The incipient obsolescence of polysynthesis: Cayuga in Ontario and Oklahoma


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Cayuga, an Iroquoian language, was originally spoken in what is now New York State. When first encountered by Europeans, the Cayuga lived in villages around Cayuga Lake, surrounded by the other related Five Nations Iroquois. To the west were the Seneca, to the east the Onondaga, beyond them the Oneida, and finally, the Mohawk. Due to a series of unfortunate events, Cayuga speakers now live in two distantly separated communities, one in Ontario and the other in Oklahoma. While the language is still very much alive in Ontario, it is receding in Oklahoma, as fewer and fewer speakers use it on rarer and rarer occasions. Not surprisingly, the Cayuga spoken in Oklahoma has begun to differ in subtle ways from that spoken in Ontario.

1. **Historical background**

The Cayuga had occupied the same land for centuries before the American Revolution. When war erupted, they were drawn into battle on the side of the British, and in 1779 an American expedition destroyed their villages. This led to their dispersal. Some Cayugas remained with their land, but others went to live with Senecas at Buffalo Creek, and still others went with other Iroquoians to Ontario to form the Six Nations Reserve. By the end of the Revolution, only about 130 Cayugas remained at Cayuga Lake, 350 were with the Seneca at Buffalo Creek, and 382 were at Six Nations. (For a detailed discussion of the history of the Cayuga, see Sturtevant 1978; White, Englebrecht and Tooker 1978.)

In the years following the war, the Cayuga remaining at Cayuga Lake sold most of their land. Some then followed their relatives to Six Nations. Others went to live in Seneca communities at Buffalo Creek, Tonawanda, Cattaraugus, and Allegany. A number of others joined other New York Iroquois and moved to the Lower Sandusky River in Ohio, where the entire group
became known as the “Sandusky Senecas”. During the early nineteenth century, Cayugas continued to emigrate from Buffalo Creek to Sandusky. By 1829, 322 Iroquois were counted at Sandusky, 157 of them Cayuga.

Following President Jackson’s Removal Bill in 1830, the Sandusky group sold their Ohio land and began to move west again, eventually settling in northeastern Oklahoma. Throughout the remainder of the nineteenth century, Iroquois immigrants from New York and Ontario continued to join them. The original “Sandusky Senecas”, along with these later immigrants, became the ancestors of the “Seneca” or “Seneca-Cayuga” who reside in northeastern Oklahoma today.

The Cayuga language was to experience different fates in the areas where it was spoken in New York, Ontario, and Oklahoma. The Seneca, Cayuga, Onondaga, Oneida, and Mohawk languages are mutually unintelligible, but they are sufficiently closely related that speakers of one can learn others with relative ease. In New York, the Cayuga language exerted a significant influence on Seneca and, in turn, on Onondaga. A loss of original Proto-Iroquoian *r in certain contexts in Cayuga was imitated and generalized in both Seneca and Onondaga, so that by the end of the eighteenth century, neither Seneca nor Onondaga had any /r/ at all (Mithun 1980). The Cayuga language was not to prevail in New York, however, even though there were still 183 Cayugas living in New York State in 1980, 153 in the Seneca community at Cattaraugus (Buffalo Creek had been sold). Seneca is still spoken in all of the Seneca communities, but Cayuga has not been spoken in any of them for as long as anyone can remember.

In Ontario, by contrast, there are now more speakers of Cayuga than of any other Iroquoian language. Although children are no longer learning the language as a mother tongue, approximately 375 adults speak Cayuga. It is used both in daily conversation and ceremonially.

In Oklahoma, Cayuga is now the only Northern Iroquoian language spoken, but it is used by few individuals and only rarely. As early as 1912, Barbeau reported (see Sturtevant 1978) that only one family still spoke Seneca, and all others spoke either Cayuga or English. By 1962, Seneca was no longer spoken at all. Cayuga “was hardly used except in ritual contexts and had only 11 fluent speakers and 12 others with some competence, the youngest speaker having been born in 1918” (ibid.: 543). By 1980, perhaps a half-dozen speakers remained, and several of these have passed away since that time. Although the Oklahoma speakers consider themselves “Seneca”, their language is pure Cayuga, with little observable influence from the other Iroquoian languages. For the most part, they have had little occasion to speak the language for a long time. They meet primarily on ceremonial occasions, and have tended to use Cayuga primarily in ceremonial speeches, seldom in conversation.
2. Discourse and syntax

The Iroquois have always enjoyed a reputation for eloquence. The earliest European descriptions of the New World include commentaries on the rhetorical skills of the Iroquois, and the tradition has continued to this day in all communities. Skillful use of language is discussed, appreciated, and cultivated by speakers in all contexts, not only in formal oratory, but also in informal narrative and conversation. All of the languages are rich in stylistic devices, and speakers take great pleasure in exploiting them.

It is difficult to measure and compare a quality as individual as rhetorical skill. One fact might suggest some loss of stylistic elasticity in Oklahoma Cayuga. In both Ontario and Oklahoma, traditional ceremonial speeches are given in Cayuga. In Ontario, the ceremonies last for days. Each morning, everyone gathers in the Longhouse for hour after hour of magnificent formal oratory. A single speaker performs, aided only occasionally by a prompter seated behind him. The speeches follow well established structures and contain traditional rhetorical devices, but they are not memorized. In Oklahoma, the oratory typically lasts only a day or so. Of course, their brevity is probably due not just to a loss of rhetorical skill, but also to the smaller pool of speakers who remember the traditions and who understand the speeches.

Unfortunately, it was not possible to record long stretches of connected discourse from the Oklahoma speakers. Conversations between Oklahoma speakers and an Ontario speaker, however, have provided an opportunity to compare a number of features of the two Cayuga dialects. The Ontario speaker, Reginald Henry, uses Cayuga in daily conversation and performs the traditional speeches in the Longhouse. He is a skillful speaker, keenly sensitive to subtle intricacies of his language, and he was quite interested in comparing Oklahoma and Ontario Cayuga. Probably the best speaker remaining in Oklahoma was born in 1888. When interviewed in Cayuga, she often replied in English, although she was quite capable of good Cayuga. Her preference for English was clearly a matter of relative facility and habit rather than prestige, since good control of Cayuga is all the more highly valued in this community as it disappears. She enjoyed speaking the language, but felt that Mr Henry’s Ontario Cayuga was the correct version and that she might be making mistakes.

The style and syntax of this Oklahoma speaker’s conversation appeared to be essentially unaffected by English. In Cayuga, word order is not syntactically determined (SVO, SOV, etc.). Since the roles of core arguments are expressed by verbal prefixes, word order need not reiterate them. Instead, constituents are ordered according to pragmatic considerations: their relative importance within the discourse. The most significant element of a clause appears first, followed by increasingly predictable or incidental information (Mithun 1987). This speaker consistently ordered constituents...
accordingly, with no loss in stylistic elasticity. Since the newsworthy-first ordering of Cayuga usually contrasts with the typical theme–rHEME order of English, it is clear that word order in Oklahoma has remained largely uninfluenced by English.

(1) Tkaiʔniː: Laʔtis
   N-loud-STATIVE M.PL.AG-SHOOT-HABITUAL
   ‘Their shooting is loud’

(2) Tkanaːtaʔ akatekhoʔaneː?
   CISLOCATIVE-N-town-lie-STATIVE FACTUAL-1.SG.AG-dine-DISLOCATIVE
to town
   I am going to dine
hate:tsɛʔts eyá:kweː?
   M.SG.AG-cure-HABITUAL FUT-1-PL.EXCL.AG-go-PUNCTUAL
doctor
   we all will go
   ‘I am going to town with the doctor to eat’

(Note the pronominal expression of the plural agent of the last clause, typical of languages of this type, rendered in English by a prepositional phrase. Transcription conventions are as follows. Vowels followed by a colon are long, those accompanied by an acute accent are stressed, those with a Polish hook are nasalized, those with a subscript circle are voiceless, and those with a superscript ? are glottalized. Nasalization may co-occur with any of the other features. Glosses separated by periods indicate semantic components that do not correspond to separate morphemes in Cayuga. The sequence -k-, for example, glossed 1.SG.AG., is the 1st person singular agent pronominal prefix (‘I’), but it consists of a single, unsegmentable morpheme.)

Because of their rich morphology, Iroquoian languages exhibit somewhat less grammaticized syntactic complexity than languages like English. All verbs are finite, and clauses are backgrounded or foregrounded by means of discourse particles and ordering. The conversation of this Oklahoma speaker seemed to show approximately the same degree of syntactic complexity as that of a typical Ontario speaker.

(3) Wahetʃuː: akaːtkɛ ne hneː? thu:hia wəʃeː?
   just.only FAC.1.SG.get.up now CONTRASTIVE there-DIM ten
niyahwihstáʔeh
   PARTITIVE-N-metal-strike-STATIVE
   ‘I just now got up and here it is almost ten o’clock’
Neh kiʔ akekhwetáʔoh neʔ kiʔ neʔ? katshe:nɛʔ
   now just 1.SG.PAT-food-finish-STATIVE the just it.is N-stock
   (e)kenote:khó:niʔ
   (FUT)-1.SG.AG-feed-PUNCTUAL
   ‘Now that I have finished eating, I will feed my stock’
3. Lexicon

Usually the first differences noticed by speakers hearing another dialect of their language are in vocabulary. As might be expected, Ontario and Oklahoma Cayuga are distinguished by neologisms created since their separation. For ‘tomato’, for example, Ontario speakers use ohyákha[h]oʔ ‘it-fruit-divides’, or ‘fruit in sections’. Oklahoma speakers use kóʔnyáʔ, which refers to the ring in a bull’s nose in Ontario. For ‘railroad track’, Ontario speakers use káŋyiʔohšráʔkėsőʔ ‘along the iron’. Oklahoma speakers use káatrehtaya:nú:weʔ uha:te, ‘it-drags-fast road’, or ‘train road’.

The word for ‘automobile’ is interesting. Ontario speakers, like other Northern Iroquoians, use káatrehtáʔ ‘it is used to drag’. Oklahoma speakers use kak$owanCʔs ‘it has big eyes’. The literal meaning is the same as that of the Shawnee word (Ives Goddard, pers. comm.). This is no accident. Early in the nineteenth century, a group of Shawnees and Senecas known collectively as the “Mixed Band” also occupied a reservation in Ohio. They migrated west at the same time as the Sandusky Senecas and both groups eventually settled on the same Oklahoma reservation, the Mixed Band in the north, and the Sandusky Senecas in the south.

Surprisingly few words in Oklahoma Cayuga show any Seneca influence. One may be the term for ‘nose’. The root -kqít- is the basic term for ‘nose’ in both Oklahoma Cayuga and Seneca. This root refers to the ‘bridge of the nose’ in Ontario Cayuga. The Ontario root for ‘nose’ is cognate to those in other more distant Northern Iroquoian languages like Tuscarora, so the Oklahoma shift seems to represent an innovation.

A number of recent neologisms are the same in Ontario and Oklahoma Cayuga, such as káatrehtaya:nú:weʔ ‘train’ (‘it drags fast’) kátsiʔnótas ‘monkey’ (‘it eats lice’) káthá:haʔ ‘radio, television’ (‘it talks’), and shako:yé:nas ‘policeman’ (‘he arrests/grabs them’). Since these words generally match their counterparts in the other Northern Iroquoian languages, it appears that they were brought into Oklahoma by the later immigrants and visitors from Ontario, whose language has probably always enjoyed special prestige in Oklahoma.

Some neologisms created in Ontario apparently never had counterparts in Oklahoma. Ontario and Oklahoma Cayuga share the original terms for ‘black’, ‘white’, ‘red’, ‘green’, ‘yellow’, and ‘blue’. A term for ‘pink’ has been created in both communities, but from different descriptions. The Ontario term is otkwghstsia:kxːt (‘it-red-white.is’) ‘light red’. The Oklahoma term is tkwehtsiʔáʔah (red-DIMINUTIVE) ‘a little red’, ‘sort of red’, ‘reddish’. The Ontario word for ‘brown’, based on the noun ‘dirt’, was understood in Oklahoma as ‘purple’. The Ontario term for ‘gray’ is an innovation based on the noun ‘ash’, but there is no counterpart in Oklahoma. (Both dialects retain an older term for ‘gray-haired’.) Neither has a special term for ‘orange’.
Lexical loss in Oklahoma Cayuga shows a predictable pattern. Words for objects no longer discussed have been forgotten, such as 'moose', 'beaver', 'mink', and 'weasel'. Some specific terms seem to be disappearing before more general ones. The Ontario speaker remarked that he would be more likely to say (4a), for 'Come on in the house', where an Oklahoma speaker said (4b).

(4a) Ontario: Kanqhs:kɔ: tatsɔh!
    n-house-in cislocative-2.sg.ag-enter

(4b) Oklahoma: Kanqhs:kɔ: tā:se?
    n-house-in cislocative-2.sag.ag-go

When asked for a word for 'thigh', the best Oklahoma speaker supplied the term for 'leg'. Although she knew 'foot', she could not come up with 'ankle' or 'toes'. For 'hip', she suggested 'buttocks'. She knew 'eyes', but had never heard the Ontario word for 'eyebrow'. She knew 'face' but not 'cheeks'.

4. Morphology

Cayuga morphology is not only complex, it is also highly productive, and good speakers manipulate it extensively for stylistic purposes. If a particular element of meaning is in focus, it is usually expressed by a separate word: a particle, noun, or verb. If it merely provides background information, it may be expressed by a bound morpheme within the verb. A separate particle and a verbal affix may co-occur. A speaker wishing to emphasize that an event occurred again, might use a separate particle meaning 'again' as well as a repetitive verbal prefix something like English re-. If the repetition is not the main point of the clause, or if it is established information, the prefix alone is sufficient. Good speakers can pack a considerable amount of background information into verbs by means of affixation.

Productivity is probably one of the first aspects of morphology to be receding in Oklahoma Cayuga. The best Oklahoma speaker could use all of the affixes, but on occasion, she would hesitate to combine several within a single word. When there were few other prepronounal pr-efixes, she used the repetitive prefix s- with the particle ẽ:ʔ 'again', as an Ontario speaker would.

(5)a. aqtat:iʔtanyúʔu  "she beat her up"
    b. saqtat:iʔtanyúʔ e:ʔ  "she beat her up again"

When more prepronounal prefixes were present, she relied on the separate particle alone to carry the meaning 'again'. An Ontario speaker would have simply combined prefixes in that context.

(6) Ontario: tôsasatkahat:ə:nih
    dualic-repetitive-2.sg.semi.reflexive-turn.around
    'turn back around, re-turn'
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At other times, the Oklahoma speaker did use expressions containing multiple prepronominal prefixes. These may have been somewhat more familiar combinations.

(7) Ka:oʔ  āt̪ōtesá:tih
toward  PARTITIVE-DUALIC/CISLOCATIVE-2SG.PAT-throw
‘Throw it back here’

The reluctance to combine morphemes within single words extends to noun incorporation. In all of the Northern Iroquoian languages, verbs may incorporate noun stems referring to their patients. Incorporation can be used for several purposes. It often functions as a word-formation device, creating unitary lexical items to represent unitary concepts. Many of the resulting verbs normally function as predicates, like -khwêtaʔ ‘finish eating’ ('meal-finish'), -atekhgoni ‘eat’ ('self-meal-make'). Many others have been coined to function as nominals, especially in response to the introduction of so many new objects requiring names over the past several centuries. Terms formed in this way include kaqtañékhwih ‘horse’ ('it-log-haul-s’) and kayáptakrais ‘goat’ ('it-body-stink-s’). Such words are not formed anew each time a speaker uses them, of course. The majority are learned and remembered as lexical units in both Ontario and Oklahoma.

Incorporation can also be used as a stylistic device in discourse, as a means of backgrounding established or incidental information. When an important entity is first introduced into discourse, or is in focus, it usually appears as a separate noun. Once its identity has been established, it is usually referred to only pronominally or by an incorporated noun. A characteristic of especially admired speakers is the profusion of incorporation in their speech for stylistic effect.

Some noun–verb combinations are used very often, while others may be quite rare. The best Oklahoma Cayuga speaker used combinations that would be familiar as frequently recurring units. For ‘she has a big house/her house is big’, she used nearly the same word as the Ontario speaker would have chosen. Having a big house is a frequently occurring conceptual unit, in which neither the house nor its size is in focus. (She did omit the patient pronominal prefix for ‘her’.)

(8) Ontario:  konqhsowá:neh
F.SG.PAT-house-large. STATIVE

Oklahoma:  kanqhsuwá:neh
N-house-large. STATIVE

The Oklahoma speaker used rarer combinations less often, if at all. Where
she used a simplex verb with a separate noun, as below, the Ontario speaker noted that he would have used a verb with incorporated noun. (As before, she did not specify the possessor of the onion.)

\[(9)\] Ontario: \texttt{kônôhsowá:nèh}  
\texttt{ko-?nôhs-owanè}  
\texttt{F.SG.PAT-onion-large.STATIVE}  
\texttt{she has a big onion}  

Oklahoma: \texttt{kuwa:nè}  
\texttt{?nôhsa?}  
\texttt{k-uwane}  
\texttt{?nôhs-a?}  
\texttt{N-big.STATIVE onion-NOMINAL.SUFFIX}  
\texttt{the onion is big}  

Morphophonemic alternations, which can be quite complex in Cayuga, are essentially the same in both dialects. The shape of the stem for 'leg' originally \texttt{-hsin-}, has been remodeled to \texttt{-ahsin-}, probably by analogy to \texttt{-ahsi?t- 'foot'}. The difference has always been neutralized in some forms, like \texttt{ohsi:na? 'a leg' and ohsî?tə? 'a foot'}. In other forms, original differences have been leveled in Oklahoma. Compare Ontario, \texttt{kâsîtâkeh} 'on its leg' and \texttt{wâsîtâkeh} 'on its foot', with Oklahoma \texttt{wâsînâkeh} 'on its leg' and \texttt{wâsîtâkeh} 'on its foot'. It is interesting that such a frequent word could be subject to remodeling.

5. Phonology

Most phonological distinctions and processes have remained the same in Ontario and Oklahoma. One Oklahoma vowel shift is particularly salient to Ontario speakers: *o appears as a lax, fronted, barely rounded [u] in all contexts. It is actually quite close to the Oklahoma Cayuga speakers' pronunciation of the vowel in English \textit{too}.

\[(10)\] Ontario: \texttt{[othô:we?] 'cold'}  
Oklahoma: \texttt{[uthû:we?]}

It could be hypothesized that the Oklahoma vowel is simply the result of contamination from English. This seems extremely unlikely, given the intact state of the rest of the phonology. All other vowels, including nasalized, creaky, and voiceless ones, have remained just as in Ontario. Furthermore, there is nothing articulatorily complex about the vowel [o] that should cause instability.

Better hypotheses come from historical considerations. The Huron, who occupied what is now Ontario until the mid-seventeenth century, were linguistically related to the Five Nations Iroquois, but they constituted an opposing political unit. Although the Huron language is no longer spoken, records left by seventeenth- and eighteenth-century French missionaries
show several interesting phonetic alternations present in the language at that time. In particular, the pronunciation of the sound corresponding to original Proto-Iroquoian *o was sometimes [o], and sometimes [u].

When they were defeated by the Five Nations Iroquois in 1649, the surviving Huron scattered in several directions. Many went eastward toward Quebec City. A number of others settled among the Iroquois in New York State, including the Cayuga. Interestingly, some modern Ontario dialects of Cayuga show some of the same alternations recorded in seventeenth-century Huron. In particular, *o sometimes appears as [u] in certain contexts adjacent to n, y, and ?, as in oná?no:/oná?nu: ‘it is cold’, oyó:tsha?/oyú:tsha?/uyú:tsha? ‘jaw’, or onó?tsha?/onú?tsha? ‘tooth’. This [o]/[u] alternation may have originated with the early Huron refugees (Mithun 1985), then remained unchanged in Ontario, but been generalized to [u] in Oklahoma.

There is another possible explanation behind the Oklahoma [u]. Some of the defeated Huron banded together with remnants of neighboring tribes and fled westward toward Detroit, where they became known as the Wyandot. They eventually moved into northwestern Oklahoma, not far from the area occupied by the Oklahoma Seneca-Cayuga today. Although Wyandot is no longer spoken, we have excellent documentation of the language in narratives and notes transcribed by Marius Barbeau in the early part of this century (Barbeau 1960). From these it is clear that *o was pronounced [u] in all contexts in Wyandot. It may thus have been the Wyandots who generalized the [o]/[u] alternation to [u], then passed it on to the Oklahoma Cayuga. In any case, it is unlikely that the Oklahoma [u] is merely a mark of English influence or obsolescence.

Patterns of stress and length are relatively complex in Cayuga, depending upon interactions between syllable count from both ends of the word and syllable structure. Phrase-medial words have ultimate stress, but in phrase-final words, stress placement is essentially as follows. (The examples are from Oklahoma Cayuga.)

(a) If the penultimate syllable of a word is even-numbered (counting from the left), it is stressed: kgasá?keh ‘on its lips’, ‘mouth’.
(b) If the penultimate syllable is odd-numbered and open, it is still usually stressed: hō?ka:k ‘goose’.
(c) If the penultimate syllable is odd-numbered and contains the vowel /a/, stress moves to the antepenult: kek̑̄ota:kq ‘in my nose’.
(d) If the penultimate syllable is odd-numbered and closed, stress moves to the antepenult: (e)shuwektha? ‘cover, lid’.
(e) If stress would otherwise fall on the second of two adjacent vowels, it moves leftward to the first: tsi?doyq ‘spider’.

For the most part, these patterns have remained the same in both dialects. Several Oklahoma words hint at incipient generalizations in the stress rules,
however. The word ‘in my eye’, for example, is pronounced *kekáhakó:* in Ontario in accordance with (c) above: the penultimate syllable -*ka-* is odd-numbered and contains /a/, so stress moves leftward to the antepenult. In Oklahoma, it is pronounced *kekahá:ko:*. The penultimate syllable is treated like any other open syllable, despite the /a/. The word for ‘cat’, originally borrowed into the North Iroquoian languages from Dutch, shows the same innovation. In the north, this has remained *taká:*s. In Oklahoma, it is now *tá:ku:*s. Numerous other words, like ‘in my nose’ cited above, indicate that the generalization is not systematic, however.

When asked what she called ‘eyebrows’, the best Oklahoma speaker supplied *kekahéhto:*, a word interpreted by the Ontario speaker as ‘my eyelashes’. In Ontario, this term is pronounced *kekáhehto:* in accordance with (d) above: the penultimate syllable -*heh-* is odd-numbered and closed, so stress moves leftward to the antepenult. The Oklahoma speaker treated the penult here as if it were even or open, and stress remained penultimate. In another word based on the same root, *kekáhákeh* ‘(on) my eyes’, she did shift the stress to the antepenult. Many other words in her speech, like that for ‘lid’ above, confirm that the generalization is not systematic.

Perhaps the most interesting aspect of Cayuga phonology is a phenomenon usually referred to as “laryngeal metathesis”, actually a process of feature spreading. It operates as follows: if an odd-numbered syllable is closed with a laryngeal (h or ?', features of the laryngeal are spread leftward over the entire syllable, and the laryngeal itself is usually no longer audible as a separate segment.

When an odd-numbered syllable would otherwise be closed by h, the voicelessness moves leftward and the entire syllable is devoiced. In (11) below, the syllable *-tru-* is pronounced [druh] when even-numbered, but [tru] when odd-numbered. (Oral stops are automatically voiced throughout the language before other voiced segments. Voicelessness on sonorants is indicated by small circles under the letters.)

(11) *he na tru ê: ktha*? ‘they use it to gather together’
   1 2 3 4 5
   (term used for the Longhouse)
Compare: *tsa trú he ktha*? ‘you two use it to gather’
   1 2 3 4
   (Word elicited for comparison: *ts* = ‘You two’)

When an odd-numbered syllable is closed by glottal stop, the glottalization moves leftward and the entire syllable is laryngealized. In (12), the syllable *-nî?-* is pronounced [ni?] when even-numbered, but as [ni] when odd-numbered. (Apostrophes above sonorants indicate glottalization.)

(12) *sa thró nî ta*? ‘your clothes’
   1 2 3 4
Laryngeal metathesis is very much alive in Oklahoma, but it differs in two ways from the Ontario version. First, it appears to be optional in Oklahoma, often simply failing to operate. In the Oklahoma versions of (13a and b), devoicing failed to take place, a common occurrence. Compare the shapes of italicized syllables.

13(a). Underlying: keh soh ta? ke ‘on my hand’
1 2 3 4
Ontario: kê sóh tâ keh
1 2 3 4
Oklahoma: keh súh tâ keh
1 2 3 4

b. Underlying: tê hat ‘he will dance’
1 2
Ontario: tê a:t
1 2
Oklahoma: tê ha:t
1 2

In the Oklahoma versions of (c) and (d), glottalization failed to spread.

c. Underlying: ka? no wa? ke ‘on its back’
1 2 3 4
Ontario: kâ nô wâ keh
1 2 3 4
Oklahoma: ka? nú wa? keh
1 2 3 4
1 2 3 4
Ontario: a tá? ti thra?
1 2 3 4
Oklahoma: tá? ti? thra?
2 3 4

Note that in the Oklahoma version of (13a) ‘on my hand’, devoicing did not spread but laryngealization did. In fact, the same word may be pronounced sometimes with devoicing, sometimes without.

(14) Underlying: keh sa? ka hê:t ‘my mouth’ (‘my lips have a hole’)
1 2 3 4
Ontario: kê sá? ka ê:t
1 2 3 4
1 2 3 4 1 2 3 4
(No doublets occurred in the Oklahoma corpus showing the optionality of glottal spreading for a single word, but this may simply be an accident of the data.)

In Ontario, the laryngeal metathesis is context sensitive: it does not occur in syllables beginning with vowels or laryngeals, nor word-finally. In Oklahoma, the process has been generalized to all but word-final syllables. It appears in vowel-initial syllables as often as in other odd-numbered syllables. (Vowel-initial syllables occur only word-initially.)

(15) a. Ontario: ahsoh, 'still'
Oklahoma: asuh
b. Ontario: ohkâ:eʔ, 'squash'
Oklahoma: ôkâ:eʔ

It also appears in laryngeal-initial syllables as often as in other odd-numbered syllables, whether the laryngeal is h or ʔ.

(16) a. Ontario: kehsos:ʔ, 'my grandmother'
Oklahoma: kësu:ʔ
b. Ontario: onëhohkwaʔ, 'lyed hominy'
Oklahoma: nëhuckerwaʔ
c. Ontario: kekâhâ:keh, 'on my eye'
Oklahoma: kekâhâ:keh
d. Ontario: ketsyë:OTA:ke', '(on) my fingernail'
Oklahoma: ketsyë:OTA:ta'

The general retention of the complex stress and metathesis patterns, which depend on syllable count from the beginning of words, is especially impressive in light of another innovation in Cayuga, the neuter pronominal prefix o- is often dropped by both Ontario and Oklahoma speakers in certain color and animal names:

(17) a. (o)nrahtâ:ʔ, 'green'
   b. (o)thahyò:nih, 'wolf'

In both dialects, stress placement and metathesis still operate as if the missing syllables were present. In the term for 'green', for example, the syllable -raht- would be unstressed and voiceless if it were initial, and -â:的风险 would not undergo metathesis if it were actually the second syllable.

Oklahoma Cayuga has extended this deletion process. The neuter prefix o- is usually dropped from most nouns and stative verbs.

(18) a. Ontario: osâheʔtaʔ, 'beans'
   Oklahoma: sâheʔtaʔ
b. Ontario: ohyuʔthi:yeht, 'it is sharp'
   Oklahoma: (h)yuʔthi:yeht

No irrecoverable information is lost with a systematic dropping of the
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pronoun. The loss is not restricted to the pronoun in Oklahoma, however. Words like those in (19) are typical.

   Oklahoma: trá:tha?
   Oklahoma: te:khó:nih

The loss is phonologically rather than morphologically conditioned. In (19a), the initial o- is the neuter pronominal prefix, but wi- is part of the root. In (19b), the original initial s- is the 2nd person singular pronominal prefix, and -a- is the beginning of the semireflexive -ate-. No matter how many syllables are deleted, however, stress and metathesis continue to reflect the original syllable count.

6. Acquisition and deacquisition

It has sometimes been suggested that obsolescing languages resemble child language. Those aspects of a language that are the most complex tend to be acquired last and lost first. Unfortunately, moribund languages are usually just the ones that are not being learned by children, so it is difficult to compare the first and last stages of the same language. This is the case with Cayuga. It has been possible, however, to observe some children learning Mohawk as a first language (Mithun forthcoming). Their early Mohawk is both similar to, and different from, the Cayuga spoken in Oklahoma, in interesting ways.

In Mohawk, as in Cayuga, constituents are ordered according to their relative importance to the discourse. Ordering principles are consistently intact in both child Mohawk and Oklahoma Cayuga. As soon as Mohawk children use sentences of more than one word, they order the words appropriately. Similarly, Oklahoma Cayuga speakers have not lost their pragmatically conditioned order.

As Annette Schmidt (1985c) has pointed out, children acquiring a language and adults losing one do differ in a fundamental way. The language of young children is constrained not only by structural parameters, but also by their cognitive development. Speakers of receding languages undergo no parallel shrinking of cognitive capacities: they simply use a different language for their purposes. This difference is reflected in the two Iroquoian languages. Children learning Mohawk develop syntactic complexity relatively slowly, using few clauses per utterance for a considerable period as they acquire morphology. Oklahoma Cayuga speakers apparently continue to use sentences of approximately normal complexity, even after their command of productive morphology has begun to weaken.

The morphology of the Mohawk children and the Oklahoma adults show striking parallels. Both the children and the adults tend to avoid long
combinations of morphemes, even in cases where they control each affix individually. They substitute separate particles for crucial morphemes, and simply do not mention less important ones. The same principles characterize the use of incorporation. Both the children and adults use verbs with incorporated nouns, but they tend to use only those combinations that they would have heard often as lexical items and learned and remembered as units. There seems to be relatively little creative use of the morphology in the strictest sense for word formation, nor is there manipulation of alternative morphological structures for stylistic purposes.

Unfortunately, Mohawk does not share some of the most intriguing phonological characteristics of Cayuga, in particular, the complex stress assignment and metathesis patterns. Child Mohawk does share one interesting phonological feature with Oklahoma Cayuga. For the first few years that children learn Mohawk, there are strong limitations on how many syllables they utter at once. Children begin by pronouncing only the stressed syllable of each word, usually the penultimate or antepenultimate syllable. This coincides sufficiently often with a part of the stem so that some communication is possible. As they progress, they add post-tonic syllables until their renditions of words consist of the stressed syllable plus all following ones. Once this is mastered, they begin to move leftward, so that utterances consist of the final three syllables of words, then the final four syllables, etc. It is at about this point that their words begin to include pronominal prefixes and they discover morphological structure. Limitations on the number of syllables pronounced per word still persist for a certain length of time, although a few well-known words are pronounced in their entirety. This tendency to omit syllables from the beginnings of words is reminiscent of the truncation of words in Oklahoma Cayuga described above.

7. Conclusion

It is not clear to what extent circumstances have interfered with the Oklahoma speakers’ initial acquisition of Cayuga. It may be that those interviewed learned the language relatively well as children. Their language does now differ in subtle ways from that spoken in Ontario, particularly in the areas of morphology and phonology.

Many differences between Ontario and Oklahoma Cayuga are probably due to the sorts of natural processes of change that occur in all languages. The raising of *o to [u], the remodeling of the root for ‘leg’ by analogy to ‘foot’, and the regularization of stress assignment and metathesis contexts, are probably in this category. It is interesting that these last innovations have begun with relatively common, established words. This suggests that the stress and metathesis patterns are not necessarily mere diachronic relics passed on with lexical items, but, rather, that they have had a certain synchronic reality, at least at some point.
Certain other differences distinguishing Oklahoma Cayuga could be interpreted as reductions, such as the shrinking of the lexical inventory and the truncation of words. Some of the creative devices formerly used to expand the system may be less exploited by these speakers. The elaborate word-formation processes for the creation of new lexical items are undoubtedly used less often now. The stylistic choices afforded speakers by such a productive morphology, with its rich inventory of affixes as well as noun incorporation, are probably also less exploited by Oklahoma speakers than they once were.

In the end, however, what is most striking about the Oklahoma speakers is not the minor ways in which they differ from Ontario speakers; it is, instead, their nearly complete retention of an amazingly complex morphological and phonological system, under such limited opportunities to use it.