# ARGUMENT MAPPING IN MI'KMAW*

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This paper demonstrates how arguments are 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, focusing on 77 verb stems in bivalent clauses. We propose that Mi'kmaw verb stems are unaccusative or unergative. Three functional categories, little *v*, Animacy agreement, and Voice, introduce the other argument and then map the arguments to grammatical positions. We illustrate active, passive, and antipassive constructions. This argument-building and mapping system works without exception throughout the language. Our work represents a fresh analysis of Mi'kmaw which accounts for transitivity and grammatical voice in a way that the traditional Bloomfieldian analysis has not.

## 1. Methodology

The first three authors of this paper are speakers of Mi'kmaw as their first language and the fourth is a learner. Our research is done in the context of developing Mi'kmaw immersion curriculum at the TLE Centre[1] and Friesen's language learning. Our corpus of 77 verb stems is part of a larger study of 150+ verb stems in 1500+ sentences (Friesen, to appear). The 77 stems are chosen because they occur with little *v* morphemes *-a* or *-a'* in bivalent clauses. We elicit as many different sentences as possible with the same verb stem, focusing our attention on the morphemes between stem and inflection in different transitivity contexts. We use these as a base for further discussions to investigate the functions of the morphemes in the verb and how they relate to the participants in the clause. Specifically, for the 77 stems, we look at combinations of categories and the authors who are speakers discuss whether each combination is grammatical and what are the clausal elements. We consider only verbs in present indicative tense (Francis and Hewson 2016) / realis mood (Inglis 2002). Generative terminology is employed to be consistent with much Algonquian work.

* We honour the life and work of our colleague Elizabeth Paul Ryan, who passed away in December 2019. Her expertise and insights as a speaker and teacher of the Mi'kmaw language and as an orthography consultant are invaluable and she is sorely missed. We are grateful to Friesen's doctoral committee: Drs. Leslie Saxon, Heather Bliss, Charlotte Loppie, and Barbara Sylliboy for their guidance, insights, and encouragement and especially to Dr. Saxon for her input as Friesen's supervisor. We appreciate the insights of others who have worked on Mi'kmaw verb morphology, especially Dr. Stephanie Inglis and the McGill group. This work is partially supported by a SSHRC doctoral fellowship.

[1] The TLE is a curriculum-building centre in Eskasoni, Nova Scotia.

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Three factors in our methodology are key to our results. First, we use Indigenous methodology involving a close collaboration between linguist and speakers as discussed in Wilson (2007), Czaykowska-Higgins (2009), Leonard and Haynes (2010), and Adams et al. (2015). Second, we systematically investigate how the three functional categories (little *v*, Animacy, and Voice) pattern with a large number of verb stems. Third, we study the syntax of the verbs in complete clauses. We study transitive and intransitive clauses that contain the same verb stem.

## 2. Findings

We discuss bivalent clauses to limit the study to a manageable size. Section 2.1 discusses our analysis of three functional categories intervening between the verb stem and the inflection. Our diagnostics for bivalent clauses are shown in section 2.2. Section 2.3 employs the diagnostics for the presence of an agent to demonstrate unergative and unaccusative verb classes in Mi'kmaw. Section 2.4 demonstrates that little *v* selects stems according to unaccusativity. Section 2.5 uses the diagnostics for valency to demonstrate that the little *v*-Animacy agreement combination introduces either an internal or external argument. The Animacy-Voice combination maps these arguments to grammatical roles (section 2.6).

### 2.1 Three functional categories

We parse three functional categories intervening between the verb stem and the inflection: little *v*, Animacy agreement, and Voice (cf. Stevens et al. 2021). Our analysis of three functional categories is in contrast to previous researchers in Mi'kmaw or in other Algonquian languages. 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 *-tm* as being one morpheme. Hamilton (2015, cf. Bruening 2001 for Passamaquoddy) considers *-atm* as one morpheme. Our analysis recognises all of these morpheme boundaries and parses stem-*v*-Animacy-Voice.

The 77 stems in our study occur with two little *v* morphemes (*-a* and *-a'*), two Animacy morphemes (*-t* and *-l*), and three Voice morphemes (*-m, -u,* and *-eke*). Friesen (to appear) presents the more in-depth analysis.

### 2.2 Diagnostics for agent and patient arguments

We employ two diagnostics for the presence of an agent: (1) the ability of the intransitive verb to form an imperative and (2) the grammaticality of the intransitive form with an agent-oriented preverb. Crosslinguistic evidence shows that agents are invariably mapped to subject position (Dowty 1979, 1991), which is the position of the external argument. We assume that if we find evidence for an agent in Mi'kmaw in the intransitive form, we can conclude that the root is associated with an external argument. If we find no evidence for an agent, we assume the presence of an internal argument. The first diagnostic, ability of the intransitive verb to form an imperative, is based on the fact that semantically and pragmatically, imperatives require an agent, or equivalently under our assumptions, an external argument. Through this reasoning, it follows that imperatives are diagnostics for the presence of an external argument. If the imperative form of a particular verb root is grammatical in its intransitive form, then we conclude that the verb root is associated with an external argument; if the imperative is ungrammatical, we conclude that it lacks an external argument. For the second diagnostic, we employ the agentive adverbial preverb *o'pli-* 'wrongly' again with the intransitive verb. Using the same reasoning as above, we conclude that roots whose intransitive forms are not grammatical with this preverb are not associated with an external argument but instead are associated with an internal argument.

We use the patient-oriented preverb *a'qati-* 'halfway' 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.

We determine the valence of clauses using two diagnostics. First, the Mi'kmaw-speaking coauthors judge the number of participants in each clause. Second, we determine the presence of an agent by compatibility of the verb with the agentive preverb *o'pli-* 'wrongly.' Likewise, we determine the presence of a patient argument by compatibility of the verb with the patientive preverb *a'qati-* 'halfway.'

### 2.3 Mi'kmaw stem classes: unaccusative and unergative

We propose in Sylliboy et al. (in press) that Mi'kmaw verb stems are classified according to unaccusativity; verb stems are either unaccusative or unergative.

We review the results from the diagnostics for unergative and unaccusative stems from our previous work in Sylliboy et al. (in press). Diagnostics show the presence of an agent with some stems. (1) illustrates the stem *wissukw-* 'cook.' (1a) illustrates the imperative form and (1b) the intransitive form with the agentive preverb *o'pli-* 'wrongly.'

The grammaticality of these forms indicates the presence of an agent according to our diagnostics in section 2.2.[2]

(1) a. wissukw-a-Ø
cook-*v*-2sIMP
'Cook!'

b. o'pli-wissukw-a-Ø-Ø-y
wrongly-cook-*v*-Animacy-Voice-1s
'I am wrongly cooking.'

In contrast, the diagnostics show the absence of an agent with other stems. (2) illustrates the stem *ik*- 'arrive'/'put.' The imperative form is ungrammatical (2a) and an intransitive clause is incompatible with the agentive preverb (2b).

(2) a. *ik-a'-Ø
arrive-*v*-2sIMP
Intended: 'Arrive!'

b. *o'pli-ik-a'-Ø-Ø-y
wrongly-arrive-*v*-Animacy-Voice-1s
Intended: 'I am wrongly arriving.'

We conclude that the stem *wissukw*- 'cook' is associated with an external argument and the stem *ik*- 'arrive'/'put' is associated with an internal argument. Our corpus of 77 stems includes 14 ergative stems and 63 unaccusative stems.

### 2.4 Little *v* selects stems according to unaccusativity

The little *v* morphemes *-a* and *-a'* select stems according to whether the stem is associated with an external or internal argument. *-a* selects unergative stems and is ungrammatical with unaccusative stems. In contrast, *-a'* selects unaccusative stems and is ungrammatical with unergative stems (Table 2).

[2] Abbreviations are: 1 = first person, 3 = third person, 1s>3s = a 1s subject and 3s object, AN = Animate, IN = inanimate, IMP = imperative, LOC = locative suffix, s = singular, *v* = little *v* category.

**Table 2.** *-a* and *-a'* select different stems in bivalent verbs

| ***v*-Animacy** | **Stem class** | |
|---|---|---|
| | **unergative** | **unaccusative** |
| ***-a*** | ✓ | * |
| ***-a'*** | * | ✓ |

(3) and (4) show two representative examples.[3]

(3) a. wissukw-a-l-Ø-k jakej
cook-*v*-Animacy-Voice-1s>3s lobster(AN)
'I am cooking lobster.'

b. *wissukw-a'-l-Ø-k jakej
cook-*v*-Animacy-Voice-1s>3s lobster(AN)
Intended: 'I am cooking lobster.'

(4) a. ik-a'-l-Ø-k ila'skw pataluti-iktuk
arrive-*v*-Animacy-Voice-1s>3s card(AN) table-LOC
'I am putting the card on the table.'

b. *ik-a-l-Ø-k ila'skw pataluti-iktuk
arrive-*v*-Animacy-Voice-1s>3s card(AN) table-LOC
Intended: 'I am putting the card on the table.'

We conclude that the little *v* morphemes *-a* and *-a'* select stems according to their unaccusativity.

### 2.5 Little *v*-Animacy introduces either an external or internal argument

We demonstrate in Sylliboy et al. (in press) that the Mi'kmaw "final" *-at* adds an internal argument to an unergative verb stem and *-a't* adds a causer argument to an unaccusative verb root. Here we reproduce our results, parsing what Sylliboy et al. (in press) presented as a "final" as the little *v*-Animacy combinations *-a-t* and *-a'-t*.[4]

We compare the monovalent (a) and bivalent (b) forms of the unergative stem *wissukw-* 'cook' in (5).

[3] In (4) some speakers write *pataluti* and others *petawti* for 'table.' Likewise, for (6b), (8), and (12).

[4] In Sylliboy et al. (in press) we employ the standard Algonquian term "final" to conform to the terminology in the broader Algonquian literature. Here, we use our more articulated analysis which parses the Algonquian "final" as two functional categories: little *v* and Animacy agreement. This parsing is crucial to understanding the complete picture of argument-building and argument-mapping in Mi'kmaw verbs.

(5) a. wissukw-a-Ø-Ø-y
cook-*v*-Animacy-Voice-1s
'I am cooking.'

b. wissukw-**a**-**t**-m-Ø wius
cook-*v*-Animacy-Voice-1s meat(IN)
'I am cooking meat.'

We conclude that *-a-t* introduces an internal argument to unergative verb stems.[5] (6) illustrates the unaccusative pattern with the unaccusative stem *ik-* 'arrive'/'put.'

(6) a. ik-a'-Ø-Ø-y jikan-k
arrive-*v*-Animacy-Voice-1s town-LOC
'I arrive to town.'

b. ik-**a'**-**t**-u-Ø wasuek pataluti-iktuk
arrive-*v*-Animacy-Voice-1s flower(IN) table-LOC
'I am putting the flower on the table.'

We conclude that *-a'-t* introduces an external (causer) argument to unaccusative stems. These clauses are prototypical causatives according to the criteria set out by Zúñiga and Kittilä (2019) (see Sylliboy et al. 2020 and Sylliboy et al. in press for argumentation).

## 2.6 Animacy-Voice maps arguments to grammatical roles

We demonstrate in this section that the Animacy-Voice combination expresses grammatical voice in Mi'kmaw; i.e., how the arguments are mapped to grammatical roles. We first demonstrate this system in Paul et al. (2019). Argument-mapping in Mi'kmaw is a straight-forward system where the combination of the Animacy morpheme with the Voice morpheme yields without exception a particular grammatical voice. We illustrate active, passive, and antipassive voice. We concentrate on bivalent constructions and show examples with each stem class.[6]

[5] We show in Sylliboy et al. (in press) that the Voice morpheme is not involved in the introduction of the internal argument.

[6] Grammatical voice is the mechanism by which noun phrases are assigned to syntactic positions in the clause (Gerdts 2011). 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. 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

(7) illustrates the unergative stem *wissukw-* 'cook' in active (a), antipassive (b) and passive (c) voice.

(7) a. wissukw-a-**t-m**-Ø wius
cook-*v*-Animacy-Voice-1s chair(IN)
'I am cooking the meat.'

b. wissukw-a-**t-eke**-y
cook-*v*-Animacy-Voice-1s
'I am cooking [stuff].'

c. wissukw-a-**l-u**-t jakej
cook-*v*-Animacy-Voice-3s lobster(AN)
'The lobster is being cooked.'

*-t-m* expresses active voice (a). The causer external argument is mapped to subject and the internal argument is mapped to object. *-t-eke* expresses antipassive voice. The causer external argument is mapped to subject and the internal argument is unspecified (b). *-l-u* expresses passive voice. The internal argument is mapped to subject and the causer external argument is unspecified (c).

(8) illustrates the unaccusative stem *ik-* 'arrive'/'put' in active (a), antipassive (b) and passive (c) voice.

(8) a. ik-a'-**t-u**-Ø kutputi pataluti-iktuk
arrive-*v*-Animacy-Voice-1s chair(IN) table-LOC
'I am putting the chair onto the table.'

b. ik-a'-**t-eke**-y
arrive-*v*-Animacy-Voice-1s
'I am putting [money] down.' (betting)

c. ik-a'-**l-u**-t ila'skw pataluti-iktuk
clean-*v*-Animacy-Voice-3s card(AN) table-LOC
'The card is being put on the table.'

*-t-u* expresses active voice (a). The causer external argument is mapped to subject and the internal argument is mapped to object. *-t-eke* expresses antipassive voice. The causer external argument is mapped to subject and the internal argument is unspecified (b). *-l-u* expresses passive voice. The internal argument is mapped to subject and the causer external argument is unspecified (c).

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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.

These are prototypical passive and antipassive constructions according to the criteria of Zúñiga and Kittilä (2019).

The antipassive and passive forms are both bivalent according to diagnostics from section 2.2. First, the Mi'kmaw-speaking coauthors judge that there is one participant in the clause in (5a) and (6a) from section 2.5 and two participants in the clause in (5b) and (6b) as well as all clauses in (7) and (8) above.

Second, compatibility with the patientive preverb *a'qati-* 'halfway' indicates presence of a patient argument in the antipassive and compatibility with the agentive preverb *o'pli-* 'wrongly' indicates presence of an agent argument in the passive. We illustrate using both stem classes in (9)-(12). First, we consider the antipassive of the stem *wissukw-* 'cook' shown in (7b). In this antipassive clause, only the 1s agent is specified. We need to establish that there is also a patient in the clause. We do it by showing that we can use the preverb *a'qati-* 'halfway' (9).

(9) a'qati-wissukw-a-**t-eke**-y
halfway-cook-*v*-Animacy-Voice-1s
'I am halfway cooking [stuff].'

The coauthors who are Mi'kmaw speakers indicate that they would use this sentence if they shut off the stove when things are only halfway cooked. Because the clause is compatible with *a'qati-*, we know the clause has a patient even though the patient is unspecified in the clause.[7]

The passive shown in (7c) is also compatible with the agentive preverb *o'pli-* 'wrongly' (10).

(10) o'pli-wissukw-a-**l-u**-t jakej
wrongly-cook-*v*-Animacy-Voice-3s lobster(AN)
'The lobster is being wrongly cooked.'

The compatibility implies the presence of an agent. We conclude that both antipassive and passive clauses are bivalent.

Similarly, we apply the diagnostics to the antipassive and passive voice clauses with the unaccusative stem *ik-* 'arrive'/'put.' (11) illustrates that the antipassive is compatible with the patientive preverb *a'qati-* 'halfway.'

(11) a'qati-ik-a'-**t-eke**-y
halfway-cook-*v*-Animacy-Voice-1s
'I am halfway putting [money] down.'

[7] We thank Martha McGinnis (p.c. June 2021) for her comment during our conference presentation that it could be that the addition of the preverb *a'qati-* 'halfway' simply means that the goal of cooking is halfway reached, and not that a patient argument is diagnosed. 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, and a patient argument is indeed implied with the antipassive.

The coauthors who are Mi'kmaw speakers say that the context for (11) is where, for example, the speaker has 100 dollars and bets 50 of it.[8] Because the clause is compatible with *a'qati-* 'halfway,' we conclude that the clause has a patient even though the patient is unspecified in the clause.

The passive is also compatible with the agentive preverb *o'pli-* 'wrongly' (12).

(12) o'pli-ik-a-**l-u**-t l'mu'j pataluti-iktuk
wrongly-arrive-*v*-Animacy-Voice-3s dog(AN) table-LOC
'The dog is being wrongly put on the table.

The Mi'kmaw-speaking coauthors indicate that someone might tell them this if the veterinarian asked them to put their dog on a table and they were putting the dog on the wrong table. The compatibility with the agentive preverb indicates that the clause has an agent.

We conclude that antipassive and passive clauses are bivalent. The Animacy-Voice combinations *-t-u* and *-t-m* express active voice. *-t-eke* expresses antipassive voice and *-l-u* expresses passive voice. Table 3 summarises.

**Table 3.** The Animacy-Voice combination expresses grammatical voice

| **Animacy-Voice** | **Grammatical voice** |
|---|---|
| ***-t-u*** | active |
| ***-t-m*** | active |
| ***-t-eke*** | antipassive |
| ***-l-u*** | passive |

There are other active, passive, and antipassive constructions in Mi'kmaw (Friesen to appear).

## 3. Discussion

In this paper we report on 77 stems in Mi'kmaw that occur in bivalent clauses with the little *v* morphemes *-a* and *-a'*, the Animacy morphemes *-t* and *-l*, and the Voice morphemes *-m*, *-u*, and *-eke*. We find that verb stems are classified as unergative or unaccusative. The little *v* morphemes *-a* and *-a'* select these stems according to their unaccusativity: in bivalent clauses, *-a* selects unergative stems and *-a'* selects unaccusative stems. The little *v*-Animacy combination introduces another argument. *-a-t/-a-l* introduces an internal argument to a stem that associates with an external argument. *-a'-t/-a'-l* introduces a causer external argument to a stem that associates with

[8] With regards to the comment in the previous footnote, an aspectual interpretation is much more difficult with this stem. There is no idea that the speaker has a goal of betting the entire $100 and so has only halfway reached that goal.

an internal argument. The Animacy-Voice combination maps these arguments to grammatical roles to yield grammatical voice.

This argument-building and mapping system works without exception throughout the language. To illustrate, we show minimal quintuplets from our larger study of 100 verb stems (Friesen to appear) which also includes a larger number of little *v*, Animacy, and Voice morphemes. These are bolded in the examples. (13)-(17) illustrate the unergative stem *kes-* 'like'/'love' selected by the little *v* morpheme *-a*. In each case, the little *v*-Animacy combinations *-a-t* and *-a-l* add an internal argument. (13) and (14) show active voice. The Animacy-Voice combinations *-t-m* and *-l-Ø* map the external argument to subject and the internal argument to object.

(13) kes-**a-t-m**-Ø wasuek
like-*v*-Animacy-Voice-1s flower(IN)
'I like the flower.'

(14) kes-**a-l-Ø**-k mijua'ji'j
like-*v*-Animacy-Voice-1s>3s child(AN)
'I like the child.'

(15) and (16) illustrate antipassive voice. The Animacy-Voice combinations *-t-eke* and *-l-ue* map the external argument to subject and render the internal argument unspecified.

(15) kes-**a-t-eke**-y
like-*v*-Animacy-Voice-1s
'I am having an affair.' ('I like [stuff]).'

(16) kes-**a-l-ue**-y
like-*v*-Animacy-Voice-1s
'I like [people].'

(17) shows passive voice. The Animacy-Voice combination *-l-u* maps the internal argument to subject and renders the external argument unspecified.

(17) kes-**a-l-u**-t mijua'ji'j
clean-*v*-Animacy-Voice-3s child(AN)
'The child is loved.'

Next, we illustrate a minimal quintuplet using the unaccusative stem *kesisp-* 'wash' selected by the little *v* morpheme *-a*' (18)-(22). In each case, the little *v*-Animacy combinations *-a'-t* and *-a'-l* add an external (causer) argument. (18) and (19) show active voice. The Animacy-Voice combinations *-t-u* and *-l-Ø* map the external argument to subject and the internal argument to object.

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

(19) kesisp-**a'-l-**Ø-k l'mu'j
wash-*v*-Animacy-Voice-1s>3s dog(AN)
'I am washing the dog.'

(20) and (21) illustrate antipassive voice. The Animacy-Voice combinations *-t-eke* and *-l-ue* map the external argument to subject and render the internal argument unspecified.

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

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

(22) shows passive voice. The Animacy-Voice combination *-l-u* maps the internal argument to subject and renders the external argument unspecified.

(22) kesisp-**a'-l-u**-t l'mu'j
wash-*v*-Animacy-Voice-3s dog(AN)
'The dog is being washed.'

We see that the system of grammatical voice works independently of the stem class and the little *v* morpheme.

Our work builds on and extends previous Algonquian research and represents a fresh analysis of Mi'kmaw verbs. To our knowledge, we are the first to present systematic evidence for unaccusativity as the basis for classifying verb stems in the Algonquian family. 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.).

Our analysis accounts for transitivity and grammatical voice in a way that the traditional Bloomfieldian analysis has not. Most Algonquianists (cf. Goddard 1974, 1990 for Algonquian in general and Inglis 1986, Fidelholtz 1999, and McCulloch 2013 for Mi'kmaw/Mi'gmaq) adopt the Bloomfield analysis of verb stem as root/initial-final and finals as indicators of transitivity and animacy of the object in transitive clauses. This is

in spite of well-documented mismatches between the verb morphology and the syntax (Wolfart 1973, Dahlstrom 2014, Hamilton 2015, Oxford 2017). Our proposed analysis illustrates how, without exception, the verbal morphology determines the syntax of bivalent clauses; that is, the functional categories are syntactic.

We believe that these findings are only possible because of our methodology involving a close collaboration between linguist and speakers, a systematic investigation into how the functional categories pattern with a large number of stems, and our investigation of the syntax of complete clauses.

## 4. Conclusions

We conclude that verb stems in Mi'kmaw are classified as unergative or unaccusative. The little *v*-Animacy agreement combination adds an argument and the Animacy-Voice combination maps those arguments to grammatical roles to yield grammatical voice. The argument building and argument mapping constructions overlap by both including the Animacy morpheme. This argument-building and mapping system works without exception throughout the language. Table 4 illustrates the verb classification and the two systems for adding and mapping arguments.

**Table 4.** Two overlapping systems for adding and mapping arguments

| | argument building | | |
|---|---|---|---|
| **stem** | **little *v*** | **Animacy** | **Voice** |
| | | argument mapping | |

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