, we find that with an unergative stem, the *-i-t/-i-l* construction adds an internal argument. This is in contrast to the situation where the *-i-t/-i-l* construction adds an external causer argument to an unaccusative stem (section 7.2.3).

7.3.4 *-Ø-Ø-m, -Ø-Ø-u,* and *-Ø-Ø-Ø*

Only two unergative stems in our database occur with the *-Ø-Ø-m, -Ø-Ø-u,* and *-Ø-Ø-Ø* constructions: *kwil-* 'seek' and *nen-* 'know.' These constructions are incompatible with unaccusative stems in bivalent clauses.[160] We make a few observations

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[158] We hypothesise that these three verbs are experiencer verbs because imperatives are ungrammatical even with bivalent verbs, e.g., **nemitu kutputi* Intended: 'See the chair!' Since there is no evidence of an agent in the bivalent clause, we assume that the external argument must be an experiencer.

[159] *-i-t/-i-l* also selects the stem *nesp-* 'babysit' which section 4.7 discusses. This stem only occurs in the *-i-t-eke* construction in bivalent clauses. The internal argument can never be expressed in the clause.

[160] Section 7.3.4 mentions that two unaccusative stems in our larger corpus co-occur with *-Ø-Ø-m* and *-Ø-Ø-Ø*: *nep-* 'sleep' and *no'q-* 'cough.' Both stems in these constructions are monovalent and so are excluded from our study. These stems are ungrammatical with the *-Ø-Ø-u* passive.

as to how we understand them according to our analysis. (20)-(21) illustrate active voice with inanimate object (a) and animate object (b), (ungrammatical) antipassive voice (c), and passive voice (d).

20. (a) *Kwilm waqn*.
kwil-**Ø-Ø-m**-Ø waqn
seek-*v*-An-Voice-1s knife(IN)
'I am looking for the knife.'

(b) *Kwilaq mijua'ji'j*.
kwil-**Ø-Ø-Ø**-w-k mijua'ji'j
seek-*v*-An-Voice-Appl-1s>3s child(AN)
'I am looking for the child.'

(c) **Kwilekey*.
kwil-**Ø-Ø-eke**-y
seek-*v*-An-Voice-1s
Intended: 'I am looking [for stuff].'

(d) *Kwilut mijua'ji'j*.
kwil-**Ø-Ø-u**-t mijua'ji'j
seek-*v*-An-Voice-3s child(AN)
'The child is being looked for.'

(21) illustrates the stem *nen-* 'know.'

21. (a) *Nen**m** wajju'kat*.
nen-**Ø-Ø-m**-Ø wajju'kat
know-*v*-An-Voice-1s rummy(IN)
'I know rummy.'

(b) *Nenaq Pie'l*.
nen-**Ø-Ø-Ø**-w-k Pie'l
know-*v*-An-Voice-Appl-1s>3s Peter(AN)
'I know Peter.'

(c) **Nen**e**k**e**y*.
nen-**Ø-Ø-eke**-y
know-*v*-An-Voice-1s
Intended: 'I know [things].'

(d) *Nen**u**t Pie'l.*
nen-**Ø-Ø-u**-t Pie'l
know-*v*-An-Voice-3s Pie'l
'Peter is known.'

We know that the verb stems *kwil-* 'seek' and *nen-* 'know' are unergative since an animate internal argument is introduced by the applicative with these stems (see section 4.7). We reason that an inanimate internal argument is introduced by the entire *-Ø-Ø-m* construction. In the passive construction, we reason that the entire *-Ø-Ø-u* construction introduces an animate internal argument. The Animacy-Voice combination maps these arguments to grammatical roles in the standard manner.

The antipassive with *-eke* or *-ue* is ungrammatical for both stems. Recall that section 7.2.4 argues that *-Ø-Ø-eke* introduces an *external* argument and results in a transitive clause. These stems are unergative; we reason that the antipassive is ungrammatical for

these stems since the antipassive requires an internal argument and the *-Ø-Ø-m* construction on an unergative verb stem would not introduce an internal argument.

In the passive construction, the clause features an internal argument as well as an unspecified external argument. We conclude that in this case, it is the entire *v*-An-Voice construction that introduces the internal argument and then maps both arguments to grammatical positions. The construction *-Ø-Ø-u* introduces an animate internal argument and maps it to subject.

We now need to discuss the *-Ø-Ø-Ø* combination and especially the fact that a third-person proximate subject employs *-Ø* Voice even with an inanimate object (see section 6.9.3); (22) illustrates active voice with an inanimate object (a) and animate object (b).

22. (a) *Nenk Pie'l wajju'kat.*

nen-**Ø-Ø-Ø**-k	Pie'l	wajju'kat
know-*v*-An-Voice-3s	Peter	rummy(IN)

'Peter knows rummy.'

(b) *Nenuatl Pie'l Ma'li-al.*

nen-**Ø-Ø-Ø**-w-atl	Pie'l	Ma'li-al
know-*v*-An-Voice-Appl-3s>3sOb	Peter	Mary(AN)-Ob

'Peter knows Mary.'

We observe that the animate internal argument (22b) is added by the applicative and is mapped to object in active voice. We assume that the *-Ø-Ø-Ø* combination introduces an inanimate internal argument.

We conclude that *-Ø-Ø-m*, *-Ø-Ø-Ø*, and *-Ø-Ø-u* introduce an internal argument to unergative stems. *-Ø-Ø-m* and *-Ø-Ø-Ø* introduce an inanimate internal argument and map that argument to object in an active voice construction and *-Ø-Ø-u* introduces an animate internal argument and maps it to subject in a passive construction.

7.3.5 Summary

This section describes constructions containing the little *v* morphemes *-a, -o', -i*, and *-Ø* that add an internal argument to an unergative verb stem. The *-a-t/-a-l* construction itself introduces the internal argument. In contrast, the entire *v*-Animacy-Voice construction is required to introduce the internal argument for constructions built on *-o'-t/-(w)ey* and *-Ø-Ø*. In all cases, the Animacy-Voice construction maps the arguments to grammatical roles in the standard manner for each grammatical voice.

Comparing these constructions with those which select unaccusative stems (section 7.2), we can make some observations about how Voice influences the selectional properties of the *v*-Animacy combination. Table 45 shows the stem class selected by little *v*-Animacy and how that is affected by the addition of Voice. We see that all *-a-t/-a-l* constructions select only unergative stems whereas all *-a'-t/-a'-l* constructions select only unaccusative stems. In contrast, all *-i-t/-i-l* constructions select either class. *-o'-t/-(w)ey* and *-Ø-Ø* constructions select either stem class but when Voice is considered, some constructions only select unaccusative stems and other constructions only select unergative stems (the *-(w)ey* allomorph of *-o'-l* only occurs in these constructions).

Table 45. Stem class selected by little v-Animacy and v-Animacy-Voice

***v*-Animacy**	**Stem class selected**	***v*-Animacy-Voice**	**Stem class selected**
-a'-t/-a'-l	unaccusative	*-a'-t-u, -a'-l-Ø* *-a'-t-eke, -a'-l-ue* *-a'-l-u*	unaccusative
-a-t/-a-l	unergative	*-a-t-m, -a-l-Ø* *-a-t-eke, -a-l-ue* *-a-l-u, -a-t-m-u*	unergative
-i-t/-i-l	either	*-i-t-u, -i-l-Ø* *-i-t-eke* *-i-l-u*	either
-o'-t/-o'-l	unaccusative	*-o'-t-u, -o'-l-Ø* *-o'-t-eke* *-o'-l-u*	unaccusative
-o'-t/-(w)ey	unergative	*-o'-t-m, -(w)ey-Ø* *-o'-t-eke, -(w)ey-ue* *-(w)ey-u, -o'-t-m-u*	unergative
-Ø-Ø	either	*-Ø-Ø-eke*	unaccusative
		-Ø-Ø-m, -Ø-Ø-Ø *-Ø-Ø-u, -Ø-Ø-m-u*	unergative

-m Voice only occurs in constructions that select unergative stems. This fact indicates a dependency between the stem class and Voice that merits further investigation.

7.4 Argument-building constructions and grammatical voice

This section summarises the contribution of the stem argument features and the little *v* morpheme to the grammatical voice constructions.

We see that each of the seven active constructions occurs in a predictable context and shows a dependency between the active construction and stem class, little *v*, and aspect. Likewise, which of the five passive constructions is used is predictable when we consider the contribution of the stem class (and indirectly the little *v* morpheme). The two antipassive constructions, *-t-eke* and *-l-ue*, occur with both unergative and unaccusative stems and the differences we see between them relate more to aspect.

7.4.1 Seven active voice constructions

Active voice is achieved through seven combinations of Animacy and Voice (*-Ø-eke, -t-u, -t-m, -t-Ø, -l-Ø, -Ø-m,* and *-Ø-Ø*). This section discusses the distinctions between each of these constructions; which construction is employed is predictable (with exceptions illustrated). The different contexts involve the animacy of the internal argument, the subject person, and the stem class. Table 46 summarises all of the active voice constructions and their contexts.[161]

Table 46. Seven contexts for seven active voice constructions

Animacy of internal argument	**Subject**	**Stem class**	**An-Voice**
AN	any	any	***-l-Ø***
IN	non-3rd proximate	unaccusative two unergative stems (*ne'p-, pekw-*)	***-t-u***
		unergative	***-t-m***
		two unergative stems (*kwil-, nen-*)	***-Ø-m***
	3rd proximate	any	***-t-Ø***
		two unergative stems (*kwil-, nen-*)	***-Ø-Ø***
AN or IN	any	unaccusative	***-Ø-eke***

We illustrate the context for each of the active constructions with examples. *-t-u* and *-t-m* indicates active voice for some stems when they occur with inanimate objects and non-third-person proximate subjects. *-t-u* occurs with unaccusative stems and *-t-m* with some unergative stems.

23. *Tepa'**tu** kuputi nutapaqnk.*

tep-a'-**t-u**-Ø	kutputi	nu-tapaqn-k
load-*v*-An-Voice-1s	chair(IN)	1Poss-vehicle-LOC

'I am loading the chair onto the car.'

[161] The table indicates that the subject for a verb that occurs with *-l-u* can be of any animacy. In fact, our data only occurs with inanimate subjects for 1s objects; further study investigates inanimate subjects in more depth.

24. *Elukwa**tm** kuputi*.
elukw-a-**t-m**-Ø kutputi
work-*v*-An-Voice-1s chair(IN)
'I am fixing the chair.'

-t-Ø with these same stems expresses active voice but with a third-person proximate subject and an inanimate object.

25. *Tepa'toq Pie'l kutputi nutapaqnk.*
tep-a'**-t-Ø**-oq kutputi nu-tapaqn-k
load-*v*-An-Voice-3s chair(IN) 1Poss-vehicle-LOC
'Peter is loading the ball onto my car.'

26. *Elukwa**t**k Pie'l kutputi.*
elukw-a-**t-Ø**-k kutputi
work-*v*-An-Voice-3s chair(IN)
'Peter is fixing the chair.'

-l-Ø with these same stems expresses active voice but with an animate object for any subject. (27a) shows a non-third-person proximate subject and (27b) a third-person proximate subject.

27. (a) *Tepa'**l**k tu'aqn nutapaqnk.*
tep-a'**-l-Ø**-k tu'aqn nu-tapaqn-k
load-*v*-An-Voice-1s>3s ball(AN) 1Poss-vehicle-LOC
'I am putting the ball into my car.'

(b) *Tepa'**l**atl Pie'l tu'aqnn wutapaqnk.*
tep-a'**-l-Ø**-atl Pie'; tu'aqn wu-tapaqn-k
load-*v*-An-Voice-3s>3s Peter ball(AN) 3Poss-vehicle-LOC
'Peter is putting the ball into his car.'

-Ø-eke occurs with many of the same unaccusative stems that occur with the *-t-u* combination. It always yields active voice with a ballistic aspectual idea. Compare (28a) with (b). The object can be either inanimate (a) or animate (b).

28. (a) *Tep**eke**y kutputi.* (b) *Tep**eke**y tu'aqn.*
tep-Ø-**Ø-eke**-y kutputi tep-Ø-**Ø-eke**-y tu'aqn
load-*v*-An-Voice-1s chair(IN) load-*v*-An-Voice-1s ball(AN)
'I am throwing the chair on.' 'I am throwing the ball on.'

With different unergative stems than either *-t-u* and *-t-m* occur with, *-Ø-m* indicates active voice with inanimate objects and non-third-person proximate subject.

29. *Kwil**m** kuputi*.
kwil-Ø-**Ø**-**m**-Ø kutputi
seek-*v*-An-Voice-1s chair(IN)
'I am looking for the chair.'

-Ø-Ø indicates active voice with these stems when they occur with inanimate objects and a non-third-person proximate subject.

30. *Kwilk Pie'l kutputi.*
kwil-Ø-**Ø**-**Ø**-k kutputi
seek-*v*-An-Voice-3s chair(IN)
'Peter is looking for the chair.'

Table 47 shows a dependency between little *v* and Voice for active voice.

Table 47. Dependency between little v and Voice in bivalent active clauses

Little *v*	**Voice**			
	-Ø	***-m***	***-u***	***-eke***
-a'	unaccusative	*	unaccusative	*
-i	unergative or unaccusative	*	unergative or unaccusative	*
-a	unergative	unergative	unergative	*
-o'	unergative or unaccusative	unergative	unaccusative	*
-Ø	unergative	unergative	*	unaccusative

We conclude that the use of each of the seven constructions that express active voice is predictable with a small number of exceptions. We also demonstrate a dependency between little *v* and Voice in the active construction.

7.4.2 Two antipassive constructions

The combinations *-t-eke* and *-l-ue* both indicate an unspecified non-agentive participant, that is, an antipassive clause. Section 3.3.1 discusses some of the differences

between *-t-eke* and *-l-ue* are in terms of aspect and unspecified referent. The *-t-eke* and *-l-ue* constructions are illustrated with the unaccusative stem *enq-* ‘stop’ in (31).

31. *Enqa’**teke**y.*
enq-a’-**t-eke**-y
stop-*v*-An-Voice-1s
‘I am stopping [cars on the road].’ / ‘I am stopping [people from fighting].’

32. *Enqa’**lue**y.*
enq-a’-**l-ue**-y
stop-*v*-An-Voice-1s
‘I am a referee.’ (‘I stop [people].’) / ‘I am stopping [people from fighting].’

With *-t-eke*, the unspecified participant must be third-person but it can be either animate or inanimate. In (33), the implied referent might be inanimate (e.g., chairs) or animate (e.g., balls).

33. *Tepo’**teke**y nutapaqnk.*
tep-o’-**t-eke**-y n-u-tapaqn-k
load-*v*-An-Voice-1s 1sPOSS-ep-vehicle-LOC
‘I am loading [stuff] in my car.’

In contrast to the situation with *-t-eke*, the unspecified participant in clauses with *-l-ue* must be interpreted as human, (34).

34. *Anko’**teke**y.*
ank-o’-**t-eke**-y
care-*v*-An-Voice-1s
‘I am babysitting.’ / ‘I am fostering [a child].’

Table 47 shows a dependency between little *v* and Voice for antipassive voice.

Table 48. Dependency between little v and Voice in antipassive clauses

Little *v*	**Voice**	
	-eke	***-ue***
-a’	unaccusative	unaccusative
-a	unergative	unergative
-o’* / *-ey	unergative or unaccusative	unergative (one stem)
-i	unergative or unaccusative	*
-Ø	*	*

The Voice morpheme *-eke* co-occurs with a wider selection of little *v* morphemes than does *-ue*.

Both *-t-eke* and *-l-ue* occur with both unergative and unaccusative stems. *-t-eke* and *-l-ue* can be further distinguished because for stems with an external argument, the *-ey* allomorph of the little *v* morpheme *-o'* is employed with *-l-ue* (with one stem only) whereas *-t-eke* occurs with *-o'*. We leave further distinctions between *-t-eke* and *-l-ue* for future research.

7.4.3 Five passive constructions

Chapter 6 noted that there are five passive Animacy-Voice constructions: *-l-u*, *-t-u*, *-Ø-u* (two stems), *-t-m-u*, and *-Ø-m-u* (two stems). Which of the five passive constructions is employed is predictable (with exceptions as shown) according to whether possessor raising is involved and according to the stem class. Table 49 illustrates the five contexts for these five passive constructions.

Table 49. Five contexts for five passive constructions

Possessor raising	**Stem class**	**An-Voice**
no	unergative or unaccusative	***-l-u***
	two unergative stems (*kwil-* and *nen-*)	***-Ø-u***
yes	unaccusative two unergative stems (*ne'p-* and *pekw-*)	***-t-u***
	unergative	***-t-m-u***
	two unergative stems (*kwil-* and *nen-*)	***-Ø-m-u***

For passives without possessor raising, the internal argument is the subject. Both *-l-u* and *-Ø-u* indicate this kind of passive. These occur with different stems. *-l-u* occurs with both classes of stems; (35) illustrates an unaccusative stem and (36) illustrates an unergative stem.

35. *Enqa'**lu**t mijua'ji'j.*
enq-a'-**l**-**u**-t mijua'ji'j
stop-*v*-An-Voice-3s child(AN)
'The child is being stopped.' / 'They are stopping the child.'

36. *Elukwa**lu**t tu'aqn.*
elukw-a-**l**-**u**-t tu'aqn
work-*v*-An-Voice-3s ball(AN)
'The ball is being fixed.' / 'They are fixing the ball.'

-Ø-u only occurs with two unergative stems (37).

37. *Kwil**u**t Pie'l.*
kwil-Ø-**Ø**-**u**-t Pie'l
seek-*v*-An-Voice-3s Peter
'Peter is being looked for.' / 'They are looking for Peter.'

Some passives in Mi'kmaw involve also possessor raising; the possessor of the internal argument is the subject and the internal argument is the object. There are three combinations that indicate this kind of possessor passive. We illustrate these with the same three stems as above. *-t-u* occurs with unaccusative stems (38).

38. *Enqa'**tu**tl Pie'l wnijann.*
enq-a'-**t**-**u**-t-l Pie'l w-nijan-l
stop-*v*-An-Voice-3s-Ob Peter 3POSS-child(AN)-Ob
'Peter's child is being stopped.' / 'They are stopping Peter's child,'

-t-m-u occurs with all except two unergative stems in our database (39).

39. *Elukwa**tmu**tl Pie'l wtu'aqnml.*
elukw-a-**t**-**m**-**u**-t-l Pie'l w-tu'aqn-m-l
work-*v*-An-Voice-Voice-3s-Ob Peter 3POSS-ball(AN)-POSS-Ob
'Peter's ball is being fixed.' / 'They are fixing Peter's ball,'

-Ø-m-u occurs with two unergative stems (40).

40. *Kwil**mu**tl Pie'l wnjann.*
kwil-Ø-**Ø**-**m**-**u**-t-l Pie'l w-nijan-l
seek-*v*-An-Voice-3s-Ob Peter 3POSS-child(AN)-Ob
'Peter's child is being looked for.' / 'They are looking for Peter's child.'

In each passive, the agent is unspecified. We see that when we consider the contribution of the stem class, each of the five passive constructions is used in a unique situation.

Table 50 shows a dependency between little *v* and Voice for passive voice.

Table 50. Dependency between little v and Voice in passive clauses

Little *v*	**Voice**	
	-u	***-m-u***
-a'	unaccusative	*
-a	unergative	unergative
-o'	unaccusative	unergative
-i	unaccusative or unergative	*
-Ø	unergative (two stems)	unergative (two stems)

The Voice morpheme *-u* passive occurs with any little *v* morpheme while *-m-u* occurs only with unergative stems and only in contexts of possessor raising.

We conclude that the use of each of the five constructions that express passive voice is predictable with exceptions. We also demonstrate a dependency between little *v* and Voice in the passive construction.

7.5 Chapter 7 summary and relation to Algonquian literature

Section 7.5.1 summarises the chapter and section 7.5.2 relates our study to other approaches in the broader Algonquian literature.

7.5.1 Two overlapping systems

This chapter studies the complete picture of introducing and mapping arguments as it considers the whole *v*-Animacy-Voice combination in conjunction with the stem. It goes beyond what chapter 5 demonstrates concerning how arguments are added and what chapter 6 shows of how they are mapped by the grammatical voice constructions since

these two processes are overlapping morphologically and therefore somewhat dependent on one another.

Table 51 illustrates that the little *v*-Animacy combinations *-a'-t/-a'-l, -o'-t/-o'-l, -i-t/-i-l* and the *v*-Animacy combination *-Ø-Ø -eke* add a causer to an unaccusative stem. The combinations *-a-t/-a-l, -o'-t/-(w)ey,* and the *v*-Animacy combinations *-Ø-Ø-m, -Ø-Ø-u,* and *-Ø-Ø-Ø* add an internal argument to an unergative stem.

Table 51. Summary of argument-adding constructions

***v*-An-Voice**	**Stem class**	
	unaccusative	**unergative**
-a'-t/-a'-l	Add external argument (causer)	*
-a-t/-a-l	*	Add internal argument
-o'-t-u/-o'-l-Ø	Add external argument (causer)	*
-o'-t-m/-(w)ey-Ø	*	Add internal argument
-i-t/-i-l	Add external argument (causer)	Add internal argument
-Ø-Ø-eke	Add external argument (causer)	*
-Ø-Ø-m	*	Add internal argument
-Ø-Ø-u	*	Add internal argument
-Ø-Ø-Ø	*	Add internal argument

Thus, the *v*-Animacy combinations for the most part act in argument-building as do traditional Bloomfieldian "finals" as described by Inglis (1986) and others. Our analysis further observes that the *-Ø-Ø v*-Animacy combination requires the Voice morpheme in order to add an argument.

The Animacy-Voice combination maps the arguments to grammatical positions in a stereotypical manner. Figure 19 illustrates the two systems for argument-building and argument-mapping.

Figure 19. The argument-building and argument-mapping systems

stem	**little *v***	**Animacy**	**Voice**
unergative or unaccusative	Adds argument		
	aspect, causative	Grammatical voice maps arguments to grammatical positions	

The argument-building and argument-mapping constructions both employ the Animacy morpheme. Some constructions require the entire *v*-Animacy-Voice combination to add an argument.

Our observation that verb stems are classified according to unaccusativity is crucial in understanding verbs and constructions in Mi'kmaw.

7.5.2 Relating our study to other approaches

In the Algonquian literature since Bloomfield (1946), verb "stems" are classed according to Animacy of one of the arguments and transitivity of the resulting clause. To our knowledge, we are the first to present systematic evidence for unaccusativity as the basis for classifying verb stems in the Algonquian family.[162]

Also in the Algonquian literature, morphemes known as "finals" are associated with transitivity and animacy. Researchers find that, although there is some basic agreement, the approach that analyses verbs in terms of "finals" obscures generalisations about argument structure. "Finals" do not indicate the animacy of the internal argument (section 7.5.2.1); "finals" do not indicate transitivity of the clause (section 7.5.2.2). In each of

[162] In several Algonquian languages, linguists argue that roots are associated with an argument in intransitive clauses (e.g., Hirose 2003 for Plains Cree, Ritter and Rosen 2010 for Blackfoot, Brittain and Acton 2014 for Northern East Cree, Brittain 2014 for Cree-Montagnais-Naskapi, and Tollan and Oxford 2018 for Plains Cree and Oji-Cree) and Piggott (1989) argues for argument structure in Ojibwe as a feature of the root. However, these authors and others state that verb stems are classified according to transitivity and animacy of one of their arguments (AI, II, TA, TI, etc.).

these sections, we demonstrate how our research refines generalisations about Mi'kmaw that were not recognised before our work. In section 7.5.2.3 we discuss work in other Algonquian languages that relates to our proposals about argument structure and argument-building constructions. In section 7.5.2.4 we argue that, in contrast to observations made by linguists in other Algonquian languages, "TI theme signs" are not ornamental or redundant. In section 7.5.2.5 we discuss observations by Algonquianists that verb morphology in Algonquian languages does not correspond to the syntax and how our analysis accounts for some of the contexts which are considered as cases of non-correspondence. Finally, section 7.5.2.6 considers how morphemes work in concert in argument building and argument mapping.

7.5.2.1 "Finals" do not indicate animacy of the internal argument

As has been observed by others and as we show for Mi'kmaw, "finals" termed "inanimate" or "animate" do not agree with the animacy of the internal argument in every context. Quinn (2006:36), studying Penobscot, says this about what he calls the "traditional view of Algonquian transitive verb stems": "a significant problem with this model is that TA/TI-markers do not on their own match particularly well with the gender of the internal argument." Piggott (1989:194) notes that in Ojibwe, although the suffix *-d* (cognate to Mi'kmaw *-t*) is "added to some TA stems in the derivation of the corresponding TI," "there is fairly good evidence that the suffix *-d* should not be considered to mark the presence of an inanimate noun as theme."

Piggott (1989) offers two specific contexts that illustrate the non-correspondence in Ojibwe. The first is when the TI verb occurs but there is no NP-theme (Piggott 1989:194). In Mi'kmaw, we show that this situation occurs due to the wider use of *-t* in

combination with *-eke* to yield antipassive voice (section 6.1.1). The second case of noncorrespondence that Piggott illustrates for Ojibwe is that the morpheme *-d* in benefactive verbs occurs in contexts where the NP-theme is not restricted to inanimate (Piggott 1989:194-195). Extending this observation to Mi'kmaw, we find that a similar situation arises due to possessor raising in the *-t-u* passive construction (section 6.5.2).

Our research extends the above findings in that we demonstrate the wider use of *-t* Animacy in Mi'kmaw in determining grammatical voice and argument mapping.

7.5.2.2 "Finals" do not indicate transitivity

As has been observed by others and as we show for Mi'kmaw, "finals" do not determine the transitivity of the clause in every context in Algonquian languages. For example, both Ritter and Rosen (2010) and Armoskaite (2011) conclude that "finals" in Blackfoot do not determine the transitivity of a verbal "stem" of which they are a part. Armoskaite (2011:39) argues that since transitivity suffixes with the same value cannot be switched, transitivity of the resulting verb cannot be solely determined by the suffixes. She argues that both verb "stems" and (some) verb "roots" are subcategorised for transitivity.

Our findings in Mi'kmaw extend those of others to demonstrate that the transitivity of the clause is the result of the argument building and mapping systems in the Mi'kmaw verb; valence is determined by the stem plus the argument added by the *v*-Animacy combination and then mapped to grammatical roles by the Animacy-Voice combination. The resulting transitivity of the clause is determined by the entire combination.

7.5.2.3 Arguments are added by v-Animacy combinations

In this section, we discuss work in other Algonquian languages that relates to our proposals about argument structure and argument-building constructions. Our work presents the first comprehensive description of how the stem class together with the specific verb suffixes yields the valence, transitivity, and grammatical voice of the resulting clause, other Algonquianists have observed similar parts of the picture in other languages.

Piggott (1989) argues for Ojibwe that TA "finals" modify the argument structure of the roots. He gives the examples shown here as (41)-(42).

41. wa:b (x-A)
'see' Piggott (1989:186)

42. a. -am (y [+animate]-Th)
b. wa:bam (x-A, y [+animate]-Th) Piggott (1989:189)

The verb "root" *wa:b* 'see' has an argument structure where what he calls the x argument (the grammatical subject) is an agent; the TA "final" *-am* adds what he calls the y argument (the grammatical object) which is theme and is animate. Piggott's 1989 analysis is not discussed in later analyses of Ojibwe (Rhodes 1994, Mathieu 2008, Kyriakaki 2009, Lochbihler 2012, Slavin 2012) including his own (Piggott and Newell 2006).

Slavin (2012), studying Oji-Cree, assumes that each argument must be introduced by its own functional head. She makes a proposal in "the absence of a definitive evidence for the position of *-ih*, I propose for now that it is a Voice head that introduces an external argument" (Slavin 2012:115).

We build on these findings in that we demonstrate that Mi'kmaw stems are either unergative or unaccusative and the other argument is introduced by *v*-Animacy.

Other Algonquianists propose that little *v* introduces a specific argument. Ritter and Rosen (2010) and Lochbihler (2012) argue that in Blackfoot and Oji-Cree, respectively, little *v* introduces an external argument and determines whether there is a DP object in the clause. Brittain and Acton (2014, Northern East Cree) argue that little *v -piyi* provides an internal argument. We find that in Mi'kmaw, different *v*-Animacy combinations add particular arguments to stems associated with the other argument. For example, *-a-t* and *-a-l* add an internal argument to an unergative verb stem while *-a'-t* and *-a'-l* add an external argument to an unaccusative verb stem.

7.5.2.4 "TI theme signs" are not ornamental or redundant

In the thesis, we demonstrate that what Algonquian terminology terms "TI Theme signs" are category Voice and are involved in subject and object restrictions and work in combination with the Animacy category to express grammatical voice. This observation contrasts with observations made by linguists about other Algonquian languages.

Lochbihler (2010, 2012) concludes that "TI theme signs" do not directly reflect transitivity.[163] Some other analysts have concluded that "TI theme signs" are 'ornamental' or 'redundant' in some Algonquian languages. For example, Riccomini (2019:28), studying Ojibwe, states that "TI theme signs" appear to be purely phonological. Oxford (2017:31) states that information conveyed by the "TI theme signs" is entirely redundant as far as indicating animacy of the object.

[163] Lochbihler's (2010, 2012) analysis is that TI theme signs directly indicate the person agreement.

In contrast to what these linguists have concluded, we show in this thesis that the "TI theme signs" in Mi'kmaw (which we term category Voice morphemes) are involved in mapping arguments to grammatical roles.

7.5.2.5 Correspondence between morphology and syntax

Many Algonquianists observe that the transitivity of an Algonquian verb stem as indicated by its morphology ("finals," "theme signs," and inflection')[164] does not always correspond with the syntactic transitivity. The non-correspondence of morphology with syntax is reflected in the terms "pseudo-transitive" (intransitive verbs with an implied object, Bloomfield 1946:95, for Algonquian in general), "pseudo-intransitive" (a verb with a TI final that has an "intransitive meaning," Goddard 1967:67 for Algonquian in general), "paratransitive" (AI verbs which may occur with a non-particular object, Frantz 2017:44 for Blackfoot), "AI+O" and "TA+O" (Goddard 1974:319 for Algonquian in general; see also Oxford 2014b for Proto-Algonquian, Hamilton 2015 for Mi'gmaq),[165] and OTI (objectless transitive inanimate, Valentine 2001:218 for Nishnaabemwin, Quinn 2006:6 for Penobscot).

This reported non-correspondence has resulted in researchers concluding that there is a conflict between morphology and syntax (for example, Wolfart 1973 for Cree, Dahlstrom 2014 for Meskwaki, and Oxford 2017 for Algonquian in general).

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[164] In the works cited, classification of "finals" as transitive or intransitive is defined by the inflection. Frantz (2017:44) says "Syntactic transitivity is the ability to occur with an object, while morphological transitivity is the ability to show inflectional agreement with an object." Frantz (1978:195) notes that "A large number of logically transitive verbs are intransitive (AI) as evidenced by their inflection."

[165] AI+O is discussed by Dahlstrom (2013) for Kickapoo, Plains Cree, Ojibwe, Meskwaki, and Menominee, and by Rhodes (1991) and Kyriakaki (2009) for Ojibwe.

Our analysis shows distinctive morphology in Mi'kmaw for each of the Bloomfieldian "stem" types. We discuss in turn each of the Bloomfieldian "stem" types that are discussed in the thesis (II, AI, TI, TA, and AI+O). We show that the *v*-Animacy-Voice combinations for each are distinctive. [166]

II (Intransitive with inanimate subject) corresponds in our analysis to unaccusative stems in monovalent clauses in active voice; the inanimate internal argument is mapped to subject position. Two *v*-Animacy-Voice combinations are illustrated: *-i-Ø-Ø* (43) and *-ia-Ø-Ø* (44).

43. *Tek**i**k nsisk.*
tek-**i-Ø-Ø**-k n-sisk
cold-*v*-An-Voice-3sIN 1sPOSS-face(IN)
'My face is cold.'

44. *Kesip**ia**q nunji*.
kesip-**ia-Ø-Ø**-k n-unji
itch-*v*-An-Voice-3sIN 1sPOSS-head(IN)
'My head is itchy.'

AI (Intransitive with animate subject) occurs in three different contexts in our corpus. The first is unaccusative or unergative stems in monovalent clauses in active voice; the stem argument is mapped to subject position. The constructions employed in Mi'kmaw are *-i-Ø-Ø*, *-e-Ø-Ø*, and *-a-Ø-Ø*. Two examples are shown; (45) illustrates an unaccusative stem and (46) an unergative stem.[167]

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[166] Established Algonquian terminology also describes TA+O and OTI "stem" types. We find TA+O (transitive verb morphology, ditransitive clause) corresponds to active grammatical voice with possessor raising and always occurs by means of the applicative morpheme. We discuss this construction in Denny et al. (2021). OTI (objectless transitive inanimate), a situation where what is termed "transitive morphology" occurs in verbs in intransitive clauses (Goddard 1979 for Delaware, Valentine 2001:218 for Nishnaabemwin, and Quinn 2006:6 for Passamaquoddy). Our larger corpus includes only five such verbs: *nepm* 'I am dying,' *no'qm* 'I am coughing,' and three stems containing *tukw-* 'run': *altukwi'm* 'I am running around,' *ketkwi'm* 'I am running,' and *pemtukwi'm* 'I am running along.' Future study can investigate how our analysis applies to a larger sampling of such verbs.

[167] Other *v*-Animacy-Voice combinations in what are termed "AI stems" include *-a-Ø-Ø* and *-ie-Ø-Ø*.

45. *Kewj**i**.*
kewj-**i**-**Ø**-**Ø**-*Ø*
cold-*v*-An-Voice-1s
‘I am cold.’

46. *Elukw**e**y*.
elukw-**e**-**Ø**-**Ø**-y
work-*v*-An-Voice-1s
‘I am working.’

The second context that corresponds with AI terminology is clauses in passive voice. Two Animacy-Voice constructions are employed: *-l-u* and *-Ø-u*. Stems can be unaccusative or unergative with *-l-u*; *-Ø-u* only occurs with unergative stems. The use of passive voice in Mi’kmaw requires a bivalent construction, created when *v*-Animacy combinations introduce an external argument to an unaccusative stem or an internal argument to an unergative stem. The Animacy-Voice combination *-l-u* maps the animate internal argument to subject and the external argument is unspecified. (47) illustrates this construction with an unaccusative stem and (48) with an unergative stem.

47. *Ekwij**a’lu**t mijua’ji’j*.
ekwij-**a’**-**l**-**u**-t mijua’ji’j
in.water-*v*-An-Voice-3s child(AN)
‘The child is being put into the water.’

48. *Pitkm**alu**t la’taqsun*.
pitkm-**a**-**l**-**u**-t la’taqsun
fill-*v*-An-Voice-3s bucket(AN)
‘The bucket is being filled.’

The third context that corresponds to “AI stems” in Algonquian terminology is clauses in antipassive voice, an option only in bivalent constructions. These clauses employ the Animacy-Voice combinations *-t-eke* and *-l-ue*. These constructions occur with stems of both classes. The *v*-Animacy combination introduces an external argument to an unaccusative stem or an internal argument to an unergative stem. The Animacy-

Voice combination maps antipassive voice: the external argument is mapped to subject position and the internal argument is rendered unspecified.

In summary, our analysis shows that what are termed "AI stems" occur in three specific contexts with different morphology that expresses active, passive, or antipassive voice.

TI (transitive with inanimate object) occurs with seven combinations, all in active voice. Four combinations occur with unergative stems: *-a-t-m, -a-t-u, -o'-t-m,* and *-Ø-Ø-m*. The internal argument is introduced by the *v*-Animacy combination (or the *v*-Animacy-Voice combinations in the case of *-Ø-Ø-m*). The Animacy-Voice combinations all express active voice, mapping the external argument to subject and the internal argument to object.

Three "TI" combinations occur with unaccusative stems: *-a'-t-u, -o'-t-u and -i-t-u*. The external argument is introduced by *v*-Animacy (or the *v*-Animacy-Voice combinations in the case of *-o'-t-u*), The Animacy-Voice combinations all express active voice, mapping the external argument to subject and the internal argument to object.

"TA" (transitive with animate object), is expressed only with the Animacy-Voice combination *-l-Ø*.[168] Both unergative and unaccusative stems employ this construction which always expresses active voice. The *v*-Animacy combination introduces an internal argument to unergative stems and an external argument to unaccusative stems. The Animacy-Voice combinations all express active voice, mapping the external argument to subject and the internal argument to object.

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[168] The *-Ø-Ø* construction also is classed "AI" with some stems; e.g., *kwil--Ø-Ø-aq mijua'ji'j* 'I am looking for the child.' We do not illustrate this construction here since it employs the applicative morpheme.

Finally, "AI+O" (also termed paratransitive or pseudo-transitive; intransitive verb morphology, transitive clause) is expressed in Mi'kmaw only by the *-Ø-Ø-eke* *v*-Animacy-Voice combination. This construction yields active voice and only occurs with unaccusative stems. The entire *v*-Animacy-combination introduces the external argument and maps the external argument to subject and the internal argument to object.

Table 52 summarises what our analysis adds. The morphology for each of the Bloomfieldian "stem" types is distinctive.[169] When we consider the grammatical voice of the resulting clause, the contexts in which AI verbs occur becomes clear.[170]

Table 52. Bloomfieldian "stem" types as analysed in our analysis

Bloomfieldian "stem" type	**Grammatical voice**	***v*-Animacy-Voice constructions**
II Intransitive with inanimate subject	active	*-i-Ø-Ø, -ia-Ø-Ø*
AI Intransitive with animate subject	active	*-i-Ø-Ø, -ie-Ø-Ø, -e-Ø-Ø, -a-Ø-Ø*
	passive	*-l-Ø, -Ø-u*
	antipassive	*-t-eke, -l-ue*
TI Transitive with inanimate object	active	*-a-t-m, -a-t-u, -o'-t-m, -Ø-Ø-m* *-a'-t-u, -o'-t-u, -i-t-u*
TA Transitive with animate object	active	*-l-Ø*
AI+O/ paratransitive/ pseudo-transitive Intransitive verb morphology, transitive clause	active	*-Ø-Ø-eke*

[169] One construction only is not distinctive: *-i-Ø-Ø* expresses both II and AI.

[170] Two other Algonquian "stem" classes are not discussed above. These are OTI (transitive verb morphology, intransitive clause) and TA+O (transitive verb morphology, bitransitive clause). These constructions are not illustrated in the thesis since the OTI construction yields a monovalent intransitive construction and the TA+O employs the applicative morpheme. Our larger dataset includes two stems classed as OTI using Algonquian terminology; both employ *-Ø-Ø-m*: *nep-* 'sleep' and *no'q-* 'cough.' We discuss some applicative constructions in Denny et al. (2021).

The “AI” passive and antipassive forms as well as the “TA” forms do not include little *v* as part of their form because they occur with all little *v* morphemes in the study.

7.5.2.6 Morphemes work in concert

One of the interesting aspects of our findings is the fact that categories work in concert. We argue for Mi’kmaw that *v*-Animacy introduces an argument and Animacy-Voice maps the arguments to grammatical roles. In a conference presentation with examples from several Algonquian languages, Déchaine and Weber (2015a) also argue that morphemes work in combination. Their conference handout states, “finals and roots co-determine valency,” “finals and roots co-determine event structure,” and “finals and theme suffixes restrict arguments.” As provocative as those remarks are, they do not expand on this proposal in the proceedings, however (Déchaine and Weber 2015b).

We note in Mi’kmaw that although the *v*-Animacy and Animacy-Voice constructions are each clearly composed of two distinct functional heads, the two morphemes work in concert. Each morpheme is multifunctional and carries individual features as well as those that come only from the construction as a whole.

Our work in this thesis builds significantly on research in Algonquian languages in that it describes the morphological base for the two systems which add arguments to the one associated with the stem and then map those arguments to grammatical roles. Chapter 8 discusses the significance of our findings and implications for future research.

Chapter 8 The fourth spiral. The spiral out

This chapter is the fourth spiral of the thesis – the spiral out from our research to the broader picture of implications to Mi'kmaw, other Algonquian languages, and theory. The results of this thesis show the morphological mechanics in Mi'kmaw behind valence, the number of semantic participants expressed by a verb, grammatical voice, the mapping of the semantic participants onto subject and object roles, and transitivity, the number of core syntactic arguments in a clause. This research demonstrates how the verb signals the relationships between participants in a clause and how the participants are mapped to grammatical roles. In this work we study active voice, passive voice, antipassive voice, and possessor raising as it relates to argument mapping.

We define active as a grammatical voice where the external argument is subject and the internal argument is the object in a bivalent clause. Passive is a voice where the internal argument is the subject and the external argument is unspecified. Antipassive is a voice where the external argument is subject and the internal argument is unspecified. Possessor raising relates to grammatical voice; in passive voice with possessor raising, the possessor argument is subject and the internal argument is object.

The verb stem and three suffixes are involved in these constructions. The thesis also expands upon the basic facts about each of the three categories. Little *v* morphemes provide aspectual and light verb information. They, in combination with Animacy, introduce an external or internal argument, and causativized or transitivized semantics. The Animacy-Voice combination maps external and internal arguments to grammatical subject and object (grammatical voice).

Section 8.1 summarises each chapter in the thesis. Section 8.2 describes the extended verb phrase with little *v*, Animacy, and Voice categories for Mi'kmaw. Section 8.3 talks about how our findings in Mi'kmaw relate to the wider Algonquian literature. Section 8.4 discusses future directions for research as to the discourse role of voice in Mi'kmaw. Section 8.5 concludes.

8.1 Summary of the research

This thesis concerns how the Mi'kmaw verbal morphology signals the relationships between participants in a clause. We notice that the same verb shows different morphology in transitive vs. intransitive clauses and what appears to be different grammatical voice. We also notice that different stems show different morphology even in clauses of the same transitivity or for the same grammatical voice. Table 53 shows some examples (they are unparsed and stems are bolded).

Table 53. Verbal morphology according to stem class and grammatical voice

Grammatical voice	**Stem class**	
	unaccusative ***waqam*- 'clean'**	**unergatve** ***wissukw*- 'cook'**
Active intransitive	***Waqam****eyi.* 'I am clean.'	***Wissukw****ay.* 'I am cooking [#for myself].'
Active transitive with inanimate object	***Waqam****a'tu kutputi.* 'I am cleaning the chair.'	***Wissukw****atm wius.* 'I am cooking meat.'
Active transitive with animate object	***Waqam****a'lɨk l'mu'j.* 'I am cleaning the dog.'	***Wissukw****alk jakej.* 'I am cooking lobster.'
Antipassive	***Waqam****a'tekey.* 'I am cleaning [stuff].'	***Wissukw****atekey.* 'I am cooking [stuff].'
Passive	***Waqam****a'lut l'mu'j.* 'The dog is being cleaned.'	***Wissukw****alut jakej.* 'The lobster is being cooked.'

In Mi'kmaw, as well as in other Algonquian languages, it has been reported that the verbal morphology does not correspond to the syntax. In this thesis we present a system where the verbal morphology does correspond to the syntax. According to our analysis of

bivalent clauses, Mi'kmaw verb stems are classified as to which particular argument is associated with the stem, internal or external. The verb morphology between the stem and inflection adds the other argument and maps both of these arguments to grammatical roles. This system accounts for all our data in a way that previous analyses have not.

Our methodology involves a fresh look at Mi'kmaw with a large corpus of full clauses. The research is within the Indigenist paradigm where I collaborate as a learner with my Mi'kmaw-speaking colleagues in the context of their work building language curriculum for an immersion school. We look at a large number of verb stems. Inglis (1986) studied the morphology of verbs for about 250 Mi'kmaw verb roots. We study 150+ verb stems in full clauses, eliciting sentences with as many different combinations of subjects and objects in the clause as possible so our corpus includes many different combinations of suffixes for each verb stem (1500+ clauses). We focus our study on transitive clauses. We study full clauses and assume that all morphemes have meaning. We also argue for the presence of zero morphemes in some paradigms. In multiple conversations with my colleagues, we determine the distinctive functions of each morpheme through its interactions with other morphemes and how changing one morpheme changes the meaning of the clause or the kind of participants in the clause. We study the interaction of each morpheme with the preceding and following morphemes. Further questions and applications to teaching Mi'kmaw emerge through our discussions. This dissertation presents our findings and conclusions about how these morphemes work together in managing the clause and its participants.

Our analysis employs insights from Minimalist theory, the Mirror Principle, Construction grammar theory, and the bundling hypothesis of Harley (2017). We assume

that stems may be associated with an argument structure. We propose three functional categories intervening between the verb stem and the inflection (little *v*, Animacy agreement, and Voice) in syntactic structures. We argue that verb stems are either unergative or unaccusative, and that different combinations of the functional morphemes introduce the other argument in bivalent clauses. The Animacy-Voice combination maps these arguments to grammatical argument roles to yield grammatical voice. Figure 20 illustrates.

Figure 20. Stem and three functional categories

<table>
<tr><th>stem</th><th>little v</th><th>Animacy</th><th>Voice</th></tr>
<tr><td rowspan="2">unaccusative or unergative</td><td colspan="2">adds argument</td><td>restricts features of the subject and object</td></tr>
<tr><td>aspect, causative</td><td colspan="2">grammatical voice
maps arguments to grammatical positions</td></tr>
</table>

Some argument-adding constructions require the entire *v*-Animacy-Voice combination. We conclude that there are zero morphemes in each category, both because there is no overt morpheme in the morphology in a place where overt morphemes occur in other words and because the proposed zero morpheme fits into a paradigm of function for that category.

We demonstrate our proposal by a step-by-step analysis of the verb stems in the context of full clauses. We make three spirals into the data, learning and demonstrating more at each step before we consider the verb as a whole. Figure 21 illustrates the three spirals.

Figure 21. Three spirals

This investigative model strips off the complexities and focusses the study, then gradually adds some of the complexities a stage at a time.

8.1.1 The first spiral (chapter 3)

Chapter three describes the first spiral of our investigation where we introduce the morphemes in the Mi'kmaw verbal projection and begin to define their functions. The properties of a morpheme are illustrated through contrasting it with others in the same category. We focus the study on 100 of the 150+ verb stems, focusing on simple verb stems consisting of a single morpheme that occur in transitive clauses. On the basis of morphological patterning, semantic properties, and selection, we argue that Mi'kmaw verbal projections contain three functional categories, little *v*, Animacy, and Voice.

We identify 23 morphemes that we propose as little *v* and we focus on five of these (*-a, -a', -i, -o',* and *-Ø*). Little *v* morphemes have aspectual properties and properties associated with a light verb. For example, (2)-(4) differ only in their little *v* morphemes; all of the verbs have the same stem *tel-* 'thus,' the Animacy morpheme *-t*, the Voice

morpheme *-u*, and a 1s subject inflection. Little *v* morphemes and their glosses are bolded in the examples.

1. *Na tel**a’**tu* *[speaker demonstrates]*.
   na tel-**a’**-t-u-Ø
   this thus-*v*-An-Voice-1s
   ‘This is how I **do** it.’ (e.g., math problem or Rubik’s cube)

2. *Na tel**o’**tu.* [speaker demonstrates].
   na tel-**o’**-t-u-Ø
   this thus-*v*-An-Voice-1s
   ‘This is how I **do** it.’ (e.g., braid hair, flute a pie crust)

3. *Na tel**i**tu.* [speaker demonstrates].
   na tel-**i**-t-u-Ø
   this thus-*v*-An-Voice-1s
   ‘This is how I **make** it.’ (e.g., make bread, vase, house, or chair)

When we consider the meaning contrasts, we first observe that little *v* in these contexts specifies the type of event. *-a’* (1) describes doing a single action whereas *-o’* (2) expresses doing multiple actions and *-i* (3) expresses ‘make.’

We identify a closed set of three Animacy agreement morphemes. The Animacy morpheme is involved with animacy of the internal argument. For example, *-t* agrees with the inanimate internal argument *wasuek* ‘flower’ (4a) and *-l* with the animate internal argument *l’mu’j* ‘dog’ (4b).

4. (a) *Kesa**t**m wasuek.*
   kes-a-**t**-m-Ø wasuek
   like-*v*-An-Voice-1s flower(IN)
   ‘I like the flower.’

   (b) *Kesa**l**k l’mu’j.*
   kes-a-**l**-Ø-k l’mu’j
   like-*v*-An-Voice-1s>3s dog(AN)
   ‘I like the dog.’

5. (a) *Pesko’**t**u nusapun.*
   pesk-o’-**t**-u-Ø n-usapun
   pluck-*v*-An-Voice-1s 1sPOSS-hair(IN)
   ‘I am plucking my hair.’

   (b) *Pesko’**l**~~i~~k ki’kli’kwej*.
   pesk-o’-**l**-Ø-k ki’kli’kwej
   pluck-*v*-An-Voice-1s>3s chicken(AN)
   ‘I am plucking a chicken.’

The examples above are transitive clauses where the Animacy morpheme agrees with the internal argument which is the syntactic object. We argue that the Animacy morpheme agrees in animacy with the internal argument (and not the syntactic object) due to the agreement pattern in the passive construction. In the passive construction, the Animacy morpheme agrees with the internal argument which is the subject. In (6), *-l* agrees with the animate subject, *ki'kli'kwej* 'chicken.'

6. *Pesko'**l**ut ki'kli'kwej.*
   pesk-o'-**l**-u-t ki'kli'kwej
   pluck-*v*-An-Voice-3s chicken(AN)
   'The chicken is being plucked.'

-Ø Animacy allows either animate or inanimate internal arguments. (7)-(8) show minimal pairs of two clauses with an inanimate internal argument (object) in (a) and an animate internal argument in (b). The verb forms are identical.

7. (a) *Tewekey kutputi.*
   tew-Ø-**Ø**-eke-y kutputi
   out-*v*-An-Voice-1s chair(IN)
   'I am throwing the chair outside.'

   (b) *Tewekey tu'aqan.*
   tew-Ø-**Ø**-eke-y tu'aqan
   out-*v*-An-Voice-1s ball(AN)
   'I am throwing the ball outside.'

8. (a) *Kesispekey lassiet.*
   kesisp-Ø-**Ø**-eke-y lassiet
   wash-*v*-An-Voice-1s plate(IN)
   'I am going to quickly wash the plate.'

   (b) *Kesispekey mijua'ji'j.*
   kesisp-Ø-**Ø**-eke-y mijua'ji'j
   wash-*v*-An-Voice-1s child(AN)
   'I am going to quickly wash the child.'

Table 54 summarises the properties of the three Animacy morphemes and their agreement with the animacy of the internal argument.

Table 54. Summary of Animacy morphemes

Animacy morpheme	**Animacy of the internal argument**
-t	inanimate
-l	animate
-Ø	compatible with either inanimate or animate

This function of agreement with the animacy of the internal argument is not absolute throughout the grammar, however. All of these exceptional cases involve a wider use of *-t*. While *-t* generally agrees with an inanimate internal argument, it has a broader function in certain contexts that invites further investigation.

We identify five morphemes as elements of the category Voice: *-eke*, *-ue*, *-m*, *-u*, and *-Ø*. (9)-(13) is a five-way near-minimal quintuplet with the stem *kes-* 'like.'[171]

9. *Kesat**eke**y*.
   kes-a-t-**eke**-y
   like-*v*-An-Voice-1s
   'I am having an affair.'

10. *Kesat**m** wasuek.*
    kes-a-t-**m**-Ø wasuek
    like-*v*-An-Voice-1s flower(IN)
    'I like the flower.'

11. *Kesal**u**t mijua'ji'j*.
    kes-a-l-**u**-t mijua'ji'j
    like-*v*-An-Voice-3s child(AN)
    'The child is loved.'

12. *Kesal**ue**y*.
    kes-a-l-**ue**-y
    like-*v*-An-Voice-1s
    'I like [people].'

13. *Kesalk mijua'ji'j*.
    kes-a-l-**Ø**-k mijua'ji'j
    like-*v*-An-Voice-1s>3s child(AN)
    'I like the child.'

These Voice morphemes all function in a similar manner to restrict features of the subject and object and also to select the Animacy morpheme (Table 55).

[171] The idiomatic interpretation of *kesatekey* 'I am having an affair' is far removed from its literal translation which would be something like 'I like [things].'

Table 55. Summary of features of Voice

Voice	Subject	Object	Selects *-t*	Selects *-l*	Selects *-Ø*
-eke	any	3rd person only	*	*	✓
	any	[intransitive only]	✓	*	*
-ue	any	3rd person only	*	✓	*
-m	non 3rd proximate	3rd person only	✓	*	✓
-u	non 3rd proximate	3rd person only	✓	*	*
	3rd proximate	[intransitive only]	*	✓	✓
		3rd person only	✓	*	*
-m-u	3rd proximate	3rd person only	✓	*	✓
-Ø	any	Any person	✓	✓	✓

8.1.2 The second spiral (chapters 4-6)

This spiral looks at the relations between adjacent morphemes. Chapter 4 investigates what we can learn from the stem-little *v* combinations, chapter 5 the little *v*-Animacy combinations, and chapter 6 the Animacy-Voice combinations. Chapter 4 argues that there are two classes of verb stems according to argument structure. Verb stems are either associated with an internal argument or an external argument; that is, verb stems are either unaccusative or unergative. We use diagnostics to determine whether the intransitive stem is unaccusative or unergative. The little *v* morpheme *-a'* selects unaccusative stems and *-a* selects unergative stems. For example, we argue that *ekwij-* 'go into the water' is unaccusative; the bivalent form adds the causer argument. (14a) is a transitive clause and (14b) an intransitive.

14. (a) *Ekwija'tu kutputi.*
ekwij-a'-t-u-Ø kutputi
go.in.water-*v*-An-Voice-1s chair(IN)
'I am putting the chair into the water.'

(b) *Ekwijiaq kutputi.*
ekwij-ia-Ø-Ø-k kutputi
go.in.water-*v*-An-Voice-3sIN chair(IN)
'The chair is going/falling into the water.'

We argue that *wissukw-* 'cook' is unergative and the bivalent form adds the internal argument (15).

15. (b) *Wissukwatm wius.*

wissukw-a-t-m-Ø	wius	
cook-*v*-An-Voice-1s	meat(IN)	
'I am cooking meat.'		

(b) *Wissukway.*

wissukw-a-Ø-Ø-y	
cook-*v*-An-Voice-1s	
'I am cooking [#for myself].'	

-i, -o', and *-Ø* select particular stems that can be either unergative or unaccusative. We assume that it is not little *v* that introduces the argument expressed in the intransitive since different little *v* morphemes are used in the transitive and intransitive clauses with the stem *ekwij-* 'go in the water.' Rather, it is the verb stem that is associated with either an external or internal argument.

In chapter 5 we observe a clear pattern that *-a', -a, -o',* and *-i* plus *-t* or *-l* yield bivalent clauses without exception, while *-a', -a,* and *-i* plus *-Ø* Animacy uniformly yield monovalent clauses. We illustrate bivalent clauses. (16) shows the unaccusative stem *pesk-* 'pluck' selected by *-o'*. (16a) illustrates an active clause with inanimate internal argument; *-t* agrees with that argument. (16b) illustrates the antipassive, again with the Animacy morpheme *-t*. (16c) shows an active clause with an animate internal argument; *-l* agrees with that argument. Finally, (16d) shows a passive clause where the Animacy morpheme *-l* agrees with the animate internal argument.

16. (a) *Pesk**o'tu** nusapun.*

pesk-**o'-t**-u-Ø	n-usapun
pluck-*v*-An-Voice-1s	1s-hair(IN)
'I am plucking my hair.'	

(b) *Pesk**o'te**key.*

pesk-**o'-t**-eke-y	
pluck-*v*-An-Voice-1s	
'I am plucking [a chicken].'	

(c) *Pesk**o'li**k ki'kli'kwej.*

pesk-**o'-l**-Ø-k	ki'kli'kwej
pluck-*v*-An-Voice-1s>3s	chicken(AN)
'I am plucking a chicken.'	

(d) *Pesk**o'lu**t ki'kli'kwej.*

pesk-**o'-l**-u-t	ki'kli'kwej
pluck-*v*-An-Voice-3s	chicken(AN)
'The chicken is being plucked.'	

We use diagnostics to show that intransitive clauses (passive and antipassive voice) are bivalent; the diagnostics demonstrate a patient argument in the antipassive and an agent argument in the passive.

Bivalent clauses also result when *-Ø* Animacy selects *-Ø* little *v*. (17) shows bivalent clauses with inanimate (a) and animate (b) internal argument/objects and the unaccusative stem *tew-* 'out.'

17. (a) *Tewekey kutputi.*
tew-**Ø**-**Ø**-eke-y kutputi
out-*v*-An-Voice-1S chair(IN)
'I am throwing the chair outside.'

(b) *Tewekey l'mu'j.*
tew-**Ø**-**Ø**-eke-y l'mu'j
out-*v*-An-Voice-NS dog(AN)
'I am throwing the dog outside.'

(18) illustrates with the unergative stem *kwil-* 'seek' in active (a) and passive (b) clauses.

18. (a) *Kwilm watjm.*
kwil-**Ø**-**Ø**-m-Ø watj-m
seek-*v*-An-Voice-1s watch(IN)-POSS
'I am looking for my watch.'

(b) *Kwilut mijua'ji'j.*
kwil-**Ø**-**Ø**-u-t mijua'ji'j
seek-*v*-An-Voice-3s child(AN)
'The child is being looked for.'

Table 56 illustrates the combinations as related to valency.

Table 56. Valence of little v-Animacy combinations

Little *v*	***-t***	***-l***	***-Ø***
-a'	bivalent	bivalent	monovalent
-a	bivalent	bivalent	monovalent
-i	bivalent	bivalent	monovalent
-o'	bivalent	bivalent	*
-Ø	*	*	bivalent

The fact that the little *v*-Animacy combination is unrelated to transitivity but is correlated with valence tells us that an argument has been added by the little *v*-Animacy combination and that these arguments are not yet mapped to syntactic roles. The bivalent clauses with the same stem express different grammatical voices – active, passive, and antipassive.

Chapter 6 demonstrates that the Animacy-Voice combination expresses grammatical voice in Mi'kmaw; i.e., how the arguments in the stem and introduced by little *v* and

Animacy are mapped to grammatical roles. The combination of one of the three Animacy morphemes with one of the five Voice morphemes yields without exception a particular grammatical voice. We illustrate active, passive, and antipassive voice. For example, the *-t-eke* combination expresses antipassive voice while *-Ø-eke* expresses active voice (19).

19. (a) *Tewo't**eke**y.*
tew-o'-**t-eke**-y
out-*v*-An-Voice-1s
'I am taking [stuff] out [on credit].'

(b) *Tew**eke**y l'mu'j.*
tew-Ø-**Ø-eke**-y l'mu'j
out-*v*-An-Voice-1s dog(AN)
'I am throwing the dog outside.'

The *-t-u* combination expresses active voice and the *-l-u* combination passive voice (20).

20. (a) *Ekwija'**tu** kutputi.*
ekwij-a'-**t-u**-Ø kutputi
go.in.water-*v*-An-Voice-1s chair(IN)
'I am putting the chair into the water.'

(b) *Ekwija'**lu**t l'mu'j.*
ekwij-a'-**l-u**-t l'mu'j
go.in.water-*v*-An-Voice-3s dog(AN)
'The dog is being put into the water.'

Table 57 summarises the grammatical voice of each Animacy-Voice combination (the combinations *-Ø-ue* and *-Ø-m* are rare in our corpus).

Table 57. Animacy-Voice and grammatical voice

	-eke	***-ue***	***-u***	***-m***	***-Ø***
-t	antipassive	*	passive (3rd prox subject) active (non-3rd prox subject)	active	active
-l	*	antipassive	passive (3rd prox subject)	*	active
-Ø	active	antipassive	passive (3rd prox subject)	active	active

The fact that there are several combinations that indicate each of active, passive, and antipassive and that there are ungrammatical combinations is indicative that more is going on than just grammatical voice with these constructions.

8.1.3 The third spiral (chapter 7)

This third spiral studies the entire stem-*v*-An-Voice combination. The morphemes work together in introducing arguments and mapping them to syntactic roles. These two

constructions work in concert. The argument-building and argument-mapping constructions share the Animacy morpheme and therefore there is some degree of dependency between them. We show that different argument-adding constructions are employed with the two classes of stems (unaccusative or unergative). Figure 22, repeated from above illustrates the two systems. Some constructions require the entire *v*-Animacy-Voice combination to add an argument.

Figure 22. Two overlapping systems

<table>
<tr><th>stem</th><th>little v</th><th>Animacy</th><th>Voice</th></tr>
<tr><td rowspan="2">unaccusative or unergative</td><td colspan="2">adds argument</td><td>restricts features of the subject and object</td></tr>
<tr><td>aspect, causative</td><td colspan="2">grammatical voice
maps arguments to grammatical positions</td></tr>
</table>

For example, the *-a'-t/-a'-l* combinations add a causer to an unaccusative verb stem and the Animacy-Voice combination maps these arguments to grammatical roles. (21a) shows active voice with an inanimate object, (21b) expresses active with an animate object, (21c) expresses antipassive with *-eke* and (21d) is passive.

21. (a) *Waqam**a'**t**u kutputi.*
waqam-**a'**-**t**-u-Ø kutputi
clean-*v*-An-Voice-1s chair(IN)
'I am cleaning the chair.'

(b) *Waqam**a'**l**ik mijua'ji'j*.
waqam-**a'**-**l**-Ø-k mijua'ji'j
clean-*v*-An-Voice-1s>3s child(AN)
'I am cleaning the child.'

(c) *Waqam**a'**t**ekey*.
waqam-**a'**-**t**-eke-y
clean-*v*-An-Voice-1s
'I am cleaning up.'

(d) *Waqam**a'**l**ut mijua'ji'j.*
waqam-**a'**-**l**-u-t mijua'ji'j
clean-*v*-An-Voice-3s child(AN)
'The child is being cleaned.'

The patterns by which active, passive, and antipassive constructions map the arguments to syntactic roles are canonical. For active voice, the external argument is mapped to subject position and the internal argument is mapped to object position; for antipassive voice, the external argument is mapped to subject position and the internal

argument is unspecified; and for passive voice, the internal argument is mapped to subject position and the external argument is unspecified.

The *-a-t/-a-l* combinations add an internal argument to an unergative verb stem and the Animacy-Voice combination maps these arguments to grammatical roles. (22a) shows active voice with an inanimate object, (22b) expresses active with an animate object, (22c) expresses antipassive with *-eke* and (22d) is passive.

22. (a) *Wissukw**at**m wius.*

wissukw-**a-t**-m-Ø	wius
cook-*v*-An-Voice-1s	meat(IN)
'I am cooking meat.'	

(b) *Wissukw**al**k jakej.*

wissukw-**a-l**-Ø-k	jakej
cook-*v*-An-Voice-1s>3s	lobster(AN)
'I am cooking lobster.'	

(c) *Wissukw**at**ekey.*

wissukw-**a-t**-eke-y
cook-*v*-An-Voice-1s
'I am cooking.'

(d) *Wissukw**al**ut jakej.*

wissukw-**a-l**-u-t	jakej
cook-*v*-An-Voice-3s	lobster(AN)
'The lobster is being cooked.'	

In conclusion, the results of this thesis show the morphological mechanics in Mi'kmaw behind transitivity, valence, and grammatical voice. This treatment of how semantic participants are mapped to syntactic arguments presents a system that has not been previously observed in Mi'kmaw or in other Algonquian languages.

The next sections discuss some specific implications. Section 8.2 discusses Mi'kmaw as an example of Harley's (2017) proposal that different languages may express the features of little *v* and Voice in different ways. Section 8.3 considers how our work in Mi'kmaw potentially furthers our understanding in other Algonquian languages. Section 8.4 examines the discourse role of our findings regarding grammatical voice.

8.2 The extended verb phrase with little *v*, Animacy, and Voice categories

Harley (2017), with data from nine typologically and genetically diverse languages, argues that the features of *v* and Voice can be bundled or carried by separate categories in different ways in different languages. Our work is illustrative of her conclusions and a good place for much rich theoretical future study. This section discusses how the features of *v* and Voice are bundled or carried by separate categories in Mi'kmaw. We first discuss the verb stem and the associated argument structure (section 8.2.1).The features of each category in the extended verb phrase are examined in sections 8.2.2 (little *v*), 8.2.3 (Animacy agreement) and 8.2.4 (Voice). Section 8.2.5 discusses the entire structure.

8.2.1 Verb stem classes

Our diagnostics in Chapter 4 demonstrate that verb stems in Mi'kmaw are classified according to unaccusativity; stems are unaccusative or unergative. In line with findings from other languages, we predict the existence of stems which are not associated with either argument, as well as other stems which are associated with both arguments. Our study excludes weather verbs; future study can investigate whether these stems occur in bivalent clauses. Our study also excludes complex verb stems, some of which are formed from fully conjugated verbs (see section 2.4.3). We propose that some of these stems are associated with both an internal and an external argument (i.e., possibly, three-place predicates like 'give' or 'put').[172]

[172] For example, the stem *iknm-* 'give' could be derived from *ik-n-m* since *ik-* is the stem 'put' / 'place,' *-n* could be the little *v* morpheme 'by hand' (see section 3.1.2.8), and *-m* could be a Voice morpheme (see section 3.3). We propose that this stem is associated with both external and internal arguments. It occurs in active, passive,

8.2.2 Little *v*

We define little *v* in Mi'kmaw as a grammatical category that selects the verb stem. In bivalent clauses, little v selects the verb stem according to unaccusativity. Little *v* also has aspectual features, for example, pluractional (sections 7.2.2 and 7.3.2). In combination with Animacy, little *v* is involved with causativized or transitivized semantics and the introduction of an internal argument, external argument, or causer (section 7.2). The little *v* morpheme *-a* is associated only with introduction of the internal argument and the morpheme *-a'* only associated with introduction of an external causer argument. The other little *v* morphemes in the study may introduce either an internal or external argument depending on the particular grammatical voice construction involved. Much future study of little *v* in Mi'kmaw is needed since we have only investigated five morphemes and there are many more potential members of this category (section 3.1.2.8).

Future work can investigate little *v* in intransitive clauses in terms of aspect and selection of verb stem. Preliminary observations indicate that in intransitive clauses, *-a* occurs in clauses that express events and attributes, *-a'* occurs with achievements, *-i* occurs with stative (subject is in a state represented by the verb stem), and *-ie* occurs with inchoative (subject is in process of undergoing the event expressed by the verb stem).

8.2.3 Animacy

We recognise a closed set of three Animacy morphemes in Mi'kmaw. The Animacy category works in combination with little *v* to yield causativised or transitivized

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and antipassive construction and never occurs in intransitive clauses. Other complex verb stems may be associated with just one argument. For example, section 4.8 discusses that the stem *waju'pek-* 'fill' is built from the conjugated *waju'p-eyi-k* 'it is full.' We propose that this stem is associated with only the internal argument. This stem is compatible with the *-a'-t/-a'-l* construction which adds the external causer argument.

constructions and to introduce arguments. Animacy also works in combination with Voice to map these arguments to grammatical roles, yielding grammatical voice.

-Ø Animacy patterns very differently than *-t/-l*. Although one might reason that verbs with *-Ø* Animacy actually have a different structure with no Animacy category, we argue that since grammatical voice is a property of all verbs and in Mi'kmaw, grammatical voice is expressed through the Animacy-Voice combination, the Animacy category is a necessary category for all verbs.

8.2.4 Voice

Voice restricts person and animacy features of the subject and object. Its functions in argument structure are only demonstrable in combination with Animacy. By selecting Animacy, Voice maps internal and external arguments to grammatical roles (grammatical voice).

Future study can investigate other potential morphemes which may involve category Voice, for example, the passive/inverse morpheme *-uksi*, reflexive morphemes involving *-si* (cf. McCulloch 2013), and noun incorporation with the morpheme *-e'ke* (cf. Manyakina 2015).

8.2.5 Structure

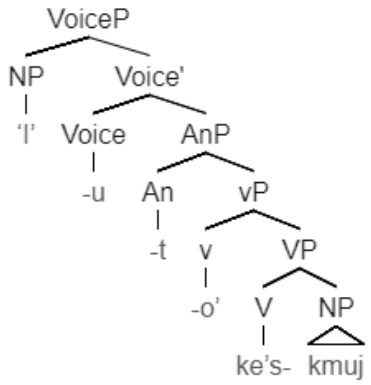
Figure 23 shows the structure we propose. It illustrates (23) which has a stem with an internal argument.

23. *Ke'so'tu kmu'j.*

ke's-o'-t-u-Ø	*kmu'j*
put.in.fire-*v*-An-Voice-1s	wood(IN)

'I am putting wood into the fire.'

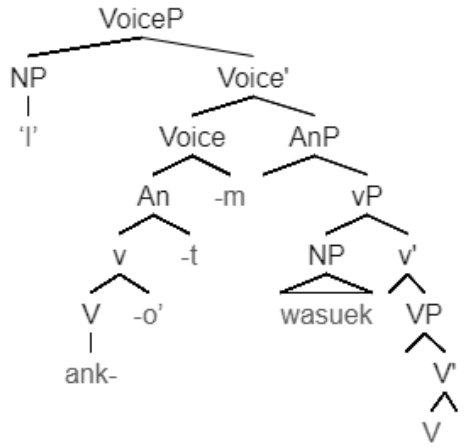
Figure 23. Proposed structure of (23)



The verb word is derived by head movement. We show the structure after movement for a clause with an unergative verb stem. Figure 24 illustrates (24). We assume that all bivalent clauses are alike in sharing this structure.

24. *Anko'tm wasuek.*
ank-o'-t-m-Ø wasuek
care-*v*-An-Voice-1s flower(IN)
'I am taking care of the flower.'

Figure 24. Proposed structure of (24)



We find compelling Massam's (2009) and Tollan's (2018) arguments that unergative subjects are merged in *v* and transitive subjects in Voice, as reflected in our structures here.

One of the keys that enables us to see the mechanics of adding arguments and grammatical voice is that we realise that these morphemes function in combination, not independently. We propose that little *v*, Animacy, and Voice are not *by themselves* markers of transitivity or *on their own* match the animacy of the internal argument or indicate grammatical voice. Rather, the transitivity of the clause, the animacy and person features of its arguments, and the grammatical voice of the clause are all determined by the *v*-Animacy-Voice combination. We also note a dependency between Voice and *v* (see especially chapter 7). Minimalist theory without insights from construction theory considers each successive layer independently from the categories on either side with each successive layer added through the selection process. We find that this assumption would have masked a viable interpretation of our results. We find that constructions as opposed to single morphemes are responsible for such phenomena as the causative, passive, antipassive and that little-*v* plus Animacy plus Voice work together to match the animacy of the internal argument, mark transitivity and grammatical voice.[173] These are illustrated in Figure 25.

Figure 25. Two independent processes share a morpheme

v	**Animacy**	**Voice**
argument introduced		
	grammatical voice	

[173] We also hypothesise that the *v*-Animacy combination is responsible for situational aspect but leave the study to future research.

Some constructions require the entire *v*-Animacy-Voice combination to add an argument. We demonstrate in this thesis that the *v*-Animacy-Voice combination introduces agentive or causative semantics. This is one of the functions that Harley (2017) argues are assigned to little *v* plus Voice. Future studies can investigate whether other functions are managed by the three categories in Mi'kmaw. These are checking accusative case, serving as a verbalizer, introducing an initiating subevent, and delimiting a cyclic domain.

Others have proposed that intransitives in Algonquian languages have different (less) structure, than transitives, e.g., Hirose (2001) and Tollan and Oxford (2018). Chapter 6 demonstrates that the Animacy-Voice combination indicates grammatical voice; since unaccusatives and unergatives do express grammatical voice, we argue that these verbs must therefore contain the categories that express grammatical voice. In Mi'kmaw, the *-Ø-Ø* Animacy-Voice combination uniformly expresses active voice. We conclude that little *v*, Animacy, and Voice categories are required in all Mi'kmaw verbs.

8.3 Relating our work to the study of other Algonquian languages

In this section we situate our analysis in the broader Algonquian literature, in this context recapitulating the systematic way Mi'kmaw verbs function with respect to their participants. In the summary of each chapter of the thesis we compare specifics about the discoveries in the chapter to the broader Algonquian literature. Here we look at our findings as a whole. Our analysis of the Mi'kmaw verb stem differs from that in the broader Algonquian literature and our analysis results in insights and conclusions for Mi'kmaw that go beyond what previous work on Algonquian languages has achieved.

Section 8.3.1 notes the specific differences between our analysis and that presented in the broader Algonquian literature. Section 8.3.2 states our discoveries in terms of how they challenge or affirm the current picture for other Algonquian languages. Future research can extend our findings to those in other Algonquian languages, since the grammar of the verb in these languages is remarkably similar across the language family.

8.3.1 Our analysis as compared with the broader Algonquian literature

In this section we discuss specific differences between our analysis and that found in other Algonquian literature. This section is intended as a guide for an Algonquianist who might be interested in investigating how our analysis might work in another Algonquian language. We outline five key differences in analysis, all illustrated in Figure 26 (adapted from our work in Sylliboy et al. 2020). Our analysis of the Mi'kmaw verb is non-bolded and the common Algonquian analysis is bolded.

Figure 26. Comparing our analysis with established Algonquian analysis

<table>
<tr><td colspan="4">Stem (II, AI, TI, TA)</td><td>Inflection</td></tr>
<tr><td rowspan="2">Root/ initial</td><td colspan="3" rowspan="2">Finals (II, AI, TI, TA)
(Little v)</td><td colspan="2">Theme sign
(Voice)</td></tr>
<tr><td>TI theme sign</td><td>TA theme sign</td></tr>
<tr><td rowspan="3">Stem

(unaccusative or unergative)</td><td>Little v</td><td colspan="2">Animacy agreement</td><td>Voice</td><td rowspan="3">Inflection</td></tr>
<tr><td colspan="2">Causative/ transitive
Argument adding</td><td>Subject and object restrictions</td></tr>
<tr><td>aspect</td><td colspan="2">Grammatical voice
Argument mapping</td></tr>
</table>

First, a difference in terminology: the "verb stem" as we define it is called "root" or "initial" using Algonquian terms. We consider that this morpheme is a stem since we can demonstrate that it already is associated with an argument (see section 2.4.3 and Chapter

4). Verbs are classed by the argument associated with the stem and this is a fundamental feature of the verb.

Second, we consider that an Algonquian "final" actually is made up of two morphemes: little *v* and Animacy agreement (see Chapter 3). This parsing is necessary because the Animacy morpheme functions in an argument-building construction in combination with little *v* and also in an argument-mapping construction in combination with Voice (see Chapter 5 and Chapter 6, respectively). Since the Animacy category is shared by both argument-building and argument-mapping systems in Mi'kmaw, the adoption of this morpheme as a distinct category is key to understanding the Mi'kmaw verb.

Third, some *v*-Animacy combinations add an internal argument to an unergative verb stem; other *v*-Animacy combinations add an external argument to an unaccusative verb stem (see Chapter 7).

Fourth, we consider only "TI theme signs" as Voice (see section 3.3). The Animacy-Voice combination maps the arguments to grammatical roles to yield grammatical voice; passive and antipassive voice are accomplished through a construction and not a single morpheme.

Fifth, we consider that Mi'kmaw verb structure involves an extended verb phrase including the verb stem and functional categories little *v*, Animacy, Voice (see sections 3.4 and 8.2). These three categories are present in all Mi'kmaw verbs. We note that the applicative morpheme is a distinct category beyond the scope of our analysis.

Are we simply redefining morphemes? We don't think so, because using this analysis, we can demonstrate how Mi'kmaw verbs are classified, how arguments are

added and then how they are mapped to grammatical roles. To our knowledge, this is the first time that such an internally coherent system of argument building and mapping has been demonstrated in an Algonquian language.

8.3.2 The significance of our findings to Algonquian languages

We expect that our analysis will be of benefit to researchers in other Algonquian languages because of the similarities in grammar within the family.

First, the system of classifying verb stems in Mi'kmaw depends on unaccusativity. Defining verb class in Mi'kmaw in this manner is of fundamental importance since all suffixes including "finals," "theme signs," and imperative inflections, as well as the particular grammatical voice constructions employed in Mi'kmaw are affected by which argument is associated with the stem. Our analysis presents a system that has not been previously observed in Mi'kmaw or in other Algonquian languages. This system replaces the system of "finals" and "theme signs" introduced by Bloomfield (1946), and replaces Bloomfield's system for classifying verbs (AI, II, TA, TI, etc.). We expect that using our system of stem classification to replace the Bloomfieldian system will result in the discovery of patterns that will prove useful in further analysis of other Algonquian languages.

The argument-building system is systematically accomplished in Mi'kmaw by the *v*-Animacy combination. We find that the valence of all clauses in our Mi'kmaw corpus is derivable through the argument associated with the verb stem in combination with *v*-Animacy. Particular *v*-Animacy combinations add particular arguments to stems associated with the other argument. We expect that some variation of this system works throughout the language family.

The argument-mapping system of grammatical voice in Mi'kmaw is systematically accomplished through the Animacy-Voice combination. Algonquian literature reports mismatches between the valence of the root/initial plus final and the transitivity of the clause; we expect that applying some variation of our analysis of the system in Mi'kmaw will enable researchers in other Algonquian languages to connect the valence expressed by the verb morphology to the transitivity of the clause.

In bivalent clauses, three suffixes that follow the verb stem, called little *v*, Animacy agreement, and Voice, introduce the other participant in the clause and map the participants to grammatical subject and object or render them unspecified. This system presents a fresh analysis of the Mi'kmaw verb which describes the grammatical patterns in a way that previous analyses could not. To our knowledge, these two systems of building the argument structure and mapping the participants to grammatical roles have never been demonstrated in an Algonquian language.

8.4 The discourse role of grammatical voice

Grammatical voice is involved with pragmatic status or salience (Klaiman 1991). Foregrounding and backgrounding of participants in Algonquian languages is also discussed in terms of obviation and the direct/inverse system and is discussed below.

Grammatical voice can be used to background or foreground the agent or the patient with respect to one another (Gerdts 2011). Mi'kmaw has distinctive verbal morphology for active, passive, and antipassive voice and possessor raising. A Mi'kmaw speaker has an incredible variety of forms to use to foreground or background different participants. Through employing different voice constructions, a Mi'kmaw speaker can make agent and patient arguments explicit or leave one of them unspecified. It can be assumed that

voice is always a discourse-pragmatic option (Payne and Barshi 1999:23). Hopper and Thompson (1980:295) notes, “a fully coherent theory of language must begin at (and not merely include) the level of discourse MOTIVATION for individual sentences” (emphasis theirs). For example, section 6.5.2 noted that a speaker will use the transitive passive in possessor raising when the possessor of the object is a key participant in the discourse.

Future research could study texts to investigate how passive and antipassive are involved in promoting or backgrounding participants. For example, Thompson (1994) argues that passives in Dene languages are about suppression of the agent only and not about promotion of the patient. In Mi’kmaw, preliminary studies indicate that passives occur in cases where the speaker doesn’t know who performed the event or it isn’t important in the story.

For example, Susan Barss’s Mi’kmaw narrative from 1847 translated by Elizabeth Paul (Paul et al. 2007:68-81) is a story of a young man who has an adventure finding a wife. In this story, a passive is used where two men show up in the story and someone gives them each a glass of water. The *-l-u* passive construction is employed in this clause (25). The orthography and gloss lines are from Paul et al. (2007:77-79) and the interlinear and analysis is ours.

25. *Kla’sk tapusijik ne’alujik waju’pejik samqwan.*

kla’s-k	tapus-i-Ø-Ø-jik	ne’-a-l-u-jik
glass-P	two-*v*-An-Voice-3P	appear-*v*-An-Voice -3P

waju’p-e-Ø-Ø-jik	sam’qwan
full-*v*-An-Voice -3P	water(IN)

‘Two glasses filled with water are taken out.’ Adapted from Paul et al. (2007:77-79)

The use of the passive *ne'alujik* 'they are taken out' (with unspecified actor) indicates that the identity of who gave the water is not important to the story. Kibrik (1996:266) argues that, "the major function of passive is simply to remove the Actor referent from the situation." Zúñiga and Kittilä (2019) discuss discourse motivations for passives. They note that in some cases, passives promote the patient-like argument and demote the agent-like argument.

Likewise, for antipassives, Shibatani (1988:5) says, "A typical consequence of antipassivization is the promotion of an agent to the most grammatically prominent constituent." In contrast, Cooreman (1994:67) argues that antipassives function in backgrounding the patient, either because the patient doesn't need to be identified in the context or due to the the low degree of importance of the information to the discourse development. Later, she adds, "since it is the activity itself which is more important, the identification of the o[bject] is marginal for the purpose of the discourse and is relegated to the background" (Cooreman 1994:69). Backgrounding or foregrounding corresponds to communicative needs. Our preliminary studies in Mi'kmaw indicate that antipassives can be used in cases where the internal argument is not of interest in the story. For example, the story 'Dancing with the devil' as told by Arlene Stevens (Stevens 1986) contains a clause with the *-t-eke* antipassive in the introduction. It is the story of a young girl who wants to go to a dance. She is not allowed, but she goes anyway. Then she has to face the consequences. The clause is shown in (26). Only verbs with *-t-eke* are parsed.

26. *Msɨt koqoey tela'teket ta'n telimut.*

msit	koqoey	tel-a'-t-eke-t	ta'n	telimut
all	what	thus-*v*-An-Voice-3s	as/what	s/he.is.told

'She did all that she was told to do.'

The *-t-eke* antipassive occurs in a situation where the internal argument, 'what she did' in (26) would be providing unneccessary details, should they be made explicit.

Constructions where the possessor is raised to become a participant in the sentence are found where the possessor is an important participant in the story. For example, we find the possessor passive *welo'tmut wla wtul* 'they took good care of it for him, that boat' in a story by the late Gabriel Sylliboy that is transcribed and translated in DeBlois (1991:30+). Gabriel describes how English sailors picked up a Mi'kmaw man who was lost at sea and took him to England for the winter. They next spring, they took him back to a point off Cape Breton Island and he launched his canoe from the ship. Gabriel uses a possessor passive when he describes how the sailors took care of the man and his boat (27).[174]

27. *Welo'ta'it ji'nm aqq wtul welo'tmut wla wtul.*

wel-o'-t-asi-t	ji'nm	aqq	w-tul
good-*v*-An-ASI-3s	man	and	3sPOSS-vehicle
wel-o'-t-m-u-t		*wla*	*w-tul*
good-*v*-An-Voice-Voice-3s		DEM	3sPOSS-vehicle

'The man was well taken care of and his boat, they took good care of it for him, that boat.'

The use of the passive with possessor raising, *welo'tmut* 'they took good care of it for him' is literally 'they took good care of him his boat.' The use of the possessor raising construction suggests that taking care of the man through caring for his boat is the event most important in the discourse.

[174] The verb *welo'ta'it* 'he is well taken care of' is a contraction of the reflexive *welo'tasit* and beyond the scope of the thesis; we don't parse it.

Later in the story, the man sets off in his canoe to find his family, not knowing exactly where they would be. In the end, he arrived at a dock and he recognised his father's boat (28).

28. *Nenmwaj wujjl wtul.*

nen-Ø-Ø-m-w-aj	w-ujj-l	w-tul.
know-*v*-An-Voice-Appl-3s>3s	3sPOSS-father-Ob	3sPOSS-vehicle

'He recognised his father's boat.'

The fact that he saw a boat was not as significant in the story as that it *belonged to his father*. My colleagues tell me that using this possessor raising construction made it clear that the man had arrived *home*.

Discourse prominence means that "a prominent entity "stands out" in a certain context. It is at times used interchangeably with the terms "salience", "accessibility", "attention" and "activation" in the literature on discourse-pragmatics" (von Heusinger and Schumacher 2019: 118). Table 58 describes how different Mi'kmaw constuctions indicate the internal and external arguments in the morphology and clause. We list the constructions, beginning with constructions where the external argument is most explicit in the clause to those where the internal argument is most explicit.

Table 58. Morphological indication of arguments in different constructions

Construction	**Subject and object roles and morphology indicating external and internal arguments**
Unergative *-a-Ø-Ø* or *-e-Ø-Ø*	external argument is subject; clause is monovalent
Antipassive *-t-eke*	external argument is subject; unspecified internal argument: morphology for internal argument but no internal argument in clause
Antipassive *-l-ue*	external argument is subject; unspecified human internal argument: morphology for internal argument but no internal argument in clause
Active	external argument is subject and internal argument is object
Active with unspecified subject inflection *-mk*	unspecified external argument is subject (identified by morphology); internal argument is object
Passive *-l-u*	internal argument is subject; unspecified external argument: morphology for external argument but no external argument in clause
Unaccusative *-i, -ie, -eyi*	internal argument is subject; clause is monovalent

We anticipate that further study into the discourse role of grammatical voice in Mi'kmaw will show different levels in discourse prominence of the arguments. The external argument is never completely absent from the morphology except in unaccusatives where there is no external argument. We also note that not every stem has every option. Significantly, only three unergative stems in our corpus are grammatical with antipassive constructions whereas antipassive constructions are grammatical with most unaccusative stems.

A corresponding table could also be constructed for morphological indication of the possessor argument, anticipating how the morphological indication relates to the discourse prominence.

How the grammatical voice system we have described here relates to the direct/inverse and obviation systems in Mi'kmaw is a subject for future study since all three systems are involved in foregrounding and backgrounding in Algonquian and other

languages. Bliss (2017) reviews obviation in Algonquian, Manyakina 2012 studies obviation in Mi'kmaw. Thompson (1994) argues that passives in Dene languages concern suppression of the agent and inverses are about promotion of the non-agent. Zúñiga (2006) reviews inverse (see also Klaiman 1992). Inverse systems are related to grammatical voice (cf. Givón 1994). Bruening (2001), for example, describes the direct/inverse in Passamaquoddy as grammatical voice. Plains Cree is reported as having direct, inverse, and passive (Dahlstrom 2014). There is ongoing discussion concerning whether the inverse is a type of passive; Dahlstrom defends the passive analysis.

It is likely that aspect plays a great role in the the choices speakers make in discourse. Future work will study the aspectual features of different verb classes and different grammatical voice.

8.5 Conclusions

I believe there is a place for unwinding the beautiful complexity of Mi'kmaw verbs and clauses and teaching both speakers and learners the mechanics of how the Mi'kmaw language expresses the relationship between participants in a sentence. Some of my Mi'kmaw colleagues and I are currently making language resources that teach some of these concepts. Our research group shared some of the things we learned with Mi'kmaw Elders and language-keepers. When I shared with Marjorie Johnson (p.c. 2020), a Mi'kmaw Elder who is a resource person at the Eskasoni immersion school, she remarked,

> I don't think my ancestors ever looked into it as closely as you've been doing, … Today a lot of kids are saying, "What?" Because they don't understand. But to go back in the day, that's amazing, and interesting … My future son-in-law is

> looking at it at your point of view. He's learning how to speak Mi'kmaw, and when we give him a word, he'll think about it. And he digs down to it. He wants to know why we're calling it that. And he's really into it.

I end my thesis with hopes. I believe that this methodology is key to making these discoveries; I hope that more researchers follow it. I hope that this method of understanding verbs means something to teachers and language keepers such that it can benefit teaching to more people and understanding for speakers. I hope that it will apply to other Algonquian languages. I hope that the questions it raises will inspire further research and discovery. I hope that the process has taken everyone involved to a different and better place, that we have learned something, and that it has changed us.

When my Mi'kmaw colleagues and I presented our findings to the Mi'kmaw Educational Advisory Board, Reflecting on the complexity of Mi'kmaw verbs, I said, "It's so complicated. Who knew that speakers have all these endings right here [pointing to brain] and right ready to come out?" Jane Meader, an esteemed Mi'kmaw Elder, (p.c. 2020) replied, "We knew."

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Appendices

Appendix A. Inflection and applicative

Inflection and applicative, as functional structures above the Mi'kmaw extended verb phrase, are not a focus of this study. As a result of recognising the stem-*v*-An-Voice-inflection structure to the Mi'kmaw verb, we discover that the inflectional system is much more systematic than it has been presented. We present inflectional patterns here because their analysis influences the way we represent the inflections in all the glossing in the thesis.

Francis and Hewson (2016) show Pacifique's analysis with seven conjugations. These are shown in Table 59 with an example.

Table 59. Pacifique's seven conjugations

Conjugation number	**Conjugation name**	**Example**
1	intransitive in *-i*	*teluisi* 'my name is'
2	intransitive in *-ay*	*alasutmay* 'I pray.'
3	intransitive in *-ey*	*ewi'kikey* 'I pray.'
4	active inanimate in *-m*	*nestm* 'I understand.'
5	active inanimate in *-u*	*mena'tu* 'I remove.'
6	TA verbs	*nemi'k* 'I see him/her.'
7	two goal TA verbs	*kisitaq* 'I make for him/her.'

Each of the seven conjugations has its own paradigms for what are called 'tenses' (present, past, and future) in indicative, negative, or imperative moods and in 'conjunct' with 'when' / 'if' conditional conjunctions, as well as the subordinative.

If we consider the inflection as only the morpheme(s) after the Voice or applicative morpheme, there are basically only two inflections: subject inflections (which occur for Pacifique's first five conjugations) and subject plus object (S+O) inflections (which occur for Pacifique's sixth and seventh conjugations), with some regular variations (see below).

This view is reflected in how the Mi'kmaw immersion curriculum now presents Mi'kmaw verbs (Sylliboy in press).

Subject-only inflections

Pacifique's first five conjugations from Francis and Hewson (2016) all have subject-only inflections according to our analysis of the Mi'kmaw verb. The five stems chosen to illustrate each of Pacifique's conjugations are shown in full clauses in Table 60.

Table 60. Verb stems used to illustrate the Pacifique conjugations

Pacifique conjugation	**Stem**	**Example**
1 intransitive in *-i*	*teluis-* 'thus named'	*Pie'l teluisi.* Pie'l teluis-i-Ø-Ø-Ø. Peter thus.name-*v*-An-Voice-1s 'My name is Peter.'
2 intransitive in *-ay*	*nep-* 'sleep'	*Nepay.* nep-a-Ø-Ø-y nep-*v*-An-Voice-1s 'I am sleeping.'
3 intransitive in *-ey*	*elukw-* 'work'	*Malsano'kuomk elukwey.* malsano'kuom-k elukw-e-Ø-Ø-y store-LOC work-*v*-An-Voice-1s 'I work at the store.'
4 active inanimate in *-m*	*nes-* 'understand'	*Nestm L'nu-iktuk.* nes-Ø-t-m-Ø L'nu-iktuk. understand-*v*-An-Voice-1s native-LOC 'I understand Mi'kmaw.'
5 active inanimate in *-u*	*nemi-* 'see'	*Nemitu kutputi.* nemi-i-t-u-Ø kutputi. see-*v*-An-Voice-1s chair 'I see the chair.'

For conjugations 1, 4, and 5, the 1s inflection is *-Ø* where conjugations 2 and 3 have *-y*. We reason that the reason is phonological: we assume that the 1s inflection is *-Ø* and the syllable must have a coda (the same [y] coda would be found in inflection 1 as well). We conclude that these five conjugations display the same 1s inflection.

We now demonstrate that this pattern of subject inflection extends throughout the whole paradigm for present indicative for the five conjugations. Table 61 shows the present indicative conjugations adapted from Sylliboy et al. (in press). These are subject-only inflections which are identical for each of Pacifique's first five conjugations. Pacifique calls the first three conjugations 'intransitive.' Conjugations four and five, called 'active inanimate,' are called 'transitive with inanimate objects'; according to our analysis, these also have subject only inflections. These 'transitive' inflections only indicate the subject since inanimate singular objects are not indicated by the inflection.[175] The inflections are bolded and highlighted. Pacifique's classification for each of his conjugations is the last letter preceding the inflection; a morpheme we classify as little *v* (*-i, -a, -e*) or Voice (*-m, -u*). The *v*-Animacy-Voice morphemes are in red letters. We show our analysis underneath the header naming Pacifique's conjugation.

[175] This fact is also noted in other Algonquian languages. Wolfart (1973:39) observes, "the transitive inanimate (TI) paradigm, while clearly transitive in derivation, syntax, and meaning, in Cree shows no suffixes for the goal at all." See also Lochbihler (2012:77) for Ojibwe.

Table 61. Subject only inflections for Pacifique's first five conjugations

	Conjugation				
	Pacifique conjugation 1 intransitive in *-i*	**Pacifique conjugation 2** intransitive in *-a*	**Pacifique conjugation 3** intransitive in *-e*	**Pacifique conjugation 4** active inanimate in *-m*	**Pacifique conjugation 5** active inanimate in *-u*
Subject	**Little *v* = -i**	**Little *v* = -*a***	**Little *v* = -*e***	**Voice = -*m***	***v*-An-Voice = -i-t-*u***
unspecified	teluisi**mk** 'thus one is named'	nepa**mk** 'one is asleep'	elukwe**mk** 'one is working'	nest**mk** 'one understands it'	nemitu**mk** 'one sees it'
1s	teluisi 'thus I am named'	nepa**y** 'I am sleeping'	elukwe**y** 'I am working'	nestm 'I understand it'	nemitu 'I see it'
2s	teluisi**n** 'thus you are named'	nepa**n** 'You are sleeping'	elukwe**n** You are working'	nestm**n** You understand it'	nemitu**'n** You see it'
3s	teluisi**t** 'thus s/he is named'	nepa**t** 'S/he is sleeping'	elukwe**t** 'S/he is working'	nest**ɨk** 'S/he understands it'	nemi**toq** 'S/he sees it'
OB s	teluisi**litl** 'thus s/he OB is named'	nepa**litl** 'S/he OB is sleeping	elukwe**litl** 'S/he OB is working'	nestm**litl/lij** 'S/he OB understands it'	nemitu**lij** 'S/he OB sees it'
IN s	teluisi**k** 'thus it is named'	amalka**q** 'It is dancing'	elukwe**k** 'It is working'	*	*
1p incl	teluisi**'kw** 'thus we (incl) iare named'	nepa**yk** 'we (incl) are sleeping'	elukwe**yk** 'we (incl) are working'	nestm**u'kw** 'we (incl) understand it'	nemitu**'kw** 'we (incl) see it'
1p excl	teluisi**ek** 'thus we (excl) are named	nepa**yek** 'we (excl) are sleeping'	elukwe**yek** 'we (excl) are working'	nestm**ek** 'we (excl) understand it'	nemitu**ek** 'we (excl) see it'
2p	teluisi**oq** 'thus you are named'	nepa**yoq** 'you are sleeping'	elukwe**yoq** 'you are working'	nestm**oq** 'you understand it'	nemitu**oq** 'you see it'
3p	teluisi**jik** 'thus they are named'	nepa**jik** 'they are sleeping'	elukwe**jik** 'they are working'	nestm**i'tij** 'they understand it'	nemitu**'tij** 'they see it'
OB p	teluisi**liji** 'thus they OB are named'	nepa**liji** 'they OB are sleeping'	elukwe**liji** 'they OB are working	nestm**liji** 'they OB understand it'	nemitu**'tij** 'they OB see it'
IN p	teluisi**kl** 'thus they IN are named'	amalka**ql** 'they IN are dancing'	elukwe**kl** 'they IN are working'	*	*

When little *v*, Animacy, and Voice morphemes are not considered part of the inflection, one can see that the non-third-person proximate inflections all agree with the subject. Third-person proximate subjects with *-m* or *-u* Voice (conjugations 4 and 5) have unique inflections, namely, *-k/-oq* rather than *-t* as seen in conjugations 1-3. There are also a few phonological changes. For example, *k* becomes *q* [χ] after the low vowels *a* and *o*. Also, *y* is inserted between two vowels to eliminate a hiatus in some cases. There is vowel lengthening in some final syllables (see section 2.5).

Plural objects in the transitive conjugations carry regular inflectional endings (not shown here).

Mi'kmaw has an unspecified subject inflection *-mk*, shown in (1b) with an inanimate object and in (1d) with an animate object. This unspecified subject inflection has a passive-like translation.

1. (a) *Tewekey kutputi.*
   tew-Ø-Ø-eke-y kutputi
   out-*v*-An-Voice-1S chair(IN)
   'I am throwing the chair outside.'

   (b) *Tewekemk kutputi.*
   tew-Ø-Ø-eke-**mk** kutputi
   out-*v*-An-Voice-US chair(IN)
   'The chair is being thrown outside.'

   (c) *Tewekey l'mu'j.*
   tew-Ø-Ø-eke-y l'mu'j
   out-*v*-An-Voice-1S dog(AN)
   'I am throwing the dog outside.'

   (d) *Tewekemk l'mu'j.*
   tew-Ø-Ø-eke-**mk** l'mu'j
   out-*v*-An-Voice-US dog(AN)
   'The dog is being thrown outside.'

The unspecified subject inflected verb represents a different construction than the passive construction in Mi'kmaw (see section 6.5). In the passive construction, the internal argument is subject of the clause as indicated by the subject inflection. The active construction with unspecified subject (*-mk*) is distinctive in that our preliminary observations indicate that the internal argument remains the syntactic object of the clause. Future study could examine the role of these constructions in discourse.

S+O inflections

Using our analysis of the verb, Pacifique's 'sixth' and 'seventh' conjugations actually have the same S+O inflections and differ only in that the seventh conjugation has the applicative morpheme. In both, the object is animate. (2) illustrates a first-person singular subject acting on a third-person singular object (1s>3s) in the sixth conjugation; the verb stem *kes-* 'like' is illustrated.

2. *Kesalk Pie'l.*
   kes-a-l-Ø-k Pie'l
   like-*v*-An-Voice-1s>3s Peter
   "I like Peter."

(3) illustrates a first-person singular subject with third-person singular object (1s>3s) in the seventh conjugation; the verb stem *kwil-* 'seek' is illustrated.

3. *Kwilaq Pie'l.*
   kwil-Ø-Ø-w-k Pie'l
   seek-*v*-An-Voice-APPL-1s>3s Peter
   'I am looking for Peter.'

Note the phonological changes in the inflection. In "conjugation 7" with the applicative morpheme, the applicative allomorph [a] occurs as the interconsonantal allomorph of *-w*. The S+O inflection *-k* (for first-person singular subject and third-person singular object) becomes [q] following the back vowel [a]. See section 2.5.4 for more details.

We show the complete present indicative paradigms for Pacifique's sixth and seventh conjugations (Table 62 and Table 63, respectively) with inflections bolded and highlighted for comparison. The *v*-Animacy-Voice morphemes are in red letters.

Table 62. S+O inflections for Pacifique's conjugation 6.

Subject	**Object**						
	1s	2s	3s	1p incl	1p excl	2p	3p
1s		kesal**ul** 'I like you'	kesal**k** 'I like him/her'	*	*	kesal**uloq** 'I like you P'	kesal**kik** 'I like them'
2s	kesal**in** 'you like me'		kesal**t** 'you like him/her'	*	kesal**iek** 'you like us (excl)'	*	kesal**jɨk** 'you like them'
3s	kesal**it** 's/he likes me'	kesal**ɨsk** 's/he likes you'	kesal**atl** 's/he likes him/her'	kesal**ulk** 's/he likes us (incl)	kesal**inamɨt** 's/he likes us (excl)	kesal**noq**/ kesal*uksi***oq** 's/he likes you P	kesal**aji** 's/he likes them'
1p incl	*	*	kesal**u'k** 'we (incl) like him/her'		*	*	kesal**u'kik** 'we (incl) like them'
1p excl	*	kesal**ulek** 'we (excl) like you'	kesal**kit** 'we (excl) like him/her'	*		kesal**ulek** 'we (excl) like you P'	kesal**kɨtjik** 'we (excl) like them'
2p	kesal**ioq** 'you P like me'	*	kesal**oq** 'you P like him/her'	*	kesal**iek** 'you P like us (excl)'		kesal**oqik** 'you P like them'
3p	kesal**ijik** 'they like me'	kesal**ɨskik** 'they like you'	kesal**a'titl** 'they like him/her'	kesal*uksi***'kik** 'they like us (incl)	kesal*uksi***iek** 'they like us (excl)'	kesal*uksi***oqik** 'they like you P'	kesal**a'tiji** 'they like them'

Comparing the S+O inflection for a 1s object with the subject inflections from Table 61 we observe similarities: the S+O inflections are *-i* followed by the subject only inflections.

The seventh conjugation has the applicative morpheme followed by the S+O inflection. The applicative morpheme is underlined.[176]

[176] We italicise the morpheme *-uksi* but don't include it as part of the inflection. A study of this morpheme is beyond the scope of the thesis.

Table 63. Applicative-S+O inflections for Pacifique's conjugation 7.

Subject	**Object**						
	1s	2s	3s	1p incl	1p excl	2p	3p
1s		kwil**ul** 'I am seeking you'	kwil**aq** 'I am seeking him/her/	*	*	kwil**uloq** 'I am seeking you P'	kwil**uaqik** 'I am seeking them'
2s	kwil**uin** 'you are seeking me'		kwil**at** 'you are seeking him/her'	*	kwil**uiek** 'you are seeking us (excl)	*	kwil**uajik** 'you are seeking them'
3s	kwil**uit** 's/he is seeking me'	kwil**ask** 's/he is seeking you'	kwil**uatl** 's/he is seeking him/her'	kwil*uksi***'k** 's/he is seeking us (incl)'	kwil*uksi***iek** 's/he is seeking us (excl)	kwil*uksi***oq** 's/he is seeking you P'	kwil**uaji** 's/he is seeking them'
1p incl	*	*	kwil**u'kw** 'we (incl) are seeking		*	*	kwil**u'kik** 'we (incl) are seeking them'
1p excl	*	kwil**ulek** 'we (excl) are seeking you)	kwil**aqit** 'we (excl) are seeking him/her'	*		kwil**ulek** 'we (excl) are seeking you p'	kwil**aqatjik** 'we (excl) are seeking them'
2p	kwil**uioq** 'you are seeking me'	*	kwil**uoq** 'you are seeking him/her'	*	kwil**uiek** 'you are seeking us (excl)'		kwil**uoqik** 'you are seeking them'
3p	kwil**uijik** 'they are seeking me'	kwil**askik** 'they are seeking you'	kwil**ua'titl** 'they are seeking him/her'	kwil*uksi***'kik** 'they are seeking us (incl)'	kwil*uksi***ekik** 'they are seeking us (excl)'	kwil*uksi***oqik** 'they are seeking you'	kwil**ua'tiji** 'they are seeking them'

Comparison of the two tables demonstrates that the subject plus object inflections are identical in the two. The applicative morpheme *-w* is deleted when followed by inflections that begin with *-u*; for example, the 1s>2s inflection *-ul*. It is also deleted in verb forms with *-uksi*; for example, with a third-person plural subject and first-person plural exclusive object (3s>1p incl). See section 2.5.4 for more details.

Differential object marking

Not apparent from these conjugation tables is the fact that verbs in Mi'kmaw exibit differential object marking (Aissen 2003). Aissen notes that in some languages, definite or animate objects are marked differently than indefinite or inanimate ones. In a study of differential object marking in 774 languages, Sinnemäki (2014) notes that the Algonquian languages Plains Cree and Passamaquoddy-Maliseet do not show differential object marking. However, some researchers report differential object marking in Algonquian languages. Quinn (2008) argues that Algonquian languages have differential object

marking with respect to animacy. Differential object marking is conditioned by definiteness in Blackfoot (Bliss 2018) and Delaware (Oxford 2019c).

In Mi'kmaw, animate objects are marked differently than inanimate objects in two manners. The first involves subject vs. S+O inflections. Compare (4a) and (b). (a) has an inanimate object and (b) an animate one.

4. (a) *Kesatm kutputi.*

kes-Ø-Ø-m-Ø	kutputi
like-*v*-An-Voice-1s	chair(IN)
'I like the chair.'	

(b) *Kesalk mijua'ji'j.*

kes-a-l-k	mijua'ji'j
like-*v*-An-Voice-1s>3s	child(AN)
'I like the child.'	

The inflection for (a) is *-Ø*; this is the typical 1s subject inflection. The inflection in (b) is *-k* which is the 1s>3s S+O inflection. In Mi'kmaw, inanimate singular objects are not marked in the verbal inflection.[177] Animate objects, on the other hand, are marked by the S+O inflection.

The second way in which animate objects are marked differently than inanimate objects involves the applicative morpheme which is employed by some verb stems like *kwil-* 'seek.' Applicative inflections are composed of the applicative with the S+O inflection. (5a) shows the subject inflection with an inanimate object while (5b) shows the applicative with the S+O inflection.

5. (a) *Kwilm kutputi.*

kwil-Ø-Ø-m-Ø	kutputi
seek-*v*-An-Voice-1s	chair(IN)
'I am looking for the chair.'	

(b) *Kwilaq mijua'ji'j.*

kwil-Ø-Ø-w-k	mijua'ji'j
seek-*v*-An-Voice-APPL-1s>3s	child(AN)
'I am looking for the child.'	

[177] As we note previously, others have remarked that inanimate objects in some Algonquian languages are not indicated in the inflection; e.g., Wolfart (1973) for Cree and Lochbihler (2012) for Ojibwe. We show in this thesis that inanimate objects are marked by other verbal affixes.

(6) illustrates another example with the stem *kwes-* 'cherish.' (a) shows the verb with an inanimate object and (b) with an animate object.

6. (a) *Kweso'tm npitn.*
kwes-o'-t-m-Ø n-pitn
cherish-*v*-An-Voice-1s 1s-POSS-hand(IN)
'I am taking care of my hand.'

(b) *Kweseyaq nijan.*
kwes-o'-l-w-k nijan
cherish-*v*-An-Voice-APPL-1s>3s my.child(AN)
'I am fussy the way I look after my child.'

With an inanimate object, the verb has the 1s subject-only inflection (a); with an animate object, the applicative occurs with the S+O inflection *-k* (b).[178] (6b) displays the suffix *-ey* which is an allomorph of *-o-l* that occurs in these verbs (section 2.5.2).

[178] In Ojibwe, verb stems like *kwil-* 'seek' and *kwes-* 'cherish' are called verbs with 'benefactive objects' (Piggott 1989).

Appendix B. List of verb stems

Table 64 lists the 100 verb stems in the study, noting whether the stem has an internal or external argument and which little *v* morphemes select the stem in bivalent or monovalent clauses. These are distinguished since the manner that little *v* slects stems in monovalent clauses is beyond the scope of the study.

Table 64. List of verb stems with external or internal argument

Stem	**Gloss**	**Stem class**	**Little *v* that selects stem in bivalent clauses**	**Little *v* that selects stem in monovalent clauses**
aj-	move	unaccusative	*-a', -o'*	
alu-	refuse	unaccusative	*-a', -i*	
amal-	various	unaccusative	*-i, -o', -Ø*	
ank-	care	unergative	*-o'*	
apaj-	return	unaccusative	*-a', -o', -Ø*	
aptɬsq-	lock	unaccusative	*-a', -o', -Ø*	
ejikl-	move	unaccusative	*-a', -o', -Ø*	
ejkw-	sneeze	unaccusative	*-a', -Ø*	*-i*
ekn-	decorate	unaccusative	*-a', -o', -Ø*	
ekwij-	go in water	unaccusative	*-a', -o', -Ø*	*-i, -ie*
el-	from a to b	unaccusative	*-a', -o', -Ø*	*-ie*
elism-	lie down	unaccusative	*-a'*	
elm-	go home	unaccusative	*-a', -o'*	*-ie*
elue'w-	angry	unaccusative	*-a'*	*-i, -ie*
elukw-	work	unergative	*-a*	*-e*
eluskw-	spit	unergative	*-a*	
enq-	stop	unaccusative	*-a', -o'*	
enq-	loan	unergative	*-a*	
esam'qw-	drink	unergative	*-o'*	*-a*
eskm-	wait	unergative	*-a*	*-a*
excuse-ew-	excuse	unaccusative	*-a'*	
fill-ew-	fill	unaccusative	*-a'*	
gamble-ew-	gamble	unaccusative	*-a'*	*-i*

Stem	**Gloss**	**Stem class**	**Little *v* that selects stem in bivalent clauses**	**Little *v* that selects stem in monovalent clauses**
garbage-ew-	put in garbage	unaccusative	*-a', -o', -Ø*	
ik-	put/arrive	unaccusative	*-a', -o'*	*-a'*
il-	redo	unaccusative	*-a', -i, -o', -Ø*	
ilt-	close	unaccusative	*-a', -o', -Ø*	*-ete/-epi*
iltaq-	stretch	unaccusative	*-a', -o', -Ø*	*-ie*
jik-	watch	unergative	*-o'*	
jinpek-	wring	unaccusative	*-a', -o'*	
jip-	fear	unergative	*-a*	
kaqam-	stand	unaccusative	*-a', -o', -Ø*	*-i*
kas-	wipe	unaccusative	*-a', -o', -Ø*	
keji-	know	unergative	*-i*	
kejkap-	make a scratch	unaccusative	*-a', -o', -Ø*	
kes-	hurt	unaccusative	*-a', -Ø*	*-ie*
kes-	love, like	unergative	*-a*	
ke's-	put in fire	unaccusative	*-a', -o', -Ø*	
kesip-	itchy	unaccusative	*-a'*	*-ie*
kesisp	wash	unaccusative	*-a', -o', -Ø*	
kesk-	lost	unaccusative	*-a'*	*-a'*
kesnukw-	sick	unaccusative	*-a'*	*-a*
kespukw-	lie	unaccusative	*-a'*	
kewisin-	hungry	unaccusative	*-a'*	
kis-	already	unaccusative	*-a', -i*	
kis-	fool	unergative	*-o'*	
kisiku-	old	unaccusative	*-a'*	*-i, -ie*
kut-	pour	unaccusative	*-a', -o', -Ø*	
kwes-	cherish	unergative	*-o'*	
kwetm-	smoke	unergative	*-a*	*-a*
kwil-	seek	unergative	*-Ø*	
l'nu-	native	unaccusative	*-a'*	*-i*
late-ew-	late	unaccusative	*-a'*	*-i*
mekw-	red	unaccusative	*-a'*	*-eyi*

Stem	**Gloss**	**Stem class**	**Little *v* that selects stem in bivalent clauses**	**Little *v* that selects stem in monovalent clauses**
men-	take out	unaccusative	*-a', -o', -Ø*	
nas-	put on	unaccusative	*-a', -o', -Ø*	
nemi-	see	unergative	*-i*	
nen-	know	unergative	*-Ø*	
nep-	sleep	unaccusative	*-a', -i*	*-a, -Ø*
ne'p-	kill	unergative	*-a*	*-a'*
nesp-	babysit	unergative	*-i*	*-i*
nis-	down	unaccusative	*-a', -o', -Ø*	*-ie*
nisqanan-	bruise	unaccusative	*-a'*	*-eyi*
nuj-	watch	unergative	*-o'*	
pant-	open	unaccusative	*-a', -o', -Ø*	*-ete/-epi*
paskij-	squeeze	unaccusative	*-a', -o'*	
pekis-	arrive	unaccusative	*-i*	*-i*
pekw-	earn	unergative	*-a*	
pem-	along	unaccusative	*-a', -i, -Ø*	*-ie*
pepu-	shake	unaccusative	*-Ø*	
peskw-	pluck	unaccusative	*-o'*	
pew-	dream	unaccusative	*-i*	*-a*
pewi'k-	sweep	unergative	*-a*	*-e*
pij-	in	unaccusative	*-a', -o', -Ø*	*-i, -ie*
pilu-	different	unaccusative	*-a', -i*	
pi's-	pee	unergative	*-a*	*-i*
pitkm-	fill	unergative	*-a*	*-e*
pun-	stop doing	unaccusative	*-a', -o', -Ø*	
se'skw-	shout	unergative	*-a*	*-e*
siw-	tired, bored	unaccusative	*-a'*	*-ie, -eyi*
takl-	annoy	unaccusative	*-a', -o'*	
tek-	cold	unaccusative	*-a'*	*-i*
tek-	participate	unergative	*-o'*	
tel-	thus	unaccusative	*-a', -i, -o'*	*-eyi*
tel-	thus	unergative	*-o'*	
tep-	load	unaccusative	*-a', -o', -Ø*	
tew-	outside	unaccusative	*-a', -o', -Ø*	*-ie*

Stem	**Gloss**	**Stem class**	**Little *v* that selects stem in bivalent clauses**	**Little *v* that selects stem in monovalent clauses**
tukw-	wake	unaccusative	*-a', -o', -Ø*	*-ie*
waju'pek-	fill	unaccusative	*-a', -o', -Ø*	*-eyi*
waqam-	clean	unaccusative	*-a', -Ø*	*-eyi*
wasoq-	light	unaccusative	*-a', -o', -Ø*	
we'ji-	find	unergative	*-i*	
we'kway-	mad	unaccusative	*-a'*	*-i*
wej-	come from, buy/obtain	unaccusative	*-a', -o', -Ø*	*-ie*
wejku-	come	unaccusative	*-a', -o'*	*-ie*
wel-	good	unaccusative	*-a'*	*-ie, -eyi*
wel-	treat well	unergative	*-o'*	
wenu-	want	unaccusative	*-Ø*	
wiaq-	mix	unaccusative	*-a', -o', -Ø*	
wissukw-	cook	unergative	*-a*	*-a*

Appendix C. Summary of thesis in nontechnical language

The following is a short summary of the thesis designed to introduce Mi'kmaw speakers, learners, and others who are not skilled in linguistic terminology to the discussions of each chapter of the thesis.

Chapter 1. Introduction

When I was planning my doctoral studies, I spoke with several Mi'kmaw language activists, asking them for guidance in what I should study. All of them advised me to study something that would benefit language learners and teachers who wanted to pass the language on to the next generation. I have been working with Mi'kmaw colleagues at Ta'n L'nuey Etl-mawlukwatmumk (where they build curriculum for the Mi'kmaw immersion school) for several years and what emerged as an interesting topic to investigate involves how the Mi'kmaw verb signal relationships between the participants in a sentence.

A few years ago, while I was revising some translation work with some of my Mi'kmaw colleagues, we were working on revising a sentence so that it identified who was doing the action. One of my colleagues told me that if we made that participant explicit, we would have to change the verb too. I was so intrigued and this is one of the reasons I wanted to study this aspect of Mi'kmaw grammar for my Ph.D.

Mi'kmaw doesn't work like English does. In English, the verb doesn't change much when you change around the participants. Watch the verb in these examples:

I am **cleaning** the lobster.
I am **cleaning**.

In the second example, we usually understand that you must be cleaning *something* but you just don't mention what you are cleaning. In English, the verb doesn't change – it is always 'cleaning.' But in Mi'kmaw, you must use a different form of the verb for these two cases. Here are the two examples in Mi'kmaw:

1. *Waqama'l̷k jakej*. 'I am cleaning the lobster.'
2. *Waqama'tekey.* 'I am cleaning.'

Both of these verbs have the same "verb stem" *waqam*- that means 'clean.' The verb stem is the part of the verb that expresses the event. Notice how the rest of the verb is different in the two examples – the first is *waqam-a'l̷k* and the second one is *waqam-a'tekey*. Here are the two examples again with the "verb stem" *waqam* 'clean' bolded and separated from the rest of the verb. The second line is a gloss giving the meaning for some of the parts.

3. ***Waqam*** *a'l̷k* *jakej.*
   clean lobster
   'I am cleaning the lobster.'

4. ***Waqam*** *a'tekey.*
   clean
   'I am cleaning.'

The verb for 'I am cleaning the lobster' contains *a'l̷k* and the verb for 'I am cleaning contains *a'tekey*. What our work was for this thesis was to figure out what is happening with verbs like these –how many different parts make up these verbs, how the parts function, and how the whole thing works so that we know in the first case that they are cleaning something like a lobster and in the second case, that they are simply cleaning up.

For my Ph.D. studies, I needed to do a full investigation of everything about this area of the verb. We looked at a lot of verbs and put them through their paces of adding different participants and seeing what the verbs looked like. In the end, we found out a lot of things about how the different parts of the verb work. And we found that how it works is actually quite different from the way that linguists who have studied Algonquian languages have thought for the past 75 years.

Before I get into the details of the summary of each chapter, I need to define some terms and give the big picture. In order to understand the thesis, you need to know about what linguists call the 'agent' and the 'patient.' In an event like cleaning the lobster in the example above, the agent is the one that performs the event or causes something to happen. In the example above, the agent is the cleaner – the one doing the cleaning. The patient is the one the action is on. Or, if we are talking about a state like being clean in the example above, the patient is the lobster that is being made clean. We always need to keep these two participants in mind when analysing Mi'kmaw verbs because it is very important. There is a glossary at the end of the thesis summary in case you need to be reminded of some of these definitions.

Another term you need to know is that some sentences have 'one participant' and some have 'two participants.' This is an example of a one participant verb in Mi'kmaw:

5. *Waqame'k jakej.*
   'The lobster is clean.'

There is only one participant in this sentence – *jakej* 'the lobster.' We don't know how the lobster got clean or who cleaned it – the sentence only tells us that it is clean. One participant.

This example has two participants:

6. *Waqama'latl Pie'l jakejl.*
   'Peter is cleaning the lobster.'

The two participants in this example are: *Pie'l* 'Peter' and *jakej* 'the lobster' (marked with "*l*"). Peter is the agent and the lobster is the patient.

Next, we need to discuss 'subject' and 'object' of a sentence. In the example below, there is only a subject.

7. *Waqame'k jakej.*
   'The lobster is clean.'

The subject of this sentence is *jakej* 'the lobster.'

Study this next example:

8. *Waqama'latl Pie'l jakejl.*
   'Peter is cleaning the lobster.'

In this sectence, *Pie'l* 'Peter' is the subject and *jakej* 'the lobster' is the object. We need to be really careful in Mi'kmaw to not confuse agent and patient with subject and object, because the Mi'kmaw language can do some fine and complex things just by changing the verb, as we will see.

The last term you need to know before we talk about the big picture of the thesis is 'inflection.' Inflection comes at the very end of the verb, and Mi'kmaw inflections are really complex and precise compared with English. Inflection is the ending of the verb that indicates the subject and sometimes the object of the sentence. Subject inflections are marked with the person and number. Consider this example. We bolded the inflection. In the second line, we split up the parts of the verb. In the third line, we gloss some of the parts.

*9. Waqama'teke**y**.*
waqam a' t eke **y**
clean 1s
'I am cleaning.'

The inflection -*y* is marked 1s since it indicates that the subject is first-person singular (*ni'n* 'I'). In the next example, *Pie'l* 'Peter is the subject.

10. *Waqama'teke**t** Pie'l.*
waqam a' t eke **t**
clean 3s
'Peter is cleaning.'

The inflection -*t* is marked 3s since it indicates that the subject is third-person singular (*nekm* 's/he').

A subject plus object inflection is only used when the object is animate. In the next example, *Pie'l* 'Peter' is the subject and *jakej* 'the lobster' is the object (both are animate).

11. *Waqama'l**atl** Pie'l jakejl.*
waqam a' l **atl**
clean 3s>3s
'Peter is cleaning the lobster.'

The inflection *-atl* is marked 3s>3s and it indicates a third-person singular subject and third-person singular object. Now consider this example, where I am the subject:

12. *Waqama'l**ɨk** jakej.*
    waqam a' l **k**
    clean 1s>3s
    'I am cleaning the lobster.'

The inflection *-k* (written *ɨk* here since there is a schwa sound) is marked 1s>3s and it indicates a first-person singular subject and third-person singular object.

****

Here is the big picture of the thesis: Basically, my Mi'kmaw colleagues and I found out three main things.

1. Mi'kmaw has two verb classes.
2. Specific suffixes add specific participants.
3. Specific suffixes indicate 'voice': active, passive, and antipassive (we define each of these terms below and in the glossary).

****

We will expand on each of these three things in the next sections.

Mi'kmaw has two verb classes

One verb class is associated with the patient and the other is associated with the agent. For example, w*aqam*- 'clean' in the examples above is a verb stem. Its class is associated with the patient (we prove it in chapter 4). It is like the patient is present as part of the meaning of the verb. In the case of *waqam*-, the patient is the thing that is clean, or gets clean.

An example of the other class, the one associated with the agent, is *wissukw*- 'cook.' For this verb stem, the presence of the agent is part of the meaning of the verb stem. Here are two comparable examples of this verb:

13. ***Wissukw****alk jakej.* 'I am cooking the lobster.'
14. ***Wissukw****atekey.* 'I am cooking.'

Having two classes of verb stems is a really important thing in Mi'kmaw because these two classes of verb stems behave differently throughout the language as we will discuss in the next sections.

Specific suffixes add specific participants

The second basic thing my Mi'kmaw colleagues and I discovered in the thesis is that different endings on the verb stems add the different participants. I am going to show two different endings that add different participants. In each case, I will start with a one participant verb and make it into a two participant verb. I will show both classes of verb stems.

The verb stem *waqam-* 'clean' belongs to the verb class associated with a patient. If we put the suffix *-e'* on the stem (plus an inflection), we get a sentence with one participant – *Waqame'k jakej*. 'The lobster is clean.'

The sentence describes the one who is clean. Now I will show the same example in detail. On the second line, I split off the parts of the verb so you can see them better and also compare the parts with other examples. The third line is a gloss of each part, but I won't make a gloss for some of the suffixes since they do so many things.

15. *Waqame'k jakej.*

waqam	e'	k	jakej
clean		3s	lobster
'The lobster is clean.'			**One participant (*jakej* 'the lobster')**

The next example has two participants – *Pie'l* 'Peter' and *jakej* 'the lobster.'

16. *Waqama'latl Pie'l l'mu'jl.*

waqam	**a'**	**l**	atl	Pie'l	jakej	l
clean			3s>3s	Peter	lobster	obviative

'Peter is cleaning the lobster.' **Two participants (*jakej* 'the lobster' and *Pie'l* 'Peter')**

Pie'l 'Peter' is the agent and *jakej* 'the lobster' is the patient (marked with the obviative *l*). The verb contains the suffixes *-a'-l* (bolded). We prove in chapter 5 that these suffixes add the agent (the one who makes the lobster clean).

In contrast to this patient class, *wissukw-* 'cook' belongs to the class of verb stems where the agent is part of the stem and different suffixes add the patient. The next two examples show this verb in one participant and two participant sentences. The example below has one participant.

17. *Wissukwat Pie'l.*

wissukw	a	t	Pie'l
cook		3s	Peter
'Peter is cooking.'			**One participant (*Pie'l* 'Peter')**

Pie'l 'Peter is the agent. The next example has two participants.

18. *Wissukwalatl Pie'l jakejl.*

wissukw	**a**	**l**	atl	Pie'l	jakej l
cook			3s>3s	Peter	lobster obviative
'Peter is cooking the lobster.'			**Two participants (*Pie'l* 'Peter'and *jakej* 'the lobster')**		

Pie'l 'Peter' is the agent and *jakej* 'the lobster' is the patient. The verb contains the suffixes *-a-l* (bolded). We prove in chapter 5 that these suffixes add the patient.

Comparing these two scenarios with the two stem classes, there are a few things to notice. In the two participant sentences for both classes (16) and (18), we have the same two participants– *Pie'l* 'Peter' and *jakej* 'the lobster.' In both, Peter is the agent and the lobster is the patient. But the method of how we got to two participants is different for the two classes of verb stems. This diagram shows the two ways of building the event. For stems associated with a patient like *waqam-* 'clean,' the agent is added by the suffixes *-a'-l*. For stems associated with an agent like *wissukw-* 'cook,' the patient is added by the suffixes *-a-l*.

Stem with a patient	**Add the agent**			**Get two participants**	
waqam	*a'*	*l*	*ɨk*	*Pie'l*	*jakejl*
clean			1s>3s	Peter	lobster

Start with an agent	**Add the patient**			**Get two participants**	
wissukw	*a*	*l*	*k*	*Pie'l*	*jakejl*
cook			1s>3s	Peter	lobster

Mi'kmaw is very precise about how to build these events and does it in specific ways throughout the language. There are other suffixes that add agents and patients for different verbs; they are discussed in the thesis.

In the next section, we discuss the third major thing we learned from the thesis.

Specific suffixes indicate voice

The third main thing my Mi'kmaw colleagues and I discovered was that other suffixes express grammatical voice. Voice is how the participants are mapped to subject and object roles. Linguists call different voices 'active,' 'passive,' and 'antipassive.' These different voices make the participants specified or unspecified in a sentence. The example shows the three kinds of voice with the stem *waqam-* 'clean.' Active voice is where both participants are explicit in the sentence. For this verb, the *-l* by itself (bolded in (19) yields active voice.

19. *Waqama'latl Pie'l l'mu'jl.*

waqam	a'	**l**	atl	Pie'l	l'mu'j	l
clean			3s>3s	Peter	dog (AN)	
'Peter is cleaning the dog.'						**Active voice**

Passive voice is where the agent is unspecified in the sentence (20); the patient (*l'mu'j* 'dog') is the subject. *-l-u* yields passive voice.

20. *Waqama'l**u**t l'mu'j.*

waqam	a'	**l**	**u**	t	l'mu'j
clean				3s	dog (AN)
'The dog is being cleaned.'					**Passive voice**

Antipassive voice is where the patient is unspecified in the sentence (21). *-t-eke* is yields antipassive voice.

21. *Waqama't**eke**y.*

waqam	a'	**t**	**eke**	y	
clean				1s	
'I am cleaning [stuff].'					**Antipassive voice**

To sum up how these three voices are expressed, *-l* by itself yields active voice, *-l-u* yields passive voice, and *-t-eke* yields antipassive voice.

Summary of the three main findings

These three findings are the essence of my whole thesis. Mi'kmaw has two verb classes – one associated with the patient (e.g., *waqam*- 'clean') and the other associated with the agent (e.g., *wissukw*- 'cook'). Specific suffixes add specific participants. *-a'-l* adds an agent to a stem associated with a patient and *-a-l* adds a patient to a stem associated with an agent. Specific suffixes indicate voice (active, passive, and antipassive).

Of course, the thesis has a lot more details and it discovers other things too, but this is the essential. I hope that this introduction has given you the big picture and the summaries of each chapter that follow can add some more details about what we found and details about how we found it.

In this nontechnical summary, I won't talk about a lot of the things that are in the technical writeup – like how our analysis compares with the traditional way of looking at verbs in Algonquian languages, and also about how our findings fit in with theoretical analyses of verbs. We had to prove everything we said and the thesis has a lot of details about that. In this writeup, I will stick to just describing how Mi'kmaw verbs work.

Chapter 2. Methodology

My Mi'kmaw colleagues and I believe that our methodology was key to our results. The first and most important thing about our methodology is that it is ours (not mine). I am a learner who has joined with a small group of first-language Mi'kmaw speakers and thinkers who live and work in the Mi'kmaw community. They work in the domains of curriculum-building for the Mi'kmaw immersion school and in language mentorship. Everything I do is based on collaboration with my colleagues. They have told me on more than one occasion that the only reason I have learned what I have is because I hang out with them. I come to the reserve, and I learn. We co-author papers and presentations.

Second, we studied a large number of verb stems and we studied the verbs in complete sentences. My thesis investigates over 150 verb stems in over 1500 sentences. We used these as a basis for many discussions of the verbs in different contexts. We systematically investigated the stem and the three suffixes, finding out the kinds of sentences produced by different combinations. We used modern linguistic theory to help us analyse Mi'kmaw verbs and sentences.

Chapter 3. Three categories

In this chapter, my Mi'kmaw colleagues and I introduce the suffixes and begin to define their functions. The properties of a suffix are illustrated through contrasting it with others in the same category. The fullness of meaning and function of each suffix will only begin to appear because these emerge only in their context within the verb and sentence.

Mi'kmaw verbs are followed by three suffixes: aspect, animacy, and voice. Each will be defined in the following sections. The diagram below illustrates the verb and lists the suffixes that belong to each category.

verb stem	**aspect**	**animacy**	**voice**	inflection
	a'	**t**	**m**	
	a	**l**	**u**	
	o'	**Ø**	**eke**	
	i		**ue**	
	Ø		**Ø**	

In the next sections we discuss each of the three suffixes. The first is the aspect suffix.

Aspect suffix

Aspect describes how the event plays out. We study five aspect suffixes: *-a'*, *-a*, *-o'*, *-i*, and *-Ø* (zero). There are more aspect suffixes but we had to limit the study.

In this section we see the inklings of aspectual features in the aspect suffixes as compared with one another. For example, *-o'* yields a verb expressing some kind of multiple action as compared with *-a'*. This minimal pair illustrates the aspectual differences between *-a'* and *-o'* (bolded in the examples). The 1s subject inflection is zero so it is blank in the example.

22. (a) *Ke's**a'**tu kmu'j.*

ke's	**a'**	t	u		kmu'j
put.in.fire				1s	wood(IN)

'I am going to put a stick into the fire.'

(b) *Ke's**o'**tu kmu'j.*

ke's	**o'**	t	u		kmu'j
put.in.fire				1s	wood(IN)

'I am putting wood into the fire.'

(a) expresses a single action – putting one stick in the fire. (b) expresses the multiple action of putting many sticks of firewood into the fire. The only difference between these sentences is the aspect suffix *-a'* or *-o'*. Multiple versus single actions is one kind of aspect that is expressed by the aspect suffix.

Another difference we noted when comparing aspect suffixes is that *-i* expresses 'make' where *-a'* expresses 'do.' Compare these three sentences. Only the aspect suffixes are different.

23. *Na tel**a'**tu [speaker demonstrates].*

na	tel	**a'**	t	u
this	thus			1s

'This is how I **do** it.' (e.g., math problem or Rubik's cube)

24. *Na tel**o’**tu. [speaker demonstrates].*
na tel **o’** t u
this thus 1s
‘This is how I **do** it.’ (e.g., braid hair, flute a pie crust)

25. *Na tel**i**tu. [speaker demonstrates].*
na tel **i** t u
this thus 1s
‘This is how I **make** it.’ (e.g., make bread, vase, house, or chair)

When we consider the meaning contrasts, we see that the aspect suffix in these contexts specifies the type of event. *-a’* describes *do* for a single action whereas *-o’* expresses *do multiple* actions and *-i* expresses *make*.

Table 65 shows the five aspect suffixes this dissertation studies and their features that this chapter revealed. Chapters 4 and 5 explore their meaning more fully.

Table 65. Aspect suffixes included in the study

Aspect suffix	**Light verb features**	**Aspectual features**
-a	do	single action
-a’	do, cause	single action, not ballistic
-o’	do many times	multiple action
-i	make	resultant state, stative
-Ø	do	single action, ballistic (fast, rough, or hands-off)

Animacy suffix

The second suffix we call 'animacy.' All nouns in Mi'kmaw are either animate (e.g., *l'mu'j* 'dog') or inanimate (e.g., *kutputi* 'chair'). In general, the animacy suffix agrees with the animacy of the patient in the sentence. There are three animacy suffixes: *-t*, *-l*, and *-Ø* (zero). *-l* agrees with an animate patient and *-t* agrees with an inanimate patient. In the example below, *-l* agrees with the animate patient *l'mu'j* 'dog' (a) and *-t* agrees with the inanimate patient *kutputi* 'chair' (b).

26. (a) *Kesa**l**k l'mu'j.*

kes	a	**l**	k	l'mu'j
like			1s>3s	dog(AN)

'I like the dog.'

(b) *Kesa**t**m kutputi*.

kes	a	**t**	m		kutputi
like				1s	chair(IN)

'I like the chair.'

The zero suffix is compatible with an animate or inanimate patient.

Table 66. Summary of Animacy suffixes

Animacy suffix	**Animacy of the patient**
-t	inanimate (plus other functions)
-l	animate
-Ø	compatible with either

The chapter also has a discussion of a few other points. While *-t* generally agrees with an inanimate internal argument, it has a broader function in certain contexts that we discuss. Some verbs contain both *-t* and *-l*.

Voice suffix

The third suffix in the sequence is what we call 'voice.' We call it voice because we can see that it has something to do with active, passive, and antipassive voices as the examples below show. We study five voice suffixes: *-eke*, *-ue*, *-m*, *-u,* and *-Ø* (zero). This example illustrates the voice suffixes *-m, -u*, and *-ue* (bolded) in nearly identical sentences. Each sentence expresses a different grammatical voice: active, passive, and antipassive. In the active sentence with *-m*, both participants are specified in the sentence. The agent ('I') is the subject and the patient (*kutputi* 'chair') is the object.

27. *Kesat**m** kutputi*.

kes	a	t	**m**		kutputi
like				1s	chair(IN)
'I like the chair.'					**Active voice**

In the passive sentence with *-u*, only the patient (*mijua'ji'j* 'child') is specified. The patient is the subject. The agent is unspecified (we don't know who loves the child but we know someone does).

28. *Kesal**u**t mijua'ji'j.*

kes	a	l	**u**	t	mijua'ji'j
like				3s	child (AN)
'The child is loved.'					**Passive voice**

In the antipassive sentence with *-ue*, only the agent (*Pie'l* 'Peter') is specified. The agent is the subject. The patient is unspecified (we don't know who Peter loves but we know he loves people in general).

29. *Kesal**ue**t Pie'l*.

kes	a	l	**ue**	t	Pie'l
like				3s	Peter
'Peter likes [people].'					**Antipassive voice**

In this chapter we can only make a few observations about the voice suffix. These suffixes function to restrict features of the subject and object. We notice that grammatical voice (active, passive, and antipassive) is somehow involved with the voice suffix but at this point we can't tell how (this mystery will be solved when we get to chapter 6).

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In conclusion, there are three suffixes that follow the verb stem: an aspect suffix that is involved with aspect, an animacy suffix that is involved with animacy of the patient, and a voice suffix that is involved with grammatical voice.

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Chapter 4. Verb classes

Chapter 4 demonstrates that there are classes of verb stems. Mi'kmaw verbs are classified by whether they are associated with the agent (the doer of the action) or with a patient (the one that the action is done to). This was one of the big points that we discussed in the introduction so in this section we only show how we found out about the verb classes.

This is how we showed whether the verb stem is associated with an agent or patient. We used two diagnostic tests: whether the imperative form is grammatical with the verb stem and whether the one participant verb is agentive (acts like it has an agent).

The imperative diagnostic test

If you can make an imperative from the one participant sentence, then you know that the verb stem is associated with the agent. This is because an imperative needs a doer. For example, *wissukw-* 'cook' is grammatical in imperative form:

30. *Wissukwa!*
wissukw a
cook 2sIMP
'Cook!'

We conclude that *wissukw-* 'cook' is associated with an agent.

In contrast, the plain imperative is ungrammatical for other stems. For example, you can't make an imperative from *waqam-* 'clean.'

You can't say: *Waqam-e'!* to mean 'Be clean!'

In order to make an imperative, you have to use a reflexive form.

31. *Waqama'lsi!* 'Clean yourself!'

Reflexive imperatives give the idea that a doer is acting upon themselves. The the person being cleaned (the patient) is also the person doing the cleaning (the agent). The reflexive verb has other suffixes to add that meaning. We conclude that *waqam*- 'clean' can't be associated with an agent since the only way to make an imperative is to use the reflexive suffixes that seem to add the agent. The stem by itself is not associated with an agent and we conclude that it is associated with a patient.

The o'pli- 'wrongly' diagnostic test

The second test we use to show that the stem has an agent is to see if the verb is grammatical with an agentive prefix like *o'pli*- 'wrongly.' You need an agent to do something wrongly. We see that the stem *wissukw*- 'cook' is associated with an agent since it is grammatical with *o'pli*- 'wrongly.'

32. *O'pl-wissukway*.
o'pli-wissukw a y
wrongly-cook 1s
'I am wrongly cooking.' (I cooked the wrong food)

Since this is grammatical, we conclude that *wissukw*- 'cook' is associated with an agent.

In contrast, *waqam*- 'clean' is incompatible with *o'pli*- 'wrongly' because it requires a stem associated with an agent. This example illustrates the stem *waqam*- 'clean.'

You can't say: *O'pli-waqame'k*. to mean 'It is wrongly clean.'

We conclude that these stems are not associated with an agent and instead are associated with a patient.

In this chapter, we also saw that certain aspect suffixes only combine with stems from one class.

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In conclusion, there are two classes of verb stems in Mi'kmaw – stems associated with an agent and stems associated with a patient.

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Chapter 5. Valence

In this chapter, my Mi'kmaw colleagues and I look at combinations of the first two suffixes with each verb stem (aspect and animacy). We found out about valence. Valence is the number of participants expressed by a sentence. When a verb has certain combinations of aspect and animacy, the sentence will always have two participants.

This is how we did it. First, here is an example of a sentence in active voice.

33. *Wissukw**al**atl jakejl.*

wissukw	**a**	**l**	atl	Pie'l	jakej l
cook			3s>3s	Pie'l	lobster(AN)

'Peter is cooking the lobster.' **Active voice**

It is easy to see that there are two participants, the agent (*Pie'l* 'Peter') and the patient (*jakej* 'lobster') since both are explicit in the sentence. Notice that the first two suffixes are *-a -l* (bolded). Now here is the same event in passive voice.

34. *Wissukw**al**ut jakej.*

wissukw	**a**	**l**	u	t	jakej
cook				3s	lobster(AN)

'The lobster is being cooked.'/ '[Someone] is cooking the lobster.' **Passive voice**

In the passive sentence, only the patient is explicit (*jakej* 'lobster'). The sentence itself doesn't tell who is cooking the lobster (who the agent is). It is much harder to prove whether or not the sentence expresses an agent. We need to find out because it will tell us how the verb suffixes work.

Likewise, we study the same event expressed using antipassive voice.

35. *Wissukwateket Pie'l.*

wissukw	**a**	**t**	eke	t	Pie'l
cook-				3s	Peter

'Peter is cooking.' **Antipassive voice**

In this sentence, only the agent is specified (*Pie'l* 'Peter'). We need to prove that there is also a patient in the sentence.

We use three diagnostics to show how many participants are expressed in the passive and antipassive sentences. The first is native speaker judgement. The second is compatibility with *o'pli-* 'wrongly' to test for the presence of an agent (we used this diagnostic already in chapter 4). The third is compatibility with *a'qati-* 'halfway' to test for the presence of a patient.

For the first diagnostic, I discussed the sentences with my Mi'kmaw speaking colleagues and their understanding of that sentence is that both agent and patient are expressed by the sentence.

We use the second diagnostic on the passive example (34), because we already know that the sentence has a patient (*jakej* 'the lobster'). If it is compatible with the prefix *o'pli-* 'wrongly,' then there has to be an agent.

36. *O'pli-wissukwalut jakej.*

o'pli-wissukw	a	l	u	t	jakej
wrongly-cook				3s	lobster(AN)

'The lobster is being wrongly cooked.' (the lobster is being cooked in a wrong manner, like burnt or cooked without salt in the water)

Because this sentence is grammatical, we know that it has an agent, even though the agent is not mentioned in the sentence, because although we don't know *who* cooked the lobster, we know *someone did it wrong*.

We use the third diagnostic to test whether the antipassive (35) sentence contains a patient. We do it by seeing if the sentence is grammatical with the prefix *a'qati-* 'halfway.'

37. *A'qati-wissukwateket Pie'l.*

a'qati-wissukw	a	t	eke	t	Pie'l
half-cook				3s	Peter

'Peter is halfway cooking.' (Peter shut off the stove when things are only halfway cooked)

Because the sentence is compatible with *a'qati-* 'halfway,' we know the sentence has a patient even though the patient is not mentioned in the sentence. There has to be *something* cooking for it to be only cooked halfway.

****

In conclusion, Mi'kmaw antipassive and passive sentences have both an agent and a patient. In the thesis, we tested all of these suffixes: *-a', -a, -o',* and *-i* plus *-t* or *-l* and we found that they yield sentences with two participants without exception. Since we know from chapter 4 that verb stems are associated with either a patient or an agent, those aspect and animacy suffixes must add either the agent or the patient. In contrast, *-a', -a,* and *-i* by themselves uniformly yield sentences with one participant. When the aspect-animacy suffixes are both zero, the sentence always has two participants.

These facts are important to know in Mi'kmaw because it means that a sentence in passive or antipassive voice is talking about both the agent (the doer of the action) and the patient (the one who the action is done to), even though one of the participants may not be mentioned in the sentence. This capability that the Mi'kmaw language has to make the agent or patient explicit or unmentioned is one of the ways that someone speaking Mi'kmaw can frame an event when talking about it to make a participant stand out or not.

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Chapter 6. Grammatical voice

In this chapter my Mi'kmaw colleagues and I studied the animacy and voice combinations. This combination expresses grammatical voice. Grammatical voice is how the participants are mapped to subject and object roles. The way that grammatical voice is expressed by the suffixes in Mi'kmaw is a straight-forward system where the combination of one of the animacy suffixes with one of the voice suffixes yields without exception a particular grammatical voice. In this chapter, we illustrate active, passive, and antipassive voice and demonstrate the way that agent and patient are mapped onto subject and object roles.

Active voice occurs when both participants are expressed in the sentence. Active voice always maps the agent as subject and the patient as object. ***-t-u*** is active in the example below.

*38. Enqa'**tu** pas.*

enq	a'	**t**	**u**		pas
stop				1s	bus(IN)
'I am stopping the bus.'					**Active voice**

Antipassive voice occurs when only the agent is expressed in the sentence. The agent is the subject and the patient is not mentioned in the sentence. *-t-eke* is antipassive in the example below.

39. *Enqa'**teke**y.*

enq	a'	**t**	**eke**	y
stop				1s
'I am stopping [cars on the road].'				**Antipassive voice**

Passive voice occurs when the agent is not mentioned in the sentence. ***-l-u*** is passive in the next example. The patient is the subject.

40. *Enqa'**lu**t mijua'ji'j.*

enq	a'	**l**	**u**	t	mijua'ji'j
stop				3s	child(AN)

'The child is being stopped.' / 'They are stopping the child.' **Passive voice**

Mi'kmaw has several combinations that signal each of these grammatical voices. The next sections expand on the combinations that express each of active, passive, and antipassive.

Active combinations

Active voice can be achieved in Mi'kmaw by means of seven different combinations. Why does the language use so many combinations all for active voice? We illustrate each below to find out why.

-t-u and *-t-m* both indicate active voice for some stems when they occur with inanimate objects and non-third-person proximate subjects.

41. *Tepa'**tu** kuputi nutapaqnk.*

tep	a'	**t**	**u**		kutputi	nu-tapaqn-k
load				1s	chair(IN)	1Poss-vehicle-LOC

'I am loading the chair onto the car.'

42. *Elukwa**tm** kuputi.*

elukw	a	**t**	**m**		kutputi
work				1s	chair(IN)

'I am fixing the chair.'

-t-u occurs only with stems associated with a patient[179] and *-t-m* occurs only with stems associated with an agent.

-t (*-t-Ø*) with these same stems expresses active voice but with a third-person proximate subject and an inanimate object.

43. *Tepa'**t**oq Pie'l kutputi nutapaqnk.*

tep	a'	**t**		oq	kutputi	nu-tapaqn-k
load				3s	chair(IN)	1Poss-vehicle-LOC

'Peter is loading the chair onto the car.'

44. *Elukwa**t**k Pie'l kutputi.*

elukw	a	**t**	k		kutputi
work				3s	chair(IN)

'Peter is fixing the chair.'

[179] and some experiencer stems.

-l (*-l-Ø*) with these same stems expresses active voice but with an animate object for any subject.

45. *Tepa'**l**atl Pie'l tu'aqnn nutapaqnk.*

tep	a'	**l**	atl	Pie'l	tu'aqn	l	nu-tapaqn-k
load			3s>3s	Peter	ball(AN)		1Poss-vehicle-LOC

'Peter is loading the ball onto the car.'

46. *Elukwa**l**atl Pie'l tu'aqnn.*

elukw	a	**l**	atl	Pie'l	tu'aqn	l
work			3s>3s	Peter	ball(AN)	

'Peter is fixing the ball.'

-eke (*-Ø-eke*) occurs with many of the same stems that occur with the *-t-u* combination. It always yields active voice with a ballistic aspectual idea (fast, rough, or hands-off). Compare the same verb stem in (43) and (45) with (47a) below.

47. (a) *Tep**eke**y kutputi.*

tep	**eke**	y	kutputi
on		1s	chair(IN)

'I am throwing the chair on.'

With *-eke* (*-Ø-eke*), the object can be either inanimate (a) above or animate (b) below.

(b) *Tep**eke**y l'mu'j*.

tep	**eke**	y	l'mu'j
on		1s	dog(AN)

'I am throwing the dog on.'

With different stems than either *-t-u* and *-t-m* occur with, *-m* by itself (*-Ø-m*) indicates active voice with inanimate objects and non-third-person proximate subjects.

48. *Kwil**m** kuputi.*

kwil	**m**		kutputi
seek		1s	chair(IN)

'I am looking for the chair.'

The stems that occur with *-m* (*-Ø-m*) are always associated with an agent. No animacy or voice suffix (*-Ø-Ø*) indicates active voice with these stems when they occur with inanimate objects and a third-person proximate subject.

49. *Kwilk Pie'l kutputi.*

kwil	k	kutputi
seek	3s	chair(IN)

'Peter is looking for the chair.'

****

We conclude that each of the seven combinations that express active voice occurs in a specific context.

****

Antipassive combinations

Two constructions are antipassive: *-t-eke* and *-l-ue*. These also occur in different contexts. The next examples show each combination with the stem *enq-* 'stop.'

50. *Enqa'**teke**y*.

enq	a'	**t**	**eke**	y
stop				1s

'I am stopping [cars on the road].'

With *-t-eke*, the patient that is not mentioned must be third-person but it can be either animate or inanimate. In contrast to the situation with *-t-eke*, the unmentioned participant in sentences with *-l-ue* must be interpreted as human.

51. *Enqa'**lue**y*.

enq	a'	**l**	**ue**	y
stop				1s

'I am a referee.' ('I stop [*people*].')

****

We conclude that both of the combinations that express antipassive voice occurs in a specific context.

****

Passive combinations

Mi'kmaw has two kinds of passives. The first kind is when the patient is the subject. Both *-l-u* and *-u* by itself (*-Ø-u*) indicate this kind of passive. These occur with different stems. *-l-u* occurs with both classes of stems; the example below illustrates a stem associated with a patient.

52. *Enqa'**lu**t mijua'ji'j.*

enq	a'	**l**	**u**	t	mijua'ji'j
stop				3s	child(AN)

'The child is being stopped.' / 'They are stopping the child.'

The next example illustrates a stem associated with an agent.

53. *Elukwa**lu**t tu'aqn.*

elukw	a	**l**	**u**	t	tu'aqn
work				3s	ball(AN)

'The ball is being fixed.' / 'They are fixing the ball.'

-Ø-u only occurs with two stems associated with an agent in our study.

54. *Kwil**u**t Pie'l.*

kwil	**u**	t	Pie'l
seek		3s	Peter

'Peter is being looked for.' / 'They are looking for Peter.'

The second kind of passive in Mi'kmaw is one where the possessor of the patient is the subject. For these 'possessor passives,' the possessor of the patient (*Pie'l* 'Peter' in the example below) is the subject and the patient (*wnijann* 'his child') is the object. There are three combinations that indicate this kind of possessor passive. We illustrate these with the same three stems. *-t-u* occurs with stems associated with a patient.

55. *Enqa'**tu**tl Pie'l wnijann.*

enq	a'	**t**	**u**	t	l	Pie'l	w-nijan-l
stop				3s	Ob	Peter	3POSS-child(AN)-Ob

'Peter's child is being stopped.' / 'They are stopping Peter's child.'

-t-m-u occurs with stems associated with an agent.

56. *Elukwa**tmu**tl Pie'l tu'aqnml.*

elukw	a	**t**	**mu**	t	l	tu'aqn-m-l
work				3s	Ob	ball(AN)-POSS-Ob

'Peter's ball is being fixed.' / 'They are fixing Peter's ball.'

-Ø-m-u occurs with two stems associated with an agent.

57. *Kwil**mu**t Pie'l wnjann.*

kwil	**mu**	t	Pie'l	w-nijan-l	
seek		3s	Peter	3POSS-child(AN)-Ob	

'Peter's child is being looked for.' / 'They are looking for Peter's child.'

****

In conclusion, each of the five passive constructions occurs in a specific context.

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Summary

Grammatical voice in Mi'kmaw (active, antipassive, and passive) are expressed by means of the combination of two suffixes. The table shows a summary.

Table 67. Active, antipassive, and passive voice combinations

Combination	**Grammatical voice**
-t-u (with a non-3rd person proximate subject), *-t-m*, *-l*, *-t*, *-eke*, *-m*, and *zero*	Active voice
-t-eke and *-l-ue*	Antipassive voice
-l-u and *-u*	Passive voice
-t-u (with a 3rd person proximate subject)*, -t-m-u,* and *-m-u*	Possessor passive

Each combination occurs in a particular context. With the exception of *-t-u*, each combination indicates a particular grammatical voice. *-t-u* with a third-person proximate subject yields passive voice and with any other subject it yields active voice.[180]

[180] Active voice for third-person proximate subjects with these stems is expressed using *-t-Ø*. Passive voice for subjects that are not third-person proximate is expressed using *-t-uksi*.

Chapter 7. The complete picture

This chapter presents the complete picture of the relationships between participants – how the stem is associated with agent or patient, how another participant is added, and then how agent and patient get their subject and object roles. This chapter also relates our analysis of the Mi'kmaw verb to that in other Algonquian languages and to linguistic theory.

Different combinations are found with different stem classes. We first discuss what happens with stems associated with a patient and then discuss stems associated with an agent. We cover every possible combination that can occur with stems from each class.

Grammatical voice (active, passive, and antipassive) is so standard we mention it first. For active voice, the agent is mapped to subject and the patient is mapped to object. For antipassive voice, the agent is mapped to subject and the patient is not mentioned in the sentence. For passive voice without possessor raising, the patient is mapped to subject and the agent is not mentioned. For possessor passives, the possessor of the patient is mapped to subject position and the patient is mapped to object. This manner of mapping agent and patient (and possessor) to subject and object is absolutely standard. The rest of the chapter has a lot of details about how each of the aspect-animacy combinations add participants to particular stem classes.

****

In conclusion, the aspect and animacy suffixes add a participant to a stem and the animacy and voice suffixes map those participants to subject and object roles. Different combinations add specific participants. These two systems overlap in that both use the animacy suffix. These combinations precisely indicate how many participants the sentence has and what grammatical voice the sentence expresses.

Our analysis presents a system that has not been previously observed in Mi'kmaw or in other Algonquian languages. This system replaces the system of "finals" and "theme signs" introduced by Bloomfield 75 years ago, and replaces Bloomfield's system (AI, II, TA, TI, etc.) for classifying verbs.

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Chapter 8. Summary and conclusions

This chapter presents the broader picture of the implications of our findings to Mi'kmaw, other Algonquian languages, and theory. The results of this thesis show the morphological mechanics in Mi'kmaw behind the number of participants expressed by a verb (called valence), the mapping of the participants onto subject and object roles (called voice), and whether a sentence has a subject and object or just a subject (called transitivity). This research demonstrates how the verb signals the relationships between participants in a sentence and how the participants are mapped to subject and object roles. In this work we study active voice, passive voice, antipassive voice, and possessor passives.

We expect that our analysis will be of benefit to researchers in other Algonquian languages because of the similarities in grammar within the Algonquian family.

Another area for future study is how these different voice combinations work in discourse. Passive and antipassive are involved in promoting or backgrounding participants as compared with active voice. Our preliminary studies indicate that passives occur in cases where the speaker doesn't know who performed the event or it isn't important in the story. For example, Susan Barss's Mi'kmaw narrative from 1847 translated by Elizabeth Paul (The Stone Canoe, pp. 68-81) is a story of a young man who has an adventure finding a wife. In this story, a passive is used where two men show up in the story and someone gives them each a glass of water. The *-l-u* passive construction is employed in this sentence.

58. Kla'sk tapusijik ne'alujik waju'pejik sam'qwan.
glasses they.are.two they.are.taken.out they.are.full water
'Two glasses filled with water are taken out.' Adapted from Paul et al. (2007:77-79)

We expand the verb *ne'alujik* 'they are taken out' below and bold the *-l-u* passive combination.

ne'	a	**l**	**u**	jik
appear				3P

The use of the passive (with an agent who is not mentioned in the sentence) indicates that the identity of who gave the water is not important to the story.

Antipassives function in backgrounding the patient, often because the patient doesn't need to be identified in the context. Our preliminary studies indicate that antipassives can be used in cases where the patient is not of interest in the story. For example, the story 'Dancing with the devil' as told by Arlene Stevens (Writers' workshop stories) contains a sentence with the *-t-eke* antipassive in the introduction. It is the story of a young girl who wants to go to a dance. She is not allowed, but she goes anyway. Then she has to face the consequences. The sentence is shown here.

59. *Msɨt koqoey tela'teket ta'n telimut.*
all what thus.she.did as/what she.is.told
'She did all that she was told to do.'

We expand the verb *tela'teket* 'thus she did' below and bold the *-t-eke* antipassive combination.

tel	a'	**t**	**eke**	t
thus				3s

The *-t-eke* antipassive occurs in a situation where the patient, 'what she did' in (8) would be providing unnecessary details, should they be made explicit.

Possessor passives are found where the possessor is an important participant in the story. For example, we find the possessor passive *welo'tmut wla wtul* 'it was well taken care of, that boat' in a story by the late Gabriel Sylliboy that is transcribed and translated in DeBlois (1991:30+). Gabriel describes how English sailors picked up a Mi'kmaw man who was lost at sea and took him to England for the winter. The next spring, they took him back to a point off Cape Breton Island and he launched his canoe from the ship. Gabriel uses a possessor passive when he describes how the sailors took care of the man and his boat. This is how he says it.

60. Welo'ta'it	*ji'nm*	*aqq*	*wtul*	
they.take.good.care.of.him	man	and	his.boat	
welo'tmut	*wla*	*wtul.*		
they.take.good.care.of.his.thing	that	his.boat		

'The man was well taken care of and his boat, it was well taken care of, that boat.'

We expand the verb *welo'tmut* 'his boat is being well taken care of' below and bold the *-t-m-u* passive combination.

wel	o'	**t**	**m**	**u**	t	wla	w-tul
good					3s	DEM	3sPOSS-vehicle

The use of the possessor passive, *welo'tmut* 'his boat is being well taken care of' is literally 'he is well taken care of his boat.' The construction indicates that taking care of the *man* through caring for his boat is the event most important in the discourse.

A little later in the story, we find a possessor active construction (not discussed so far). Gabriel describes how the English sailors took the man back near Cape Breton and he launched his canoe from the ship. He set off in his canoe to find his family, not knowing exactly where they would be. In the end, he arrived at a dock and he recognised his father's boat.

61. Nenmwaj wujjl wtul.

nen-Ø-Ø-m-w-aj	wu-jj-l	w-tu-l.
know-*v*-An-Voice-Appl-3s>3s	3sPOSS-father-Ob	3sPOSS-vehicle-Ob

'He recognised his father's boat.'

The fact that he saw a boat was not as significant in the story as that it belonged to his father. My colleagues tell me that using this construction made it clear that the man had arrived *home*.

Conclusions

I believe there is a place for unwinding the beautiful complexity of Mi'kmaw verbs and sentences and teaching both speakers and learners the mechanics of how the Mi'kmaw language expresses the relationship between participants in a sentence. Some of my Mi'kmaw colleagues and I are currently making language resources that teach some of these concepts. Our research group shared some of the things we learned with Mi'kmaw Elders and language-keepers in 2020. When I shared with Marjorie Johnson, a Mi'kmaw Elder who is a resource person at the Eskasoni immersion school, she remarked:

> I don't think my ancestors ever looked into it as closely as you've been doing, … Today a lot of kids are saying, "What?" Because they don't understand. But to go back in the day, that's amazing, and interesting … My future son-in-law is looking at it at your point of view. He's learning how to speak Mi'kmaw, and when we give him a word, he'll think about it. And he digs down to it. He wants to know why we're calling it that. And he's really into it.

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I end my thesis with hopes. I believe that this methodology is key to making its discoveries; I hope that more researchers follow it. I hope that this method of understanding verbs means something to teachers and language keepers such that it can benefit teaching the language to more people and better understanding for speakers. I hope that it will apply to other Algonquian languages. I hope that the

questions it raises will inspire further research and discovery. I hope that the process has taken everyone involved to a different and better place, that we have learned something, and that it has changed us.

When we presented our findings to the Mi'kmaw Educational Advisory Board in 2020, reflecting on the complexity of Mi'kmaw verbs, I said, "It's so complicated. Who knew that speakers have all these endings right here [pointing to brain] and right ready to come out?" Jane Meader, an esteemed Mi'kmaw Elder, replied, "We knew."

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Glossary

Agent the participant that performs the event or causes something to happen. E.g., the cleaner – the one doing the cleaning.

Animacy Animate and inanimate

Grammatical voice: active, passive, and antipassive. We define grammatical voice for sentences with two participants.

Active is a voice where the agent is subject and the patient is the object.

Passive is a voice where the patient is the subject and the agent is not mentioned in the sentence.

Antipassive is a voice where the agent is subject and the patient is not mentioned.

Possessor passive is a voice where the possessor is subject and the patient is object.

Inflection the ending of the verb that indicates the subject and sometimes the object of the sentence. Subject inflections are marked with the person and number; e.g., the inflection *-y* is marked 1s since it indicates that the subject is first-person singular (*ni'n* 'I'); the inflection *-t* is marked 3s since it indicates that the subject is third-person singular (*nekm* 's/he'). A subject plus object inflection is only used when the object is animate; e.g., the inflection *-k* is marked 1s>3s and it indicates a first-person singular subject and third-person singular object. 1s>3P indicates a first-person singular subject and third-person plural object.

Patient the one the action is on. Or, if we are talking about a state like a lobster being clean, the patient is the lobster that is clean.

Verb parts: We concentrate on the stem and three suffixes plus inflection.

verb stem **aspect** **animacy** **voice** **inflection**

Verb stem is the part of the verb that contains information about the kind of event the verb expresses. It is the first part of the verb in the examples.

The first suffix we call **aspect** in this document (it is called 'little *v*' in the thesis). This suffix expresses aspect and it works together with the second suffix to add a participant to the verb.

The second suffix is called **animacy**. In general, it agrees with the animacy of the patient (animate or inanimate). It also works with the aspect suffix to add a participant and it works with the voice suffix to express voice.

The third suffix is called **voice**. It works with the animacy suffix to express voice – active, passive, and antipassive.

Inflection is the last suffix in the examples. Some inflections express the subject and others express the subject and object. In the examples, the subject inflections are **1s** (first-person singular – *ni'n*) or **3s** (third-person singular – *nekm*). The subject and object inflections are **1s>3s** (a first-person subject and third-person object) and **3s>3s** (a third-person subject and a third-person object).

Verb stem the part of the verb that contains information about the kind of event the verb expresses.