Spatial-Marking Affixes and the Expression of Time in Ojibwa

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0. Introduction
Linguists have seldom questioned the assumption that temporal expressions share morphemes with spatial expressions in many languages because the concept of time is metaphorically grounded in the concept of space (although cf. Brøndal 1950). Recent work in grammaticalization, in fact, (e.g., Claudi and Heine 1986; Traugott 1978, 1985) supports the notion that time is one of a large number of semantic domains to be metaphorically grounded in the spatial domain. On the grammaticalization view, spatial metaphor is the basis for grammaticalized temporal expression in many languages.

Research in child language acquisition may also be viewed as evidence that temporal expression is grounded in spatial expression. Clark and Clark (1978:246), for example, found that “children are able to use locative expressions like in the house before analogous expressions for time like in the afternoon”. Flores d’Arcais (1983:1108–1109) found in addition that among children “time expressions are often at first misinterpreted as spatial expressions” which supports “the notion of expressions of time as developing out of the notion of space, or from a common system”.

In this paper I will present evidence that many temporal expressions are grammaticalized constructs metaphorically derived from spatial expressions by considering several Ojibwa spatial affixes, including the locative suffix -ong, and the prefixes ani- ‘away from the speaker’, bi- ‘toward the speaker’, awas- ‘beyond’, ishkwaa- ‘after’, and ishpi- ‘high’.

The data I employ are based largely on Minnesota Ojibwa (found in Nichols and Nyholm 1979, examples from which are credited as N and N 1979), and the Ojibwa spoken at Lac Courtes Oreilles, Wisconsin, gathered

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1I would like to thank Ives Goddard and Richard Rhodes for their comments on an earlier version of this paper. All errors remain my own.
from Roger Thomas during fieldwork done in Milwaukee in 1990 (identified as Thomas 1990). Other varieties of Ojibwa drawn upon here include Walpole Island (Rhodes 1985; Bloomfield 1957; Holmer 1953), Sandy Lake (Todd 1970), and Northern Michigan (Baraga 1850, 1966). For the topic at hand, phonological and morphological differences among these varieties will be ignored. In each of the examples below, I have preserved the orthography employed by the recorder of the data being presented; the most notable differences among varieties here involve consonant voicing.

1. The Locative Suffix

1.1. Spatial relations expressed by the locative suffix

Several spatial relations, including the locative (‘at’), adessive (‘on’), allative (‘to’), ablative (‘from’), inessive (‘in’), and elative (‘out of’) (terms borrowed from Anderson 1971) are expressed in Ojibwa by the locative suffix [on], orthographically -ong, and its morphophonological variants, represented orthographically as -g, -ng, -ang, and -ing (Baraga 1850; Thomas 1990), also -k and -nk in certain varieties (Holmer 1953; Bloomfield 1957; Todd 1970; Piggot and Grafstein 1983). These are shown in (1):

(1) Spatial Relations Expressed by the Locative Suffix
Baraga 1850 (Suffix in [g]):

a. -g
   O wigiwamiwag ondijibaw. ‘They come out of their houses.’ (O wigiwamiwan, ‘their houses’)
   O wigiwamiwag aiawag. ‘They are in their houses.’

b. -ng
   Jaganashiwaking nitam nin wi-ija, panima dash Wemitgojiwaking. ‘I will first go to England and then to France.’ (Jaganashiwaki, ‘England’; Wemitigojiwaki, ‘France’)
   Jaganashiwaking nind ondijiba. ‘I come from England.’
   Jaganashiwaking danisi. ‘He lives in England.’

c. -ang
   Nin pikwanang nin gi-pakiteog. ‘He struck me on my back.’ (nin pikwan, ‘my back’)

d. -ing
   Anishinabe anakaning namadabi wissinid, nin dash apabiwining nin namadab, adopowining dash nin wissin. ‘The Indian sits on a mat when eating, but I sit on a chair, and eat on [at] a table.’ (anakan, ‘a mat’; apabiwin, ‘a chair’; adopowin, ‘a table’)

e. -ong
   Wikwedong gi-ondji-madja, Wawiiatanong gi-ani-ija, nongom dash Kebekong wi-ija. ‘He started from L’Anse, went to Detroit, and now he intends to go to Quebec.’ (Wikwed, ‘L’Anse’; Wawiiatan, ‘Detroit’; Kebek, ‘Quebec’)

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Bloomfield 1957 (Suffix in [k]):

f. -\textit{ink}, -\textit{nk}
- \textit{cimanink} 'in the canoe' (ciman 'canoe')
- \textit{epwink} 'on the paddle' (epwi 'paddle')
- \textit{otenank} 'in town' (otenaw 'town')

g. -\textit{ank}
-\textit{uppikkunank} 'on his back'
-\textit{mikkenank} 'on the road'

As seen from (1) above, numerous spatial relations can be expressed by the locative suffix, with further semantic specification being conveyed by the verb and/or by extralinguistic context. Nouns in local form can also be further specified by local particles, as shown in (2) (Tood 1970):

\begin{enumerate}
\item (2) \textit{peh\textbackslash son\textbackslash čipwätink} \\
\textit{near kettle-locative} \\
\textit{‘near the kettle’}
\item \textit{pintikamink niwåhkahikanink} \\
\textit{inside-building my-house-locative} \\
\textit{‘inside my house’}
\end{enumerate}

1.2. Temporal uses of the locative suffix

Many adverbial phrases of time are morphologically impersonal intransitive verbs of time inflected for conjunct order, with indicative inflection \textit{-k}, obviative \textit{-ini}, \textit{-k} (Bloomfield 1957:52–53). Examples are shown in (3):

\begin{enumerate}
\item (3) \textbf{Verbs of Time Inflected for Conjunct Order}
\item a. \textit{wi-nimuwał nonkwą tepikkakk} ‘They are going to dance tonight’ (Bloomfield 1957:164) (stem tipikkat-; kepe-tepikk ‘all night’, Bloomfield 1957:149)
\item \textit{enaku\textbackslash uš\textbackslash šik} \textit{(indic.)} 'when evening comes' (Bloomfield 1957:52)
\item \textit{enaku\textbackslash uš\textbackslash šinik} \textit{(obv.)} 'when evening comes' (Bloomfield 1957:53)
\item (naagshig ‘be evening’, Rhodes 1985)
\item b. \textit{kessinamekæt peponk} (Bloomfield 1957:165), \textit{gisinaa bibong} (Thomas 1990) 'it is cold in winter' (pepon, Bloomfield 1957:93; biboon, N and N 1979 ‘it is winter’)
\item Mii azhigwa ani-ziigwang ‘It is now getting towards spring’ (Thomas 1990)
\item (ziigwan ‘it is spring’, N and N 1979)
\item Nibing dash omimig ta-osaminowag oma ‘In summer pigeons will be here in great quantity.’ (Baraga 1850)
\item (niibin ‘it is summer’, N and N 1979)
\end{enumerate}

In a few instances, however, adverbials of time seem to be formed not by conjunct inflection but by means of the locative suffix. Perhaps the earliest form of support for this proposal was stated by Cuoq, who was referring to the locative suffix in what follows:
Cet accident se forme du présent de l'indicatif de certains verbes impersonnels par l'addition de la terminaison ONG, par exemple: “manatat,” c'est mal; “manatatONG,” dans le mal; “patatotagemagat,” cela occasionne le péché; “patatotagemagatONG,” dans l'occasion du péché; “mani-kijigat,” il est samedi; “mani-kijigatONG, un samedi, etc. (Cuoq 1966:73)

Regarding time verbs in particular, Todd (1970:48) observes that:

Verbs of time inflected for conjunct order are clauses that have a syntactic and semantic function comparable to that of temporal particles: pipönk ‘in the winter'; wąpank ‘in the morning, tomorrow’.

While the morphological inflection of these verbs is that of conjuncts, Todd’s point is to be noted: these conjunct verbs behave, syntactically and semantically, like temporal particles, similarly as nouns in local form behave syntactically as particles.

There is, moreover, evidence of two kinds that suggests that at least some adverbials of time are morphologically derived by means of the locative suffix. These are (a) adverbs of frequency of occurrence, and (b) adverbials of past time. Examples are given in (4):

(4) Temporal Expressions Formed with the Locative Suffix
   a. nenkwatink nontakusin ‘Call out once.’ (Bloomfield 1957:174)
      nišink nontakusin ‘Call out twice.’ (Bloomfield 1957:174)
      nessink nontakusin ‘Call out three times.’ (Bloomfield 1957:174)
      naningotinong ‘sometimes’ (Baraga 1850:485)
      dassing ‘every time, as often as’ (Baraga 1850:485)
      nipena teccink ‘many times’ (Bloomfield 1957:133)
      entesso-tekošink nemina eseman ‘Every time he comes I give him tobacco.’ (Bloomfield 1957:168)
      entesso-wapeminank mapa ekkwe kepappepikunan ‘Every time this woman sees us (inc.) she laughs at us.’ (Bloomfield 1957:168)
   b. biboonong ‘last winter’ (cf. biboon ‘it is winter’, bibong ‘in the winter’)
      ziigwanong ‘last spring’ (cf. ziigwan ‘it is spring’, ziigwang ‘in the spring’)
      niibinong ‘last summer’ (cf. niibin ‘it is summer’, niibing ‘in the summer’)
      dagwaagong ‘last autumn’ (cf. dagwaagi ‘it is autumn’, dagwaagig ‘in the autumn’, N and N 1979)
      dibikong (Thomas 1990), tepikkonk (Bloomfield 1957:153)
      ‘last night’ (cf. dibikad ‘it is night’, N and N 1979; noongom dibikak ‘tonight’, Thomas 1990; tepikkakk ‘tonight’, Bloomfield 1957:164)

The attachment of the locative suffix to the verb has the effect of selecting a point or definite span of time within a broader span. The metaphorical basis of this relation would be that some subspan of a span of time can be articulated in language by being metaphorically located, i.e., located in time in a manner analogous to the location of perceivable objects in space.
2. Ani- ‘away from (the speaker)’

Ani-, along with the morphological variants ni-, ini-, in- and eni-, is a preverb with the spatial sense ‘going away from (the speaker)’. Examples are provided in (5a):

(5) a. Spatial-marking ani-
   Gi-ni-giwewag ‘they returned home’ (Baraga 1850)
   Gi-ani-madja ‘he is gone away’ (Baraga 1850)
   Ni-giiwen! ‘Go home!’ (Rhodes 1985)

In addition to this spatial sense, ani- can indicate temporal sense, which can be glossed as ‘in the future’ (Baraga 1966; Rhodes 1985), ‘henceforth’ (Baraga 1966), ‘going on, approaching towards’ (Baraga 1966; Thomas 1990), or ‘coming up to’ (Nichols and Nyholm 1979). Examples are given in (5b):

(5) b. Temporal-marking ani-
   Nin gat ani-kitimagis ‘Henceforth I will be poor and miserable.’ (Baraga 1966)
   Ki gat ani-bakadem ‘You shall starve.’ (Baraga 1966)
   Jawnimishinam, Debenimiiang, gwaiak tchi ani-bimadisiiang ‘Have mercy on us, Lord, that we may behave well in future.’ (Baraga 1850:496)
   Eni-kenawanemiššenank nikan kishekaton ‘Do Thou watch over us in the days to come.’ (Bloomfield 1957:175)
   Mii maanda niigaan da-ni-gizhigak ge-mno-aabjitooyan ‘You’ll be able to put this to good use in the future.’ (Rhodes 1985)
   Mii azhigwa ani-biboong ‘It is now getting toward winter.’ (Thomas 1990)
   waa-ni-bmiseg ‘next week’ (Rhodes 1985)

In the examples in (5b), ani- indicates metaphorical movement toward a goal. This metaphorical movement is directed away from the speaker, as in the spatial sense, and toward a metaphorical, nonlocal destination, such as poverty, starvation, future time, or winter. A gloss of ani- as ‘coming up to (in time)’ may be explained as a shift in the metaphorical position of the speaker to a position identical to that of the temporal destination. The speaker thus either watches time move away from him- or herself toward a destination (mii azhigwa ani-biboong ‘it is getting on towards winter’), or places him- or herself at the destination, and views the movement of time as an approach (cf. English ‘it is coming on towards winter’, ‘winter is approaching’).

3. Bi- ‘towards the speaker; here’

The preverb bi- indicates movement towards the speaker. So, for example, whereas the verb izhaa is glossed as ‘she or he goes there’, bi-izhaa yields a
gloss of ‘she or he comes here’, as shown in (6a).

(6) a. Spatial-marking bi-
    bi-izhāa ‘s/he comes here’ (N and N 1979)
    bi-wabandān ow masinaigan ‘come and see this book’ (wabandān
    vti ‘shows’) (Baraga 1850:496)
    nijing nin gi-bi-nibamin ‘we slept twice in coming to this place’ (nī-
    baa vai ‘sleeps’) (Baraga 1850:496)
    bi-mbwachishnaang ‘come visit us’ (nbwachhaad, vta ‘visit’) (Rhodes
    1985)
    bi-nda-wiisni ‘He’s coming to get something to eat.’ (wiisnid, vai
    ‘eat’; nda pv ‘look [to do something]’) (Rhodes 1985)

Temporally, bi- indicates past time in relation to present time, as shown in (6b) below. The evidence that bi- occurs as a separate morpheme for temporal expression in Ojibwa is scarce; gaa-bi-bmīseg is the only clear example I have yet encountered. In bijinaago, for example, bi- seems to have been lexicalized, although jiinaago (Rhodes 1985) without bi- also occurs to mean ‘yesterday’ (ci:nako, Piggott and Grafstein 1983).

(6) b. Temporal-marking bi-
    bijiinaago ‘yesterday’ (N and N 1979) (cf. naagshig (Rhodes 1985),
    onaaqoši (N and N 1979) vī ‘be evening’; jiinaago ‘yesterday’) bi-
    jiinag ‘recently; after a while’ (N and N 1979)
    gaa-bi-bmīseg ‘last week’ (bmīseg vī ‘pass (of weeks)’ (Rhodes 1985)

If, as with ani-, a speaker is conceived of as standing still, past time expressed by bi- can be thought of as a metaphorization of that which has approached and hence arrived within the speaker’s domain. That which has occurred in the past is known; it is something the speaker has access to, and hence is metaphorically near the speaker. If bi- can indeed be taken as a morpheme of temporal expression, it may be said that bi- and ani- form an antonymic pair in terms of spatial sense, and a corresponding pair of antonyms, i.e., parallel metaphors, of temporal sense.

4. Awas- ‘beyond’

The spatial sense of awas- is ‘beyond’. Examples are given in (7a):

(7) awas-
    a. awasayi’ii ‘on the other side of it, beyond it’ (N and N 1979)
       wētē inēhkē awahsitē atāwewikamikonk
there in-such-direction beyond store-locative ‘in that direction, be-
    yond the store’ (Todd 1970:46)
    b. awas-biboonong ‘winter before last’ (N and N 1979)
       awasonaago ‘day before yesterday’ (N and N 1979)
       awaswaabang ‘day after tomorrow’ (N and N 1979)
Temporally, *awas-* yields a gloss of either ‘before’ or ‘after’, as shown above in (7b). These apparent semantic differences, however, fit a straightforward explanation. The basic sense of *awas-* is ‘beyond’. When applied to the temporal domain, the spatial sense ‘beyond’ yields metaphors of past time or future time equally well, since whatever is beyond the present is not in the present but lies either in the past or the future. In the case of *awas-*, the sense ‘beyond’ is confined to one step of the unit in question beyond the present, in either direction. Thus, when *awas-* is joined to *onaago*, ‘yesterday’, as in (7b), the literal sense ‘beyond yesterday’ is derived, yielding a gloss of ‘the day before yesterday’. When *awas-* is joined to *waabang*, ‘tomorrow’, the literal sense ‘beyond tomorrow’ is derived, glossed as ‘the day after tomorrow’.

5. Ishkwaa- ‘after’

The prefix *ishkwaa-* is found before verbs indicating a cessation of activity (8a) and before time words to indicate a point in time (8b). Given that a cessation of activity is based on the notion of that activity occurring in time, *ishkwaa-* seems to be fundamentally temporal in sense and hence not metaphorically derived from a spatial sense. The morpheme *ishkwe-*, however, may be etymologically related to *ishkwaa-*, although definitive evidence for this is lacking (Aubin 1975, for example, is silent on the matter). *Ishkwe-* indicates a terminal point removed in distance from the speaker (8c). (Examples in (8) are from Nichols and Nyholm 1979 unless otherwise noted.)

(8)  

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<td><strong>ishkwaa- ‘after’</strong></td>
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<td>a.</td>
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<td>ishkwaapo ‘it stops snowing’</td>
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<td>ishkwaabiisaa ‘it stops raining’</td>
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<td>ishkwaataa ‘s/he stops working’</td>
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<td>shkwaa-aabdak ‘be no longer of use’ (Rhodes 1985)</td>
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<td>shkwaataad ‘finish [doing something]’, ‘die’ (euphemism) (Rhodes 1985)</td>
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<td>b. Mii go ishkwa-biboong ‘winter is over’</td>
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<td>ishkwa-anami‘egiizhigad ‘it is Monday’ (i.e., ‘after Sunday’)</td>
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<td>ishkwa-naawkwe ‘it is after noon’</td>
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<td>shkwaagzod ‘be the end of the month’ (Rhodes 1985)</td>
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<td>Gi-ishkwa-abit-tibikak nin ga-madja ‘I will start after midnight’</td>
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<td>(Baraga 1850:529)</td>
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<td>c. ishkwe-ayi’ii ‘at the end of it; beyond it’</td>
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<td>ishkwebi ‘s/he sits in the last row or place’</td>
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<td>ishkwegaaabawi ‘s/he stands in the last row or place’</td>
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<td>ishkwege ‘s/he lives on the edge of town [or] in the last house’</td>
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<td>iskweyaang ‘backwards; behind; in the rear’</td>
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<td>eshkweyhiing ‘last in line, at the end’ (Rhodes 1985)</td>
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It is possible to interpret the phrases in (8b) as metonymic transfers from the notion of cessation of activity: it is past noon, for example, when it stops being noon. But if in fact an etymological relation were established between ishkwaal and ishkwet, then the sense of a distant or terminal point perceived in relation to an orientation point, expressed by ishkwet, might be thought of as mapped onto the temporal sense represented by ishkwaal, as follows: A final or postposition in a spatial sequence is the metaphorical grounding for the postposition in an event sequence. It may also be the grounding for the sense of cessation of activity (8a), for the metaphorical terminal point of an event or activity is the temporal point, the moment, at which that event or activity ceases.

6. Ishpi- 'it is high', 'it is advanced into'

In Ojibwa a metaphor of height or fullness is used to express advancement or lateness in time. Examples of the spatial use of ishpi- are given in (9a); examples of the temporal use are provided in (9b). (All examples in (9) are from N and N 1979.)

(9) ishpi- 'it is high'; 'it is advanced into'
   a. ishpiming 'in the sky; above; heaven'
      ishpimisag 'the floor above'
      ishpimisagong 'upstairs, upper floor'
      ishpisin 'it is heaped high'
   b. ishpi-biboon 'it is past the middle of winter'
      ishpi-niibin 'it is past the middle of summer'
      ishpi-dibikad 'it is late in the night'
      ishpi-giizhigad 'it is late morning through early afternoon'

The metaphorical link between highness and lateness in Ojibwa perhaps traces its source to the position of the sun in the sky, for when the sun is high in the sky, it is in fact late in the morning or early in the afternoon (ishpi-giizhigad). The notion of fullness, however, is also a candidate for the grounding of metaphorical advancement in time. When the season or part of day is "full", it is far advanced into, i.e., late within, that period of time. The fullness of the course of a season or day implies a decreased remaining quantity for the development of that season or day, similarly as the fullness of a container implies decreased available space to fill that container.

7. Conclusion: The Dependence of Time upon Space

I believe it is correct to view the temporal relations discussed here as metaphorical extensions of spatial relations, but it is possible that space as a source domain for temporal expression is inevitable. That is, the metaphorical mapping of time in terms of the spatial domain may not be
the result of a choice from among more than one possible source domain, as it would seem to be in the case of other metaphorical constructs (the choice of which is always, nevertheless, motivated). Rather, space may be the source domain chosen for temporal expression because the concepts of space and time are linked at a fundamentally simple level. An investigation of all languages may show that none are without temporal expressions that share morphemes for spatial expressions.

The concept of units of time appears to derive from the observation of recurring events, an event being the behaviour or action of an object, which typically involves motion and thus change. By observing the behaviour of the moon, for example, one calculates that a full moon will occur a predictable number of nights following its last appearance. This predictability then becomes a reliable unit of measure. The observation of sequential events, therefore, and the ability to measure frequency of occurrence by counting, are basic to the development of the concept of time. In their simplest form, these sequential events consist of the appearance, disappearance, and reappearance of perceivable objects and states.

The Ojibwa affixes I have considered in this paper point to a consistent system in which temporal and spatial expressions share morphemes. There remains room for discussion, however, as to whether this system conforms to a Time Is Space metaphor in which temporal expressions derive from spatial expressions, as I have assumed here, or whether the notions of time and space were formed from a common system which subsequently bifurcated.

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