# *The West-to-East Cline in Algonquian Dialectology*

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An examination of the dialectal relationships of the Algonquian languages sheds light on the linguistic history, and by implication the non-linguistic history, of the family as a whole. In general the pattern that emerges is that the greatest time-depth in the family is found in the west, with a series of succesively shallower time-depths further east. A number of dialectal groupings can be identified, but except for Eastern Algonquian there are no major genetic subgroups descending from intermediate common languages of any great depth. As this paper is strictly a consideration of linguistic evidence, no attempt will be made to correlate the conclusions with non-linguistic evidence.

## *I. Blackfoot*

The most divergent Algonquian language is clearly Blackfoot. The difficulty in working with Blackfoot materials has been that the innovations are so great that any putative archaisms are difficult to identify. For example, Blackfoot has a greater degree of reduction in secondary clusters than any other language:[1]

(1) B *inno-* 'long' < PA **kenw-* (Thomson 1978:253).[2]

(2) B *(i)kimm-* 'pitiful' < PA **ketem-* (Thomson 1978:253)

[1]Blackfoot forms are from Frantz and Russell (1989).

[2]Before cited forms and segments language names are abbreviated as follows: Ats = Atsina (Gros Ventre); Attik = Attikamek; Ar = Arapaho; Ar-Ats = (Common) Arapaho-Atsina; B = Blackfoot; C = Cree; Ch = Cheyenne; EAb = Eastern Abenaki; F = Fox (Mesquakie); K = Kickapoo; M = Menominee; Mal-Pass = Maliseet-Passamaquoddy; Man = Maniwaki; Mass = Massachusett; Mic = Micmac; Mont = Montagnais; Mun = Munsee; Narr = Narragansett; Naw = Nawathinehena; Nip = Nipissing; O = Ojibwa; PA = Proto-Algonquian; PEA = Proto-Eastern Algonquian; Pot = Potawatomi; Sh = Shawnee; Un = Unami; WAb = Western Abenaki. Eastern Abenaki forms are from Siebert (1984).

(3) B *itsit-* 'catch up to' < PA **mataθ-* TA

(4) B *omi* 'continuing' < PA **pemi*

(5) B *iʔníwa* 'he died' (stem *iʔni-* < PA **nepe-*) < PA **nepwa*, 1sg. **nenepe*

(6) B *iʔnáákiwa* 'he was thirsty' < PA **nepa·kwe·wa* (> M *nepa·ko·w*, O [Baraga] *nipa·kwe·*, Ar *no·kó·yeino·* 1sg.)

(7) B *moʔksísi* 'armpit' < PA **meθenkwiyi* (cf. Proulx 1989:58)

(8) B *aʔpísa* 'rope' < PA **watapya* 'spruceroot cordage'

Although some patterns are clear and many sound correspondences have been suggested (Taylor 1960, Proulx 1989), much remains to be done in working out the linguistic history of this language. Some secondary clusters end up as geminates (1, 2), some lose the first consonant completely (3, 4), and some change it to glottal stop (5–8).

One index of the difficulties encountered is the fact that, to a much greater extent than any other language, Blackfoot has phonological sequences with no known Algonquian source:

(9) B *áyák-*, *(-w)ayák-* 'both'

(10) B *aáápani* 'blood'

(11) B *ikkskssíwa* 'he was stiff'

The search for phonological archaisms has not yet turned up any convincing examples; putative examples, as is typical for Blackfoot, are beset with difficulties:

(12) B *ikóʔpomma* 'he is very afraid': cf. PA **kweʔtamwa* 'he fears it' (< ***kweptamwa* ?)

Perhaps, however, this Blackfoot word is to be compared with the otherwise isolated Sh *kwpenwa* 'he is afraid of something' (< PA **kweXp-*). More definitive knowledge of the sources of Blackfoot *ʔp* would obviously shed light on the question.

There are some apparent lexical archaisms in Blackfoot that seem promising:

(13) B *iipíímma* 'he entered' (*píít* 'enter (imperat.)') < (early) PA **pi·mwa* 'he enters' (displaced by PA **pi·ntwike·wa*): PA **pi·mwa* 'he takes a sweatbath' > Northern Un *pí·m* 'he takes a sweatbath' (Zeisberger 1776:6; Heckewelder 1819:458), Southern Un *pí·muwe·* (backformed from *pi·muwá·k an* AN 'sweathouse'); also reshaped in M *pe·me·w* 'he takes a sweatbath', Ch *ééma*, Ar *či·bé·t* 'sweatlodge'



(14) B *ikimm-* TA 'show kindness to, bestow power on, care for' (*ikímmiiwa* 'he bestowed power on him') < (early) PA **ketem-* TA (**keteme·wa* '*he takes pity on him'): PA **ketem-*, *ketema·k-* 'pitiful, poor' (an initial), e.g., in F *keteminawe·wa* 'he takes pity on him, blesses him with power'

Assuming that the Blackfoot verb in (13) can indeed continue PA **pi·mwa*, it reflects what must have been the original meaning 'enter'. This original meaning is also required to explain the transitive derivative PA **pi·nta·wa* 'he puts it inside' (> Mass ⟨petau⟩, i.e., /pītąw/) ← **pi·m-t-* TI2, originally 'cause to enter'.[3] From this TI is derived the common initial PA **pi·nt-* 'inside'. All the other languages reflect only the specialized meaning 'take a sweatbath' for the reflexes and reshapings of PA **pi·mwa*, which must thus be a shared semantic innovation in which Blackfoot did not take part. In (14) Blackfoot shows the reflex of a TA stem that is elsewhere reflected only as an initial.[4] Again, Blackfoot has a word that must represent an older layer than what is attested in the other languages, since it underlies the more widespread formative element found everywhere else.

It seems probable that among the unique morphology and lexicon of Blackfoot enough archaic precursors of more widespread Algonquian features will eventually be identified to support the at present reasonable hypothesis that Blackfoot represents the oldest layer of Algonquian.

### *II. Arapaho-Atsina and Cree-Montagnais*

The second oldest layer of Algonquian is represented by the two languages that have kept the contrast between PA **l* and **θ*,[5] Arapaho-Atsina and Cree-Montagnais:

(15) PA **aθemwa* 'dog' > C *atim*, Arapaho-Atsina **oθem* > Ar *héθ*, Ats ⟨hudther⟩ (Umfreville 1790) > *ʔót*

(16) PA **elenyiwa* 'man' > Common Cree (and Attikamek) *iriniw*, Ar-Ats **inenin* > Ar *hinén*

Blackfoot and all languages east and south of Arapaho-Atsina and Cree merge PA **l* and **θ*, including the extinct Arapahoan language Nawathinehena. The earliest recordings by Europeans of all nationalities most com-

[3]This transitive stem is also attested indirectly by the existence of the corresponding middle reflexives: PA **pi·nsowa* AI, **pi·nte·wi* II > M *pe·hsow*, *pe·htɛw* 'he, it is inside something'.

[4]An initial is a stem-initial formative element. For the derivation of initials from transitive stems see Goddard (1990a:456); for PA **ketem-*, *ketema·k-* see Goddard (1990a:463).

[5]The phonetic nature of these segments is discussed below.

monly have ⟨r⟩ written for the result of this merger (Goddard 1978a:75; 1978b:584):

(17) Ch *hótame* 'dog', *hetane* 'man'; K *anemwa*, *inenia*; 17th–18th-c. Illinois ⟨arem8a⟩, ⟨ireni8a⟩; 17th-c. Algonquin ⟨arim⟩, ⟨irini⟩, 18th-c. Algonquin ⟨alim⟩, ⟨ilini⟩; 1633 Pidgin Delaware ⟨aram⟩, ⟨renoes⟩, 18th-c. Northern Un ⟨allum⟩, ⟨lenno⟩ (/alə́m/, /lə́nəw/); 17th–18th-c. Caniba EAb ⟨arem8s⟩, ⟨-ren8⟩ (in ⟨mté8ren8⟩ 'shaman'), 20th-c. Penobscot EAb *áləmoss*, *-ələno* (*mətéwələno* 'shaman')

Relics of the distinction between PA **l* and **θ* in morphophonemic alternations assure the earlier existence of the contrast:

(18) PA **mi·li* 'give to him (imperat.)', **kemi·li* 'you give to me'; PA **na·ši* 'go after him' (**na·θ-*)
Ch *németse* 'you give it to me' (|mét-| < PA **mi·l-*); *némêoxe* 'you fight me' (|méót-| < PA **mi·ka·θ-*)
Sh *mi·lilo* 'give to me'; *kkišilo* 'hide me' (*nikkila* 'I hide him')
PEA **mīr* 'give to him', **kəmīrī* 'you give to me'; **nāš* 'go after him', **kənāšī* 'you go after me': Narr /kəmisəm/ ⟨commêsim⟩ 'you give to me', /nąs/ ⟨nàus⟩ 'go after him' (Williams 1936:35, 163); Mun, Un *mí·l* 'give to him', *ná·l* 'go after him'

The two patterns of inflection found for TA verbs in Ch *t* and Sh *l* continue the distinction between PA **l* and **θ*. The same contrast must be assumed for Proto-Eastern-Algonquian, since the descendant languages show leveling in opposite directions.

The one place where the contrast of PA **l* and **θ* is overtly preserved outside Arapaho-Atsina and Cree-Montagnais is in the distinct treatment of PA **ʔl* and **ʔθ* in Eastern Algonquian:

(19) Mun *níhle·w* 'he kills (him)' < PEA **nəhrēw* < PA **neʔle·wa*
Mun *nɤ́m* 'my daughter-in-law', Mass ⟨wuhshimoh⟩ 'his daughter-in-law' < PEA **nəhxəm* < PA **neʔθemya*

This contrast shows that at the time the collapsing together of PA **l* and **θ* spread across the eastern areas of early Algonquian speech, there was already some dialectal differentiation. The other PA **l* and **θ* clusters fall together in Eastern Algonquian:

(20) Un *wíhəle·* 'he names (him)' < PEA **wīhrēw* < PA **wi·nle·wa*.[6]
Un *máhələs* AN 'flint' < PEA **māhrəs* < PA **ma·nθehsi* (> Ar *wô·xé* 'knife')

[6]The alleged counterexamples given by Proulx (1983:83, 86) do not stand up. Virginia Algonquian ⟨Muskan⟩ 'forehead' (spelling something like [məskantkw]) and Nanticoke ⟨ukschkēēndk⟩ (with an odd vowel on any hypothesis) reflect PA **meθkantekwi* (or **meškantekwi*) 'forehead' (>C *niskahtik*, Mass ⟨muskodtuk⟩, Ch *maʔòhta*; variously reshaped in Ojibwa). Loup ⟨netenleg8se⟩ 'mon frère' cannot have /nl/ (nasals are never retained in clusters anywhere in Eastern Algonquian north and east of Munsee); rather, Loup ⟨en⟩ is a spelling of /ą/.



If Arapaho-Atsina and Cree-Montagnais indeed represent an archaic layer, we might expect there to be other archaisms that they share, and there appear to be some:

(21) C *pipon* 'winter, year', Ar *čéč* 'year, winter', pl. *čéčini·* (< Ar-Ats **kekin*) < PA **pepwenwi*
Cf. O *pipo·n* '(it is) winter', Sh *pepo·nwi* 'it is winter', Ch *aènOtse* 'years, winters' (as if from PA **pepo·nwi*)

The word for 'winter' is one of a number that are reconstructible with PA **we* in the second syllable after a short-vowel initial syllable but show reflexes of apparent PA **o·* in many or most languages. Although there is not complete consistency, Cree and Arapaho tend to preserve the short vowel.

### *III. Arapaho-Atsina, Cree-Montagnais, Cheyenne, and Menominee*

The next oldest layer comprises those languages that preserve the contrast between clusters with first members PA **ʔ* and **h*. Cheyenne and Menominee preserve PA **ʔ* as phonetic [ʔ] in all environments; Arapaho-Atsina preserves it in some environments and otherwise reflects its very recent loss with compensatory lengthening and falling tone on the preceding vowel (22, 23). The contasting treatments of PA **h* are exemplified in (24):

(22) Ar *nonóhʔoʔ* 'I kill him' (|nehʔ-|), Ch *énaʔhóhO* 'he killed him' (|naʔh-|), M *nɛʔnɛw* (|nɛʔN-|) < PA **neʔle·wa*

(23) Ar *bê·s-* 'big', C *mist-*, Ch *maʔh-*, M *mɛʔn-* < PA **meʔθ-*

(24) Ar *bés* 'stick, wood' (pl. *béxo*), C *mihti* 'piece of firewood' (pl. *mihta*), Ch *māxE* '(piece of) wood' (|maxé|), M *mɛhse·w* 'piece of firewood' < PA **mehši*, pl. *mehθali*[7]

Eastern Algonquian again retains indirect evidence for the contast between these segments:

(25) Mun *lé·xe·w* 'he breathes' < PEA **lēhxēw* < PA **le·hle·wa*; cf. (19)

Since the dialectal evidence is that the falling together of PA **ʔ* and **h* was more recent than the falling together of PA **l* and **θ*, it would be consistent

[7]Cheyenne and Menominee have parallel reshapings of this word; cf. (26–28).

for Eastern Algonquian to have been distinct from the other languages at the time it shared with them the later sound change. First PA *$\theta$ and *$l$ fell together to *$r$, and concomitantly PA *$\text{ʔ}\theta$ gave pre-PEA *$\text{ʔ}x$, PA *$\text{ʔ}l$ gave pre-PEA *$\text{ʔ}r$, and PA *$h\theta$ and *$hl$ gave pre-PEA *$hx$. Later pre-PEA *$\text{ʔ}x$ and *$hx$ fell together to PEA *$hx$, and pre-PEA *$\text{ʔ}r$ gave PEA *$hr$ (19). An additional possibility is suggested by the fact that PA *$hl$ is required only to account for the Cree-Montagnais reflex of the stem for 'breathe' (25): e.g., Plains Cree *ye·hye·w* 'he breathes'. If Cree-Montagnais has innovated the medial cluster in this word by assimilation to the initial consonant, PA *$le{\cdot}h\theta e{\cdot}wa$ rather than *$le{\cdot}hle{\cdot}wa$ can be reconstructed and the pattern of reflexes in Eastern Algonquian becomes slightly more symmetrical.

Again, we might expect other shared features in Cheyenne and Menominee, and there appear to be some:

(26) Ch *émaʔeta* 'he is red' (dim. *émaʔketa*), M *mɛhko·n* < PA **meçkweθwa*.[8]

(27) Ch |-ahoʔn-| TA, |-ahoʔh-| TI 'burn'; M |-ɛhNaʔsw-| TA, |-ɛhNaʔs-| TI 'burn' < PA **-ehθak-s(w)-*:[9] Ch *évonAhoʔnóhO* 'he destroys him by burning'; M *sakɛ·hnaʔsiw* 'he sets fire to him'

(28) Ch *hemène* 'dove,' M *omi·ni·w* 'pigeon' ← PA **wemyi·myi·wa* 'passenger pigeon' (> F *omi·mi·wa*, Mun *mí·mi·w*)

## *IV. Western Algonquian*

There is an old dialectal split between Eastern Algonquian and what may be called Western Algonquian, which includes all the other languages. All these non-Eastern languages underwent the shifts of PA **we* > **o* (29) and word-initial PA **e-* > **i-* (31–32):

(29) Western: PA **we-* 'his' > B *ohkátsi* 'his leg', Ar *híʔo·θ* (*i* < **o* < **we*), C *oska·t*, Ch *hemaahe* 'his arrow' (< PA **wemekwehsi* 'his awl'; *e* < **i* < **o* < **we*), M *ohka·t*, F *ohka·či* 'his foot', O *okka·t*, Sh *hokwiʔθali* 'his son'

(30) Eastern: EAb *wə̀ton* 'his mouth', Mass ⟨wuttɔ̀on⟩ /wətōn/, Mun, Un *wtó·n*

(31) Western: PA **elenyiwa* 'man' > Ar *hinén*, Ch *hetane* (*e* < **i*), M *enɛ·niw* (*e* < **i*), K *inenia*, Sh *hileni*

(32) B *(i)st-* < **ist-* < **it-* < PA **eθ-* '(that way)', B *-it-* < PA **-eθ-*: B *stápoot* 'go there (imperat. sg.)', *nitsítapo* 'I went there' (Frantz and Russell 1989:114; cf. Proulx 1989:68–69)

[8]Menominee has the final PA **-eθ(e)* AI in all color verbs, while Cheyenne has it only in 'red'; otherwise the color verbs most generally have PA **-esi* AI.

[9]This final incorporates the medial PA **-ehθak-* 'wood' as a prefinal, with archaic morphophonemics (Goddard 1990a:469).



Eastern Algonquian had **ə* as the reflex of PA **e* in all positions:

(33) PA **eš](#)i* (**eθ- + -i*) '(that way)' → PEA **ərī* > EAb *ali*, Mass /ən/ (Eliot ⟨en⟩, Native ⟨in⟩, ⟨un⟩), Un *lí* (with prefix: *ntáli*)

The dual treatment of PA **θ* in Blackfoot in (32) shows that the change of initial PA **e-* to **i-* took place in pre-Blackfoot before the general shift of PA **e* to B *i*; B *i-* from initial PA **e-* conditions the shift of following B *t* to *st*, just like B *i* from PA **i* but unlike B *i* from medial PA **e*. The fact that these two "Western Algonquian" shifts are found even in Blackfoot suggests that the diffusion of at least one type of relatively superficial phonetic innovation remained possible even after considerable dialectal differentiation had taken place.

## *V. Arapaho and Cheyenne*

A dialectal grouping that cuts across those delimited so far comprises the Arapahoan languages and Cheyenne. This is characterized by shared distinctive sound changes that must have diffused across the languages after they were already differentiated. The proof of this is that some of the shared innovations applied in different orders in different languages (cf. Goddard 1974b, 1988; Pentland 1979b).

(34) Distinctive sound changes found in Arapahoan and Cheyenne:

a. **o* and **i* > **i*, **o·* and **i·* > **i·*

b. PA **w* > **y*

c. **y* > *n* (if not after a consonant)

d. PA **k* > Ar ∅, Ch ∅-, *-hk-* ~ *-*∅*-*

Change (34b) is unconditional in Arapaho-Atsina but only post-consonantal in Nawathinehena and Cheyenne. Change (34c) precedes (34d) in Arapahoan but follows (34d) in Cheyenne (where it also takes place after *h*).

There is some very suggestive shared vocabulary in Arapaho and Cheyenne:

(35) Ar *ko·ʔóh* 'coyote', pl. *ko·ʔóhwu·*, dim. *ko·ʔoh(o)wúhuʔ*; Ch *óʔkOhóme* (as if PA **pa·xkahamwa*)

(36) Ar *hí·θeino·n* 'herd of buffalo', obv. *hí·θeinó·nin*; Ch *ésevone*, obv. and pl. *ésevono* (as if PA **ki·čye·wa·niwa* or **ko·θwe·wa·niwa*, vel sim.)

(37) Ar *wo·ʔúhʔei*, pl. *wo·ʔúhʔeinóʔ*; Naw ⟨mouxtiäⁿ⟩; Ch *moʔēʔha* 'magpie', pl. *moʔeʔháne*, *moʔeʔhánhe* (not exact; as if PA ***ma(·)xkiʔs(w)e·wa* vel sim.)

(38) Ar *hô·xéí* 'wolf', obv. *hô·xéíhin*; Ch *hó?nehe*, pl. *ho?néheo?o* (not exact; as if PA **a?θ(w)e·siwa* vel sim.)

Two of these reconstruct to phonologically respectable but unparalleled PA etyma (35–36), but the other two look like early loans, perhaps from Arapahoan into Cheyenne (37–38). These matches indicate that the divergent phonological innovations of Arapahoan and Cheyenne postdated the diffusion of these words. If these words are borrowings by Cheyenne from Arapaho they might correlate with the protohistoric move of the Cheyenne onto the Plains, where coyotes, buffalo herds, and magpies, at least, would have been previously unfamiliar phenomena.

### *VI. Core Central Languages*

The shallowest layer outside of Eastern Algonquian includes what may be called the Core Central languages (Fox-Kickapoo, Shawnee, Ojibwa-Potawatomi, Illinois). Convergent developments in these languages have been noted by Hamp (1979) and Rhodes (1988, 1989). The most obvious of these is the development of the PA **l* and **θ* clusters: PA **hl*, **hθ*, **?l*, **?θ* > **hr*[10] > *hs*.

(39) PA **le·hle·wa* 'he breathes' (see 25) > F *ne·se·wa* 'he recovers, survives', O *ne·sse·* 'he breathes'

(40) PA **pemwehθe·wa* 'he walks by' > F *pemose·wa*, O *pimosse·*

(41) PA **a?lapya* > F *asapya* 'Indian hemp', O *assap* 'fishnet'

(42) PA **me?θa·pe·wa* 'giant' > F *mesa·pe·wa*, O *missa·pe·*

Some shared outcomes in the development of stop-clusters are found in Menominee in addition to the Core Central languages. Proto-Algonquian **hk*, **xk*, and **θk*, which are reflected by a three-way contrast in Arapaho and Delaware-Mahican and by a two-way contrast in for example Cree, fall together to *hk*:

(43) PA **ehkwa* 'louse' > Ar *netéí* 'my louse' (< PA **netehkwema*), C *ihkwa*, M *ehkuah*, F *ahkwa*, Un *xáyhu* (< **(a)xay-əhw* 'body louse', lit. 'skin louse')

(44) PA **axkyi* 'land, soil' > Ar *hó?*, C *askiy*, M *ahke·w*, F *ahki*, Mun *áhkəy*

(45) PA **eθkwe·wa* 'woman' > Ar *hísei*, C *iskwe·w*, M *omɛ·?nomeniahkiw* 'Menominee woman' (|-ehki·w| 'woman'), F *ihkwe·wa*, Mun *óxkwe·w*

[10]Most likely the intermediate-stage merger of PA **l* and **θ* was **r* (see 17 and the remarks there).



The Core Central languages diverge, however, in their treatment of PA **çk*, which gives Common Cree **rk*,[11] M *hk*, F-Sh *šk*, O-Pot *sk*.

(46) PA **meçkwi* 'blood' > Woods Cree *miθko*, M *mæhki·h*, F *meškwi*, Sh *mškwi*, O *miskwi*

A further divergence is shown by evidence that PA **θk* (and hence probably also PA **xk*) went through a stage **sk* on the way to becoming Fox *hk*. Such an intermediate stage is required to explain the cases of Fox *šk* (> Kickapoo *sk*) for PA **θk* in diminutive or affective words containing derivatives of PA **eθkwe·wa* 'woman', which regularly gives F *ihkwe·wa* 'woman' (45):

(47) F *iškwe·se·ha* 'girl (pre-pubertal)', K *iskweeθeeha* (< pre-Fox **iskwe·w-* 'woman' + diminutive suffixes + *s* → *š*)
F *=iškwe* (woman's mild expletive), from an affective vocative of PA **eθkwe·wa* 'woman'
K *cakiskwa* 'unnamed baby girl' (*cak-* 'small' + a shortened form of PA **eθkwe·wa* 'woman')[12]

The F *š* in these words (> K *s*) can only have arisen from a diminutive or affective symbolic shift of *s* to *š*, as also in F *čakeši·hiwa* 'he is small' (< PA **tankesiwa*), F *papi·weši·hiwaki* 'they are little' (with the same final), and F *nešemisa* 'my niece' (< pre-Fox **nesemisa* < PA **ne?θemihsa*).[13] The existence of an **sk* in pre-Fox constrains the possible phonological histories that can be postulated for the system of clusters in Fox and Ojibwa. In particular the existence of O *sk* from PA **çk* and pre-Fox **sk* from PA **θk* rules out a lengthy shared history for these languages and points to diffusion as the explanation of the phonological innovations they share (see 73, 74, and discussion).

### *VII. Cree and Ojibwa*

It is pretty well known that innovations have diffused between Cree and Ojibwa in both directions (Rhodes 1989). These reflect secondary contact between these languages after considerable divergent history had taken

[11]See the discussion in Section XI below.

[12]The apparent shortened noun final PA **-eθkw* sometimes encountered in names (e.g., Mun *é·ntalo·xkw*) may have arisen as a back-formation from vocatives (e.g., O *na·wakkamiko·kk*, voc. of *na·wakkamiko·kkwe·*; F *naha·kanihkwe*, voc. of *naha·kanihkwe·wa* 'daughter-in-law').

[13]F *s* in the reflex of the PA diminutive **-ehs*, which loses its force as a diminutive beside the new productive suffix *-e·h*, never seems to undergo the shift to *š*; hence the retained *s* in 'niece' and *iškwe·se·ha* 'girl' ← **iskwe·s-* < PA **eθkwe·hs-* < PA **eθkwe·w-* 'woman' + **-ehs* 'dim.'.

place. Notably, Cree-Montagnais and Ojibwa share the falling together of PA **i* and **e* to *i* (48), and the loss of PA **y* after consonants, with traces in Ojibwa (49):

(48) Attik *iriniw*, O *inini* < PA **elenyiwa* 'man' (17, 31)

(49) PA **kya·ta·wa* 'he hides it' > F *kya·to·wa* 'he keeps it a secret', M *kiata·w*; C *ka·ta·w*, O *ka·to·t*, Mun *ká·to·w*
PA **nye·wi* > F *nye·wi*, M *ni·w*, Pot *nyew*; Attik, Mont *ne·w*, O *ni·win*, Mun *né·wa*

This loss of PA **y* must have diffused from Cree to Ojibwa. For one thing, it is shared by Eastern Algonquian but not by Potawatomi. For another thing, there is a trace of postconsonantal PA **y* in O *i·* as the Ojibwa reflex of PA **ye·* after most consonants (49), but no such trace in Cree.

There are also a number of loans from Ojibwa to Cree that can be identified by their phonology (50–57):[14]

(50) PA **nya·θanwi* 'five' > O-Pot **nya·ran* (> O *na·nan*, Pot *nyanən*) → Early Cree (and Attik.) *niya·ran* (> Moose Cree *niya·lan*, East Cree [niya·in], Swampy Cree *niya·nan*) → Plains Cree *niya·nan*

(51) O *minihkwe·*[15] 'he drinks' (← PA **menwa* 'he drinks' crossed with PA **nemehkwe·wa* 'he eats soup')[16] displaces PA **menwa* in Cree and East Cree, but Montagnais retains [mənu] (< **miniw*)

(52) Cree *mahkahk* 'box, barrel, tub' (not East-Cree-Montagnais) ← O *makkakk* < PA **maxkaxkwi* 'stiff non-earthenware container' (> Mun *máhkahkw* '*gourd' > 'squash' [Goddard 1982:22]).[17]

[14]In compiling this list I have used Béland (1978) for Attikamek, Drapeau (1991) for Montagnais, Ellis (1983) for Eastern Swampy and Moose Cree, MacKenzie et al. (1987) for East Cree, and Cuoq (1886) and McGregor (1987) for Nipissing-Maniwaki Ojibwa. Cf. Goddard (1982:22, 28); but Cree *ohpan* 'his lung', older Woods Cree *oθpan*, is not a loan and must reflect PA **weçpani* (in Bloomfield's system) or **werpani* (in the system proposed here) with a new cluster PA **çp* (or **rp*), as suggested but rejected by Pentland (1979a:65).

[15]In these examples I cite Ojibwa forms with *hC* clusters where I have seen attestations from dialects that preserve preaspiration; otherwise I cite Ojibwa forms as having geminates, but the diffusion of such words to Cree would have been from dialects or earlier stages having *hC*.

[16]PA **nemehkwe·wa* 'he eats soup' > Un *nəmúhe·* (*kənámhwe* 2sg.), Mass ⟨nummuhquaog⟩ 'they sup up pottage'; deverbal final PA **-emehkwe·* AI in M *aʔsetɛmæ·hkow* 'he dips bread into broth'.

[17]The Cree glosses suggest that this borrowing may have been quite recent.



(53) Cree (Swampy, Moose, Attik.; one "rare" word given for East Cree) *mahkate·w-* 'black'[18] ← O *makkate·w-* < PA **maxkate·w-* (> Ar |woʔote·n-|, Ch |moʔ(k)ohtáv-|)

(54) Cree *maskihkiy* 'herb, medicine', Attik *maškikkiw* 'medicine' (not Swampy, East-Cree-Montagnais) ← O *maškikki* < PA **maškixkyiwi* (> Ar *woxúʔuno* 'grass (pl.)', Ch *moʔēʔEstse* 'grass (pl.), weeds', Un *skí·kɔ* 'grass' [end reshaped])

(55) Plains Cree *iyikohk* (Swampy *inikohk*, Moose *ilikohk*, Attik *irikokk*) '(so) far, (so) long, (so) much, until (then), at (such) time', Attik *irikokkwa·w* 'it is (so) big, tall' ← early O **irikohkw-* (cf. O *inikokkwa·* 'it is (so) large', Nip. [Cuoq] *inikikk* '(so) much, (so) long', Man. [McGregor] *inikokkw-*) < PA **eθek(w)exkw-* (> Un *ləkhíkwi* 'at (such) a time', Mun *lə́kih* '(so) much, to (such) an extent', Ar *touθéiʔo·* 'how big is it?' |iθeiʔ-|, Ch *hetaaʔ-* 'to (such) extent, etc.')

(56) Swampy Cree *tahkosiw*, *tahkwa·w* 'he, it is short' (also East Cree, Montagnais) ← O *takko·si*, *takkwa·* < PA **taxkw-* (> Common Delaware **tahkw-*: Mun *čahkwahkwší šəw* 'he is short', Un *thakɔ·kwtí·t·u*; Ar |toʔ-|: *to·ʔohúht* 'he is short', *toʔóto·* 'short pants')[19]

(57) Swampy Cree (?; dialect unmarked by Faries) *pisihkiw* 'buffalo' ← O *pišikki* 'cow, ox; buffalo' < PA **pešexkyiwa* (> Plains Cree *pisiskiw* 'animal; black bear', M *pesɛ·hkiw* '*buffalo' > 'cow, ox', WAb ⟨pziko⟩ 'buffalo'; Ar *česeʔéhi·* 'animal, quadruped' < PA **pešexk-esi-w-* + **-ehs* dim.)[20]

These are ordinary Ojibwa words that show up in Cree proper and Attikamek, especially in the more easterly dialects of Cree proper, but hardly at all in East Cree and Montagnais proper (56 is the major exception). For most of them the phonologically expected Cree reflex is not found; where it is found, the meaning diverges (57). Especially revealing is the word for 'five' (50), which must have been borrowed from pre-Ojibwa, or Common Ojibwa-Potawatomi, at a time when Cree had lost post-consonantal **y* but pre-Ojibwa still retained it. The shape of this word in Cree confirms that the loss of post-consonantal **y* was an innovation that spread from Cree-Montagnais to Ojibwa.

Pentland (1979:78–82) suggested that the set of words with apparent Cree *hk* from PA **xk* (51–57) attested a distinct Swampy Cree treatment

[18]Bloomfield recorded this only in *mahkate·sip* 'black-duck', from the Swampy dialect of The Pas.

[19]C *tahkosiw* has been naturalized by undoing the second-syllable lengthening of Ojibwa (cf. 21). The noun final Ar *-óto·* 'pants' is derived from Ar *wóto·* 'pants, legging' < PA **meta·hsi*.

[20]The apparent initial PA **pešexk-* may also be found in the Delaware particle Un *šǐ·ki* 'good', Mun *pšíhki* (e.g., *pšíhki-awé·n* 'good person').

of this cluster, relying in part on Cowan's (1977) claim that PA *$xk$ had a distinct reflex in Old Montagnais. Pentland's suggestion entails, however, the postulation of "massive borrowing" among Cree dialects of other words with this cluster, as he concedes, and it does not explain the dialectal distribution of the words. Furthermore, the statistics that support Cowan's claim seem unpersuasive. In his examples, PA *$xk$ gives Old Montagnais ⟨sk⟩ alternating with ⟨chk⟩ in 11 words and ⟨sk⟩ alone in three words; PA *$\theta k$ gives Old Montagnais ⟨sk⟩ alternating with ⟨chk⟩ in three words and ⟨sk⟩ alone in four words. The best interpretation of these facts is that PA *$xk$ and *$\theta k$ fell together to Cree-Montagnais *sk* (distinct from *šk*, as in Eastern Swampy and Moose Cree), and that the Old Montagnais spellings reflect the coming merger of Cree-Montagnais *s* and *š* in Montagnais.

### *VIII. Eastern Algonquian*

Eastern Algonquian is the shallowest layer in the west-to-east cline. It is also the only layer that is a genetic subgroup. The intermediate common language Proto-Eastern Algonquian is established on the basis of a number of significant shared phonological and morphological innovations. The major distinctive sound changes are the shift of PA *$e$ to PEA *$ə$ (17, 19, 33) and the falling together of PA *$i$ and *$i·$ to PEA *$ī$ (58) and of PA *$o·$ and (perhaps only secondary) *$o$ to PEA *$ō$ (59):

(58) PA *$wi·pitali$ 'his teeth' > PEA *$wīpītar$ > EAb *wípital*, Mun *wi·pí·tal*, Mass /wīpətyaš/ (⟨wepitteash⟩, with medial-syllable PEA *$ī$ > /əCy/ [Goddard 1990b:230])

(59) PA *-*$xkoLay$* 'a skin, robe' (> F *nehkone·hi* 'my blanket', O *nikkona·ss*) > PEA *-*$xkōray$* > Mass /ahkōn/ ⟨ohkoon⟩ 'a skin'

A number of the shared morphological innovations in Eastern Algonquian have been discussed in Goddard (1980).[21] The most distinctive include the reshaping of the Class 1 TI inflection in the independent order (60) and the reduplication of initial short vowels with a vowel copy + *h* (61):

(60) PA *-*$a·ni$* 'sg.-it (TI1)' → PEA *-*$amən$:* PA **neme$\theta$ka·ni* 'I find it' (> M *nemæ·hkan*, O *nimikka·n*) → PEA **nəmə$\theta$kamən* (> Mun *nə́móxkamən*)

[21] Another example is the general leveling of mutation in initials, which is found throughout Eastern Algonquian (see 33) but nowhere else. Proulx's (1984b:413–425) attempt to rebut the significance of the shared Eastern Algonquian innovations misses the forest for the trees and doesn't do all that well by the trees, either. Some details are commented on below.



(61) Reduplication: PEA *$a$- → *$aha$- and PEA *$ə$- → *$əhə$-
Mic *e·pit* 'woman', Mal-Pass *éhpit* 'woman' < PEA *$ēhapīt$ 'the one who sits there', participle of *$ahapəw$, reduplicated form of *$apəw$ 'he sits' (> EAb *éhapit* 'the one who sits there', participle of *áhapo*, the reduplication of *àpo* 'he sits')
Mass /(ə)hətamən/ ⟨hittammun⟩, ⟨uhittnmun⟩ (miscopied for *uhittamun) 'it is called (so)', /āhətamək/ ⟨ahuttamuk⟩ 'the one (inan.) called (so)'; cf. the unreduplicated stem in ⟨utash⟩ /ətaš/ 'say thou to them (inan.)' (< PEA *$ətam$ 'he says (so) to (it)' < PA *$etamwa$)
Mun *həlní·xsəw* 'he speaks Indian', 1sg. *ntihə̌lənǐ·xsi* (|əhələn-|, reduplication of |ələn-| 'ordinary')

The restructuring of the Class 1 TI (60) and the pattern of reduplication in (61) are both attested from Micmac to Carolina Algonquian. The Carolina Algonquian verb that attests these features is preserved in a set of notes by Thomas Hariot:

(62) Carolina Alg ⟨Kecow hit tamen⟩ "What is this." = [kéko hátamən] 'what is it called?' (Hariot 1602, in Quinn 1970:273)

This one word would be enough to identify this language unambiguously as Eastern Algonquian, an identification which directly confirms the validity of the postulation of Eastern Algonquian as a recognizable subgroup.

Doubts about the existence of Eastern Algonquian as a subgroup have been expressed, in quite different terms, by Pentland and Proulx. Pentland's early demurrer (Pentland 1979c) appeared before the extensive evidence in Goddard (1980) was presented. His argument was that the Eastern languages shared few innovations in the treatment of clusters, and that the shared innovation in the TI1 inflection was based on straightforward analogy (citing an observation of mine). The dearth of distinctive shared innovations in the clusters, however, simply reflects the fact that Eastern Algonquian is a relatively deep subgroup, and that it contains Delaware-Mahican, which archaically preserves more distinctions in the stop clusters than any other Algonquian language (Goddard 1982). And the fact that it is easy to reconstruct the TI1 innovation does not diminish the fact that it is all and only the Eastern Algonquian languages that actually made the set of changes in question. More recently Pentland (1992) has argued that Narragansett and Massachusett do not share the loss of the vowel-length contast in the high vowels, as is uncontroversially the case in the history of all Eastern languages that survived into the 20th century. Arguing from the always less perspicuous Narragansett data, he dismisses the detailed explanation of the Massachusett developments in Goddard (1990b). It remains, however, that there is no evidence for a retained contrast between PA *$i$ and *$i·$, except for reflexes of PEA *$əw$ (< unstressed PA *$iw$) beside

PEA *$\bar{\imath}w$ (< PA *$i{\cdot}w$, stressed *$iw$), once reasonable analogies are allowed for.

Proulx once claimed that Eastern Algonquian and Menominee formed a genetic subgroup (Proulx 1980:3–4, 14), later emending this to an "areal grouping ... including Cheyenne as a marginal member" (Proulx 1984b:397; cf. 1982: 193, 200, 204). Since on any hypothesis the Eastern languages are more closely allied with each other than with Menominee (or Cheyenne) this areal grouping is tantamount to a recognition of Eastern Algonquian as a salient entity of some sort. On any reasonable hypothesis, of course, Menominee cannot possibly be seen as the closest relative of the Eastern languages. In fact, Proulx (1984b:397, 1982:200) later gave up claims that Menominee and Eastern Algonquian shared *$ye{\cdot}$ as a contraction of *$aye$ (Proulx 1980:3) and uniquely shared *$-eke{\cdot}$ as the theme sign for first- and second-person passives in the independent order (Proulx 1980:4). At one point in trying to deny the prima facie uniqueness of the Eastern Algonquian innovation in the TI1 independent endings, Proulx claimed that O $-a{\cdot}n$ 'I, you, he-it' is closer to PEA *$-am\partial n$ 'I, you, he, one-it' than it is to M $-a{\cdot}n$ 'I, you, one-it' and that Ojibwa and other "Lake" languages shared with Eastern Algonquian a reshaping of this ending not found in the homophonous Menominee ending (Proulx 1980:10–11). Although such a claim may have merit as a purely contrarian position, I have to confess that I cannot see any way to engage it in further serious discussion beyond repeating the obvious (Goddard 1981:286–287). The rest of Proulx's (1984b) detailed defense of his diffusionist position is similarly unconvincing, and it is probably needless to say that his conclusions are very different from those reached in the present paper.[22] Recently Proulx (1993:366, 368) has cited "Warne's (1977) challenge" to the postulation of Eastern Algonquian, but not only is this made into a fictitious publication with an invented reference, Warne's (1977a, 1977b, 1977c) unpublished papers in fact operated within the framework of the Eastern Algonquian hypothesis. Like Pentland (1979c), Warne was concerned with the small number of innovations in

[22]The family-tree diagram in Proulx (1980:13) is, however, generally quite compatible with the present conclusions, especially if Menominee and Cheyenne are moved next to each other, as in Proulx's later papers just discussed. As far as I know, though, nothing has been published to support the claims that "Cheyenne had considerable indirect contact with Abenaki and Mahican," and that Blackfoot was spoken "near Mahican" and had a "close relationship with Mahican" (Proulx 1982:192, 193).

The present conclusions also accord well with the family tree proposed by Rhodes (1988), notably as regards the early splitting off of Arapaho and Cree and the subgrouping of Cheyenne and Menominee. As Rhodes's paper is unpublished and being revised, however, detailed discussion of his points is deferred.



clusters shared by all Eastern languages, the consequence of the phonological archaism of Delaware-Mahican. Her early papers ignored Mahican, but her later treatment of the historical phonology of this language continued to refer to Eastern Algonquian as a subgroup within which the histories of the individual Eastern languages were to be understood (Warne 1980).[23]

### *IX. Montagnais and Eastern Algonquian*

Given the Algonquian dialectal continuum as we now understand it, we might expect to find some features that Eastern Algonquian shares with Montagnais, and there do, in fact, appear to be some. These include shared phonological innovations (63–65) and shared morphology and lexicon (66–68):

(63) PA *$Cy$ > $C$ (Cree-Montagnais and Eastern) (cf. 49, 50)

(64) Final $-kw$ retained (Attikamek-East-Cree-Montagnais and Eastern)[24]

(65) Vowel systems shift towards ones based on quality oppositions: Eastern (58, 59); Montagnais (Martin 1991:xiii), East Cree (Rogers 1960:91)

(66) Future imperative in *$-m\bar{e}{\cdot}$ Mont ⟨mitshume⟩ 'eat (later), sg.', pl. ⟨mitshumek⟩ (Lemoine 1901:28[b]); Un $p\acute{a}{\cdot}me$ 'come (later), sg.', pl. $pa{\cdot}m\acute{\jmath}{\cdot}e$ (< *$p\bar{a}mw\bar{a}w\bar{e}$) (Goddard 1979:145, 191)

(67) Noun classes in PA *$Cy$ and *$Ciy$ merge in parallel ways: Cree-Mont $-iy$, PEA *$-\partial y$ (Goddard 1980:147)[25]

(68) PA *$napa\theta e{\cdot}$- + *$-\theta en\check{c}y$- (?) or $-ne\theta k$- 'hand on one side' > 'five': Old Mont ⟨napatetach⟩, Escoumains ⟨nĭpetētets⟩ (Lemoine 1901:54), Bersimis

[23]I take this opportunity to note with apologies that Warne (1980) and Hockett (1981) should have been included in the list of historical phonologies in Goddard (1990c:99). I suppose I should be flattered that Proulx (1993:366) apparently found it easier to believe that my omission of a reference to Hockett's paper was due to malice than that it was a simple oversight.

[24]Otherwise final $-Cw$ is not found, except that retention of word-final $-mw$ is attested in Attikamek and Old Montagnais.

[25]Post-consonantal PA *$y$ and *$iy$ at the end of noun stems are in complementary distribution: PA *$iy$ is found after *$w$ and PA *$y$ after other consonants. Membership in the merged class is not everywhere identical because, especially in some Eastern languages, some stems in PA *$Cy$ are restructured by paradigmatic leveling to stems in plain final consonant, and conversely PEA *$-\partial y$ is extended to some stems that never had PA *$Cy$ or *$Ciy$ (Goddard 1980:147, 1982:24–25).

[pətetət] (Drapeau), Mass /napanā/ ⟨napanna⟩, Un *palé·naxk* (Goddard 1980:144)[26]

Proulx (1984b:417) has denied that *-kw* was retained throughout Eastern Algonquian (64) on the grounds that there are "very many cases where [the labialization] was not recorded" in Virginia Algonquian and Massachusett. For Massachusett, however, final /-kw/ is attested in all relevant morphological categories (Goddard and Bragdon 1988:478, 520–521, 548, 555–560, 568–570), and the poor recordings of Virginia Algonquian obviously prove nothing. The only serious candidates for word-final Massachusett /-k/ where /-kw/ would be expected are in the conjunct plural endings, but these clearly result from morphological reshapings: PEA *-*ēnk* 'we (exclusive)' and *-*ankw* 'we (inclusive)' are reflected by a single, blended first plural ending Mass /-ak/ 'we',[27] and in the Mainland dialect PEA *-*ēkw* 'you (pl.)' has lost its *-*w* by contamination with this or with conjunct third person /-k/ (which analogically replaced PEA *-*kw* in certain forms; Goddard 1993:135), giving Mass (Mainland) /-āk/. The Island dialect has regular /-ākw/ 'you (pl.)' from PEA *-*ēkw*. The TA plural imperative ending Mass /-ōhk/ 'you (pl.)-him, them' (Mayhew ⟨-œhk⟩; Goddard and Bragdon 1988:570) apparently reflects PEA *-*ōhkw* (← PA *-*ehkwe*), with the dissimilative loss of the PA *-*w* also found in most other Eastern languages, which all reflect the rounding of the preceding vowel. Proulx (1984:417) claims that the AI plural imperative ending Mass /-kw/ (which agrees with all accurate and perspicuous Eastern recordings) is not germane because it reflects a "reinforced" ending *-*kwane* rather than PA *-*kwe* and therefore does not have an old final *kw* but a secondarily final *kw*; on his hypothesis the intermediate-stage *-*kwane* is also reflected by M *-kon* and by Loup ⟨-k8a⟩, which "cannot reflect" PA *-*kwe*. In fact, however, in Mathevet's transcriptions of Loup, ⟨-k8a⟩ and ⟨-k8e⟩ are used as orthographic representations of word-final /-kw/, sometimes disambiguated by the addition of a breve or by writing the final vowel as a superscript:[28] Loup ⟨paiak8ᵉ⟩ 'ten' for /pāyakw/; Loup ⟨metek8ᵉ⟩, ⟨mettek8ĕ⟩ 'stick, piece of wood' for /məhtəkw/; Loup ⟨attek8e⟩ 'deer' for /atəhkw/; Loup ⟨-eg8ă⟩, ⟨-ig8ă⟩ TA inverse ending, for /-əkw/ (Day 1975:4, 57, 16, 103, 42, 54). The AI plural imperative ending /-kw/ is written ⟨-k8ᵉ⟩ and ⟨-k8ĕ⟩ (Day 1975:25, 101) in addition to ⟨-k8a⟩ and other ways. The interpretion of these spellings as /-kw/ rather than /-kwa/ is confirmed by the fact that Mathevet sometimes heard the ending as [k] after [ō], perceiving or interpreting /ōkw/ as [ōk] and writing plain ⟨-k⟩: ⟨sibisin8k⟩ 'lie down (pl.); ⟨pat8k⟩ 'bring it (pl.)'; ⟨mitch8k⟩ 'eat it (pl.)' (Day 1975:70; 15, 60; 14, 61, 114). Finally, it is rather putative Loup /-kwa/ that "cannot reflect" *-*kwane*, since in all the southern New England languages when a final resonant was lost a preceding vowel was lost as well: Loup ⟨pitig8nig⟩ 'bread' (Day 1975:12, 25, 39, etc.), Mass ⟨petukqunneg⟩, both with /-īk/ < PEA *-*īkan*.[29]

[26]The Escoumains and Bersimis dialect forms regularly reflect PA *-*θenčy* 'hand', but I do not know if ⟨-tach⟩ in the Old Montagnais form can also spell a reflex of this.

[27]Compare Munsee, which has the single, blended first plural conjunct ending *-e·nkw*, with the opposite selection of vowel and consonant components (Goddard 1979:131–132).

[28]Day (1975) transcribes the breve over the *8* and for typographical convenience I transcribe it over the *e*, but Mathevet often writes it above and between the two letters and he most likely intended it to apply to both together. Presumably Mathevet felt the need for a special notation because simple ⟨-k8⟩ would have implied a syllabic value for ⟨8⟩.



### *X. Major Dialectal Layers*

The hypotheses we can reach in conclusion are summarized here. The greatest time-depth in the Algonquian family is in the west, the shallowest in the east. The major dialectal layers, from deepest to shallowest and from west to east, are: Blackfoot; Arapaho and Cree; Cheyenne and Menominee; Core Central; Eastern. (Note that, except for Eastern, these are areal groupings not genetic subgroups.) (1) The homogeneity of the languages and the continued diffusion of features among them points to a relatively rapid expansion.[30] (2) The clinal nature of the chronological layers points to a spread from west to east; a spread from a more easterly location would be much less likely to have resulted in such a pattern. (3) Some innovations in Cree-Montagnais are due to its secondary contact with Ojibwa; the archaic features in Cree indicate its original more westerly position in the

[29]M *-kon* 'you (pl., imperative)' is matched by Sh *-kone*, used in Sh *n=ha·kone* 'go (pl.)' and *ha·kone* 'go (there, pl.)' but not noted with other verbs; probably these have fused with a cliticized demonstrative of the PA **eni* 'that (inan.)' set like F *i·nahi* 'there', which is optionally cliticized to imperatives as an emphatic without deictic meaning. Sh *n=ha·kone* has the proclitic *ni=* (the default oblique complement, also from PA **eni* 'that (inan.)') combined by regular sandhi with the stem *ha·*- 'go (there)' (which has an etymological *h*, matching F *iha·*-).

[30]Diffusion as an explanation of at least some shared features in Algonquian languages has been generally assumed by all at least since Bloomfield's remarks at the 1939 meeting of the American Anthropological Association (Voegelin 1941:147, fn.5). For example, both pre-contact and post-contact diffusion among Eastern and Central Algonquian languages is discussed in Goddard (1978a, 1978b). Proulx's (1993:366) claim that the possibility of diffusion was first raised only in 1978 (in a paper by Pentland) is simply mystifying.

cline. (4) Similarly, Menominee has archaic features overlain by innovations diffused after its secondary contact with the Core Central languages. (5) Potawatomi has had secondary contact with Fox.[31] (6) Eastern Algonquian spread relatively rapidly down the East Coast, showing some contact with Montagnais. More speculatively, the splitting off of Cree-Montagnais and its later contact with Ojibwa could have resulted from Cree-Montagnais coming north of Lake Superior and Core Central and Eastern coming south of Lake Superior, to approximately the area Siebert (1967) postulated for the homeland.

### *XI. Implications of Re-Analyzing the PA Clusters*

Finally we may review the implications of some suggested reanalyses of PA clusters. Before entering into this discussion, however, it will be helpful to deal with the question of the phonetic nature of the segments Bloomfield reconstructed as PA $*l$ and $*\theta$. Bloomfield (1925:144–145) implied that he reconstructed $*l$ because he knew [l] to be widely found in the attested languages, a clear indication that he took this segment to be phonetic [l], but he said nothing about his choice of $*\theta$. Later Bloomfield (1946:87) described his PA $*\theta$ with a query as "unvoiced interdental or lateral?" Some writers have suggested more definitely that PA $*\theta$ was phonetically a voiceless lateral [ɬ] (Siebert 1975:300, 451; Picard 1981, 1984; Proulx 1984:423), but the arguments advanced in favor of this interpretation are weak, and the justification for writing PA $*l$, as practiced by some, are even weaker. For example, these arguments assume without discussion that Bloomfield's PA $*l$ was [l], but a trill or tap [r] seems more likely (cf. Pentland 1979:351). As noted above (see 17), European recordings of ⟨r⟩ were much more widespread than ⟨l⟩ in the earliest records of almost all the Algonquian languages that had the relevant segment as a distinct phoneme representing the falling together of PA $*l$ and $*\theta$. Also, in Cree-Montagnais the distinct reflexes of PA $*l$ are [ð], [r], and [l]. Of these [r] is most likely to be the older and original pronunciation, as it is recessive in Cree (found in three relic areas) and archaic in Montagnais (found in Old Montagnais sources only). Thus [r] clearly has to be reckoned with as a candidate for the phonetic value of PA $*l$ or $*\theta$, and Cree suggests that it was PA $*l$ that had this pronunciation. The assumption of Siebert (1975), Picard (1981, 1984), and Pentland (1979:350–351) that PA $*l$ and $*\theta$ differed only in voicing is seriously undercut by the fact that PA $*\theta$ and $*t$ but not PA $*l$ underwent the processes of palatalization known as mutation (PA $*\theta \rightarrow *\check{s}$; $*t \rightarrow *\check{c}$); this strongly suggests that PA $*l$ and

[31] This is widely recognized but not treated in this paper.



$*\theta$ (assumed by all to be respectively voiced and voiceless) differed in some feature in addition to voicing. Finally, the best evidence for the phonetic nature of PA $*\theta$ would be expected to be found in Cree and Arapaho-Atsina, the only languages that keep it distinct from PA $*l$: PA $*\theta >$ Cree $t$, Arapaho $\theta$ (> Atsina $t$, $c$). Taken at face value, the Cree and Arapaho reflexes indicate that PA $*\theta$ was a voiceless coronal continuant (distinct from $*s$) that was readily reflected as [θ] and [t]; a phonetic value [θ] obviously satisfies these criteria optimally. Furthermore, when voiced, [θ] could readily (and "naturally") have fallen together with [r]. Conversely, a falling together of [θ] and [r] to eventual [t] (as in Blackfoot, Cheyenne, and Nawathinehena) is also easily understood, given that the devoicing of [r] (or whatever PA $*l$ was) is established empirically for these languages. I conclude that the most likely phonetic values are: (tap or flap) [r][32] for Bloomfield's PA $*l$, and [θ] for Bloomfield's PA $*\theta$. These refinements have no structural consequences that are critical to any arguments below, but they generally result in reassuringly natural sound changes.

Since Woods Cree, which has [ð] from PA $*l$, has [θk] from Bloomfield's PA $*\varçk$, if (as I assume) Proto-Cree-Montagnais had */r/ from PA $*l$ it would have had */rk/ from $*\varçk$. This suggests that Bloomfield's $*\varçk$ was, in his terms, $*lk$, or */rk/ if PA $*l$ was */r/.[33] This leaves $*x$ as the only unidentified first member of a stop cluster in Bloomfield's system (in PA $*xk$ and $*xp$), and $*s$ as the only continuant not found as the first member of such a cluster. Without complicating any assumptions, then, Bloomfield's $*x$ can be identified with $*s$.[34]

Assuming that PA $*xk$ is */sk/, PA $*\varçk$ is */rk/, and PA $*l$ is */r/, the following phonological histories of indicative clusters may be sketched:

[32] The range of phonetic possibilities for the proto-segment and its immediate reflexes would also include a lateral flap (like the $r$ in some dialects of Mohawk) and a flap like the /r/ of Virginia Algonquian, which English speakers wrote as ⟨r⟩, ⟨t⟩, and ⟨ht⟩ (Goddard 1980:143–147).

[33] Because Cree keeps PA $*l$ distinct, its evidence pointing to a reflex of $*l$ in clusters outweighs the evidence of O *sk* (< PA $*\varçk$), which has been taken to support */sk/ as the phonetic value of this PA cluster.

[34] Proulx (1984a:168–169, continuation of fn. 2) defends his persistent rewriting of Bloomfield's $*xk$ as $*tk$. Against this are a number of considerations: (1) Clusters of two stops are not reconstructible; (2) in morphophonemic combinations PA $*t + *k$ gives both $*hk$ (Goddard 1980:27) and $*xk$ and (3) PA $*xk$ reflects $*p + *k$ (Pentland 1979a:381) as well as $*t + *k$; (4) in conceding that Bloomfield's $*x$ was phonetically a continuant Proulx proposes that $*xk$ "was surely phonetically *[θk]," resulting in an assumed roster of first members of clusters that lacks $*l$ (a continuant that does exist) but includes *[θ] (a continuant that for Proulx does not exist phonemically).

(69) Cree: PA *hk* > C *hk*; PA */sk/ > C *sk*; PA *θk* > C *sk* (when PA *θ* > C *t*); PA */rk/ > C *rk*

(70) Eastern Algonquian: PA *hk* > PEA *hk*; PA */sk/ > PEA *sk*;[35] PA *θk* > PEA *xk* ([xq]?)[36] and PA *hθ, *ʔθ > PEA *hx (when PA *θ > PEA *r, and then PA *ʔ > PEA *h [Section III]); PA */rk/ > PEA *rk.

(71) Massachusett: PEA *hk > Mass /hk/; PEA *sk > Mass /hk/; PEA *xk > Mass /šk/ and PEA *hx > Mass /hš/; PEA *rk > Mass /šk/ and PEA *r > Mass /š/ /—#, /C —)[37]

(72) Munsee: PEA *hk > Mun *h*; PEA *sk > Mun *hk*; PEA *xk > Mun *xk* [xq] and PEA *hx, *hš > Mun *x* [x]; PEA *rk > Mun *hk*

(73) Fox: PA *hk > F *hk*; PA */sk/ > [**sk*] > *hk*; PA *θk > *sk > *hk*; PA */rk/ > *šk*; PA *θ and */r/ > *r > *l* > *n* and intermediate-stage *hr > *hs > *s*

(74) Ojibwa: PA *hk > O *hk*; PA */sk/ > *hk*; PA *θk > *hk*; PA */rk/ > *sk*; PA *θ and */r/ > *r* > *n* and intermediate-stage *hr > *hs*

The resulting Cree, Eastern Algonquian, Massachusett and Munsee phonological histories are quite straightforward. The Fox and Ojibwa histories must take into account the fact that PA *θk went through a stage **sk* on the way to Fox *hk* (47), and the fact that Fox and Ojibwa have divergent treatments of PA *çk (given here as */rk/). When PA *θ and */r/ fell together to **r*, PA *θk gave pre-Fox **sk*, and when at some point PA */rk/ gave F *šk* it could not have passed through an intermediate-stage **sk* (since pre-Fox **sk* gives F *hk*). Thus, under the most realistic set of assumptions, if PA *çk was */rk/ (or */lk/), when PA *θ and */r/ (or **l*) fell together to **r*, Fox-Shawnee and Ojibwa-Potawatomi-Illinois must have been already dialectally distinct, as was Eastern Algonquian (70, 73, 74). If, alternatively, PA *çk was */sk/ (and PA *xk was then */lk/, or */rk/), the Fox shift of PA */sk/ to F *šk* must have preceded the shift of PA *θk to pre-F **sk*, and the shifts of pre-F **sk* to F *hk* and of PA *θk to O *hk* must still have been convergent developments in already differentiated languages.

[35]PEA **s* as the first member of a cluster may have been pronounced as a front [x] (as in German *ich*); PEA **sk* became /hk/ in the history of all Eastern languages, but it could not have been phonetically PEA *[hk] because Delaware shows that it was distinct from PEA **hk* (< PA **hk*).

[36]If PEA **x* was a back-velar [x], like its Munsee reflex, the consistent maintenance of the contrast between the reflexes of PEA **xk* and PEA **sk* (putatively *[xk], becoming *hk*) would be explained.

[37]PEA **r* > Mass /š/ word-finally in inflectional suffixes but not in stems.



Last of all, I should say how these ideas fit with Siebert's (1967) postulation of the Algonquian homeland north of Lake Ontario on the basis of the names of biological species. Because Siebert had little relevant data from the Plains languages, his method sheds no light on their prehistory. Even so, the terms he reconstructs are generally consistent with the homeland of Proto-Algonquian being somewhere immediately west of Lake Superior. The term for 'seal' suggests an eastern location, but it is found only in Cree-Montagnais, Ojibwa, and northernmost Eastern Algonquian, the only languages spoken within the range of this animal. Nothing excludes the possibility that this word could be a late innovation shared by the languages that have it. As revealing as the words-and-things method often is, this sort of circularity is inherent in it.

The conclusion that the Algonquians came ultimately from the west is nothing new, of course, but I hope to have shed new light on a way of reading their prehistory from the linguistic data.

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