

A FUNCTIONAL APPROACH TO
SYNTACTIC RECONSTRUCTION

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0. *Introduction.* Often, related languages which are quite similar phonologically and morphologically exhibit a surprising degree of syntactic diversity. While the protophonology may be easily reconstructable, and easily justified in terms of established articulatory tendencies, the strange arrays of syntactic differences appear unrelatable as a set. Without shared retentions, syntactic reconstruction by the comparative method is impossible. A different approach to syntactic reconstruction is demonstrated here. The development of seemingly disparate syntactic differences among related languages is traced to a multidimensional drift arising from unstable conditions in the parent. The method is functional in orientation. It aims at uncovering and explaining syntactic change as a necessary response to reconstructable disequilibrium.

The Northern Iroquoian languages present the problem described above. Phonologically and morphologically they are quite similar, yet they exhibit myriad subtle but pervasive differences in their syntactic constructions, particularly in the areas of organization of discourse. Some have special markers for emphasis, some for definiteness, some for specificity, some for contrast. In cases where semantically analogous constructions exist in several languages, the markers are often not cognate from one language to the next, so the similarities cannot be attributed to a common inheritance from the parent language.

1. *General characteristics of the family.* The Iroquoian family consists of a Southern branch, represented solely by Cherokee, and a Northern branch. The first subbranch to diverge from Northern Iroquoian was Tuscarora-Nottoway. Sometime later, another subbranch, Huron-Wyandot, left the group. Most of the remaining group subsequently

became known as the Five Nations, now Mohawk, Oneida, Onondaga, Cayuga, and Seneca.

Certain grammatical characteristics of the protolan-
guage can be hypothesized on the basis of resemblances
among the daughter languages. Words were of three morph-
ological types: particles, nouns, and verbs. Both nouns
and verbs could function syntactically as predicates, nom-
inals, or adverbials, since they contained pronominal re-
ferents to their subjects and/or objects. The results
could be very 'verby' sentences.

- Tuscarora (1) *Neyo?nehswá:nye? wè:rih ð:wó:to:t*
it-cloud-around it-mean-s will-it-rain
'Clouds mean rain'.
- Wyandot (2) *Hote?ye?a:ha: hatinda:re?*
they-siblings-are they-live
'Several brothers and sisters were living
together'.
- Mohawk (3) *Skáthne tettyatera?né:kv*
together they-2-each-other-beside
akohsá:tv s tetyate?serehtahnhutérha?
one-straddles it-links-what-drags
wahshakoya?taninú:tv?
he-them-body-hitched
'He hitched two horses side by side with
a wagon harness'.

Because of the multiple syntactic functions of the
word classes, the syntactic roles of constituents could
not be inferred solely from their morphological categories.
Some assistance was provided by the pronominal prefixes on
the nouns and verbs, which indicate the person, gender, and
number of their arguments, but this could only distinguish
subjects from objects of different persons, numbers, or
genders. Word order might be thought to offer a clue, but
in Northern Iroquoian, constituents are ordered according
to discourse function. New information tends to appear
sentence initially. Without morphological clues, unambi-
guous case marking, or syntactically based word order, it
could be difficult to decipher who did what to whom. The
situation is further complicated by the possibility of con-
stituents which are themselves clauses. No subordinating
markers can be reconstructed for the parent language. In
fact, it is difficult to determine whether subordination
was distinct from simple concatenation of independent
clauses. All of the modern languages contain constructions
which are translated into English complex sentences, but
actually consist of strings of clauses.

- Tuscarora (4) *Wahratshd:nó:ti? wáhra?w*
he-was-glad he-came
'He was glad that he had come'.
- Wyandot (5) *Kari:wá:yó:t a?ki:yú?*
it-is-certain would-I-you-two-kill
'I am certain to kill both of you'.
- Mohawk (6) *I:kehre? tho yá:ke?*
I-it-want there there-would-I-go
'I want to go'.
- Tuscarora (7) *Wa?ktshá:ri? hè:ní:kv: yerohkhwéhstha?*
I-it-opened that one-uses-it-for-hay
tshv? yvkwá?nvhsó:ti?
just we-house-built
'I opened up the barn we had just built'.
- Wyandot (8) *Na:ruré:ha? yaróttatétra? skwa?rd:harétt*
now-he-it-found it-wood-lies it-hollow-is
'Then he found a hollow log'.
- Mohawk (9) *E? ká:yv? onó:ya? yoho?thí:ye?*
there it-lies it-stone it-sharp-edged-is
'There lies a stone with a sharp edge'.

Is there a semantic feature inherent in subordination
which cannot be expressed otherwise? Anthing stated in
a complex sentence can be stated in a series of simple sen-
tences with appropriate coreference relations. However,
distinctions of information organization, emphasis and
backgrounding, and presupposition simply cannot be present-
ed as elegantly in a series of concatenated simple sen-
tences as in complex ones. As seen above, some distinc-
tions of the relative importance of lexical items to dis-
course were expressed by focus fronting in Northern Iro-
quoian. The relative importance of clauses and the identi-
fication of the case roles of constituents could be diffi-
cult to express and interpret, however. This basically
unstable condition, that of perceptual difficulty in de-
coding, set the stage for divergent drifts in the daughter
languages.

2. *Tuscarora*. Apart from a coordinating conjunction,
Tuscarora has one primarily syntactic marker. It is the
particle *ha?*, which emphasizes the constituent following it.
It carries no distinction of definiteness or specificity,
and precedes generics, proper or common nouns, specific or
nonspecific, definite or indefinite nominals, although no
definiteness distinction is made in *Tuscarora*. The par-
ticle may precede any morphological type of consti-
tuent, particle, noun, or verb, but the constituent is

always one which is functioning syntactically as an argument. It never precedes the main predicate of a sentence.

Since Tuscarora constituent order is largely a function of focus relations, this additional emphatic device might seem marginally useful. The particle *ha?* is extremely frequent in Tuscarora discourse, however, occurring many times in almost any long sentence. The reason is clear. The fact that the particle precedes only nominals solves a major decoding problem for the language. Constituents preceded by *ha?* are immediately identified as arguments rather than predicates. The longer and more confusing the sentence, the more likely the emphatic marker.

The distribution of the emphatic, before syntactic nominals only, permits the overt marking of another type of construction: subordination. Sentential arguments can be identified as nominals, not independent clauses, by the presence of *ha?*. In sentences like (4), the particle may optionally precede the second clause, but the more complex a sentence is, the more likely the particle is to appear.

The acquisition of a subordination marker also permitted the elaboration of adverbial arguments. Without subordination, the cooccurrence of two events at one time or in one place must be established by two separate assertions, each specifying the time or place of that event, plus appropriate coreference relations between them. When subordination can be overtly marked, however, the adverbial can be backgrounded.

(11) *O:nv yoθatho?θho:t ha? θ:nv nakara?thehá:nyv?*
then it-night-divides ha? then so-she-climbing-was
'It was midnight when she came up the stairs'.

(12) *Neyo?nvtá:kv ha? kó? yé?rv? nekarv?no?ndhrhv*
it-door-open ha? right she-sits it-logs-has
'The door was open to the log house she was in'.

The overt marking of nonpredicates permitted still another type of importance ranking of information: relativization. Tuscarora constructions translated with English relative clauses often consist of simple strings of clauses with no apparent connection beyond the possible coreference of their arguments, as in (7). The overt subordination of one of the clauses, however, permits backgrounding of that information.

(13) *V:tsi ha? royatká:yv: wahroyé:nv:?*
one he-slow-was it-him-caught
'It caught the one that was slow'.

No formal distinction between restrictive and non-restrictive relatives is obligatory in Tuscarora, but two devices have developed to specify something akin to restrictiveness. The first involves the overt statement that the portion of the group or general set referred to possesses a certain characteristic, as in (14).

(14) *Thwé:ʔn wa?krî:yo? ha? tí:wa?θ katá:kre?*
all I-them-killed ha? so-it-amounts they-dwell
'I killed all those alive in the universe'.

The second device exploits a specific morpheme *-vt-* which adds the meaning 'that particular...'. When it is suffixed to nominals which are followed by overtly subordinate relatives, the result is restrictive.

(15) *Káhne? rayehs'ó:teh ha? Tóm rayá:θv wahshé:kv?ʔ*
who he-person-spec ha? Tom he-is-called you-him-saw
'Which Tom did you see?'

Ha? *rayehs'ó:teh otá:ʔnakv: thro?nè:nv?*
he-person-spec it-town-in there-he-lives
'The one who lives in town'.

The possibility of marking off clauses as subordinate permits still another distinction of communicative value: that accomplished by clefting. One constituent is focussed by fronting. The rest of the sentence is backgrounded by subordination to presupposition.

(16) *Tá:ko:θ ha? wah'ó:kri:k*
cat ha? it-bit-me
'It was a cat that bit me'. (What bit me was a cat.)

The emphatic function of the particle *ha?* permitted the development of syntactic devices in another direction. When it is combined with the focus-fronting mechanism, multivalued contrasts can be expressed, as in (17). One pair of constituents is contrasted initially, the other following *ha?*.

(17) *Wí:rv:n wahrá:kv? ha? tsí:r tísnv? Tsyán wahrá:kv?*
William he-it-saw ha? dog and John he-it-saw

ha? *tá:ko:θ*
cat
'William saw a dog, but John saw a cat'.

A second combination of these two emphatic devices is used to indicate that the information content of a constituent is especially high, because it is unexpected. A shift in topic can be marked by simultaneous focus-fronting plus the *ha?* emphatic, as in (18).

- (18) *Ha?* *na?taḥskwá:wi:* *thweθkó?rv?* *hé?thoh*
 he-him-animal-gave so-it-settled there
ronó:θkwarv?
 him-toad
 'As for the man he had given the animal to, he got a wart'.

Tuscarora has, then, developed a fairly intricate set of mechanisms for ranking the communicative value of the elements of discourse, all of which are expressed with the particle *ha?*. The change can be easily understood in terms of a response to a decoding difficulty: that of identifying the case roles of constituents. The possibility of distinguishing arguments from predicates led to the marking of subordination, permitting sentential complements, relative clauses, sentential adverbials, and clefting. At the same time, the original emphatic function of the particle, when combined with the focus fronting in the language, permitted the expression of multivalued contrasts and shifts in topic.

3. *Wyandot*. *Wyandot* contains a different set of syntactic particles and devices for distinguishing the relative communicative importance of constituents. The problem of identifying the syntactic roles of constituents was solved with the acquisition of a definite marker (*n*)*de*, probably derived from a deictic pronoun. This optional definite particle, which may precede any type of nominal constituent, indicates that the referent of the nominal is identifiable to the hearer. Since the definite marker never precedes the main predicates, it has acquired the secondary function of identifying arguments.

- (19) *Ahu:jú?* *dó:re:dih*
 it-him-killed the-one-starves
 'He died of starvation'.

Wyandot developed two mechanisms for identifying sentential arguments. For one, the particle, which had come to mark the argument status of verbs, was exploited to signal the nonpredicate status of clauses.

- (20) *Ndi?* *ada?ura:ʔdi?* *de* *ri:ju?* *du:gu:kwa?*
 the-I I-am-able the I-it-kill the-smallpox
 'I can kill the smallpox'.

The other complementizer is the demonstrative (*n*)*dae?* 'that', a not unusual development in languages in general. A clause containing the demonstrative is followed by a clause identifying its referent.

- (21) *Ata:wátö?* *dae?* *daöhsanökerata?*
 it-impossible that the-one-body-retains-what-used-to-be
 'It is not possible to retain the old ways'.

As in *Tuscarora*, the particle which had come to signal the argument status of constituents came to mark the subordination of adverbials.

- (22) *Danoneré:dara:hahs* *kari:wáyöht* *ne ndi* *awajé:da:ö?*
 the-someone-me-trap-s it-certain now the-I it-me-grabs
 'If I get into a trap, it always gets hold of me'.

The definite marker signals the dependence of the following clause.

Relativization is not necessarily overtly marked in *Wyandot*. Modification is often accomplished simply by a series of juxtaposed clauses, as in (8). As in *Tuscarora*, the particle which distinguished arguments from predicates can be used for marking the dependence of relatives.

- (23) *Nē* *yěhāö?* *de* *yawí:nö*
 now she-said the she-pretty
dehivé:y *nahömenēhti?...*
 the-he-her-spouse the-he-person-young
 'Then the young woman spoke to the young man, her husband...'

Restrictiveness is not obligatorily expressed, but two devices for marking restrictiveness do exist in the language. One involves the overt assertion of the restriction, as in *Tuscarora*. The head of the relative clause is a quantifier.

- (24) *Tahomātihoē?* *tiwá?*
 there-they-them-killed so-it-amounts
utija?töta?ndi?
 their-bodies-are-fastened
 'Then they slaughtered those who had gotten caught'.

The other involves a combination of the definite marker *nde* and the demonstrative. The definite marks the subordination of the relative clause and the demonstrative contributes specificity.

- (25) *Nē* *uně?u:tih* *dae?* *dekwayuwá:nēh*
 now she-her-combs that the-she-is-large
 'Then she combed the hair of the eldest'.

Once restrictiveness could be expressed along with focus, clefting became possible. The clause which ex-

presses the presupposed property is backgrounded by the subordinating particle. The nominal identifying the referent is focussed by fronting. The demonstrative, which contributes restrictiveness, supplies the feature of uniqueness.

- (26) *Ndae? nde? tawakó:ta? ahti:eróga*
 that the it-began they-it-made
 'These are the ones who made the first beginning'.

Although the Wyandot definite marker resembles the Tuscarora emphatic in marking nominalization and subordination, it is nearly opposite in its primary meaning. The definite indicates that what follows is identifiable, or old. The emphatic signals the importance of what follows. For this reason, its total set of functions is not congruent with those of the Tuscarora emphatic. It cannot indicate contrast or shift of topic. For multivalued contrast, a temporal deictic was exploited.

- (27) *I:céhske?nã? nde?sa tiju nē? di? trōdi*
 you-small the-you this now the-I much
nē ndi yeyuá:nē
 now the-I I-large
 'You are very small, while I am very large'.

This temporal deictic was also extended to a topic shifter.

- (28) *Nē dae? nōmá?de? da:nō:nē?*
 now that the-next the-bear
 'Now the next one was the bear'.

A remedy for the same weakness in the system can be seen to have provided the basis for the development of devices for ranking constituents according to their communicative value in discourse, as in Tuscarora. The marking of nominalization led to the marking of subordination in complements, relatives, and cleft constructions. The choice of a definite marker instead of an emphatic for this purpose affected the subsequent development of these devices, however. Different markers had to be adopted for the needs still to be filled, the demonstrative for restrictiveness, and the temporal deictic for contrast.

4. *Mohawk*. Information ranking devices in Mohawk follow still different patterns. Cognate to the Wyandot definite particle is the Mohawk *ne*. It occurs optionally before any type of nominal constituent, including proper names and possessed nominals. The particle indicates that the referent of the following nominal is identifiable. As in Wyandot and Tuscarora, the development of a prenominal

particle provided a solution to the problem of distinguishing arguments from predicates.

Instead of indicating subordination by marking clauses as arguments, however, Mohawk acquired a subordinating marker from a different source. A particle *tsi*, generally translatable as 'as', was exploited to indicate the coreference relations between clauses in complex constructions. The particle now signals the dependence of the clause which follows it.

As in the parent language, relativization can be accomplished by simple juxtaposition. Restrictiveness is not necessarily distinguished. Two devices have arisen, however, to mark restrictive relatives. For one, the restrictiveness is overtly asserted with a quantifier.

- (29) *Akwé:ku ronvhé:yu tsi níká:yv ne*
 all they-died-have as so-they-lie the
ruwá:kv
 they-him-seen-have
 'All who have seen him are dead'.

The other is based on a specific marker, *nè:ne*.

- (30) *Nè:ne óska nè:ne ydh tha?tehó:ka nè:ne*
 that one that not is-he-fast that
katsi?nuwáksv wahoyé:na?
 it-creature-evil it-him-caught
 'The monster caught the one that was slow'.

In addition to these particles, Mohawk also contains a contrastive demonstrative *né:ʔe*. It shows that an argument contrasts with expectation. It was this feature of contrast which was exploited for clefting. The constituent which identifies the possessor of the property is fronted for focus, as in Tuscarora and Wyandot. Its uniqueness, or contrast with all other possible referents, is expressed by the contrastive particle.

- (31) *Shawátis né:ʔe wahawístandáhsko?*
 John that he-money-stole
 'John is the one who stole the money'.

When the contrastive particle is combined with the focus fronting device, multivalued comparisons are possible.

- (32) *Otsi?tvhokú:ha né:ʔe tehatí:tvv tdnu?*
 birds that they-fly and
kótsu né:ʔe rutá:wv
 fish that they-swim
 'Now birds fly, while fish, on the other hand, swim'.

Now while Tuscarora used the contrastive marker combined with focus fronting to indicate topic shift, and Wyandot simply exploited the temporal for this purpose, Mohawk used a new topic shifter: *na:?a* (despite its similarity to *ne:?e* no cognate relationship is yet established):

- (33) ...*tánu?* *na?* *ne* *wahshakóryo?* *ne* *ro?nistóha*
 and that the he-her-killed the his-mother
 '...and as for him, he killed his mother'.

5. *Conclusion.* All of the languages developed devices for the overt marking of subordination, but the devices are not based on cognate forms. There is not even correspondence among the sets of functions performed by each syntactic marker from one language to the next. Tuscarora has developed overt marking of all types of subordination as well as emphasis and contrast, by means of a single particle *ha?*. Wyandot has developed sets of constructions based on three particles: one marks definiteness, complementation, and sentential adverbials, another complementation, and in concert with the definite, clefting, while a third indicates shift in topic. Mohawk has a still larger repertoire of such primarily syntactic particles, whose functions are congruent neither to those in Tuscarora nor to those in Wyandot. One marks definiteness and nominalization of words, another subordination of complements and adverbials, a third restrictiveness of relatives, a fourth contrast and clefting, and a fifth, shift in topic. Forms and functions are neither cognate nor congruent.

These divergent states can be understood in terms of therapeutic developments set in motion by an unstable situation in the parent: the indecipherability of constituent roles. Each language developed a cure from material already present in the language. The features of a construction they abstracted when choosing a marker for it varied, prompting different choices of markers. The secondary features of the markers chosen affected the subsequent syntactic development of each language.