

Strategies for lexical expansion in Algonquian languages

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This paper provides an empirical study of word formation and lexical expansion in a set of Algonquian languages, considering 153 terms for each language. These terms range from words that predate European colonialism to more recent forms coined by English L1 speakers. We propose a classification of the methods of lexical innovation, which involves the intersection of a set of grammatical and a set of semantic strategies. By far, the most common means of constructing new terminology that we found in the data combined nominalization with associated-action metonymy (the use of a form denoting an action associated with the object). We discuss challenges to doing such studies, especially the idiosyncrasies of dictionary creation. We also consider how our results can be used in language reclamation, especially immersion programs that need words for concepts in the school curriculum. We do not prescribe a “right” way to develop new vocabulary, but our findings may make explicit some of the intuitions speakers of Algonquian languages have about how the naming of new objects is approached.

1. Introduction¹ This paper provides an empirical study of the processes of word formation and lexical expansion in the Algonquian languages Plains Cree, Ojibwe (Southwestern; SW), Potawatomi, Menominee, and Northern East (NE) Cree, with occasional additional data from Nishnaabemwin, Myaamia, and Passamaquoddy-

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Maliseet (P-M),² looking at approximately 150 terms for each language. The words we discuss range from Native terms that predate European contact and colonialism to relatively recent, twenty-first century forms coined by fluent speakers of English.

Our primary goal in this paper is to provide a classification of the ways that speakers expand the lexicon in these languages. Following Ahlers (1996) and Hinton & Ahlers (1999), we argue that there are two intersecting categories of strategies for lexical expansion: the grammatical process by which a word is built (producing a new *form*) and the semantic process by which a sense is related to another sense (producing new *meaning*).³ For any given word, either or both of these strategies may come into play. Our framework (summarized in §4) provides subcategories for each strategy, based on the Algonquian data set we assembled. Except for a few Algonquian-specific grammatical strategies, the framework should prove useful as a starting point for other language families.

A secondary goal of the paper is to consider implications for language reclamation, especially with respect to issues of authenticity that may arise in such contexts. We show that the most common type of word formation in all the languages we consider is nominalization of verbs, creating words that mean ‘thing that does X action’ (what we call, following Ahlers 1996, “associated action metonymy”). This and our other findings may prove helpful to language programs as they expand the lexicons of their languages.

A few examples of the kinds of words we consider appear in (1):⁴

² We attempt to strike a balance between using well-known English names for the languages and using Native autonyms based on our knowledge of the conventions in each case. Plains Cree is also known as Nēhiyawēwin, Menominee is called Omāeqnomenēweqnaesen, and there are three native terms for Potawatomi (Neshnabēmwen, Bodéwadmi, and Bodwéwadmi), but those languages are usually referred to with their English names in the literature. Southwestern (SW) Ojibwe is also known as Anishinaabemowin; we follow the *Ojibwe People's Dictionary* in use of the former. The word for Cree in the Northern East Cree dictionary is Iiyiyiyimuwīn, but we have not seen that used in publications on the language. We follow Valentine (2001) in using Nishnaabemwin for the syncopating varieties of Ojibwe; see Valentine (2001: 1–5) for specifics. We use the Native term Myaamia, but note that Costa (e.g., 2003) uses Miami-Illinois – these may not have precisely the same dialect coverage, and we disambiguate as necessary. Finally, we use Passamaquoddy-Maliseet (abbreviated as P-M) because that is what our source, the online dictionary, uses. It is also called Passamaquoddy-Malecite as well as Maliseet-Passamaquoddy.

³ Hinton & Ahlers (1999: 63) called these ‘formal’ and ‘cognitive’, respectively.

⁴ The sources of our examples are described in §3, and abbreviations for sources are explained in Appendix A. We present examples in the original transcription, including conventions for writing compounds. In the English translation of a compound, we use a dash between elements. Where relevant, we follow the Leipzig glossing rules and abbreviations. Other abbreviations we use are as follows: an. = animate, DIM = diminutive, N = noun, s/o = someone, s/t = something, and V = verb. In the English gloss of derivationally complex words, we also use a dash to separate morphemes, and we disambiguate constituency with brackets where necessary. For consistency, we have made the glosses for certain cognate morphemes identical across examples, even though our sources may provide slightly different glosses. An anonymous reviewer suggested that we fully gloss all examples, but we have not done that because it would make the paper excessively long.

- (1) a. Plains Cree
 minôś
 cat.DIM
 ‘cat’ (< French *minou* ‘kitten’)
- b. SW Ojibwe
 bagone’igan
 bagone’-gan
 make.hole.in.it-NMLZ
 ‘drill’
- c. Potawatomi
 mnejimen-wmedné
 pea-has.a.blanket
 ‘pea-pod’

(1a) illustrates borrowing, (1b) shows an example of derivation, and (1c) provides an example of compounding.

There are multiple terms in use for the topic of this paper. Our preferred term is *lexical expansion* or *lexical innovation*, which we use broadly to cover all of the strategies found. While some authors restrict the term *neologism* in certain ways (e.g., Denzer-King 2008), we use it more generally to mean the same thing as lexical expansion.⁵

Brown (1999) and Collette (2017) both use the term *lexical acculturation* to refer “to the accommodation of languages to new objects and concepts encountered as a result of culture contact” (Brown 1999: 3). We do not use this because we did not restrict our word list to post-contact terms, and some that are clearly pre-contact are included.

The paper proceeds as follows: first, in §2, we review relevant literature on neologism and lexical expansion in Native American languages. Then, in §3, we describe our sources of data and methodology. §4 provides an overview of our framework, and we present the results of our study in §5–7. §8 provides discussion, and §9 looks at the implications of these results for language revitalization and reclamation projects. §10 concludes.

2. Previous studies There is a sizable body of literature on the formation of new terminology in the Indigenous languages of North America in general, and in Algonquian languages specifically. A great deal of the literature on the latter involves the source of individual loanwords, looking at, for example, borrowings from Dutch (Goddard 1974), French (Pentland 1982), Basque (Bakker 1989), and English (Rees-Miller 1996).

⁵ We avoid *word creation* because of possible connotations of invented or made-up language, and because we have been told that some first-language-speaking elders find it offensive to talk about “creating words in our sacred language” (Michael Sullivan, personal communication).

There are a few works that address the broader range of strategies used across Algonquian, which we have drawn on to develop the set we present in §4. None of them, however, distinguishes between grammatical and semantic strategies, and none appears to be exhaustive. Baldwin (1994), for example, briefly discusses four strategies for forming new words in Blackfoot: calquing, borrowing, semantic extension, and derivation. Sammons' (2009) discussion of lexical expansion in Sauk provides a somewhat longer list of methods: borrowing, calquing, semantic extension and narrowing, compounding, and derivation.

Similar lists of strategies are found in the literature on neologisms in languages across North America more broadly. In §1, we mentioned Ahlers (1996) and Hinton & Ahlers (1999), who did distinguish between grammatical and semantic strategies but primarily focused on metonymy in their discussion of languages in California.

The largest and most influential study of neologisms in North America is Brown (1999), who surveys the names for seventy-seven concepts, animals, and objects introduced to North, Central, and South America by Europeans.⁶ Brown (1999) finds four major naming strategies in the data he collected: "(1) adoption of loanwords, (2) use of loan shifts [calques], (3) extension of terms, and (4) coining of descriptive expressions" (19); this last strategy is essentially the same as what we call *metonymy* in this paper. His sample was evenly balanced between living things and inanimate objects, and he finds correlations between the type of strategy employed and the type of thing named. Specifically, he finds that loanwords are used more often in naming living things and that descriptive expressions are used more often for naming objects. His findings also support previous research that shows that degree of bilingualism is a significant factor in the kinds of neologism found. He argues that in the early stages of contact, when bilingualism is absent or only just beginning, Native communities will tend to use semantic extension or description for newly introduced items. Once bilingualism is established, borrowing is facilitated and becomes more prevalent.

Overall, we found that only Hinton and Ahlers make the distinction between types of strategies that we make in this paper. We also found that authors often give lists of specific mechanisms, of varying lengths, but none included all of the categories that we found in our data.

3. The data: Sources and wordlist Our data are drawn primarily from a set of online sources, a list of which can be found in Appendix A.⁷ These sources were chosen for a variety of reasons. Most of the languages are ones that we (individually and collectively) have familiarity with. They are mostly central Algonquian languages, with the exception of Passamaquoddy-Maliseet, which was added to determine whether we would find similar patterns in an Eastern Algonquian language. Another

⁶ See Brown's Chapter 2 for discussion of his methodology in selecting this particular list of words. We also note that some of the items he viewed as postcolonial introductions are claimed by others to have existed precolonially (e.g., 'horse', Collin 2017).

⁷ Plains Cree examples are from the PCOD except where noted as coming from ITW; see Appendix A for abbreviations.

factor was the availability and thoroughness of online sources. Thus, this is a convenience sample rather than any kind of rigorous sampling.

The sources contain varying degrees of derivational analysis and other information about the words they list; we supplemented this with our own knowledge and other sources such as grammars and other reference works. In some cases, cognate forms helped us provide our own analyses.

We acknowledge that dictionaries have a number of inherent limitations for this kind of research. First, it is rare that dictionaries explicitly mark neologisms. Even if they do, no dictionary can list all words, and the content of bilingual dictionaries of Indigenous languages (especially those compiled by non-Native linguists) is subject to chance encounters with particular lexical items. Such dictionaries can have different types of sources as well – they may be drawn from a body of texts, elicited by linguists using particular word lists, or created by community members for specific purposes. Furthermore, like all constructed documents, they are subject to the biases of their creators. The compilers may, for example, consider some forms more authentic than others and may choose to omit certain words or categories of words. We discuss such challenges further in §8.1.

The full list of 153 words we considered can be found in Appendix B, and our data can be found at <https://nisinoon.net/research>. The list incorporates the seventy-seven words from Brown 1999 (they can be identified in Appendix B because they are in all capitals). In his sample, Brown roughly balanced what he refers to as “natural kinds” (living things) and “artifacts” (objects made by humans); we have not attempted to do that here and wound up with fifty-five natural kinds, ninety-four artifacts, and four verbs.

A few words from Brown’s list were not found in any of our sources (e.g., ‘apricot’, ‘coriander (cilantro)’, ‘lemon’), possibly because their introduction (if they were introduced at all) came quite late into the period of European colonization in the region we consider. In other cases, we only found particular words in one or just a few of the languages we looked at. No significance should be read into this, given the potential limitations of our sources as just discussed. For the most part, in choosing examples for the paper, we have tried to use terms that were found in a higher number of the languages in order to show similarities and differences across the languages.

We reiterate for clarity that we did not restrict our data to words coined after contact or words referring to items introduced by Europeans. The data skew to some extent toward postcolonial introductions due to our inclusion of Brown’s (1999) list, but we did not exclude words that predated colonization.

4. Strategies for lexical expansion: Overview As mentioned in the introduction, our framework posits two intersecting aspects of lexical expansion: grammatical and semantic processes. Individual neologisms usually involve both of these, although as we show below, there are some instances where only one applies.

(2) and (3) summarize, respectively, the grammatical and semantic processes that we found evidence of in our data set. The particular types of derivation found, along with participle formation, are specific to Algonquian languages, but otherwise, the

classification should be general enough to apply to languages from other families.

- (2) Grammatical strategies
 - a. Compounding
 - b. Derivation (primary and secondary)
 - c. Participle formation
 - d. Borrowing
 - e. Calquing
 - f. Onomatopoeia
- (3) Semantic strategies
 - a. Metonymy
 - Associated action: association of a salient feature of an action (e.g., the instrument used, the time the action is typically performed)
 - Associated state: association with a state (which may or may not result from some action)
 - Associated sensation: a salient physical sensation associated with an object
 - Associated attribute: an object or part associated with the whole
 - Associated substance: the most salient substance found in the object
 - Associated feature: some intrinsic feature of the object such as shape, size, or quantity
 - b. Semantic extension and narrowing
 - c. Markedness reversal

In the following sections, we discuss each of these strategies, illustrated with examples drawn from our database. In §7, we address how the two types of strategies intersect.

5. Grammatical strategies Here, we look at the grammatical strategies employed in word formation across our sample of languages. The semantics associated with these grammatical strategies are addressed in §6.

5.1 Compounding In this category, we include both compounding of free forms as well as compounding of prenoun plus noun and preverb plus verb.⁸ (4–7) provide typical examples. There are varying conventions for how compounds are written in the various languages; as described in footnote 4, we follow the original for each language and hyphenate the members of the compound in the translation.

⁸ Prenouns in most Algonquian languages form a relatively small set of bound elements that compound with a following noun. Preverbs, on the other hand, form an extremely large set and compound with a following verb. See, e.g., Bloomfield 1962: 202–205, 214–222; Valentine 2001: 152–154; Costa 2022.

- (4) ‘refrigerator’ (N+N)
- | | | |
|------------|------------------------|-------------|
| SW Ojibwe | <i>mikwamii-makak</i> | ice-box |
| Potawatomi | <i>mkwemitaswen</i> | ice-cabinet |
| Menominee | <i>maehkuam-mahkāh</i> | ice-box |
- (5) ‘rice’ (prenoun+N)
- | | | |
|-------------|-----------------------|-----------------|
| Plains Cree | <i>wâpañôminak</i> | white-rice |
| SW Ojibwe | <i>waabi-manoomin</i> | white-wild.rice |
| Menominee | <i>wāp-manōmaeh</i> | white-wild.rice |
- (6) ‘machine gun’ (preverb+V)
- | | | |
|------------|---------------------------|-----------------------------|
| Potawatomi | <i>mégwétsek médwéwék</i> | many.times-it.makes.a.noise |
|------------|---------------------------|-----------------------------|
- (7) ‘Saturday’
- | | | |
|-------------|-------------------------------------|-------------------|
| Plains Cree | <i>nikotwâsiko-kîsikâw</i> | six-day |
| SW Ojibwe | <i>giziibiigisaginige-giizhigad</i> | floor.washing-day |
| Potawatomi | <i>odanké-gizhget</i> | goes.to.town-day |
| Menominee | <i>mānī-kēsekat</i> | Mary-day |

The examples in (7) vary in categories combined. ‘Floor washing-day’ and ‘Mary-day’ are both N+N, while ‘six-day’ is a particle+N compound. ‘Goes to town-day’ is a rare V+N compound.

5.2 Derivation Algonquianists distinguish between *primary* and *secondary* derivation. Primary derivation is formation of a stem from derivational morphemes (called *components*), and secondary derivation adds another layer, forming a stem from a stem plus another component (a derivational suffix). We call the output of these processes *primary stems* and *secondary stems*, respectively.⁹ This is illustrated in Figure 1.

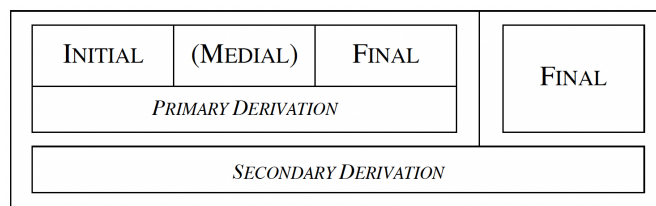


Figure 1. Primary and secondary derivation

⁹ Secondary derivation can iterate, but we restrict ourselves to one cycle here. Most secondary affixes attach to stems of a particular lexical category or subcategory (e.g., in (10), the nominalizer attaches to transitive verb stems with inanimate objects), but this is not directly relevant to our topic.

Simplifying greatly, there are maximally three components in a primary stem, called the initial, medial, and final, based on their relative position in the word. Initials and finals make up very large and semantically diverse sets, while medials form a smaller set, are optional, and tend to have nominal meanings. Secondary derivation takes a primary stem and adds a second final, creating a new stem, often of a different lexical category.¹⁰

In the data we collected, secondary derivation outnumbers primary by about a 6:1 ratio. Of the secondary forms we found, about 56% were nominalizations and approximately 20% were diminutives. The remaining 24% were formed with lexical suffixes.¹¹

We begin with primary stems:¹²

(8) Primary stems: ‘one hundred’

SW Ojibwe	<i>ningodwaak</i>	one-hundred
Nishnaabemwin	<i>ngodwaak</i>	one-hundred
Potawatomi	<i>ngodwak</i>	one-hundred
Menominee	<i>nekūtuak</i>	one-hundred

(9) Primary stems with the ‘berry’ final

Plains Cree	<i>āyīciminak</i>	tight-berry	‘peas’
Nishnaabemwin	<i>waabmin</i>	white-berry	‘apple’
Potawatomi	<i>mnejimen</i>	good-round-berry	‘pea’
Menominee	<i>mēqsemen</i>	big-berry	‘apple’
Myaamia	<i>keekaanwimini</i>	long-berry	‘banana’ ¹³

The examples in (8) contain a particle final, which means ‘hundred’, while the examples in (9) contain a noun final, which means ‘berry’ (and in some cases has the extended meaning ‘round, globular’). The Potawatomi word in this set is the only example that contains a medial; it is a classifier indicating ‘round’, which reinforces the roundness implicit in the suffix ‘berry’.

(10) provides examples of nominalizing secondary derivation. The nominalizing final in each case descends from Proto-Algonquian *-(a)kan or *-ikan (Goddard 1990: 473). The semantics of such nominalization varies; most often it forms instrumental and result nouns as well as other types.¹⁴

¹⁰ For further information, see, e.g., Goddard 1990; O’Meara 1990; Macaulay & Salmons 2017.

¹¹ We caution that these numbers are only intended to be suggestive of a pattern. They come from a set of words that does not form a statistical sample and are subject to our (sometimes nonexpert) analyses.

¹² In (8), (9), and some of our subsequent examples, the third column gives the meanings of the component morphemes, but for simplicity not the forms of the morphemes themselves.

¹³ This Myaamia word is a modern coinage and so, presumably, is the result of a more deliberate word formation process than the others.

¹⁴ See Costa (2020) for a thorough exploration of this suffix in Miami-Illinois.

(10) Secondary stems – nominalizations: ‘book’¹⁵

Plains Cree	<i>masinahikan</i>	get.it.on.credit-NMLZ
SW Ojibwe	<i>mazina’igan</i>	get.it.on.credit-NMLZ
Potawatomi	<i>mzen’egen</i>	get.it.on.credit-NMLZ
Menominee	<i>masēnahekan</i>	get.it.on.credit-NMLZ

In (10), we see a set of cognates that all share the same basic structure. Taking Southwestern Ojibwe as our example, the stem *mazina’-* is a transitive inanimate verb meaning ‘buy it on credit, charge it to an account’ (from an initial /mazin-/ ‘fancy, figured, image’ and a final /-a’/ ‘act on it using a tool’, presumably originally meaning ‘write’ or ‘draw’ with a semantic shift that dates to the colonial fur trade).

Further examples of secondary derivation are shown in (11) and (12):¹⁶

(11) Secondary stems – diminutives: ‘cigarette’

Plains Cree	<i>tihtipêkinikanis</i>	rolled.thing-DIM [ITW]
SW Ojibwe	<i>opwaagaans</i>	pipe-DIM
Nishnaabemwin	<i>semaans</i>	tobacco-DIM
Potawatomi	<i>pwagas</i>	pipe-DIM

(12) Secondary stems: ‘beer’

Plains Cree	<i>iskwêsisihkânâpoy</i>	barley-liquid
SW Ojibwe	<i>zhingobaaboo</i>	balsam.fir-liquid
Potawatomi	<i>bishtêwabo</i>	be.foamy-liquid
Menominee	<i>pēqtaewapoh</i>	foam-liquid
Myaamia	<i>peehsihkikamiiki[†]</i>	be.foamy-water

(11) shows a set of diminutive forms for ‘cigarette’ (many of the languages actually have multiple words for this). Diminutives are well represented in our corpus, including some that explicitly mark a smaller size on a relevant noun (e.g., ‘small pipe’ for ‘cigarette’) and others that have developed specialized meanings (e.g., ‘small tobacco’ for ‘cigarette’; cf. also ‘small iron object’ for ‘telephone, telegraph’ in Menominee).

The examples in (12) represent, on the one hand, a salient aspect of beer – that it is foamy – but, on the other hand, the diverse substances that it could be brewed from (the semantics of this are discussed further in §6.1).

5.3 Participle formation In Algonquian languages, participles are formed from a verb paradigm called the conjunct order. The precise mode of formation varies somewhat across the languages, but most make use of a process known as *initial change* – so called because it involves a change in the quantity and/or quality of the vowel

¹⁵ In many cases, the word for ‘book’ also means ‘paper, letter, document’.

¹⁶ We mark Myaamia words from historical documentation (as in 12) using a superscript dagger symbol. Newer forms from the modern speech community are unmarked.

of the initial syllable.¹⁷ Participles are inflected verb stems that can be used as nouns and can generally be given a somewhat literal translation with a relative clause (e.g., ‘one who Xs’, ‘that which is X’).

The use of participles for lexical expansion is fairly limited and quite sporadic. With the exception of the word for ‘ice cream’, there are few noticeable patterns across the languages. Examples appear in (13) and (14):¹⁸

(13) Participles: ‘ice cream’

Plains Cree	<i>kâ-tahkâk</i>	< tahkâw ‘it is cool, it is cold to the touch’
SW Ojibwe	<i>dekaag</i>	< dakaa ‘it is cool’
Potawatomi	<i>dékyak</i>	< dkya ‘it is cold’
Menominee	<i>tāēhkīk</i>	< tahkīw ‘it is cool’
P-M	<i>tekcokek</i>	< tkocoke ‘it is cold and soft’

(14) Other participles

SW Ojibwe	<i>eshkandaming</i>	‘watermelon’ < ashkandan ‘eat it raw’
Nishnaabemwin	<i>baasaawngaak</i>	‘flour’ < biisaawngaa ‘be finely ground’
Menominee	<i>Sayēwenet</i>	‘Swede’ < sēwen ‘it (an.) is sweet’
NE Cree	<i>kaapiishtaapiyishich</i>	‘beer’ < piishtaapiyiu ‘it foams up’

Note in (14) that the Menominee word for ‘Swede’ is not only a participle, it is a bilingual pun based on the similarity of the English words ‘Swede’ and ‘sweet’.

5.4 Borrowing Diffusion plays a significant role in the historical linguistics of Algonquian as a family (Goddard 1994; Costa 2013), and loanwords are well documented in every Algonquian language. Some transparently borrowed words from European languages are widely shared, such as the word for ‘coffee’:¹⁹

(15) Borrowing: ‘coffee’ (compare English ‘coffee’, French ‘café’)

SW Ojibwe	<i>gaapii</i>
Potawatomi	<i>gapi</i>
Menominee	<i>kahpēh</i>
Myaamia	<i>kaahpi</i> [†]
NE Cree	<i>kwaahpii</i>
P-M	<i>kahpe</i>

¹⁷ Some of the languages also add a preverb or specific suffixation to create the participle. See Costa (1996) for a survey of initial change across the family.

¹⁸ We were aided in our analysis of the NE Cree data by the online resources found in Junker 2000–2014.

¹⁹ ‘Coffee’, in fact, was the most borrowed word in Brown’s (1999) study of 196 languages of the Americas. He attributes this to the fact that it was probably not introduced until the 1660s, by which point most Native groups had likely achieved a high level of bilingualism. One of the conclusions of his study is that “bilingualism strongly facilitates lexical borrowing” (62).

Transparently borrowed forms like those for ‘coffee’ may be seen by some speakers as informal or inauthentic, and they may choose to use a form that was coined rather than borrowed (e.g., SW Ojibwe *makade-mashkikiwaabo* ‘black-liquid medicine’). (We return to ideological perspectives on borrowings in §8.2.) Older borrowings may, however, be less transparent to both linguists and speakers or may not be recognized as borrowings at all (cf. Pentland 1982: 114). One such example is shown in (16):²⁰

(16) Borrowing: ‘ribbon’ (compare French *ses rubans*)

Plains Cree	<i>sēnipān</i>
SW Ojibwe	<i>zenibaanh</i>
Potawatomi	<i>zēnba</i>
Menominee	<i>sāēnepān</i>

The forms for ‘ribbon’ were borrowed from the French noun phrase, complete with determiner (a common phenomenon in Algonquian languages), rather than from the simple noun, making them less recognizable than they might otherwise be.

5.5 Calquing Calques (loan translations) are characterized by Haspelmath & Tadmor (2009: 14) as “the transfer of meaning without the transfer of words.” They are not at all common in the data that we surveyed, appearing sporadically in only a few forms, illustrated in (17):

(17) Calques

Plains Cree	<i>miskwamî-manahikan</i>	ice-cream	‘ice cream’
SW Ojibwe	<i>mikwamii-makak</i>	ice-box	‘refrigerator’
Menominee	<i>aqnap</i>	net, web	‘internet, the web’
Menominee	<i>maehkuam-mahkāh</i>	ice-box	‘refrigerator’
P-M	<i>samaqanimin</i>	water-berry	‘watermelon’

The third example, from Menominee, might look like an anomaly since it only consists of one word. Brown (1999: 25) and Zuckermann (2003: 288) call words like this “semantic loans” rather than calques, but the conceptual process is the same. The rest are more typical examples of calques, with two words or morphemes being used to create an equivalent in the target language.

Another instance in which calquing arises is the widespread word for ‘white person’, *gichi-mookomaan*, or ‘long knife’ in SW Ojibwe (see Costa 2013 for discussion). This appears in a wide range of the languages we looked at, including as a truncated borrowing in Menominee, *mōhkomān* ‘white person’. Myaamia, however, shows a calque from one of the other Algonquian languages, having replaced the words in the phrase with native words: *mihši-maalhsa*[†] (literally ‘big knife’), still meaning ‘white person’.

²⁰ Here, NE Cree has *alipin* (compare English ‘ribbon’ or ‘a ribbon’) and Passamaquoddy-Maliseet has *puhsis* (< ‘bow’).

5.6 Onomatopoeia Onomatopoeia is different from the other grammatical strategies described above in that it does not involve combining or altering morphemes, but we include it here on the grounds that the form produced usually conforms to the phonology of the host language and thus is grammatical in that sense. In our data, the only consistent example of onomatopoeia is the word for ‘chicken’, as in (18):

(18) ‘chicken’	
Plains Cree	<i>pâhkahâhkwân</i>
SW Ojibwe	<i>baaka’aakwenh</i>
Nishnaabemwin	<i>baak’aakwaan, kaahaakwaanh</i>
Menominee	<i>pâkaqâhkwân</i>
NE Cree	<i>paahkihaakwaan</i>

Other bird names, not included in the set of words we examined, are sometimes also formed via onomatopoeia (e.g., Menominee *kâkâkew* ‘raven’).

The word for ‘pig’ in numerous North American languages, including Algonquian languages, is said to derive from a slightly different type of onomatopoeia: the sounds humans make when calling a particular type of animal. Taylor (1990: 187, citing Wartburg 1946) says that the basic form is French *coche* (/koʃ/), which often occurs reduplicated and diminutivized: *cocoche*, *coucouché*, *cochon*, *cochin*.²¹ Taylor surveys the word for ‘pig’ in a large set of North American languages and finds *coche* reflected in languages across the region. Indeed, it appears in our data as well:

(19) ‘pig’	
Plains Cree	<i>kohkôš</i>
SW Ojibwe	<i>gookoosh</i>
Nishnaabemwin	<i>gookoosh</i>
Potawatomi	<i>gokosh</i>
Menominee	<i>kôhkôš</i>
Myaamia	<i>koohkooša[†]</i>
NE Cree	<i>kuuhkuush</i>

Passamaquoddy-Maliseet is the only language we looked at that had a different form: *piks*, a borrowing from English. This language is found in the area Taylor calls the “New England-Maritimes” region, in which loans from English for ‘pig’ prevail.

6. Semantic strategies At this point, we turn to the semantics of neologisms in Algonquian languages, looking at metonymy, semantic extension and narrowing, and markedness reversal. The first, metonymy, is extensively used, while the others are less common.

²¹ Taylor (1990) suggests that the form was actually /koč/ and says that the details of its history are a “very vexed question” (202).

6.1 Metonymy There is a rich literature on metonymy as a cognitive process (e.g., Croft 1993; Kövecses & Radden 1998; Peirsman & Geeraerts 2006). Our goal is not to engage in that debate, but rather to use the concept of metonymy to understand patterns found in our data. For that reason, we adopt a fairly conventional definition of metonymy as exemplified in the following:

(20) Metonymy: (A figure of speech characterized by) the action of substituting for a word or phrase denoting an object, action, institution, etc., a word or phrase denoting a property or something associated with it (*Oxford English Dictionary*)

Janda (2011), however, points out that typical definitions of metonymy assume that it is a lexical phenomenon – that is, as in the definition above, it is framed in terms of words. She examines the use of metonymy in derivational morphology, which is included in the types of word formation we consider in this paper.

In the sections below, we explore the types of metonymy that we found in our data set and listed in §4, including associated action, state, sensation, and so on.

6.1.1 Associated action metonymy The type of metonymy found most often in our sources is associated action metonymy, a term derived from Ahlers' (1996) "associated action frame metonymy" and defined in Hinton & Ahlers (1999: 64) as "associating a lexical item with a salient feature of an action." Associated action metonymy is used for a variety of semantic categories, including both natural kinds and artifacts (e.g., tools, buildings, and animals).

As a first example, many words for tools are formed using associated action metonymy, as shown in (21):

(21) Tools

Plains Cree	<i>tâskipocikan</i>	saw.s/T.with.a.rip.saw-NMLZ	'ripsaw'
SW Ojibwe	<i>biimiskwa'igan</i>	twist.it.using.s/T-NMLZ	'screwdriver'
Potawatomi	<i>gitakw'egen</i>	take.off-NMLZ	'wrench'
Menominee	<i>pakāhcekan</i>	hit.it-NMLZ	'hammer'
NE Cree	<i>pikunaahiikin</i>	make.a.hole.in.it.using.a.tool-NMLZ	'drill'

As can be seen, the languages do not necessarily focus on the same feature of the action. The word for 'wrench' in Potawatomi, for example, focuses on the removal part of the associated action, while the word for 'screwdriver' in SW Ojibwe focuses on the twisting motion involved in the action.

Words for utensils also employ associated action metonymy:

(22) Utensils

Nishnaabemwin	<i>bdakigan</i>	prick-NMLZ	‘fork’
Menominee	<i>pacēskahekan</i>	gores.it-NMLZ	‘fork’
Menominee	<i>āemeskwan</i>	scoops.it.up-NMLZ	‘spoon’
NE Cree	<i>chiishtihikin</i>	pricks.it-NMLZ	‘fork’

These terms describe the manner in which the tool is used such as pricking, stabbing, and scooping.

Associated action metonymy is also commonly used to describe buildings. The stem generally describes the kind of activity that characterizes the building, and to this the ‘building’ final is added, which is seen in all of the examples in (23):

(23) Buildings

SW Ojibwe	<i>ozhibii’igewigamig</i>	write.things-building	‘office’
Nishnaabemwin	<i>gweji-bkinaagewgamig</i>	try-[win-building]	‘casino’
Potawatomi	<i>dawēwgemek</i>	sell.things-building	‘store’
Menominee	<i>kaehkēnōhamotiwikamek</i>	[teach-each.other]-building	‘school’

Associated action metonymy is also used to form words for animals:

(24) Animals

Plains Cree	<i>otâpahâkan</i>	cause.s/O.to.drag.s/T-NMLZ	‘ox’
Potawatomi	<i>wédap’egé</i>	drag.a.load	‘elephant’
Menominee	<i>tomāēhkomāēhsiw</i>	seeks.lice-NMLZ	‘monkey’
Menominee	<i>wēkiam nāēyōhtah</i>	house-one.who.carries.it.on.its.back	‘elephant’

Finally, (25) and (26) show instances where a day of the week is named for an action performed on that day:

(25) ‘Saturday’

SW Ojibwe	<i>giziibiigisaginige-giizhigad</i>	wash.the.floor-day
Potawatomi	<i>odanké-gizhget</i>	go.to.town-day

(26) ‘Sunday’

Plains Cree	<i>ayamihêwi-kîsikâw</i>	pray-day
-------------	--------------------------	----------

Following are other common examples of associated action metonymy. The data clearly show that there can be multiple ways to view a given action, focusing on different subparts of that action.

- (27) ‘gun’
- | | | |
|---------------|---------------------|--------------------------|
| Plains Cree | <i>pâskisikan</i> | shoot.it-NMLZ |
| SW Ojibwe | <i>baashkizigan</i> | shoot.it-NMLZ |
| Nishnaabemwin | <i>baashkzigan</i> | shoot.it-NMLZ |
| Potawatomi | <i>baskzegen</i> | burst.by.heat-NMLZ |
| Menominee | <i>pâskecisekan</i> | shoot.it.with.a.gun-NMLZ |
| NE Cree | <i>paaschisikin</i> | shoot.it-NMLZ |
- (28) ‘cup/glass’
- | | | |
|-------------|----------------------------------|--------------------------------|
| Plains Cree | <i>minihkwâkan</i> | drink-NMLZ |
| Potawatomi | <i>mnekwaigen</i> | drink.it-NMLZ |
| Menominee | <i>kuapenakan</i> | scoop.it.up.in.one’s.hand-NMLZ |
| Myaamia | <i>minehkwaakani[†]</i> | drink-NMLZ |
| NE Cree | <i>minihkwaakin</i> | drink-NMLZ |
- (29) ‘table’
- | | | |
|-------------|-------------------------|--------------------------------|
| Plains Cree | <i>atôspowinânâhtik</i> | eat.off.of.s/T-wood |
| SW Ojibwe | <i>adoopowin</i> | eat.from.it-N.final |
| Potawatomi | <i>dopwen</i> | eat.out.of.s/T-N.final |
| Menominee | <i>atûhpwan</i> | eat.from.on.top.of.s/T-N.final |
- (30) ‘soap’
- | | | |
|-------------|------------------------|------------------------|
| Plains Cree | <i>kisîpêkinikan</i> | wash.s/O-NMLZ |
| SW Ojibwe | <i>giziibiiga’igan</i> | wash.it.using.s/T-NMLZ |
| Potawatomi | <i>gzibyég’egen</i> | wash.things-NMLZ |
| Menominee | <i>kesêqnecekan</i> | wash.it-NMLZ |
- (31) ‘washing machine’
- | | | |
|-------------|-----------------------------|----------------------|
| Plains Cree | <i>kisîpêkinikâkan</i> | wash.s/T-NMLZ |
| SW Ojibwe | <i>giziibiiga’ige-makak</i> | wash.things-box |
| Potawatomi | <i>gzibyêngen</i> | wash.it.by.hand-NMLZ |
| Menominee | <i>kesêqnecekaew</i> | wash.things-agent |

While it could be the case that the examples in (27) and some examples in (28) might exemplify borrowing across and among the Algonquian languages, the examples in (21–31), when taken as a whole, show how prevalent associated action metonymy is across the family.

6.1.2 Associated state metonymy Associated state metonymy is quite similar to associated action metonymy except that, as the name implies, the metonymy reflects a state associated with the object rather than an action. We have a very small number of examples with this classification, but upon close inspection, it can be seen that this is in part due to the fact that most of the examples that involve states have some

other feature that seems more salient, resulting in a different classification. Two examples, which seem unambiguous to us, are the following:

- (32) a. Menominee
 askāētāēmen be.unripe-berry ‘orange’
- b. SW Ojibwe
 eshkandaming what.one.eats.raw [participle] ‘watermelon’

Compare these examples with the SW Ojibwe word for ‘orange’, *wezaawimi-nagizid*, a participle meaning roughly ‘that which is orange and berry-like, round’. We classified this as an example of associated feature (color), but it is also clearly stative (and, in fact, contains a stative final that marks it as such).

In other cases, the focus is on a resultant state, as in (33):

- (33) Plains Cree
 pihkahtêwâpoy it.is.burnt-liquid ‘coffee’
 tihtipêkinikanis rolled.up.thing-DIM ‘cigarette’ [ITW]

Overall, this kind of formation is less common than one might expect, although as mentioned, that may be in part because potential examples were classified as something else.

6.1.3 Associated sensation metonymy One aspect that metonymy can focus on is an associated sensation – that is, how the object is experienced by humans. This can be broken down into a small number of categories that align the salient attribute with different senses.

Auditory metonymy highlights a sound that is caused by or inherent to an object. This can be seen in the following example for ‘machine gun’ in which the repetitive and loud nature of the firearm is highlighted.

- (34) ‘machine gun’
 Plains Cree *macwêwês* audible.at.a.distance-make.sound-DIM
 Potawatomi *mégwétsek médwéwék* many.times-it.makes.noise

While onomatopoeia was discussed in §5.6 as a grammatical category, it also logically falls into this category in that the essence of the word is an imitation of what one is hearing.

Taste also plays an important role in associated sensation metonymy. In the examples below for ‘cookie’, both ‘sweet’ and ‘good’ are used to describe this type of “bread” rather than focusing on other aspects such as shape or baking process. ‘Pop/soda’ uses a similar tactic, but Menominee and SW Ojibwe use the ‘distinctive taste’ component (referring to sweet and sour things) rather than simply ‘sweet’.

- (35) ‘cookie’
 Plains Cree *wihki-pahkwêsikanis* good-little.bread [ITW]
 Potawatomi *wishkbe-pkwézhgas* it.is.sweet-[bread-DIM]
- (36) ‘pop/soda’
 SW Ojibwe *zhiiwaabo* distinctive.taste-liquid
 SW Ojibwe *menwaagamig* good-liquid [participle]
 SW Ojibwe *waashkobaagamig* sweet-liquid [participle]
 Potawatomi *wishkebabo* it.is.sweet-liquid
 Menominee *sēwāpoh* distinctive.taste-liquid

Olfactory-related metonymy can be used for things with notable or pungent smells. The only examples we found in the data involve unpleasant smells. Examples appear in (37) and (38):

- (37) ‘goat’
 Menominee *menūkuapos* stink-rabbit
- (38) ‘onion’
 Plains Cree *wihcêkaskosiy* stink-weed
 Menominee *sekākūhsyah* skunk-N.final

The final sensory category is tactile. Both of the following sets of examples relate to the perception of temperature:

- (39) ‘ice cream’
 Plains Cree *kâ-tahkâk* that.which.is.cool [participle]
 SW Ojibwe *dekaag* that.which.is.cool [participle]
 Menominee *tāēhkīk* that.which.is.cool [participle]
- (40) ‘refrigerator’
 Potawatomi *tkesgen* it.is.cold-NMLZ

‘Ice cream’ might have been expected to fall into the taste category, but this formation of the word focuses on the temperature of the food rather than a taste associated with it.

6.1.4 Associated attribute metonymy Associated attribute metonymy is naming based on an object that is associated with or part of the thing or person named. The object can be alienable or inalienable.

We begin with artifacts (alienable attributes):

(41) ‘American (white person)’

Plains Cree	<i>kihci-môhkomân</i>	big-knife
SW Ojibwe	<i>gichi-mookomaan</i>	big-knife
Nishnaabemwin	<i>gchi-mookmaan</i>	big-knife

(42) ‘elephant’

Menominee	<i>wēkiam nāēyōhtah</i>	house-one.who.carries.it.on.its.back
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As described in §5.5 and shown in (41), Americans were characterized with the expression ‘big knife’. In (42), the elephant was named by the ‘house’ or other structure it carried on its back in a circus.

The following examples are based on inalienable possessions: associated attributes that cannot be removed from the object. In each case, this is a body part: ‘leg’ in (43) and ‘nail’ in (44).

(43) ‘bicycle’

Plains Cree	<i>nîsokâcis</i>	two-leg-DIM
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(44) ‘horse’

SW Ojibwe	<i>bebezhighooganzhii</i>	one.each-nail-has
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The Plains Cree dictionary (Wolvengrey 2015–2022) says that the word for ‘bicycle’ in Plains Cree is “literally: ‘little two-leg’.” The *Ojibwe People’s Dictionary* (Livesay & Nichols 2012–2021) explains the word for ‘horse’ as having “the structure of an unattested verb meaning ‘has a single nail to each (hoof)’.” Costa (2013: 226) points out that we can tell that it was borrowed from Ojibwe into other Algonquian languages such as Menominee (where it appears as *pāsekokasiw*) by its Ojibwe morpheme for ‘one each’, *bebezhighw-*, which is not shared by the other languages.

6.1.5 Associated substance metonymy Associated substance metonymy describes an object using the most salient substance that it contains. In many cases, the substance is described by an initial, and then a feature of the whole is described by a classifying final (see Meyer 2019). This is illustrated with different kinds of liquids in (45) and (46), objects made from wood or other organic solids in (47) and (48), and objects classified as inorganic solids in (49) and (50).²²

²² Most of these sets contain cognate finals; the differences in translation in (45) and (46) are due to the way they were translated in the original sources and may reflect semantic narrowing of the final’s meaning.

- (45) ‘tea’
 Plains Cree *maskihkûwâpoy* medicine-soup
 SW Ojibwe *aniibiishaaboo* leaf-liquid
 Menominee *maskihkiwapoh* medicine-liquid
- (46) ‘wine’
 Plains Cree *sôminâpoy* grape-soup
 Plains Cree *mihkominâpoy* red.berry-soup
 SW Ojibwe *mazhoominaaboo* grape-liquid
 Potawatomi *ziwnoswabo* raisin-liquid
 Menominee *sômenapoh* grape-liquid
- (47) ‘box, chest, trunk’
 Menominee *mahkâh* large.of.single.things-organic.solid
- (48) ‘pencil, pen’
 SW Ojibwe *ozhibii’iganaak* thing.used.for.writing-organic.solid
- (49) ‘cast-iron pail’
 Plains Cree *asiskihkwânâpisk* pail-inorganic.solid
- (50) ‘stove, oven, cook-stove’
 Plains Cree *kotawânâpisk* campfire-inorganic.solid

Other nonclassifying finals also appear in examples of associated substance metonymy, as in the following:

- (51) Buildings
 Potawatomi *msegakwgemek* board-building ‘frame house’
 Potawatomi *mtewgemek* tree-building ‘log house’
- (52) ‘cigarette’
 SW Ojibwe *asemaans* tobacco-DIM
 Menominee *masēnahekan-ohpuakan* paper-pipe
- (53) ‘train’
 Plains Cree *iskotêwotâpânâsk* fire-vehicle
 SW Ojibwe *ishkodewidaabaan* fire-vehicle
 Menominee *eskôtāew-otācekwan* fire-vehicle

In (51), we find building types described by the substance they are made of. In (52), the SW Ojibwe word for ‘cigarette’ names ‘tobacco’ as the salient substance in the object, while the Menominee word points out that it is like a pipe but made of paper. Finally, in (53), some words for ‘train’ use ‘fire’ as the salient substance to

describe the vehicle since ‘fire’ leads to the presence of the steam or smoke coming from a train engine.

6.1.6 Associated feature metonymy Associated feature metonymy highlights a prominent physical feature of the object, and this can manifest itself in a few different ways depending on what is most visually prominent.

For some objects, the color is the most notable or distinctive feature. This can be seen in the following examples for ‘coffee’ and ‘rice’:

- (54) ‘coffee’
- | | | |
|------------|-----------------------------|-----------------------|
| SW Ojibwe | <i>makade-mashkikiwaabo</i> | black-liquid.medicine |
| Potawatomi | <i>kekshéwabo</i> | coal-liquid |
- (55) ‘rice’
- | | | |
|-------------|-----------------------|-----------------|
| Plains Cree | <i>wâpañôminak</i> | white-rice |
| SW Ojibwe | <i>waabi-manoomin</i> | grey-wild.rice |
| Menominee | <i>wāp-manōmaeh</i> | white-wild.rice |

Another trait that associated feature metonymy can focus on is quantity. The following example for ‘single-barreled gun’ versus ‘double-barreled gun’ shows that it can serve to distinguish between objects that vary only in the number of some associated feature.

- (56) Plains Cree
- | | | |
|---------------------|-------------|-----------------------|
| <i>pêyawaskanôš</i> | one-gun-DIM | ‘single-barreled gun’ |
| <i>nîswaskanôš</i> | two-gun-DIM | ‘double-barreled gun’ |

The following words for ‘Wednesday’ show some versatility in the quantity-oriented words. One of the Plains Cree forms uses the component for ‘three’, referring to its position as the third day of the week. The other examples, however, identify Wednesday with respect to its place within the whole week (i.e., the halfway point of the week).

- (57) ‘Wednesday’
- | | | |
|-------------|-------------------------|----------------------------|
| Plains Cree | <i>nisto-kîsikâw</i> | three-day |
| Plains Cree | <i>âpihtâwi-kîsikâw</i> | half-day |
| Plains Cree | <i>âpihtâwipayiw</i> | half-move |
| SW Ojibwe | <i>aabitawise</i> | half-it.falls |
| Potawatomi | <i>ayaptosak-gizhek</i> | it.falls.in.the.middle-day |
| Menominee | <i>âpaehtawehnaen</i> | half-it.falls |

Some objects have a shape that clearly distinguishes them from related concepts. Both ‘board’ and ‘banana’ have salient features of shape, as shown in (58) and (59).

(58) ‘board’

Plains Cree	<i>napakâhtik</i>	flat-tree
SW Ojibwe	<i>nabagisag</i>	flat-wood
Menominee	<i>napâkekew</i>	flat-N.final

(59) ‘banana’

Plains Cree	<i>otêskanimin</i>	its.horn-berry [ITW]
Myaamia	<i>keekaanwimini</i>	long.of.body.parts-berry
NE Cree	<i>kaawaakaaskuhch</i>	thing.stick.like.which.is.bent [participle]

Finally, we turn to the associated feature of size. In this category, one object is related to another object of a different size, but with similar characteristics. Words formed with a diminutive final are a common example of this.

(60) ‘apple’

SW Ojibwe	<i>mishiimin</i>	big-berry
Potawatomi	<i>mshimen</i>	big-berry
Menominee	<i>mēqsemen</i>	big-berry

(61) ‘match’

SW Ojibwe	<i>ishkodens</i>	fire-DIM
Nishnaabemwin	<i>shkodens</i>	fire-DIM
Potawatomi	<i>shkodés</i>	fire-DIM
Menominee	<i>eskōtāēhsaeh</i>	fire-DIM

(62) ‘cigarette’

Plains Cree	<i>pîhcwâkanis</i>	tobacco-DIM
SW Ojibwe	<i>opwaagaans</i>	pipe-DIM
Potawatomi	<i>pwagas</i>	pipe-DIM

6.2 Semantic extension and narrowing Semantic extension is when the set of entities that a word can refer to grows, and narrowing is when that set shrinks. In practice, older meanings frequently persist and coexist alongside newer meanings, and categorizing these changes is not a trivial exercise (Litty et al. 2016: 161). There are several relatively unambiguous cases of semantic extension in our data, but few or no similarly clear cases of semantic narrowing (Sammons 2009 notes similar findings).

The examples of semantic extension below intersect with other semantic strategies. For example, the Menominee word for ‘internet’ is an extension but is also clearly calqued from the English usage of ‘(world wide) web’.

- (63) Menominee
aqnap ‘internet’ (from ‘net, spiderweb’)²³

The Potawatomi example below is arguably narrowing, since it literally means ‘s/he is very sick’ but is conventionalized to mean ‘cancer’ as a specific kind of sickness. It may also be a sort of euphemism.

- (64) Potawatomi
kche-napnéwen ‘cancer’ (literally ‘s/he is greatly sick’)²⁴

A few other extensions are more widespread:

- (65) ‘tire (of a vehicle)’ extended from the traditional term for ‘shoe’

SW Ojibwe	<i>makizin</i>
Nishnaabemwin	<i>mkizin</i> ²⁵
Potawatomi	<i>mkezen</i>

- (66) ‘oat’ or other introduced cereal extended from the traditional term for ‘wild rice’

Nishnaabemwin	<i>mnoomin</i>	‘oats, Asian rice’ ²⁶
Potawatomi	<i>mnomen</i>	‘oats, Asian rice, wild rice’
Menominee	<i>manōmaeh</i>	‘oats, wild rice’
Myaamia	<i>naloomina</i> [†]	‘oats, rice, wheat’ ²⁷

- (67) ‘house’ extended from the traditional dwelling term ‘wigwam’

Plains Cree	<i>mīkiwāhpis</i>
Nishnaabemwin	<i>wiigwaam</i>
Potawatomi	<i>wigwam</i>
Menominee	<i>wēkiam</i>
Myaamia	<i>wiikiaami</i> [†]
P-M	<i>wikuwam</i>

²³ There is an animacy distinction in the source; when *aqnap* means ‘net’, it is animate, but when it means ‘spiderweb’, it is inanimate. The speakers who are using this very new extension were not sure what the animacy of it should be (there is no plural of ‘internet’, which would disambiguate it). That will presumably settle out over time.

²⁴ Note also Menominee *otāqnapīhkenaew* ‘spider, cancer’ and Passamaquoddy-Maliseet *amushopihk* ‘spider, cancer’.

²⁵ This word switches from inanimate to animate in this usage.

²⁶ There is a markedness reversal here in Nishnaabemwin, *bgoji-mnoomin* ‘wild rice’ (Nish *bgoji-*; OPD *bagwaji-* ‘wild’). See §6.3.

²⁷ This Myaamia form is attested by different authors at different times as *naloomina*, *maloomina*, and *laloomina*.

In the examples just given, the older, traditional meanings are still available to speakers. Nishnaabemwin speakers can still say *wiigwaam* to mean either ‘wigwam’ or ‘modern frame house’, just as Potawatomi speakers can still say *mkezen* to mean either ‘shoe, moccasin’ or ‘(vehicle) tire’.

6.3 Markedness reversal Markedness reversal (sometimes called retronymy) is a multistep process resulting in changes in the lexicon due to shifts in the relative cultural salience of two things. The process occurs when a term for a known object is applied to a newly introduced object, but then as the new object becomes the more salient one, the previously known object receives a new name that involves some sort of additional lexical marking.

Witkowski & Brown (1983) discuss several cases of such reversal when new domestic animals are introduced into a culture. We only have one example of this in our data involving exactly that case, but some version of it is found in five of the languages that we looked at, attesting to its cultural salience. Consider the set of words below for ‘buffalo, bison’:

(68) Markedness reversal: ‘buffalo, bison’		
Plains Cree	<i>paskwâwi-mostos</i>	plains-cow
Plains Cree	<i>iyîito-mostos</i>	ordinary-cow
SW Ojibwe	<i>mashkode-bizhiki</i>	plains-cow
Nishnaabemwin	<i>bgoji-bzhiki</i>	wild-cow
Potawatomi	<i>bgoj-bzheke</i>	wild-cow
Menominee	<i>maskūtiah-pesāēhkiw</i>	on.the.prairie-cow

The term for ‘buffalo’ or ‘bison’ in each case was appropriated for ‘cow’ when that animal was introduced.²⁸ As cattle grew in importance, and as the bison were killed off, the word shifted to mean ‘cow’ alone. That meant that a new form was required for the buffalo and bison, and the need was filled by modifying the word that now means ‘cow’. Witkowski & Brown (1983) point out that “the contrast ‘wild/tame’ or ‘domesticated/non-domesticated’ is a salient one in labeling animals” (576), and that is indeed what we see in Nishnaabemwin and Potawatomi. Another contrast they mention is ‘indigenous/non-indigenous’, and that may be the explanation for the Plains Cree term ‘ordinary cow’. The remaining three terms involve location – presumably the plains or prairie region in which bison and buffalo were found was marked compared to the more widespread region for cattle.²⁹

²⁸ There may have been an early stage where cows were referred to with a marked form of the word for ‘buffalo’ or ‘bison’, but we are unaware of any attestation of this.

²⁹ Rice (2012: 47) mentions the same pair of animals participating in markedness reversal in Dene Sųliné (a Dene, or Athabaskan language, spoken just to the north of the Plains Cree region), but with an extra twist: the original term for ‘bison’ was (in our terms) an associated sensation metonymy, ‘the stinky, rotten one’. The term came to refer to cows as well, and eventually, bison were renamed ‘grass-cow’.

7. Multiple simultaneous strategies To this point, for ease of exposition we have focused on a single aspect of the formation of each of our examples, either a grammatical or a semantic strategy. In fact, it is actually quite rare for a neologism to exhibit only one or the other – they generally manifest at least one of each type.

We do find a single strategy with borrowings, which involve grammatical factors such as the degree of integration into the native phonology but which in our data are rarely associated with any semantic change. Onomatopoeia might also be treated as purely grammatical in the sense that it involves the conventionalization of a way to imitate a sound (although arguably on the semantic side it involves auditory associated sensation metonymy as well). At the other end of the spectrum, prototypical semantic extension involves no grammatical change whatsoever to an existing term, only semantic change.

But aside from these cases, as was doubtlessly clear in §5 and §6, the majority of the examples involve at least one grammatical and one semantic strategy. In addition, there are also cases of individual words that involve multiple grammatical strategies and/or multiple semantic strategies. We address some of these cases in what follows.

We begin with a case where two grammatical strategies are involved. Borrowing interacts with derivation, for example, in the following word for ‘coffee’:

- | | | |
|--------------------|-----------------------------|----------|
| (69) Nishnaabemwin | <i>coffeewaaboo</i> | ‘coffee’ |
| | cf. <i>-waaboo</i> ‘liquid’ | |

Here, the English borrowing ‘coffee’ is used as a base for a productive form of derivation in the receiving language. We might say it also involves associated substance metonymy (liquid); note the similar forms in (12) (and other examples) with the same suffix.

Another case demonstrating interaction of grammatical strategies involves a word for ‘baby’ found in several of the languages. This combines borrowing with secondary derivation using the diminutive:³⁰

- | | | |
|-------------|-------------------|----------|
| (70) ‘baby’ | | |
| Plains Cree | <i>pêpîsis</i> | baby-DIM |
| SW Ojibwe | <i>biibiyyens</i> | baby-DIM |
| Potawatomi | <i>bibis</i> | baby-DIM |
| Menominee | <i>pêpêhsaeh</i> | baby-DIM |

These show both phonological and grammatical integration. Semantically, the borrowed word already refers to something small, but the diminutive adds expressive content.

Since secondary derivation is so prevalent as a grammatical strategy and metonymy is so prevalent as a semantic strategy in our data, it is not surprising that the

³⁰ It is unclear whether this would have been borrowed from English ‘baby’ or French ‘bébé’, or possibly from both, at different times.

two correlate in a large number of cases. The examples in (71), for example, contain instrumental nominalizations (previously illustrated in §5.2), a type of secondary derivation that falls into the associated action category of metonymy:

- (71) Secondary derivation and associated action metonymy
- | | | |
|-------------|-------------------------|----------------------|
| Plains Cree | <i>âmaciwêpicikan</i> | ‘elevator, ski lift’ |
| | cf. <i>âmaciwêpitam</i> | ‘s/he pulls s/t up’ |
| SW Ojibwe | <i>bakite’igan</i> | ‘hammer’ |
| | cf. <i>bakite’an</i> | ‘hit it’ |
| Potawatomi | <i>gdabke’gen</i> | ‘key’ |
| | cf. <i>ndegdapke’an</i> | ‘I lock it up’ |
| Menominee | <i>sakêpotacekan</i> | ‘wrench’ |
| | cf. <i>sakêpotam</i> | ‘s/he bites it’ |

Diminutives provide another, more complicated set of interactions of secondary derivation and semantics. Diminutives in Algonquian languages in general mark objects as small or cute or otherwise positively evaluated, as in (72):³¹

- (72) Nishnaabemwin *bkwezghaans* ‘cookie, sweet roll, doughnut’
lit. ‘little bread’

In this case, the meaning that the diminutive adds might lead us to say that the word displays associated feature metonymy of the subtype ‘size’, but that would miss the fact that the word also tells us something about its substance. Compare (72) with the next set of examples containing diminutive marking:

- (73) SW Ojibwe *andookomeshiinh* ‘monkey’
lit. ‘small creature that searches for lice’
- Menominee *wêhkesôhsaeh* ‘doughnut’
lit. ‘little tasty thing’

These show us that more than just size is being invoked – in SW Ojibwe *andookomeshiinh*, an associated action is also involved, and in Menominee *wêhkesôhsaeh*, the associated sensation of taste is involved. In such cases, both the stem and the suffix make a semantic contribution.

We close this section with further examples that have multiple semantic strategies at play simultaneously. Consider the examples in (74):

³¹ See Jurafsky (1996) for a more nuanced look at the semantics of diminutives.

- | | | |
|----------------|-----------------------------|--|
| (74) Menominee | <i>wēkiam nāēyōhtah</i> | ‘elephant’
lit. ‘one who carries a house on its back’ |
| SW Ojibwe | <i>ozaawaakizigan</i> | ‘toaster’
lit. ‘that used to brown s/r by fire’ |
| SW Ojibwe | <i>madweyaabiigibijigan</i> | ‘guitar’
lit. ‘that which you pull on strings of to create sound’ |

The first example in (74) contains a relative clause that highlights an associated action (carrying something on the back) as well as an associated artifact (the house). The SW Ojibwe word for ‘toaster’ is an instrument nominalization of a verb meaning ‘brown it by fire’. Again, it focuses on the associated action but also the associated feature ‘color’ (the verb is transparently based on a root meaning ‘brown, orange, yellow’). The word for ‘guitar’ in the third example is another instrument nominalization based this time on a verb meaning ‘strum it, play it (a guitar)’, *madweyaabiigibidoon*. The verb contains morphemes meaning ‘audible’, ‘stringlike’, and ‘pull on it’. We can identify an associated action, a feature (shape, for the strings), and a sensation (sound) in this stem.

Thus, the examples presented in this section attest to the importance of looking carefully at each term and considering both how it was formed as well as how its meaning is composed. As we have shown, either or both aspect(s) can be complex.

8. Discussion In this section, we address some of the challenges inherent in this kind of work as well as its relationship to the topic of language ideologies.

8.1 Challenges A number of challenges that we faced have been addressed as we discussed particular data points. However, we mention a few more general issues here.

First, unless a source specifically addressed a particular case where one Algonquian language borrowed a word from another, we have not attempted to address the issue of borrowing from other than European languages. Rhodes (1982; 2008) and Brown (1999) both make the point that Ojibwe (in various varieties) served as a lingua franca among the central Algonquian languages and that this may have enhanced the diffusion of specific terms across the languages of the region.³² When we present parallel forms across languages, we make no claims about the origin of the form.

The Myaamia documentation presents another challenge, in that data are drawn from several different historically documented varieties as well as from the modern speech community. We have simply marked examples as being from historical documentation (with the superscript dagger) or not marked them (when they are new), but we acknowledge that we are glossing over otherwise important details of dialect, history, and philology.

We take it as a given that there is a certain amount of imprecision in translation, and this creates a third kind of challenge that manifests itself in our study in vari-

³² See Costa (2013) for further discussion of borrowing among these languages.

ous ways. Some words were uncomplicated – all of the languages we looked at, for example, had a word that meant ‘apple’ and nothing else. However, the opposite end of the spectrum is represented by words for vehicles, as shown in Table 1. The table provides just one word per language; we give the most general word for ‘vehicle’ that was found or, when a general word was not recorded, the word defined as ‘car’.

Table 1. Vehicle words across the languages sampled

Language	Term	Definition	Source
Plains Cree	otâpânâsk	vehicle; toboggan, sled, wagon, car, automobile	PCOD
SW Ojibwe	odaabaan	something pulled or dragged as a means of conveyance: a sled, a sleigh, a wagon; a car, an automobile, a vehicle	OPD
Nishnaabemwin	daabaan	car, wagon	NSH
Potawatomi	wdabyan	car, automobile	POT
Menominee	otâcekwan	car, wagon, train, sleigh, buggy	MEN
Myaamia	šooḥšoopaaḱihsaaki [†]	any vehicle with springs	MPD
NE Cree	utaapaanaaskw	car	ECD
P-M	'tapakon	sled, toboggan; car, wagon, carriage; (in general) vehicle	PMLP

Note: In the Language column, NE = Northern East; P-M = Passamaquoddy-Maliseet; SW = Southwestern. The abbreviations in the Source column are defined in Table 2.

[†] We mark Myaamia words from historical documentation using a superscript dagger symbol.

Our intention was to compare the ways new forms and new meanings are composed for a given object, but the words in Table 1 illustrate how “a given object” is not always easy to pick out. Looking at the words for vehicles, we find that each language has a different inventory of denotations, and the words are defined with varying degrees of precision or generality. We cannot know from our sources, for example, whether the word that means ‘car’ in Potawatomi, *wdabyan*, could also mean ‘wagon’, as its cognate *daabaan* does in closely related Nishnaabemwin, or if it could have the even broader range of meanings reported for SW Ojibwe *odaabaan*.

We also acknowledge that our classifications into semantic categories can be subjective. In §6.1.5, for example, we discussed what we call “associated substance metonymy,” which involves naming something for a substance it contains. We included several words for ‘beer’ in this category, which can be paraphrased as ‘foamy liquid’. But is foam properly categorized as a substance contained in beer, or is it more of a physical feature (which we would then call “associated feature metonymy”)? Another example where there are multiple possible analyses is the word ‘fork’ in Menominee, *pacēskahēkan*. We treated it as “associated action metonymy”

(see §6.1.1) on the grounds that it is a nominalization of a verb meaning ‘s/he gores, stabs, pricks it’, thus literally ‘instrument for stabbing’. But the full definition as given is actually ‘instrument for goring, pricking; fork’ (Bloomfield 1975: 188), raising the possibility that we should classify its use as ‘fork’ as a semantic extension. In cases like this, we simply had to make a judgment call but with recognition of the fuzziness inherent in some classifications.

Finally, we were, for the most part, unable to take sociohistorical context into account, especially the impact of settler colonialism. This is clearly relevant to lexical expansion, and we are aware of the fact that the communities whose languages we are examining may have experienced contact and colonialism differently. Collette (2017) (following Casagrande 1955 and echoing Brown 1999), in fact, argues that the types of lexical innovation employed by a linguistic community correlates with chronology: that semantic extension and coinage are more common in the early stages of contact, but that once bilingualism takes hold, processes like borrowing and calquing take precedence. Discussing the Siouan language Nakota, he finds that “when the complexity and influx of new objects, kinds, and concepts increased at the turn of the twentieth century, polysemy [...] started to fade and was replaced by semantically transparent and descriptive neologisms” (2017: 118). Because we do not know much about the time depth of most of the terms we investigated, we were unable to take these kinds of factors into account.

8.2 Neologisms and language ideologies Discussions of borrowing and coinage can raise issues of language ideologies, defined by Kroskrity (2006) as “beliefs, or feelings, about languages as used in their social worlds” (498). Such beliefs and feelings arise on the part of community members and linguists, but such ideologies are rarely made clear in documentation. This type of issue arises perhaps most explicitly in the treatment of borrowings in the sources our study relies on. Works on Algonquian lexical expansion often contain notes like “in general borrowings are now avoided as a strategy to create new words” (Sammons 2009, speaking of work with Sauk speakers). Sometimes this pattern is framed even more broadly; for Myaamia, Leonard (2008) finds “very little borrowing from European languages,” and Salzmann (1951), for Arapaho, concludes that “[o]bvious loans [...] are conspicuous by their rarity” (99).

However, language ideological explanations like these must be grounded in data and deployed carefully; for example, Brown (1999: 85), citing personal communication with William Bright, notes the circularity inherent in the argument that a language lacks loans due to purist attitudes when the only evidence for purist attitudes is a lack of loans. Pentland (1982: 114), writing about French loanwords in Cree, says that many loans “tend not to be written down, even by professional linguists,” invoking the misconception that linguists can be expected to be free of language ideologies. Indeed, in our data, we observed a striking difference in the presence of loanwords: borrowings were sparsely represented in the dictionaries we consulted with the exception of the PMLP. Among our sample of words, Passamaquoddy-Maliseet had sixty-five borrowings, while the others ranged from four to seventeen each. However, it is beyond the scope of this paper to determine whether or to what

extent this represents a real difference among languages or whether it represents a difference among lexicographers.

This snubbing of loanwords was long an issue for the field. Callaghan & Gamble (1996: 116) note a “paucity of borrowing studies, especially between indigenous languages” and conclude that it “results in part from the second-class status often accorded to loans, as things that must be ‘weeded out’ in the search for cognates. [...] Borrowed words are not weeds. They are coequal with cognates in uncovering pre-history.” *The World Loanword Database* (Haspelmath & Tadmor 2009) is a decisive step forward in the recognition of the importance of borrowings, but unfortunately for our purposes, it only contains data from one North American Indigenous language, and it is not an Algonquian language.

9. Implications for language reclamation This paper was written as part of [Nisinoon](#), an NSF-funded project creating a cross-Algonquian database of derivational morphemes, or components. One of the central goals of the Nisinoon project is to create a resource that can be used by tribal language reclamation programs for lexical expansion.

The database is being created by scouring dictionaries, articles, and grammars for any components that they might contain. For some languages, there are extensive lists already compiled, but for the majority, the data are scattered haphazardly throughout the literature. It is important to us, though, that the eventual outcome does not just sit on a metaphorical shelf; it is intended to be useful to communities.

Languages that were formerly sleeping sometimes have a need to fill in gaps in the lexicons derived from archival documents. The documentation of Myaamia, for example, oddly lacks a word for ‘poison ivy’, a very salient plant (David Costa, personal communication).³³ But communities who have not experienced the same interruption in transmission also need to expand their lexicons to encompass modern life. As Kipp (2007: 40) wrote, “Our kids are modern kids. They see and experience a lot, and they don’t have Blackfeet words for their experiences.” The development of immersion schools brings another set of needed words, for concepts in science and math and other elements of the school curriculum.

This paper complements the database in that it can serve as a related resource for Indigenous language programs as they expand their lexicons. They can refer to our findings if they have questions about how the lists of components can be used. We recognize that each community will have its own language ideology and perhaps explicit principles for building words. Leonard (2008), for example, describes the principles that guide the Myaamia in their formation of new words: “(1) To be ‘true to’ the language, (2) To create words via a [Myaamia] worldview, and (3) To innovate very slowly” (4).³⁴ For this and many other reasons, we do not prescribe a “right” way to develop new vocabulary. However, our findings may make explicit

³³ He also points out that poison ivy may not have been as widespread before the Europeans started cutting down the forests.

³⁴ They are perhaps more deliberate about this than other communities due to Myaamia’s status as a formerly sleeping language.

some of the intuitions speakers of Algonquian languages have about how the naming of new objects is approached.

Thus, if language programs choose to follow the tendencies we have identified when faced with the task of building new terminology that feels authentic to the Algonquian worldview, they might nominalize a verb describing the action an object performs. The most general pattern is ‘the thing that Xs’ (e.g., Plains Cree ‘needle’, *sâponikan*, is the “thing that pierces”).

10. Conclusion Although our study was not designed to deliver statistically significant results, we found two very strong tendencies in the construction of new terminology. On the grammatical side, we found that secondary derivation is by far the most common way to form neologisms, with nominalization making up about half of those. Compounding, primary derivation, participle formation, and borrowings were all more or less equally represented. In terms of semantic strategies, there are a fair number of cases of associated feature and associated sensation metonymies, but associated action examples are far and away the most common. That is, speakers seem to focus most often on the action an object performs in coming up with a name for a new object or concept.

In reviewing the literature on neologisms and word formation in Algonquian languages – and indeed, in North American Indigenous languages more broadly – we found that very few authors distinguished between grammatical and semantic strategies (although, as noted, Hinton & Ahlers 1999 is an exception to this). In addition, different authors provided overlapping but distinct lists of strategies that they had identified. This project started from an empirical base and provides a framework incorporating the distinction and interaction between grammatical and semantic strategies, plus a comprehensive analysis of all of the subcategories found.

There is clearly room for further research. Most immediately, it would be enlightening to test our results against a wider sample of Algonquian languages, as well as to develop a more methodical way of choosing words to investigate. The caveats we made in §3 about the possible shortcomings of dictionaries as sources, however, would likely create a real challenge to this latter goal.

A second question that deserves a deeper look is whether there is a correlation between the type of strategy employed and the age and/or semantic domain of a given neologism. Recall from our discussion in earlier sections that Brown (1999) and Collette (2017) did find such correlations; see also earlier work by Casagrande (1955).

It is thus our hope that the findings of this paper can serve as the foundation for further investigation while also being of use to community language revitalization programs.

Appendix A: Primary data sources

Table 2 shows our primary sources of data. Throughout the paper, when we cite multiple languages, we order them as shown in the table, roughly west to east. References and URLs may be found in the references section.

Table 2. Primary data sources

Language	Source	Abbr.
Plains Cree	Wolvengrey (ed.), <i>Nēhiyawēwin: Plains Cree dictionary</i> ; Itwēwina Plains Cree Dictionary	PCOD ITW
Ojibwe (Southwestern)	Livesay and Nichols (eds.), <i>Ojibwe People's dictionary</i>	OPD
Nishnaabemwin (Ojibwe)	Naokwegijig-Corbiere and Valentine (eds.), <i>Nishnaabemwin Odawa & Eastern Ojibwe online dictionary</i>	NSH
Potawatomi	Forest County Potawatomi, <i>Ézhe-bmadzimgek gdebodwéwadmi zheshmomenan</i> 'How our Potawatomi language lives': <i>Potawatomi dictionary</i>	POT
Menominee	Database created and maintained by Macaulay; based on fieldwork from 1998 to the present; incorporates Bloomfield (1962; 1975)	MEN
Myaamia	Miami Tribe of Oklahoma, <i>Myaamia-Peewaalia dictionary</i> ; Lockwood's research	MPD
Northern East Cree	Junker et al. (eds.), <i>the Eastern James Bay Cree dictionary on the Web</i>	ECD
Passamaquoddy-Maliseet	Francis et al. (eds.), <i>Passamaquoddy-Maliseet Language Portal</i>	PMLP

Appendix B: List of words

Words in all capital letters are from Brown (1999).

Table 3. List of Words

African-American person	cookie	MATCH	sled, toboggan
American / white person	CORIANDER	microwave oven	slow cooker
APPLE	COW	MILE	snow plow
APRICOT	crosscut saw	MONEY	SOAP
Asian person	CUP	monkey	SOLDIER
baby	diaper	MULE	Spaniard
banana	DONKEY	musical instrument	SPOON
BARLEY	doughnut	NAIL	stamp (postage)
bear interest (money)	drill	NEEDLE	starch (V)
beer	elephant	Norwegian person	STORE/SHOP
BEET	elevator	OATS	stove
bicycle	European person	office	SUGAR
bison, buffalo	fish with a hook	ONION	Swede
BOARD	FLOUR	ORANGE	TABLE
BOOK	FORK	OX	TEA
BOTTLE	French person	pancake	telephone
BOX	frying pan	PAPER	THREAD
BREAD	GARLIC	PEACH	tire
bucksaw	German person	PEAS	toaster
BULL	German shepherd	pencil	tomato
BUTTER	GOAT	piano	TOWN
BUTTON	GRAPES	PIG	train
CABBAGE	grill, roasting frame	PISTOL	TURNIP
CALF	guitar	pop, soda	type (V)
Canadian person	gun	refrigerator	violin

cancer	hammer	RIBBON	WAGON
CANDLE	hardware store	RICE	washing machine
car	HEN	RICH	WATERMELON
casino	HORSE	ripsaw	WEDNESDAY
cast-iron pot	HOOR	ROOSTER	WHEAT
CAT	house	rutabaga	whiskey
CHEESE	HUNDRED	SATURDAY	white people
CHICKEN	ice cream	saw	WINDOW
cigarette	internet	SCHOOL	wine, grape juice
CLOCK/WATCH	KEY	SCISSORS	wrench
COFFEE	laptop/iPad	screwdriver	wringer (on a washing machine)
COLT	LEMON	SHEEP	
compass	LETTUCE	shoe	
computer	MARE	SHOVEL	

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