0.1. Introduction. The Algonquian languages are very closely related so that many lexical items, even complex ones, appearing widespread across the family have meanings so similar that it appears at first blush that there is little to be learned there about the semantic change. However, a second look reveals that the very closeness of the languages enables us to see mechanisms of semantic change whose spoor are washed away by the tides of time in deeper and more diverse families like Indo-European, or even Germanic. A careful study of the full range of morphemes populating a specific semantic area in the Algonquian languages of the Great Lakes area reveals three properties of semantic change:

1) that there can be significant interconnected meaning changes among morphemes that occupy niches within a small semantic domain,
2) that innovative semantic subsystems may arise in specific languages, and
3) that there may be sound symbolic effects within the sets of domain related forms.

These ideas are not entirely new. The first has been occasionally discussed in the literature. The two best known examples of connected semantic change are both chain shifts. One is Watkins’s discussion of the development of the Indo-European horse terms in Armenian (1970). But a more dramatic case is found in Gamkrelidze and Ivanov’s (1994:538) treatment of the semantic shifts in tree names from PIE to Greek, which is summarized in (1). Their discussion falls just short of explicitly claiming that this semantic change is analogous to a “push” or “drag” chain in phonology.

(1) PIE | Latin | Greek
---|---|---
*Hos-kʰ- ‘ash’ | őrns ‘mountain ash’ | μελίν ‘ash’
*bʰaHk’- ‘beech’ | fagus ‘beech’ | οξύν ‘beech’
*pʰer(kʰo)u-n- ‘oak, thundergod’ | quercus ‘oak’ | κεραυνός ‘lightning’

But in this paper I will be focusing on a different kind of related semantic change. Morphemes with meanings that can be loosely glossed as ‘break’ and ‘tear’ in several Algonquian languages of the Great Lakes area show semantic shifts in which in some individual languages a semantically coherent system arises out of a system which is less organized (in a technical sense)—i.e. point 2) above, and that that organization arises along phonological lines—point 3). Of further interest is that, as far as we can tell, this semantic reorganization was not triggered by any change in the semantic field, e.g. through the introduction of new technology, since all the neighboring groups share identical technologies whether or not they undergo this system coalescence.
0.2. Preliminaries. The morphology of interest to us only occurs as part of a larger construction, so before we can go any further it is necessary to explicate the basics of Algonquian verb structure.

The prototypical Algonquian verb is not just morphologically complex but lexically complex. The most straightforward general description of a prototypical Algonquian verb is that it is a compound of a modifier plus a verb. The nature of the information in the modifier is largely determined by the meaning of the verb. For example, motion verbs generally take path or goal modifiers, change of state verbs generally take resultatives, and any verb type can, of course, take a manner modifier. Examples of these verb types are given in (2).

(2) (a) motion verb

ni-siwene-wa ‘he leads him down’ [Fox]

ni-s   - we-n   - e   - wa
down   - lead-AN   - 3OBV   - 3

(b) change of state verb

pohqunum ‘he broke it’ [Massachusetts]

po-hkw   - on   - om   - w
broken   - manipulate   - 3 INAN   - 3

(c) verb with manner modifier

gizhiipatoo ‘he runs fast’ [SW Ojibwe]

gizhi   - patoo   - w
fast   - run   - 3

There are, of course, other types of Algonquian verbs semantically, but the morphological structure of the vast majority of primarily derived verbs is like that of the verbs in (2). The parts of the structure have regular names in Algonquianist grammatical terminology. The modifier is called an INITIAL (or, by some writers, a ROOT) and the verb morpheme that heads the construction is called a FINAL. Actually a number of agreement-like morphemes may co-occur with a final and have suppletive allomorphy determined by that final, so that the final is actually a complex that may consist of two parts as in (2a). The parts of the final with more lexical content always occur first and are called CONCRETE FINALS. The more agreement-like parts of the final are called ABSTRACT FINALS. It is traditional in Algonquianist work to cite concrete and abstract finals together, a practice which we will follow in this paper.

There is much more that could be said about Algonquian verb structure, but we need only mention one other thing here. There is also a MEDIAL slot following the initial as shown in (3). Notice that, as in (3a), no final need be present following a medial. Various types of meanings may be expressed by medials including, but not limited to, involved body-part as patient (3a), classification of patient (3b) or instrumental/locative (3c), and adverbial intensification (3d).

(3) (a) pâskitonêw ‘he has his mouth open’ [Plains Cree]

pâsk   - itonê   - w
open   - mouth-MED   - 3

(b) odakwegikodaan ‘he cut it short’ [Ojibwe]

o   - dakw   - eg   - iko-d   - an   - n
3 ERG   - body   - 2D FLEX OBJ   - cut-INAN   - 3 INAN   - INAN
(c) ata·hp-a-pye·sahto-wa ‘he yanks it on a string’ [Fox]
ant-a·pye·- sah-t - o· - wa
yanked - string - move-INAN - 3 INAN - 3

(d) kep-a-hkwaham ‘he locks it up’ [Menomini]
kep - a·hkw - ah - am - w
blocked - solid(ly) - use an instrument - 3 INAN - 3

For the purposes of this paper we will focus on initials in resultative constructions like that in (2b). All of the morphemes that directly refer to breaking and tearing appear as morphemes of this class.

1. Proto-Algonquian break/tear morphemes. To begin we will reconstruct the most significant morphemes of Proto-Algonquian in the break/tear semantic domain.

1.1. Proto-Algonquian core domain morphemes. There are three reconstructable morphemes with meanings in the core of the break/tear domain. The first is PA *po·θk(w)- ‘broken’. It is the most widely attested morpheme across the family with the widest range of break/tear meanings. The cognates are given in (4).


A word about the final *w in this form in order. There are variant forms of several Proto-Algonquian break/tear words with and without final *w. This suggests that the *w appearing at the end of *po·θk(w)- might be considered a separate morpheme, but it is unclear what the meaning of this *w might be. Because of this semantic problem we have chosen not to reconstruct the the *w as separate. Note that Fox, Miami-Illinois, and Ojibwe have reflexes of the morpheme in (4) both with and without the w.

The second PA morpheme of wide currency that has a readily reconstructable meaning in the break/tear domain is *ta·tw- given in (5).


The third PA morpheme of wide currency that has a readily reconstructable meaning in the break/tear domain is *pa·šk- given in (6).

Notice that the PA forms in both (5) and (6) have some reflexes with the meaning ‘open’ suggesting a proto-type scenario in which tearable items are effectively containers (including the bodies of animals) so that to be torn is to be open. In the case of PA *pa·sk- this is further enhanced by the fact that there is a similar morpheme PA *pa·sk- ‘open (at the top)’ with which it merges in some languages by sound law.

1.2. Core domain morphemes in daughter languages. The remaining morphemes that are central break/tear morphemes in particular languages either have reconstructed meanings that are peripheral to the break/tear domain in Proto-Algonquian or are areally restricted morphemes.

1.2.1 PA domain peripheral morphemes. Examples of peripheral break/tear morphemes taking on central meanings in daughter languages are given in (7):

(7) (a) Miami-Illinois ki·hk/-ki·sk- ‘broken’ < PA *ki·sk- ‘severed, having a sheer face’ Plains Cree kisk- ‘cut through’ Fox ki·sk- ‘cut off’, Ojibwe giiskhk- ‘cut off, sheared off’, Shawnee kisk- ‘cut off, broken off’ Menomini ki·sk- ‘cut off’.


1.2.2 Areally restricted morphemes. There are just two areally restricted morphemes with core domain meanings. One is found in Shawnee and the other in Menomini. They are cited in (8):

(8) (a) Pre-Shawnee *lelehk- ‘torn’: Shawnee lelkh- ‘torn’.

(b) Menomini pi·hk- ‘burst’.

The source of these morphemes is unknown, but we will have more to say about the Menomini form in §3 below.

1.3 The Proto-Algonquian core system. Based on the forms given in (4) through (8) above, we can reconstruct the semantics of the Proto-Algonquian system. The system has three core terms with characteristic specializations. There
are two key oppositions. The first is the contrast between the separation or separability of the pieces of the broken entity as opposed to the opening of the broken entity. The second is that for non-separable breaking, affected objects are distinguished between flexible or rigid. The system is summarized in (9).

(9) PA *po·θk(w)- ‘broken/torn off/apart’
    PA *ta-tw- ‘torn open (of flexible objects)’
    PA *pa·śk- ‘burst/crack open (of rigid objects)’

2. Developments in selected daughter languages. The remaining sections are devoted to a detailed examination of the system of those daughter languages which have sufficient scholarly resources to enable us to work out their systems.

2.1 The Fox system. The Fox system appears to reflect the Proto-Algonquian system with minor changes. The basic opposition is between morphemes that emphasize separation and those that don’t. The terms are outlined in (10).

(10) [separated]                  [non-separated]
    po·hwk- ‘in two’                po·hk- ‘have a hole torn’
    pakh- ‘plucked, severed, separated’ ta-tw- ‘torn’
    pakhw- ‘pulled out, missing a piece’ pa·śk- ‘cracked’

2.2 The Cree system. The Cree system seems to be totally restructured around the semantic innovation of Proto-Algonquian *pi·kw- ‘in pieces’ > Proto-Cree *pi·kw- ‘broken, torn (in general)’ which takes a general meaning with the other forms being relegated to specialized meanings.

(11) [general]                   [specialized]
    pi·kw- ‘broken, torn (in general)’    pask- ‘broken (of strings); plucked’
    po·hwk- ‘in two’                  po·hk- ‘have a hole torn’
    ta-tw- ‘torn’                     ta-tw- ‘torn’
    pa·śk- ‘burst; open’               pa·śk- ‘cracked’

2.3 The Ojibwe system. The Ojibwe system shows the most interesting developments. Ojibwe parallels Cree in having adjusted the meaning of the reflex of PA *paxk- ‘plucked, hairless’ > ‘broken (of strings)’. But Ojibwe has restructured the entire system to be sensitive to the shape of objects affected. Thus Ojibwe has four core terms and has lost the Proto-Algonquian emphasis on separation and openness. What is more, the shapes that this innovative system are sensitive to represent the basic shapes of a rudimentary classifier system (Denny 1976). The system is laid out in (12).

(12) bookw- ‘broken (of stick-like objects)’
     bak- ‘broken (of string-like objects)’
     biigw- ‘torn (of sheets)’
     baashk- ‘broken (of 3 dim. objects)’

At this point someone might object that Ojibwe might not have originated this system but that it retains the proto-system, implying that the semantic
reconstructions in (10) are simply an artifact of the semantic opacity caused by the collapse of the proto-system in the other daughter languages. However, we would like to argue that the system in (12) arose in Ojibwe by pointing out that in Ojibwe all the core terms are ambiguous between being general terms in which they are shape-sensitive and being specialized terms which have meanings like those of other Algonquian languages. These facts are presented in (13).

(13)  

<table>
<thead>
<tr>
<th>[classified]</th>
<th>[unclassified]</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>bookw-</code> ‘broken (of stick-like objects)’</td>
<td>‘in two’</td>
</tr>
<tr>
<td><code>bak-</code> ‘broken (of string-like objects)’</td>
<td>‘picked (of fruit), hairless’</td>
</tr>
<tr>
<td><code>biigw-</code> ‘torn (of sheets)’</td>
<td>‘in pieces’</td>
</tr>
<tr>
<td><code>baashk-</code> ‘broken (of 3 dim. objects)’</td>
<td>‘burst, cracked’</td>
</tr>
</tbody>
</table>

This ambiguity throughout the system arises from the fact that the meanings of the newly coalesced system do not entirely supplant older meanings, especially in more idiomatic contexts.

3. Some implications of the Ojibwe system. The restructuring that we have just demonstrated for Ojibwe has two kinds of implications. One regards the semantic restructuring that includes the innovation of a noun classification system and the other regards the connection between the phonological form of the Ojibwe break/tear core domain and the semantics, i.e. sound symbolism.

3.1 Classification. The development of a semantic subsystem that has innovated an implicit classifier system in it has, to the best of my knowledge, never before been attested. That is, languages with classification appear always to have had classification. So Ojibwe is significant with respect to the fact that it is a developing classifier language. Ojibwe (and Cree) both have incipient classification in counting as exemplified in (14), although such classification is not obligatory except in anaphoric contexts.

(14)  

<table>
<thead>
<tr>
<th>[unclassified]</th>
<th>[stick-like]</th>
<th>[string-like]</th>
<th>[sheet-like]</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘one’ bezhig</td>
<td>bezhigaatig</td>
<td>bezhigaabiig</td>
<td>bezhigweyg</td>
</tr>
<tr>
<td>‘two’ niizh</td>
<td>niizhwaatig</td>
<td>niizhwaabiig</td>
<td>niizhweg</td>
</tr>
<tr>
<td>‘three’ niisiw</td>
<td>niishwaatig</td>
<td>niishwaabiig</td>
<td>niishweg</td>
</tr>
<tr>
<td>‘four’ niiswin</td>
<td>niiswaatig</td>
<td>niiswaabiig</td>
<td>niisweg</td>
</tr>
<tr>
<td>‘five’ naanan</td>
<td>naanwaatig</td>
<td>naanwaabiig</td>
<td>naanweg</td>
</tr>
</tbody>
</table>

| etc.            |              |              |              |

3.2 Phonological coherence in the Ojibwe break/tear domain. Even more interesting than the innovation of a noun classification system is the choice of morphemes that make up the Ojibwe core system. Two of the terms, `bookw-` ‘broken (of stick-like objects)’ and `baashk-` ‘broken (of 3 dim. objects)’, are reflexes of core terms in Proto-Algonquian. The third, `bak-` ‘broken (of string-like objects)’, is generalized from a specialized Proto-Algonquian term. But the semantically innovative `biigw-` replaced the reflex of the third Proto-Algonquian core domain word, `daadw-` ‘tear (open)’, which occurs in Ojibwe in the meaning ‘split (open)’ and is rare in most dialects. This makes it possible to view the Ojibwe core domain set as having a phonological coherence, i.e. as having sound symbolism. To be more explicit, all the forms in this set have the form in (15).
While this is may not immediately look like a compelling template, consider that prior to a sound change that took place in the last 100 years the forms were as in (16a) and template was as in (16b).

(16) (a) 

- *poohkw-*  ‘broken (of stick-like objects)’
- *pahk-*  ‘broken (of string-like objects)’
- *pitkw-*  ‘torn (of sheets)’
- *paaśk-*  ‘broken (of 3 dim. objects)’

(b) 

- *p V ([+cont]) k (w)*

If such a template were taken as a generalization over the optimal form of a core Algonquian break/tear morpheme then there would be a reason that the ancestor of *daadw-* would be discarded in favor of the ancestor of *biigw-*. There is further reason to believe that something like (16b) is active in the semantic domain of breaking and tearing elsewhere in the family. First, there are other specialized Proto-Algonquian break/tear morphemes that share this template or something close to it. These are given in (17).

(17) (a) 


(b) 

- *pahkwe*- ~ *pačkwe*- ‘be missing a piece’¹ W. Abnaki *pskwa*- (< *čk*) ‘be missing a piece’, Proto-Cree *pahkwe*- ‘be missing a piece’: Plains Cree *pahkwê*- ‘be missing a piece’, Atikamek *pahkwê*- ‘divided’, Montagnais *pakwe-* ‘be missing a piece’; Menomini *pahkwe*- ~ *pačkwe*- ‘be missing a piece’, Fox *pakwe*- ‘be missing a piece’, Shawnee *pkwee*- ‘be missing a piece’, Ojibwe *bakwe*- ‘be missing a piece’.²

Secondly, the Menomini morpheme *pi-hk*- ‘burst’ mentioned above in (8b) is completely innovated matching the template.

Thirdly, Shawnee has an otherwise unattested variant of PA *po-θkw*- in *poškw-* ‘broken, in two’. (The facts are summarized in [18]). Again if there is a template like that in (16b), the source of this Shawnee innovation is readily explained.

(18) (a) 

- *po-θkw-* ‘broken/torn off/apart’: Shawnee *poʔkw-* ‘broken, burst’.

(b) Pseudo-PA *po-škw-* : Shawnee *poškw-* ‘broken in half’.

Having presented a case for the role of sound symbolism in structuring the innovative Ojibwe core break/tear system, it is necessary to digress briefly to discuss the notion of sound symbolism as I am using it here.

### 3.2.1 Sound Symbolism

The kind of sound symbolism that I have been referring to is sometimes called conventional sound symbolism (e.g. Hinton, Nichols, and Ohala 1994:5). That is, there is no iconic relation between any part of (16b) and any proto-type state of impaired physical continuity. Thus (16b) is ultimately arbitrary in the Saussurean sense, but because the relevant structural parts
of (16b) do not match any other analyzable structure in Algonquian, one cannot call (16b) a morpheme. Rather it appears to be an historical accident of Algonquian to have had two core terms in a tight semantic domain similar enough to make a coherent template inferrable. Then as some of the daughter languages attest this inferred template is available to affect either the the semantic history of the forms in this domain (as in Ojibwe or to a lesser extent in Cree) or to affect the phonological history of forms in the domain (as in Menomini and Shawnee).

3.2.2 Sound meaning correlations in the Ojibwe break/tear domain. Unfortunately, in spite of a scholarly history of over 100 years (see Bloomfield’s eloquent statement of the nature of conventional sound symbolism [1895:409-410, quoted in Hinton, Nichols, and Ohala 1994]), it is not well enough studied for us to know how deeply one can analyze the coherence of inferrable patterns. So on the maxim of “he who can do the most can do the least”, I choose, for the record, to err in the direction of overanalyzing (16b). For Ojibwe it is possible to associate cognitively salient properties with parts of (16b). The core Ojibwe terms are given in (19) in a paradigm labeled by these properties shown as features, but I want the reader to recognize that these are intended to be understood as characterizing cognitive prototypes. In other words I’m taking advantage of feature-type formalism, but intending properties to be understood as cognitively salient attributes and oppositions. Semantically the relevant distinctions are flexible vs. non-flexible and one-dimensional vs. multi-dimensional.

(19)  
[-flex]  
[-1D]  
bookw-  
baashk-  
[+flex]  
[+1D]  
bak-  
biigw-

We can abstract from (19) the four sound-meaning correspondences summarized in (20). If these are valid generalizations then sticks and sheets form a natural class as opposed to strings and blobs.

(20) (a) \( w = [\alpha \text{ flex}] \)  
\( \overline{\nu} \)  
w is associated with sticks and sheets

(b) \( \overline{[\alpha \text{ rd}]} = [\alpha \text{ flex}] \)  
\( \overline{-1D} \)  
long high vowels are associated with

sticks (oo) and sheets (ii)

(c) \( a = [\alpha \text{ long}] \)  
\( [\alpha \text{ flex}] \)  
a is associated with strings (short)

and globs (long)

(d) \( [\alpha \text{ for} \text{tis}] = [\alpha \text{ rd} \text{ i}] \)  
\( [\alpha \text{ flex}] \)  
fortis k is associated with one-

dimensional objects3

Because this is theoretically unknown territory, it is possible that the regularities in (20) could be an artifact of the formalism and the small size of the semantic domain. But note that the grouping of sticks and sheets as a natural class is reflected in the two semantic classes of the reflexes of Proto-Algonquian *po-θk(w)-.
(21) PA *po·θk(w)-  ‘broken (in two)’  ‘torn (open)’

W. Abnaki  boskw-
Massachusetts  pohkw-
Mahican  pohkw-
Plains Cree  pōskw-
Ojibwe  bookw-
Miami-Illinois  po·hk-
Fox  po·hk-
Shawnee  poškw-

4. Conventional sound symbolism and analogical change. Finally I would like to address the question of forms with problematic histories. Two have come up in our discussion, viz. Menomini pi·hk- ‘burst’ and Shawnee poškw- ‘broken, in two’ mentioned in §3.2 above and cited in (22).

(22) (a) Menomini pi·hk- ‘burst’

(b) Shawnee poškw- ‘broken, in two’

The question is why did Menomini and Shawnee create new forms at all. Menomini jettisoned the reflex of *pa·sk- and replaced it with pi·hk.- Shawnee innovated a new variant of *po·θk(w)-. The standard solution to the Menomini problem is to essentially ignore it. The standard solution to the Shawnee problem is either to posit old variation or propose a language contact explanation. But if we allow for the existence of conventional sound symbolism, a new class of solutions is possible. Templates like (16b) provide for a class of possible morpheme shapes that would be relevant both for the innovation of an entirely new form like the Menomini or for the definition of a class of mutually relevant forms within which analogical changes could occur as in the Shawnee case or more especially in the case of the w variants of break/tear words throughout the family.

Finally I will conclude by saying that this is a very important point for questions of reconstruction. Because the kinds of morphemes examined are garden-variety lexical items on which neo-grammarians’ methods should work the best, the fact that we have shown that they are susceptible to analogical pressures means that a serious semantic analysis may be necessary just to do the most basic kind of phonological and morphological reconstruction.

Notes

1Forms reflecting PA *pačkwe- rather than *pahkwe- are explicitly indicated.
2This morpheme is found in the widespread idiom for ‘bread’, e.g. Fox pahkwešikani, Menomini pahki-sikan, Plains Cree pahkwėsikan, Ojibwe bakwezhigan, lit. ‘that which has a piece cut off’. Some languages only attest this morpheme in that word and possibly in verb forms which could be viewed as backformed from it, e.g. Fox pahkwešweewa ‘he cuts a slice from [the bread]’, pahkwešamaweewa ‘he cuts a slice (of bread) for him’, which given that the artifact to which the expression refers is of very recent foreign origin suggests that the morpheme in question might be borrowed.
3The basic contrast in Ojibwe is fortis/lenis, represented by voiced and voiceless symbols respectively. The k that occurs as the second member of a cluster is lenis.
The only place Menomini shows a reflex of *pa-šk- is in the word for ‘gun’ pa-skecisekan, its secondary derivatives, and verb forms that appear to be directly relatable to it. This situation strongly suggests that these reflexes of *pa-šk- are recently borrowed (actually, semi-calqued)—probably from Ojibwe. This proposal is not without some difficulty because the Menomini word for ‘gun’ is not a complete morpheme for morpheme match with any other Algonquian language, but it is not necessary to resolve that question here.

References