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A GRAMMAR OF TUSCARORA.

Yale University, Ph.D., 1974
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A Grammar of Tuscarora

A Dissertation

Presented to the Faculty of the Graduate School
of

Yale University

in Candidacy for the Degree of
Doctor of Philosophy

by

Marianne Mithun Williams

May 1974

ABSTRACT

A GRAMMAR OF TUSCARORA

Marianne Mithun Williams

Yale University 1974

This study is a description of some major characteristics of the syntax, morphology, and phonology of Tuscarora, a Northern Iroquoian language spoken in western New York State. The work begins with a discussion of the representation of the semantic structures from which sentences are derived. The applicability of the generative semantics model of language to Tuscarora is investigated, and it is found that with a few minor modifications, the model permits the formulation of a number of interesting generalizations. The mechanism of predicate raising, which groups together semantic features before lexical insertion takes place, proves quite valuable in the description of the formation of surface nouns and verbs, as well as in the formulation of the process of noun incorporation, one of the most interesting features of Iroquoian syntax.

At the same time, the application of the model to a non-Indo-European language provides some insight into some of its strengths and weaknesses. Some features which had been merely posited to underlie sentences are clearly

discernable in the surface morphological structure of Tuscarora. Others uselessly complicate the description of the language.

Once a theoretical framework is established, this is applied to the discussion of the formation of nouns, verbs, simplex clauses, adverbial constructions, and complex sentences.

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PREFACE

The present study is based primarily on material collected at the Tuscarora Reservation in New York State between June of 1971 and June of 1973. The first summer of field work was supported by the Phillips Fund of the American Philosophical Society Library, and the second full year by a Dissertation Fellowship from the Ford Foundation. Without this support the research would not have been possible and I am very grateful for it.

I am particularly indebted to Floyd G. Lounsbury, both for the time he has spent discussing Iroquoian linguistics with me and for the example set by his own work in the field. Both have been extremely valuable.

Guy Carden has been especially helpful in his comments concerning the theoretical import of various characteristics of the language as they have emerged. I have benefitted greatly from his suggestions.

I will never be able to express adequately my gratitude to my teacher of Tuscarora, Chief Elton Greene. Chief Greene, who has spent more than three years working conscientiously and patiently with me, is a highly gifted speaker of his native tongue. It has been a great privilege to know him and to work with him.

INTRODUCTION

The Iroquoian language family is represented today by seven modern languages, Cherokee, Tuscarora, Mohawk, Oneida, Onondaga, Cayuga, and Seneca. The family consists of two main branches, Southern Iroquoian and Northern Iroquoian. Cherokee is the sole representative of the southern branch. The northern branch consists of four documented sub-branches, Tuscarora, Five Nations, Huron-Wyandot, and Laurentian, the last two of which are now extinct. The Five Nations group has separated into Mohawk, Oneida, Onondaga, Cayuga, and Seneca. The fact that Tuscarora is the sole surviving representative of Northern Iroquoian outside of the Five Nations group renders a description of the language of strategic interest in the study of Iroquoian linguistics.

Tuscarora is spoken today by approximately 45 individuals living on the Tuscarora Reservation near Lewiston, New York, and by about 7 on the Six Nations Reserve near Brantford, Ontario. Nearly all of the speakers are over the age of 50 years at this time, although the language is currently being taught at the Tuscarora School in Lewiston. Slight dialectal variation is discernable between the two communities. The variety described here is that of Lewiston.

Major modern works on the Five Nations languages include Floyd Lounsbury's Oneida Verb Morphology (1953), Wallace Chafe's Seneca Morphology and Dictionary (1967), and his Semantically Based Sketch of Onondaga (1970), Some Syntactic Rules in Mohawk (1962) by Paul Postal, a Mohawk Morphology (1972) by John Beatty, and a Grammar of Ahkwasasne Mohawk (1973) by Nancy Bonvillain. Dictionaries of Mohawk have been published by Nancy Bonvillain and Beatrice Francis (1971) and by Gunther Michelson (1973). Currently underway are a study of Noun Incorporation in Onondaga by Hanni Woodbury, a Grammar of North Carolina Cherokee by William Cook, and an Oneida Dictionary by Clifford Abbott. Aside from short word lists and notes, the only modern published works on Tuscarora are "The Phonology of Tuscarora" by Joan Gleason Fickett (1967), and my own articles on "Word Order in Tuscarora" (1974) and "A Case of Unmarked Subordination in Tuscarora" (1973).

The data for the present work were collected at Lewiston between June of 1971 and June of 1973. In addition, I had the benefit of field notes collected by Floyd Lounsbury at Lewiston between 1949 and 1953.

The theoretical framework adopted here is essentially a generative-semantics model.¹ It has been selected because it permits the statement of some interesting generalizations about the structure of Tuscarora and because it is adequate for describing the material at hand.

At the same time, the structure of Tuscarora offers some insight into the applicability of the model to a non-Indo-European language, particularly with regard to the underlying order of constituents and the mechanism of predicate raising.

The notation employed follows normal conventions unless otherwise indicated. Illustrative examples are cited in phonemic transcription except where otherwise specified. Five vowel and ten consonant symbols are used. The vowels are i, e, a, o, and v, where v represents the central, nasalized vowel . The consonants are t, k, s, θ, y, w, n, r, h, and ?, where / represents a glottal stop. The symbol V will be used to indicate any vowel, C any consonant, and # word boundary, where this is relevant. Vowel length is marked with a colon :, high tone with an acute accent , and low tone with a grave accent .

Words can be classified into three morphological types: verbs, nouns, and particles. Verb morphology is extremely complex. A minimal verb must contain a verb stem, a mode or aspect marker, and pronominal references to its arguments. Singular, dual, and plural number are distinguished in pronouns, non-human (for animals and inanimates), masculine, and indefinite human genders, and three grammatical persons. In addition, numerous other markers may be included which further modify the predication, indicating such things as tense, location or direction, repetition, intensification

or causation of an act, as well as instrumental, causative, and/or dative case morphemes which specify the relations of the arguments of the predication to the event or state predicated. The internal structure of nouns is somewhat simpler than that of verbs. A formal noun consists of a noun stem plus a pronominal reference to the person or thing designated, and a nominal suffix. Also suffixed to nouns may be such modifiers as augmentatives or diminutives, decessives, and others. Particles are by definition unanalyzable.

A minimal sentence consists of a verb, as in (1) and (2). The Tuscarora utterances cited in this study are first segmented into morphemes, then translated morpheme-by-morpheme, then word-by-word, and finally as sentential units, where this is different from the word-by-word translation.

- (1) wá:kkvh
w+a+k+kv+h
non-human+objective+1st-person+'see'+serial-aspect
It sees me. (an animal)
- (2) yv?ná:tkvh
yv+?n+at+kv+h
human+reflexive+reflexive+'see'+serial-aspect
He/she sees him/her.

(The reflexive morphemes replace the objective pronoun when the subject and object are in the same grammatical person.) As may be seen from the morpheme-by-morpheme translation, the verb contains explicit reference to the

subject and object as well as the aspect.

The sentence could be expanded by the addition of a nominal which further identifies the subject, as in (3). Note that both the subjective and objective pronouns remain in the verb.

- (3) eθrà:yeh yv?ná:tkvh
 e+θray+eh yv+?n+at+kv+h
 human+'girl'+nominal-suffix human+reflexive+reflexive+
 'see'+serial-aspect
 girl she-sees-him
 The girl sees him.

The syntactic object could be overtly identified, as in (4). Again, the pronominal references remain in the verb.

- (4) yv?ná:tkvh wí:rv:n
 yv+?n+at+kv+h wi:rv:n
 human+reflexive+reflexive+'see'+serial-aspect William
 she-sees-him William
 She sees William.

Both subject and object may be overtly identified.

- (5) eθrà:yeh yv?ná:tkvh wí:rv:n
 e+θray+eh yv+?n+at+kv+h wi:rv:n
 human+'girl'+nominal-suffix human+reflexive+reflexive+
 'see'+serial-aspect William
 girl she-sees-him William
 The girl sees William

Adverbial elements may be present, as in (6).

- (6) thé:ʔnv?, otá:ʔnakv: eθrà:yeh wa?ná:tkv? wí:rv:n
 the:ʔnv? o+taʔn+a+kv: e+θray+eh wa+?n+at+kv+? wi:rv:n
 'yesterday' non-human-objective+'settlement'+joiner+
 'in' human+'girl'+nominal-suffix aorist-human+
 reflexive+reflexive+'see'+nominal-suffix William
 yesterday in-town girl she-saw-him William
 Yesterday the girl saw William in town.

Compound and complex sentences are common. An interesting feature of the language is that quite often what would be expressed in English as a single clause would correspond in Tuscarora to a series of clauses. Note examples (7) and (8). (The word rà:wv:ro is an optional, emphatic pronoun.)

- (7) wa?tkv:nv?θv? ha? rà:wv:ro ahroyatvhstó?na:?
 wa?+t+k+v+nv?θ+v+? ha? r+aw+vro a+hr+o+yatv-hst+o?na:+?
 aorist+dualic+1st-person+2nd-person-objective+'write'+
 dative+punctual masculine+objective+emphatic
 indefinite+masculine+objective+'letter'+ 'receive'+punctual
 I-wrote-for-you himself he-would-letter-receive
 I wrote him a letter for you.
- (8) wak?nè:nv? nv?naktihárho? yeherohkhwéhstha? yahwá?ke:t
 wa+k+?nenv? n+v?n+a+k+tiharho+? ye+herohkhw+ehst+ha?
 yah+wa?+k+e+:t
 objective+1st-person+'live' dualic+cislocative+aorist+
 1st-person+'run'+punctual human+'hay'+ 'use'+serial
 translocative+aorist+1st-person+'go'+punctual
 I-dwell I-ran-here one-uses-it-for-hay I-went-there
 I ran from the house to the barn.

The present study begins, in Chapter I, with a discussion of the general form of the semantic structures underlying utterances and the main types of mechanisms which convert the structures to their surface forms. Chapters II - V deal with the derivation and shape of surface clauses, Chapter VI with complex sentences, and Chapter VII with the automatic phonological processes observable throughout the language.

CHAPTER I

THE REPRESENTATION OF SEMANTIC STRUCTURE

The theoretical framework on which this study is based is essentially that of generative semantics. The term generative semantics refers to an approach to language structure which has been developed in the recent work of such transformational grammarians as George Lakoff, James McCawley, Paul Postal, John Ross, Emmon Bach, Charles Fillmore, and others. Although the details of their positions vary somewhat, all share certain assumptions which constitute the fundamental principles of the theory. In applying this theoretical approach to the description of Tuscarora, I have found necessary certain modifications and refinements, motivated by features of the language itself, as well as by the lack of established conventions. All innovations are so identified as they are introduced.

A. The Proposition

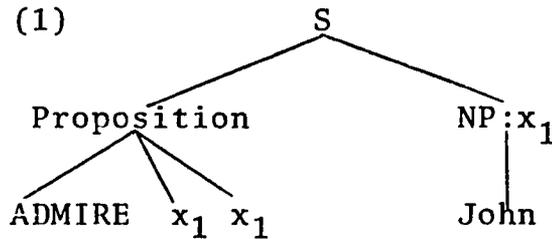
The methods of representing semantic structure developed by various generative semanticists have come to resemble more and more the conventions of symbolic logic. McCawley (1968:71) listed some of the major principles of generative semantics as follows:

1. Syntactic and semantic representations are of

the same formal nature, namely labeled trees.

2. There is a single system of rules (henceforth 'transformations') which relates semantic representation to surface structure through intermediate stages.

3. In the 'earlier' stages of the conversion from semantic representation to surface structure, terminal nodes may have for labels 'referential indices' such as were introduced in Chomsky 1965:



An early stage in the derivation of John admires himself according to McCawley 1967

In semantic representation, only indices and 'predicates' are terminal node labels. The repository of predicates will be enormous, although not matching lexical items one-to-one, i.e. some lexical items are semantically complex.

The semantic structure of a clause is represented as a proposition associated with a set of noun phrases. The proposition consists of an n-place predicate plus n indices. The noun phrases serve to identify the indices.

Consider example (2) below.

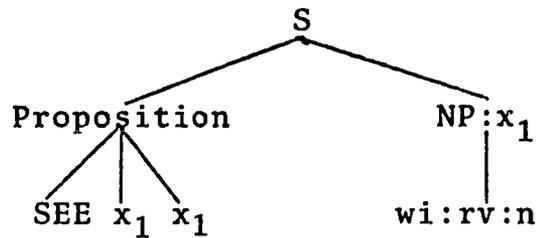
- (2) wí:rv:n rá:tkvh
 wi:rv:n r+at+kv+h
 William masculine+reflexive+'see'+serial
 William sees himself.

An early stage in the derivation of (2) could be represented, according to the conventions outlined above, as in (2a).

(For a discussion of tense and aspect see section II.B.)

English words in capital letters represent semantic predicates.

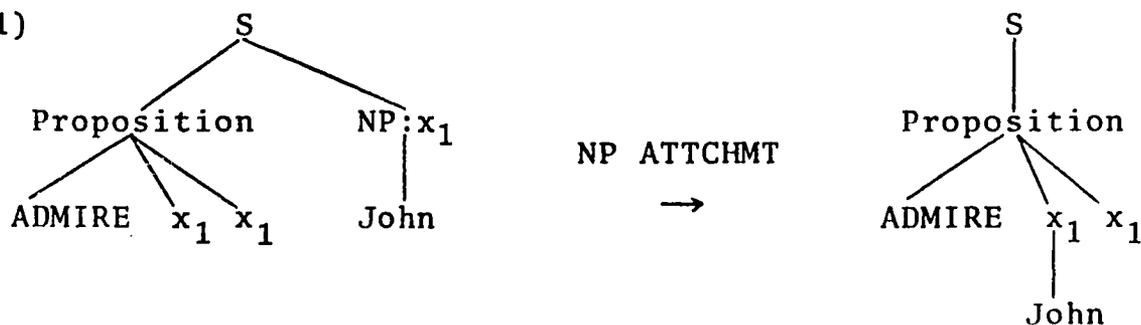
(2a)



McCawley (1971:226) has proposed that a noun phrase attachment rule is necessary in the derivation of English surface structures from semantic structures. The rule "attaches each noun phrase to an occurrence of the corresponding index" within the proposition. Application of this rule would convert the structure shown in (1) to that in (1a).

John admires himself.

(1)



Occurrences of indices to which no noun phrase is attached (i.e., the second x_1 above) are realized on the surface as pronouns.

In Tuscarora, all surface verbs contain obligatory references to their arguments, as was noted in the Intro-

duction. From the verb

- (3) khé:kvh
 k+h+e+kv+h
 1st-person+objective+human+'see'+serial
 I see him/her

it is clear that I am the one seeing and the ~~one~~ one seen is some other human. From just the verb

- (4) rá:kvh
 ra+kv+h
 masculine+'see'+serial
 he sees it

it is clear that the one seeing is masculine singular and the object non-human (realized as zero). A single verb can constitute a grammatical sentence. Tuscarora verbs are, in fact, complete propositions in themselves. If the reference of the pronouns in the verb is clear from context or previous discourse, external noun phrases are unnecessary and may simply be absent. Whether the arguments of a proposition are identified by noun phrases within the sentence or not, the pronouns are present in the verb.

- (5) khó:kvh wi:rv:n
 k+h+c+kv+h wi:rv:n
 1st-person+objective+human+'see'+serial William
 I-see-him William
 I see William.

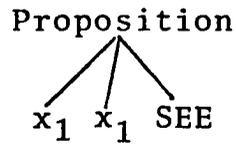
- (6) wi:rv:n rá:kvh tsi:r
 wi:rv:n ra+kv+h tsi:r
 William masculine+'see'+serial 'dog'
 William he-sees-it dog
 William sees the dog.

In that all indices in a proposition are marked on the surface by pronouns within the verb whether noun phrases are present or not, Tuscarora surface verbs reflect the semantic structure proposed for English propositions before noun phrase attachment. The adoption of this method of representing semantic structure in the description of Tuscarora is appealing. •

McCawley has assumed that constituents are generated in the order shown in (1), namely, that within propositions, referential indices follow semantic predicates in a specific order (ADMIRE x y) and that within sentences, the noun phrases which identify the indices follow the proposition in the same relative order (Proposition NP:x NP:y). He has thus represented sequentially that which is, at the deepest semantic level, essentially simultaneous. This is not strange, given that graphic representation of an unordered set is nearly impossible.

McCawley's decision to place predicates before indices creates no difficulties for the description of English. Since pronominal prefixes always precede contentive roots in Tuscarora verbs (and nouns), however, it is simpler for present purposes to represent indices to the left of predicates within proposition. The structure underlying the proposition in (2) is better represented as in (2b) below.

(2b)



The relative order imposed on indices within the proposition (x y rather than y x) by generative semanticists is not random. According to the theory of case proposed by Charles Fillmore¹ and accepted wholly or in part by most of those working in a generative semantics framework, each argument in a proposition functions in one of a small number of possible roles in the predication. It may serve as the agent of the action described, as beneficiary, as patient (object), etc. The arguments are ordered in the representation of semantic structure according to their semantic cases, or their functions in the predication. The agentive argument, if there is one, is ordered first, for example. The convention of encoding relational function in sequential ordering is not arbitrary. The surface case roles of arguments are largely a function of underlying semantic case relationships. In English, the highest ranking (leftmost) argument of a proposition will be the surface subject of the clause, providing no reordering transformations interfere. If there is an agent, this will be the subject. If not, the argument filling the next role in the hierarchy will be subject. Transformations like PASSIVE reorder the arguments within propositions before subject selection takes place, so that another argument, such as the semantic patient is in the leftmost position.

The convention of ordering arguments in semantic representation according to their semantic case functions will be adopted here, but it should be noted that the resulting diagrams cannot be claimed, strictly speaking, to represent the deepest level of semantic structure, since essentially simultaneous relationships are already ordered sequentially.

B. The Order of Constituents

Dominant word order or the order of constituents in languages has usually been described in terms of surface cases, such as SVO (Subject-Verb-Object) or SOV (Subject-Object-Verb). Languages differ in their inventories of surface cases, however. In some languages, two cases are distinguished, in others sixteen. Different semantic functions are classified together in case categories in different languages. Syntactic cases are not direct reflections of semantic function but, rather, formal categories to which arguments serving certain semantic functions may be assigned under certain circumstances. In addition, surface case is marked in different ways in different languages. It may be by inflection, as in Latin, Sanskrit, and Russian, by the articles which precede nouns, such as in German, by prepositions, as in English by-Agent, with-Instrument, and to-Dative phrases, by surface word order, or by a number of other means. If the underlying order of constituents is to be investigated, both the surface order of constituents and their relations to the constituents

of semantic structures must be examined.

1. Syntactic Case in Tuscarora

Two surface cases are overtly distinguished in Tuscarora, a subjective case and an objective case. The cases are marked within the main verb of each clause. Every verb contains a subjective pronoun, referring to the syntactic subject (or zero), and an objective pronoun, referring to the syntactic object (or zero). No case markings appear on the nominals themselves to indicate their roles in sentences. In sentence (7), it is clear from the verb that the dog is the agent. (The word tsi:r 'dog' is morphologically unanalyzable.)

- (7) tsi:r waketskáhne?
 tsi:r wa+k+etkahn+e?
 'dog' objective+1st-person+'chase'+serial
 dog it-chases-me
 The dog is chasing me.

In (8), it is clear from the verb that I am the agent. (Non-human objective pronouns are realized as zero.)

- (8) tsi:r ketkáhne?
 tsi:r k̄+etkahn+e?
 'dog' 1st-person+'chase'+serial
 dog I-chase-it
 I am chasing the dog.

In some words, a dative suffix indicates that the argument in the objective case is actually a beneficiary or goal of the action, as in (9).

- (9) wa?kheya?tkáhri?θ
 wa?+k+h+ey+a?-tkáhri+?+θ
 aorist+1st-person+objective+human+'tell'+punctual+dative
 I told him (it).

In other verbs, no overt dative marker appears, even though the objective case argument is a beneficiary or goal.

- (10) wa?khé:nv:t
 wa?+k+h+e+nv:t (+?)
 aorist+1st-person+objective+human+'feed'+punctual
 I fed (it) to him.

The structure of the pronominal system is such that no more than two different human arguments can be referred to in one verb. (One of the two may be referred to a second time by the reflexive morpheme.) The question of how many non-human arguments are referred to in a verb leads nowhere, since non-subjective, non-human pronouns are realized as zero on the surface. At any rate, no surface verbs in Tuscarora have more than two different human arguments. Where an English clause might contain more, the semantic equivalent is expressed in Tuscarora by a series of clauses which overtly specify the semantic role of each argument.

2. Surface Word Order in Tuscarora

In his representations of the semantic structures underlying English sentences, McCawley orders the proposition before all noun phrases. As the relative order of the noun phrases determines their surface case relations unless they

are reordered by transformational rule, the first noun phrase is destined to become the surface subject and the second, the object. McCawley refers to this predicate-first arrangement as underlying VSO (Predicate-Subject-Object) order. Although this VSO order can be found in surface sentences in Tuscarora, it is by no means the only possible surface order and not even the most frequent one. This section will deal with principles of order among the major constituents of simple clauses.

The syntactic functions of major constituents play a crucial role in the determination of their relative surface order. Consider examples (11) and (12). The two sentences differ only in the order of constituents. Since both nouns are third person zoic (non-human):singular, the pronouns within the predicate provide no information as to which is subject and which object. Yet any Tuscarora speaker would interpret each sentence unambiguously.

(11) tsi:r wa?ká:ri:k tá:ko:θ
 tsi:r wa?+ka+ri:k (+?) ta:ko:θ
 'dog' aorist+non-human+'bite'+punctual 'cat'
 dog it-bit-it cat
 The dog bit the cat.

(12) tá:ko:θ wa?ká:ri:k tsi:r
 ta:ko:θ wa?+ka+ri:k (+?) tsi:r
 'cat' aorist+non-human+'bite'+punctual 'dog'
 cat it-bit-it dog
 The cat bit the dog.

Syntactic function is indicated solely by means of word order in these sentences.

Considerations of syntactic function alone are not sufficient to account for all occurring surface orders, however. Consider sentences (13), (14), and (15).

(13) S V O
 wí:rv:n wahrá:kv? tsi:r
 wi:rv:n wa+hra+kv+? tsi:r
 William aorist+masculine+'see'+punctual 'dog'
 William he-saw-it dog
 William saw a dog.

(14) V S O
 wahrá:kv? wí:rv:n tsi:r
 wa+hra+kv+? wi:rv:n tsi:r
 aorist+masculine+'see'+punctual William 'dog'
 he-saw-it William dog
 William saw a dog.

(15) O S V
 tsi:r wí:rv:n wahrá:kv?
 tsi:r wi:rv:n wa+hra+kv+?
 'dog' William aorist+masculine+'see'+punctual
 dog William he-saw-it
 William saw a dog.

All three sentences are grammatical. From the pronominal prefix hra, which indicates that the subject is third person masculine singular and the object non-human, it is clear that the syntactic role of each constituent remains constant in the three sentences; wi:rv:n is the subject, tsi:r the object, and wahra:kv? the predicate. If order is to be described in terms of syntactic function, there are at least three different grammatical orders: SVO, VSO, and OSV (where S = subject, V = main verb, and O = object).

To describe the surface word order of Tuscarora sentences, it is necessary but not sufficient to consider the syntactic case roles of major constituents. In fact,

the order of sentence elements is describable in terms of functional deviation from a syntactically defined basic order.

a. Questions and Answers

A clue to this function can be found in question and answer formation. Consider the question-word questions below. In Tuscarora, nearly any sentence element can be requested. The appropriate question-word begins the sentence, no matter what the syntactic role of the constituent it requests.

Question-word questions

- (16) S V
 káhne? yeθakhwvtyá:tih
 káhne? ye+θ+a+khw+vty+ati+h
 'who' human+2nd-person+objective+'food'+ 'make'+
 dative+serial
 who someone-cooks for you
 Who cooks for you?

- (17) O S V
 káhne? tsi:r waʔkó:ri:k
 káhne? tsi:r wa?+ko+ri:k(+?)
 'who' 'dog' aorist+obj-human+'bite'+punctual
 who dog it-bit-someone
 Who did the dog bite?

- (18) O V
 tà:wv:teh wáhskv?
 tà:wv:teh wa+hs+kv+?
 'what' aorist+2nd-person+'see'+punctual
 what you-saw-it
 What did you see?

Examples (19) - (21) contain normal, stylistically correct, grammatical sentences. (19) might be part of a

description of my daily life, (20) a comment about a dog under discussion, and (21) an account of a morning walk.

- (19) V
ka?nekhvtyá:tih
k+a?ne+khw+vty+ati+h
1st-person+reflexive+'food'+ 'make'+dative+serial
I cook for myself
- (20) V O
wa?akó:ri:k eká:θ?ah
wa?+ak+o+ri:k+(?) e+kaθ?-ah
aorist+human+objective+'bite'+punctual human+'girl'
it-bit-her girl
It bit a little girl.
- (21) V O
wá?kkv? tsí?nv?
wa?+k+kv+? tsi?nv?
aorist+1st-person+'see'+punctual 'bird'
I-saw-it bird
I saw a bird.

None of these would be a usual reply to questions (16) - (18), however. A more likely answer to (16) would be (22). The requested subject is stressed by means of the emphatic pronoun i:? (or i:?ih).

- (22) S V
i:? ka?nekhvtyá:tih
I I-cook-for-myself
I do my own cooking.

Similarly, (23) would be a proper reply to question (17).

- (23) O V
eká:θ?ah wa?akó:ri:k
'girl' it-bit-her
It was a little girl that it bit.

(24) is a likely reply to (18).

- (24) O V
tsí?nv? wá?kkv?
bird I-saw-it
I saw a bird.

Answers to these yes-no questions follow the pattern of the other answers. In a stylistically appropriate, grammatical answer, the item in question appears in sentence-initial position.

- (30) $\begin{matrix} & S & & V \\ \text{v}:\text{h}\acute{\text{v}}\text{h}, & \acute{\text{a}}:\text{tho?} & \text{wakr}\grave{\text{i}}:\text{yohs} \\ \text{v}:\text{hvh} & \text{a}:\text{tho?} & \text{w+a+k+riyo+hs} \\ \text{'yes' 'cold' } & & \text{non-human/objective+1st-person+'kill'+} \\ & \text{serial} & \\ \text{yes} & \text{cold} & \text{it-is-killing-me} \\ \text{Yes, I am cold.} & & \end{matrix}$
- (31) $\begin{matrix} & O & & V \\ \text{v}:\text{h}\acute{\text{v}}\text{h}, & \text{tsi:r} & \text{wá?kkv?} \\ \text{v}:\text{hvh} & \text{tsi:r} & \text{wa?+k+kv+?} \\ \text{'yes' 'dog' } & & \text{aorist+1st-person+'see'+punctual} \\ \text{yes} & \text{dog} & \text{I-saw-it} \\ \text{Yes, I saw a dog.} & & \end{matrix}$
- (32) $\begin{matrix} & & & V & & L \\ \text{v}:\text{h}\acute{\text{v}}\text{h}, & \text{wa?káhke:t} & \text{kv:ne?} \\ \text{v}:\text{hvh}, & \text{wa?+k+ahke+:t} & \text{kv:ne?} \\ \text{'yes' } & & \text{aorist+1st-person+'go-and-return'+punctual 'here' } \\ \text{yes} & \text{I-walked} & \text{here} \\ \text{Yes, I came here.} & & \end{matrix}$
- (33) $\begin{matrix} & & & L & & V \\ \text{v}:\text{h}\acute{\text{v}}\text{h}, & \text{kv:ne?} & \text{wa?káhke:t} \\ \text{v}:\text{hvh} & \text{kv:ne?} & \text{wa?+k+ahke+:t} \\ \text{'yes' 'here' } & & \text{aorist+1st-person+'go-and-return'+punct} \\ \text{yes} & \text{here} & \text{I-walked} \\ \text{Yes, it was here that I came.} & & \end{matrix}$
- (34) $\begin{matrix} & & & T & & V \\ \text{v}:\text{h}\acute{\text{v}}\text{h}, & \text{thé:?nv?} & \text{wa?káhke:t} \\ \text{v}:\text{hvh}, & \text{the:?nv?} & \text{wa?+k+ahke+:t} \\ \text{'yes' 'yesterday' } & & \text{aorist+1st-person+'go-and-return'+} \\ & \text{punctual} & \\ \text{yes} & \text{yesterday} & \text{I walked} \\ \text{Yes, it was yesterday that I came.} & & \end{matrix}$

In both questions and answers, the focal point of the predication is fronted. We might posit a general focus-fronting rule for the language. Investigation into the

linguistic and non-linguistic contexts of utterances which are neither questions nor answers provides additional motivation for such a rule.

A man who has been feeding a lot of other animals would be told to feed the cat as in (35).

- (35) O V
 tá:ko:θ θnv:t
 ta:ko:θ θ+nv:t+θ
 'cat' 2nd-person+'feed'+imperative
 cat you-feed-it
 Feed the cat.

Had he been playing with the cat instead of feeding other animals, he would probably be told to feed it as in (36).

- (36) V O
 θnv:t tá:ko:θ
 2nd-person+'feed'+imperative 'cat'
 you-feed-it cat
Feed the cat

Announcing the arrival of an awaited package, one could say:

- (37) V S
 v:?w ha? awvhskwí:?neh
 v+?+w ha? aw+vhskwi?n+eh
 aorist+non-human+punctual+'come' non-human-objective+
 'package'+nominal-suffix
 it-arrived package
 The package arrived.

Identifying an object seen to be arriving, one would be more likely to say:

- (38) S V
 awvhskwí:?neh v:?w
 aw+vhskwi?n+eh v+?+w
 non-human-objective+'package'+nominal-suffix aorist-
 non-human+punctual+'come'
 package it-arrived
 A package arrived.

A general rule of focus-fronting looks very useful.

b. Ordering Principles

If we hypothesize that the only reordering principle in Tuxcarora is focus-fronting, we are in a position to propose a basic surface word order. Now sentences occur with orders

SVO
VSO
OSV.

The first constituent in two of these orders might have been moved to initial position for focus. If this is the only reordering rule, however, the relative order of the last two constituents in each order must be intact. Before focus-fronting, main verbs still preceded objects

...V...O

subjects preceded objects

...S...O

and subjects preceded main verbs

...S...V.

Subjects precede predicates and predicates precede objects.

This indicates a basic word order

SVO.

In fact, this surface order is the most frequent in Tuscarora and, furthermore, it is the word order in sentences unmarked for focus.

Now if, as was assumed, focus-fronting is the only reshuffling rule and, as was concluded, basic surface order in Tuscarora is SVO, it should be possible to predict gaps in ordering possibilities. Three of the logically possible orders should never occur: VOS, OVS, and SOV, since they cannot be created from the basic order by focus-fronting. In fact, I have never run across a sentence with any of these orders except for one type which occasionally exhibits the order SOV.

In general, noun phrases denoting syntactic objects follow main verbs, even when the objective arguments are functioning semantically as beneficiaries or goals of the action.

- (39) George wahrá:n.:t ta:ko:θ k'v:tsyvh
 George wa+hra+nv:t ta:ko:θ k+vtisyv+h
 George aorist+masculine+'feed'+(punctual) 'cat' non-
 human+'fish'+nominal-suffix
 George he-fed-it cat fish
 George fed the cat fish or George fed fish to the cat.

Occasionally (and when no ambiguity could result), the dative object occurs before the main verb.

- (40) hè:ní:kv: okerhó:tsreh v:nv? akà:wv
 he:ni:kv: o+kerh-o-tsr+eh v:nv? ak+aw+v
 'that' non-human-objective+'body-covering'+nominal-
 suffix 'mother' human+objective+'belong-to'-perfective
 that dress mother it-belongs-to-her
 That dress belongs to my mother.

An optional rule will be necessary to place dative objects before main verbs but not before subjects. This movement does not occur with surface objects which are semantic patients, although the difference between these two kinds of surface objects is not usually marked on the surface. Perhaps relations of surface order among constituents depend more on their semantic than syntactic functions.

3. The Semantic Functions Implied by Surface Case

The relation between semantic function and surface case in Tuscarora is as follows. If an agent is involved in an action, that argument will always be the surface syntactic subject. If, in addition, there is a beneficiary, recipient, or animate goal of the action, the argument serving that function will be the surface object. In (41), I am the syntactic subject and my friend is the syntactic object, as shown by the pronouns within the main verb.

- (41) yakya?nè:ro? yahwa?tkhè:nv?Øv? oyatv́hsteh
 yak+y+a?n+vro? yah+wá?+t+k+h+e+nv?Ø+v+? o+yatv-hst+ch
 1-3rd-person+dual+reflexive+'friend' translocative+
 aorist+dualic+1st-person+objective+human+'write'+
 dative+punctual non-human-objective+'letter'+nominal
 suffix
 we-two-are-friends-to-each-other I-wrote-to-him-there
 I wrote a letter to my friend. 'letter'

If the action involves no beneficiary or goal but it does involve a semantic patient, i.e., a person or object which

undergoes the action, the patient is the syntactic object.

- (42) kwí:teh wahrá:tya?t ò:nv́hseh
 kwi:teh wa+hra+tya?t (+?) o+nvhs+eh
 kwi:teh aorist+masculine+'buy'+punctual non-human-
 objective+'house'+nominal-suffix
 Peter he-bought-it house
 Peter bought a house.

Instruments appear as surface objects. The use of an instrument in an action is indicated by a separate clause built on the verb ihst 'use' or by a verb containing an instrumental morpheme. (cf. II.A.7. for discussion of this instrumental.) The agent or user is the surface subject and the instrument is the surface object.

- (43) waknvhś:ti: hè:ní:kv: ò:nv́hseh, otsíhkweh wá?kihst
 wa+k+nvhs+vti+: he:ni:kv: o+nvhs+eh o+tsihkw+eh
 wa?+k+ihst (+?)
 objective+1st-person+'house'+nominal-suffix non-
 human-objective+'house'+nominal-suffix non-
 human-objective+'dull'+nominal-suffix aorist+1st-
 person+'use'+punctual
 I-have-house-built that house hammer I-used-it
 I built that house with a hammer.

If only an agent is present, with no other arguments, the agent is still the syntactic subject and the syntactic subject is zero.

- (44) wí:rv:n wáhra?w
 wi:rv:n wa+hra?+w
 wi:rv:n aorist+masculine+punctual+'come'
 wi:rvn he-came
 William came

Many verbs do not require agents, however. A number of verbs predicate resultant states of their arguments. The

arguments, which function as semantic patients, are attributed states which are the result of some event, although no agent is specified. Such verbs are in (44) and (45).

(44) yo?ne?tshárhv
 yo+?ne+?tshar+h+v
 non-human-objective+reflexive+'door'+ 'closed'+perfective
 the door is closed

(45) rostra?níhrv
 r+o+str-a?n-ihv+v
 masculine+objective+'sit'+perfective
 he is seated (or he has sat down)

These agentless sentences lack syntactic subjects. The semantic patients of whom or which the state is predicated are realized on the surface as syntactic objects. Included in this category of verbs are all perfective aspect verbs which involve no more than one human argument. These perfective verbs, like (45) above, indicate that a former agent is in the state of having performed a certain action.

(46) ró:kv:
 r+o+kv+:
 masculine+objective+'see'+perfective
 he had seen it or he has seen it

Agentless verbs of another type predicate inherent states of semantic patients. No event is implied which would lead to the inception of the state. Such a state is predicated in (47).

(47) rakwà:nihst
 ra+kwanihst
 masculine+'handsome'
 he is handsome

The semantic patients of inherent state predications are realized as syntactic subjects on the surface.

The relationship between semantic and surface cases in Tuscarora can now be summarized. If an agent is present, that is the subject. If, in addition, a beneficiary or goal of the action is present, that argument is the surface object. If not, the semantic patient is the surface object. If no semantic patient is present either, the surface object is considered zero.

If no agent is present, and a resultant state is predicated of a semantic patient, the surface subject is zero and the surface object is the semantic patient. If an inherent state is predicated of a semantic patient, the patient is the surface subject of the clause and the surface object is zero.

These facts suggest that a mechanism like the following is involved in the assignment of surface case. Arguments are ordered in underlying structures according to the rank of their semantic functions in the predication. Agentive arguments are ordered first, then beneficiaries or goals, then semantic patients. The surface subject of a clause is that argument which is ordered first. The surface object of the clause is that argument which is ordered next, if one is present. Otherwise the syntactic object is zero. Inherent state perfectives contain no agents, so the semantic patient is the first argument and therefore the subject.

Resultant state perfectives imply agency but do not specify agents, so their agents are realized as zero subjects and their semantic patients, which follow the agents in underlying structure, are realized as surface objects.

4. The Relative Order of Underlying Constituents

Now that the order of surface constituents has been described in terms of syntactic function, the relations between surface and semantic case stated, and the relative order of arguments in underlying structure established, it is possible to draw conclusions concerning the relative order of all major constituents in semantic structures.

It was noted in I.B.2. that where two arguments are involved in a predication, the basic order of surface constituents is

● SVO

(before the optional promotion of dative objects and focus fronting.) The only arguments which serve as subjects in the presence of surface objects are agentive in semantic function. This indicates that agentive noun phrases precede propositions in underlying structure. To order agents after propositions would necessitate the addition to the grammar of an agentive fronting rule. The fronting rule would have

to operate on all agents. The addition of such a rule would contribute nothing but complexity.

It was also noted in I.B.2. that surface objects follow main verbs in the presence of agents, whether the objects function semantically as beneficiaries or patients. The simplest mechanism for producing this effect is simply to order arguments in these semantic cases after the proposition.

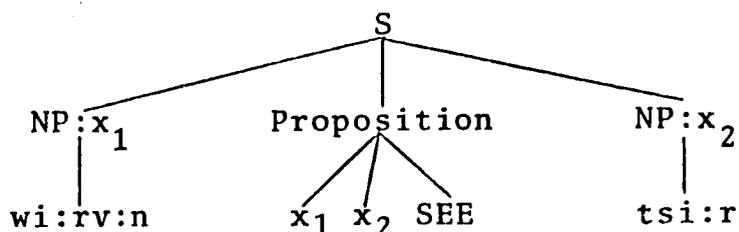
It could be expected that if some beneficiaries and patients follow propositions, in that order, in underlying structure, then all do, whether or not an agent is present. Surface word order offers neither contrary evidence nor confirmation of the expectation, since in the absence of agents, only two major constituents are present, and either order, Patient-Proposition (SV or OV) or Proposition-Patient (VS or VO) could prove to be the result of focus-fronting. As will be seen in I.D., the nature of the operation of predicate raising in Tuscarora provides additional motivation for the ordering of all patients in the same slot.

Accordingly, the order of constituents in semantic structures should be:

(NP:Agent) Proposition (NP:Dative) (NP:Patient)

This order will be adopted in the representations of underlying structure throughout the present study. The structure from which (6) is derived can now be sketched as below.

- (6) wi:rv:n ra:kvh tsi:r
William sees the dog



C. The Internal Structure of Noun Phrases

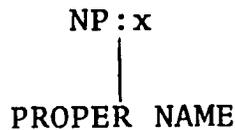
The noun phrases which identify indices within a proposition are realized on the surface as proper names, common nouns, verbs, sentences, or deictics.

1. Proper Names

In terms of semantic structure, proper names are considered the simplest of all noun phrases. An example of a proper name was seen in (2).

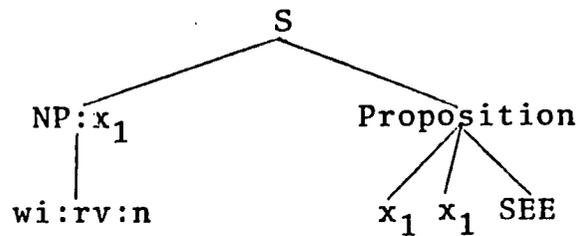
- (2) wí:rv:n rá:tkvh
 wi:rv:n r+at+kv+h
 wi:rv:n masculine+reflexive+'see'+serial
 wi:rv:n he-sees-himself
 William sees himself

I will follow Bach (1968) and McCawley (1968) in assuming that proper names are contentless indices which identify referents but do not classify or otherwise describe them. I may use the name "Jones" to refer to my cat, for example, but the name is not classificatory in the same way that "the cat" is. The underlying structure of noun phrases which consist of proper names will be represented as below.



The structure underlying (2) is below.

- (2) wi:rv:n ra:tkvh
William sees himself



Most common nouns in Tuscarora are morphologically analyzable. Although noun and verb morphology are otherwise quite dissimilar, nouns contain pronominal markers just as verbs do. The pronouns in nouns refer to the persons or objects identified by the nouns. Consider the nouns below.

- (48) o?náhkweh
o+?nahkw+eh
non-human-objective+'box'+nominal-suffix
box

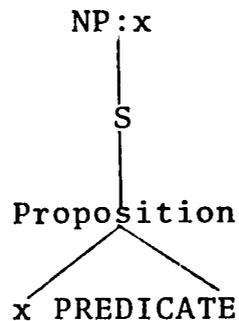
- (49) raká:θ?ah
ra+kaθ?ah
masculine+'child'
little boy

- (50) eká:θ?ah
e+kaθ?ah
human+'child'
child or little girl

●

Emmon Bach (1968) has proposed that common nouns

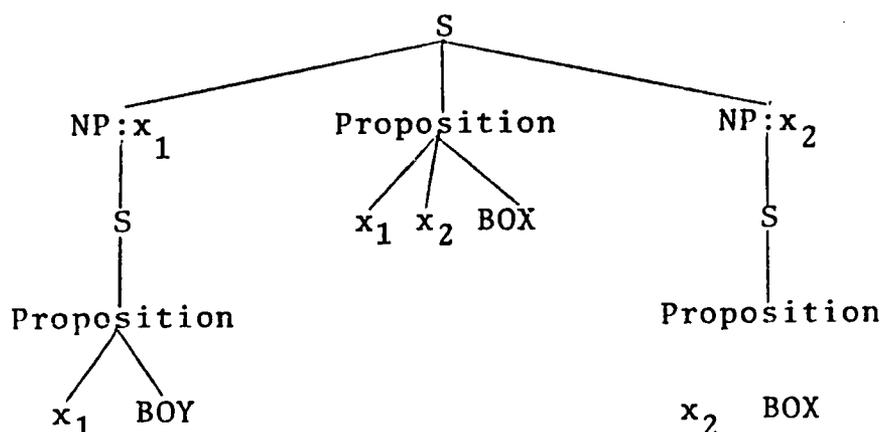
represent a kind of subordinate predication on their referents. They classify. Underlying the English noun "anthropologist", for example, is a statement to the effect that "he is an anthropologist", or "the one who is an anthropologist". This analysis of nouns, now generally accepted by other generative semanticists, accounts well for the morphological structure of Tuscarora nouns, which reflect, on the surface, the semantic structure postulated for propositions. Accordingly, nouns will be assigned propositional sources, as below.



The structure underlying sentence (50) can be represented as in (50a).

- (50) raká:θ?ah rá:kvh o?náhkweh
 ra+kaθ?ah ra+kv+h o+?nahkw+eh
 masculine+'child' masculine+'see'+serial non-human-
 objective+'box'+nominal-suffix
 (he)-child he-sees-it (it)-box
 The boy sees a box.

(50a)



Many words classify objects just as morphological nouns do, but are not morphologically analyzable. Some of these words are borrowed, like

(51) króhsih
store

(52) áha:θ
horse.

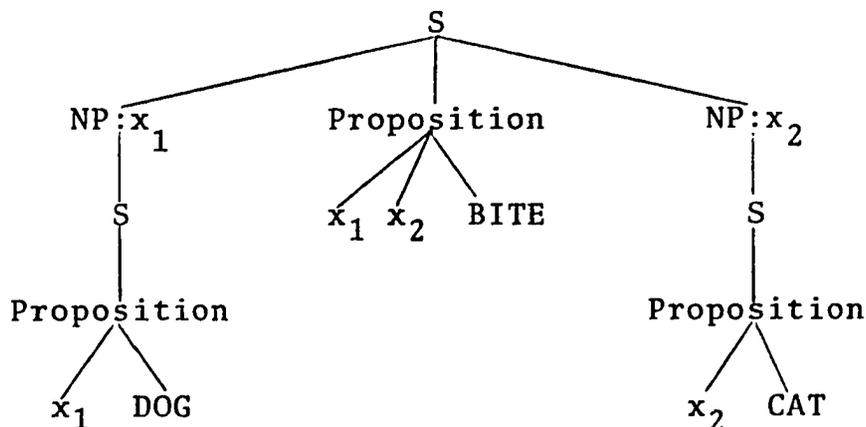
Some are onomatopoeic, like

(53) kwe:kwe duck.

Others, particularly names of plants and animals, were clearly once verbal descriptions of the referents, but historical changes such as loss of elements from the words, fusion of segments, and loss of morphemes from the language have obscured their original structures and/or meanings. Although none of these words exhibit the internal morphological structure of formal nouns, they may enter into larger lexical and syntactic constructions in the same

manner as formal nouns. They predicate the membership of a referent in a certain class, just like the English "anthropologist". These words will also be considered realizations of propositions. The structure underlying sentence (11) can be represented as in (11a). (The words tsi:r and ta:ko:θ are morphologically unanalyzable.)

- (11) tsi:r wa?ká:ri:k tá:ko:θ
The dog bit the cat.



3. Verbal Noun Phrases

Referents are often identified in the Iroquoian languages by means of verbs which describe them. Objects may be designated by their function or other distinguishing characteristics.

- (54) yekhwarákhwa?
ye+khw+a+r+ahkw+ha?
human+'food'+joiner+'in'+instrumental+serial
one-uses-it-for-having-food-in
stomach

- (55) kaθetsrayatò:re?
 ka+θe-tsr+a+yatore+?
 non-human+'vehicle'+joiner+'fast'+perfective
 the-vehicle-is-fast
 automobile

Animals may be identified in terms of their habitual behavior or other traits.

- (56) rò:rá:thv:
 r+o+rathv+:
 masculine+objective+'climb'+perfective
 he climbs
 black snake
- (57) katéskrahs
 ka+teskr+ahs
 non-human+'stink'+serial
 it stinks
 goat

Persons may be identified by normal activity, physical characteristics, or their relationships to other individuals.

- (58) kaye?tikwáhnvh
 ka+ye+?tikw+ahnv+h
 plural+human+'sew'+distributive+serial
 they sew things
 sewing society
- (59) rahrè:nahs
 ra+hren+ahs
 masculine+'cut'+serial
 he cuts
 surgeon
- (60) kayekwá:tihs
 ka+ye+kwatihs
 plural+human+'young'
 they are young
 boys
- (61) neyv?nè:ro?
 ne+yv+?n+vro?
 dualic+human+reflexive+'friend'
 they two are friends to each other
 his friend

- (62) neyvkyatsihaté:kv:
 ne+yvk+y+at+sihatekv+:
 dualic+1-3rd-person+dual+reflexive+'next-to'+perfective
 we-two-are-next-to-each-other
 my neighbor

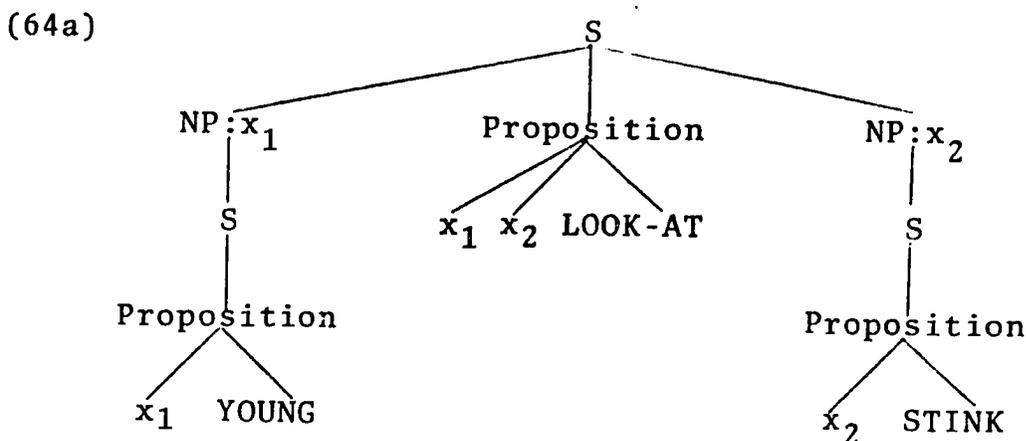
All of these descriptive labels are surface morphological verbs, propositions of a sort. Yet they clearly function as nominals syntactically. They occur with determiners, for example, and they can be conjoined with formal nouns to function as compound subjects or objects.

- (63) neyerv?nyá?ktha? tísnv? otsíhkweh wá?kihst
 ne+ye+rv?n+ya?k+t+ha? tisnv? o+tsihkw+eh wa?+k+ihst (+?)
 dualic+human+'tree'+ 'cut'+instrumental+serial 'and'
 non-human-objective+'hammer'+nominal-suffix aorist+
 1st-person+'use'+punctual
 one-uses-it-for-cutting-wood and hammer I-used-it
 I used a hammer and a saw.

The fact that many noun phrases are actually realized as surface verbs provides further support for the analysis of nouns as semantic propositions.

The structures underlying verbal noun phrases are straightforward. That of (64) can be represented as in (64a).

- (64) rakwá:tihs wahratkáhtho? katéskrahs
 ra+kwatihs wa+hr+at-kahto+? ka+teskr+ahs
 masculine+'young' aorist+masculine+'look-at'+punctual
 non-human+'stink'+serial
 he-is-young he-looked-at-it it-stinks
 The boy looked at the goat.



This analysis automatically accounts for descriptive labels which include pronominal references to more than one argument, as in (61) and (62). Such noun phrases are derived from two-place predicates (predicates associated with two arguments).

4. Sentential Noun Phrases

An index may refer to the fact or idea stated by an entire sentence. Example (65) below contains a sentential subject and example (66) a sentential complement.

(65) akakwè:ni? kè:ní:kv: akayéhya?k
 a+ka+kweni+? ke:ni:kv: a+ka+ye+hya?k (+?)
 indefinite+non-human+'able'+punctual this indefinite
 plural+human+'cross
 it-would-be-possible for-them-to-cross
 It would be possible for them to cross.

(66) kyv?né:ri: ha? wa?kayv?na?rì:yo?
 k+yv?neri+: ha? wa?+ka+yv+?a+a?+riyo+?
 1st-person+'know'+perfective aorist+plural+reflexive+
 reflexive+'kill'+punctual
 I-know-it he-killed-them
 I know that he killed them.

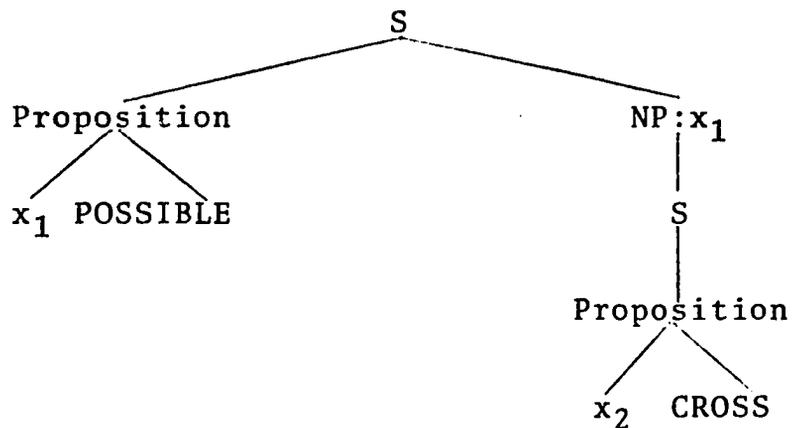
Such sentences can serve the same syntactic functions in

sentences as nouns.

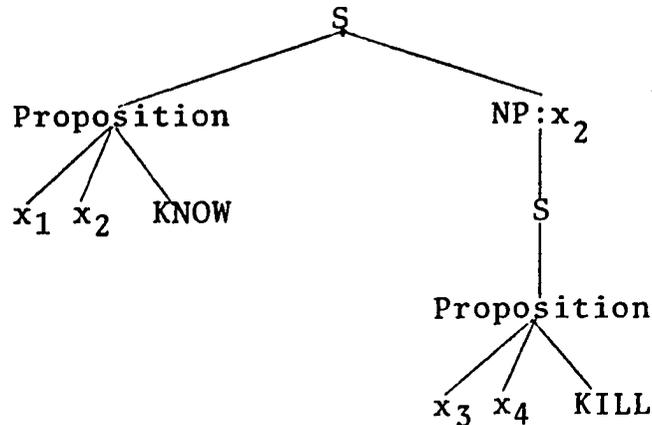
- (67) we?é:kv? o?náhkweh
 we?+e+kv+? o+?nahkw+eh
 aorist+human+'see'+punctual non-human-objective+'box'+
 nominal-suffix
 she-saw-it box
 She saw a box
- (68) we?é:kv? nahrà:yv?
 we?+e+kv+? n+a+hra+yv+?
 aorist+human+'see'+punctual cislocative+aorist+
 masculine+'enter'+punctual
 she-saw-it he-came-in
 She saw him come in.

The representation of sentential noun phrases poses no problem in a model in which all other noun phrases are assigned propositional sources.

- (65) akakwè:ni? kè:ní:kv: akà:yéhya?k
 It would be possible for them to cross.



- (66) kyv?né:ri: ha? wa?kayv?na?rì:yo?
I know that he killed them.



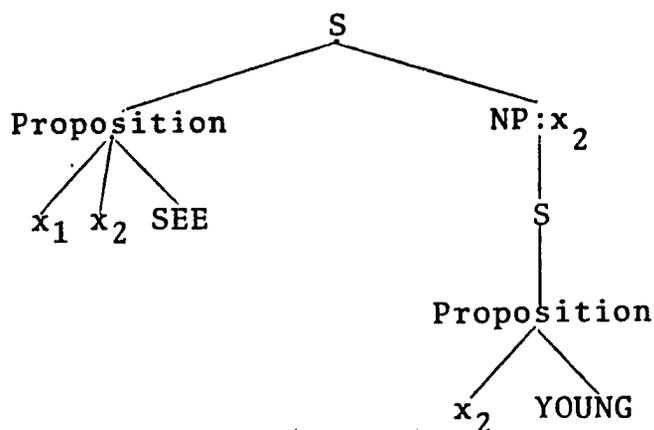
There is a fundamental difference between sentential noun phrases and noun phrases which are realized as nouns on verbs, however, even though nominals of each type are derived from propositions. Compare the two sentences below.

- (67) wa?khé:kv? (ha?) rakwá:tihs
wa?+k+h+e+kv+? ra+kwatihs
aorist+1st-person+objective+human+'see'+punctual
masculine+'young'
I-saw-him he-is-young
I saw the young man.
- (68) wá?kkv? (ha?) rakwá:tihs
wa?+k+kv+? ra+kwatihs
aorist+1st-person+'see'+punctual masculine+'young'
I-saw-it he-is-young
I know that he is young.

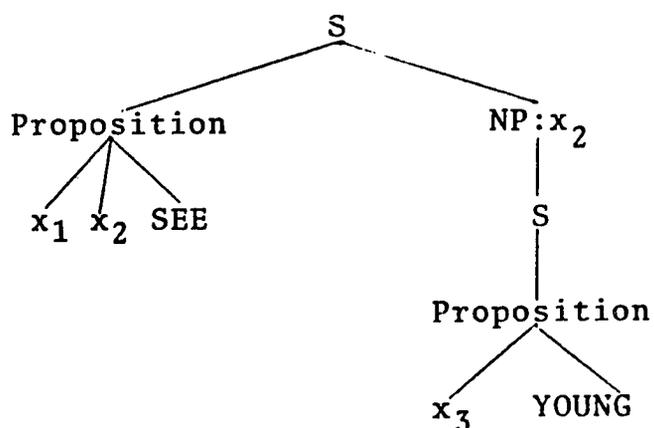
Note the difference between the two underlined pronominal strings. In the first, the syntactic object of the clause is the young man himself and the objective pronoun is human in gender. In the second, the syntactic object is the fact that the man is young, and the objective pronoun is non-human.

This difference is apparent in their underlying structures as well.

(67a)



(68a)



A noun phrase can be considered sentential when it nowhere dominates the index it identifies.

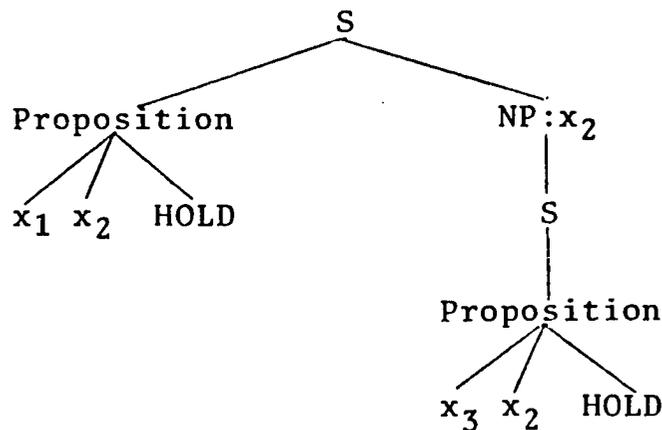
5. Deictic Noun Phrases

The referent of an index is often designated by means of a deictic. Examples of deictics are below.

- (69) kyé:nv: tsyé:nv:
 k+yenv: ts+yenv:+ \emptyset
 1st-person+'hold' 2nd-person+'hold'+imperative
 this you hold it
 Hold this

- (70) há:ne? tsíhrv:
 há:ne? ts+ihrv:+∅
 'that' 2nd-person+'say'+imperative
 that you-say-it
 You say that
- (71) yahwahr áhrko? kè:ní:kv:
 yah+wa+hr+ahrko+? ke:ni:kv:
 translocative+aorist+masculine+'go'+punctual 'this'
 he-left-there this
 The fellow left.
- (72) ò:nv hè:ní:kv: wathvkaryá?kv
 o:nv he:ni:kv: w+at+hvkar-ya?k+v
 now 'that' human+reflexive+'volunteer'+perfective
 now that she-had-volunteered
 That girl had already volunteered.

The deictics designate referents in terms of relative distance from some point in time or space, much like English 'this' and 'that' or 'latter' and 'former'. Actually, one of the deictics is still analyzable morphologically. The word kyé:nv: 'this' is the verb k+yenv: 'I am holding it'. Sentence (69) could be represented as in (69a).



x_1 refers to the second person given the command, x_2 the object he is to hold, and x_3 to the first person, the commander. Although the other deictics are not morphologically analyzable,

they perform similar functions and pattern in the same way on the surface as kyé:nv:. They will be considered propositional noun phrases just like kyé:nv:, derived from predications which indicate relative proximity or distance from some reference point.

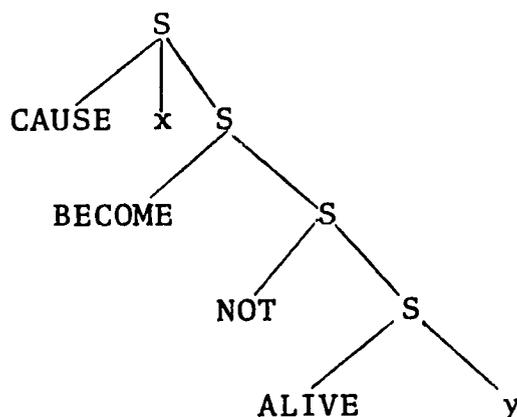
D. Predicate Raising and Noun Incorporation

Within the generative semantics framework, surface lexical items are derived from sets of semantic components. Although some lexical items in a language may correspond to single atomic semantic predicates, the majority of items are semantically complex and correspond to some combination of semantic predicates.

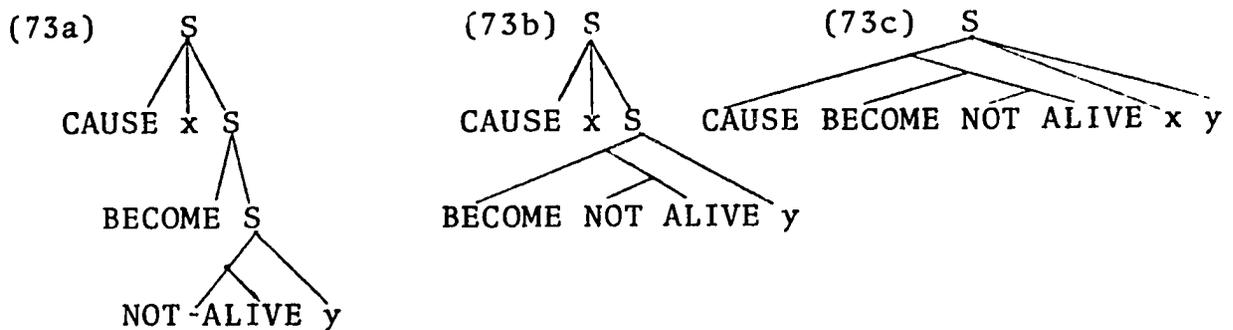
1. McCawley's Predicate Raising Transformation

McCawley (1968:73) analyzed the verb 'kill' as in (73).

(73) x killed y



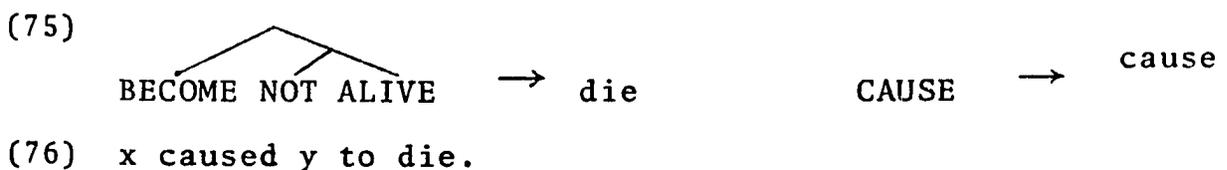
A predicate raising transformation groups series of simplex atomic predicates like those above into single complex predicates for which lexical equivalents exist. McCawley formulated the rule to "adjoin a predicate to the next higher predicate". (McCawley 1968:73) Successive applications of his rule would convert (73) to (73a), then to (73b), then to (73c).



Lexical insertion rules replace semantic predicates with lexical items. The rule below could be applied to (73c).



Predicate raising is an optional rule. If it had not been applied to (73b), the lexical insertion rules in (75) below could have been applied, eventually yielding (76)



Of course no language contains lexical items for all possible meaningful combinations of semantic predicates. Instead of constraining the predicate raising rules to produce only those complexes for which there exist lexical items, McCawley considers the lexicon a filtering mechanism. Lexical insertion rules apply only to those semantic predicates which correspond to lexical items in the language. Only those surface structures whose terminal nodes all bear lexical items are considered well-formed.

2. Complex Predicates in Tuscarora

Tuscarora verbs may be extremely complex morphologically. A surface verb base may exhibit several 'layers' of construction. A base may be formed from the combination of a smaller stem and some morpheme which slightly alters its meaning. The smaller stem may itself consist of a stem plus some other morpheme. Compare the verbs below. (For a discussion of the analysis of dative constructions, cf. II.A.9.)

(77) wahrakihtrv^hhsyv?
 wa+hr+a+k+ihtrv+hsy+v+?
 aorist+masculine+objective+1st-person+'tie'+reversive+
 dative + punctual
 he untied it for me

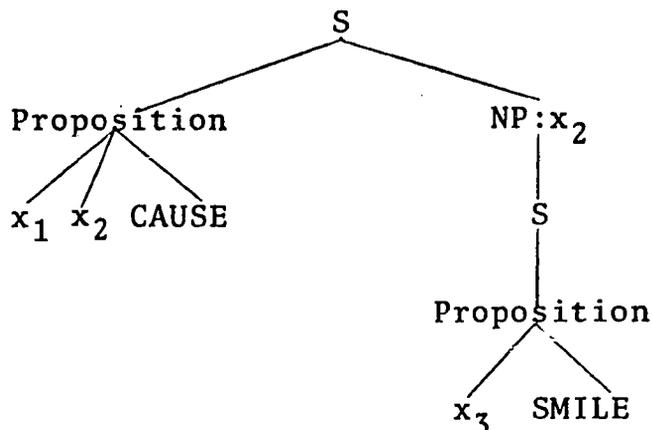
(verb base = ihtrvhsyv)

(78) wahrahtrv^hhsi?
 wa+hra+htrv+hsi+?
 aorist+masculine+'tie'+reversive+punctual
 he untied it

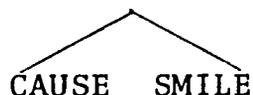
(verb base = ihtrvhsi)

The structure underlying (80) (ignoring mode) can be represented as in (80a) below.

(80a)



The application of predicate raising as formulated by McCawley would yield a complex predicate



since embedded predicates are always raised to the right. Now in Tuscarora surface structure, morphemes corresponding to predicates of larger scope occur to the right of the items they modify. The stem on which (80) is based is, morphologically,

SMILE+CAUSE.

The order of morphemes in Tuscarora verbs is systematically opposite to that established by McCawley's rule.

When a complex predicate like CAUSE+BECOME+NOT+ALIVE is to be replaced by a morphologically unanalyzable lexical item like 'kill', the linear order of the components is

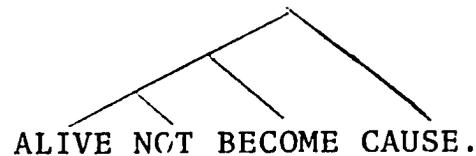
immaterial, although their relative scope is crucial. It makes little difference whether the complex predicate underlying 'kill' is represented as

(82)



or

(83)



Presumably McCawley chose (82) because the linear order of the component predicates corresponds to the surface order of verbs if raising does not take place. In English we say

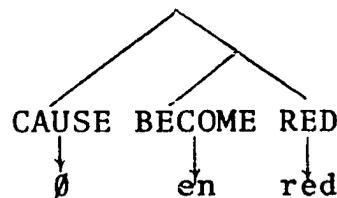
x became not alive

and not

x alive not became.

Yet if an unarbitrary decision is to be made concerning the order of raised predicates before lexical insertion, it is necessary to examine morphologically analyzable English lexical items. McCawley represented the causative-inchoative verb 'redden' as in (84).

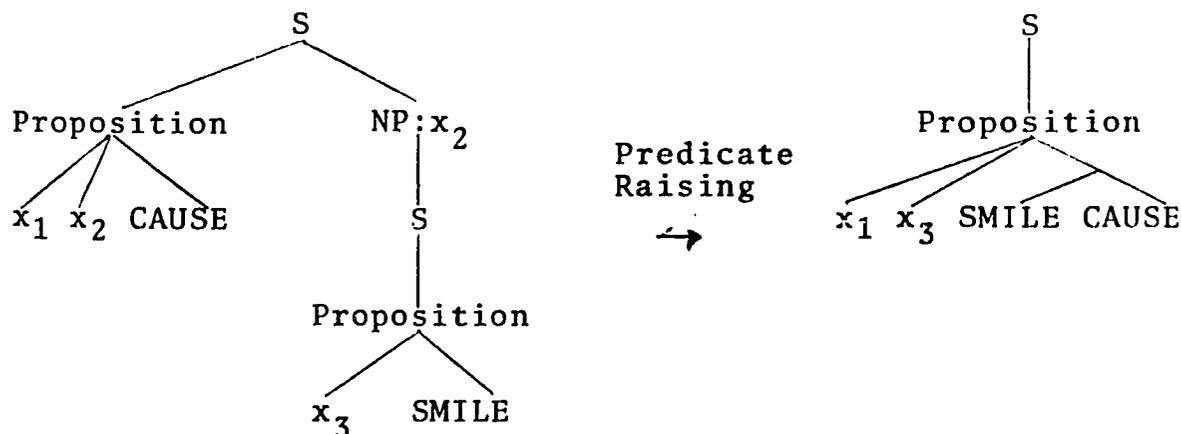
(84)



When predicates are raised to the right, as above, the resulting order is opposite to that of the surface order of English morphemes. McCawley maintains that a later "suffixation" rule should reorder en after red. Of course in English, there are prefixes which function just like the suffixes of higher scope, such as the causative en of enable (and strengthen). To select an appropriate direction for the mechanism of predicate raising in English, an investigation into the relative predominance of prefixation or suffixation would be necessary. I suspect that the latter is more prevalent. For Tuscarora, raising all predicates to the right then systematically restacking them on the left proves uselessly inefficient. To eliminate this inefficiency, I will assume that lower predicates are raised to the left of higher predicates.

The mechanism of predicate raising to be adopted in this study is schematized below.

(80) Өhèyvhskwe?t
Make him smile



The index and predicate of the proposition dominated by NP: x_2 are copied onto the higher proposition in place of the index x_2 . The entire NP: x_2 constituent is then deleted. A lexical rule then inserts a complex verb stem for the predicate SMILE CAUSE. The operation of predicate raising in this instance can be described as below.

$$(85) \quad [x_1 + x_2 + \text{PREDICATE}_1] + [x_3 + \text{PREDICATE}_2] \rightarrow [x_1 + x_3 \text{ PREDICATE}_2\text{-PREDICATE}_1]$$

Now predicate raising has been formulated to lift lower semantic predicates along with their arguments into higher clauses. In the sentence above, the first argument of the lower clause became the second argument of the higher clause. If the syntactic object of a clause is defined for Tuscarora as its second argument in shallow structure, the subjects of embedded clauses should be realized as the objects of matrix after raising (providing the higher predicate was originally associated with just two arguments.) Such is the case. The masculine subject of SMILE (x_3) is the syntactic object of SMILE-CAUSE.

3. Noun Incorporation

In Tuscarora, noun stems which identify semantic patients of actions or states are sometimes incorporated into the main verbs of their clauses. In predications which involve a semantic agent, a semantic beneficiary,

and a semantic patient, the patient stem may be incorporated.

- (86) wa?kheta?naratyá?thahØ
 wa?+k+h+e+ta?nar+a+tya?t+hahØ
 aorist+1st-person+objective+human+'bread'+joiner+
 'buy'+punctual-dative
 I bought him some bread

In transitive predications which involve a semantic agent (surface subject) and a semantic patient (surface object), the patient stem may also be incorporated.

- (87) wa?knvhsá:tya?t
 wa?+k+nvhs+a+tya?t(+?)
 aorist+1st-person+'house'+joiner+'buy'+punctual
 I bought a house

In intransitive predications which attribute a resultant to a semantic patient (the syntactic object), the patient stem may be incorporated.

- (88) yo?na?tshárhv
 yo+?n-a?-tshar+h+v
 non-human-objective+'door'+ 'closed'+perfective
 the door is closed

In those intransitive predications which attribute an inherent state to a semantic patient (surface subject) this subject noun may be incorporated.

- (89) kahéhnakwahst
 ka+hehn+a+kwahst
 non-human+'field'+joiner+'good'
 the field is good

The conditions governing noun incorporation are

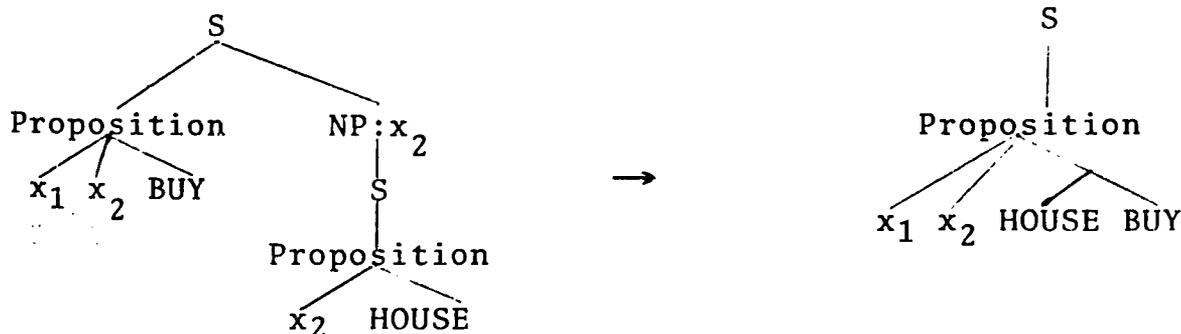
quite complex.² The most important of these are lexical.

- i. Some noun roots occur only incorporated.
- ii. Some noun roots never occur incorporated.
- iii. Some noun roots occur both ways.
- iv. Some verb roots occur only with incorporated nouns.
- v. Some verb roots never incorporate nouns.
- vi. Some verb roots incorporate sometimes and not other times.

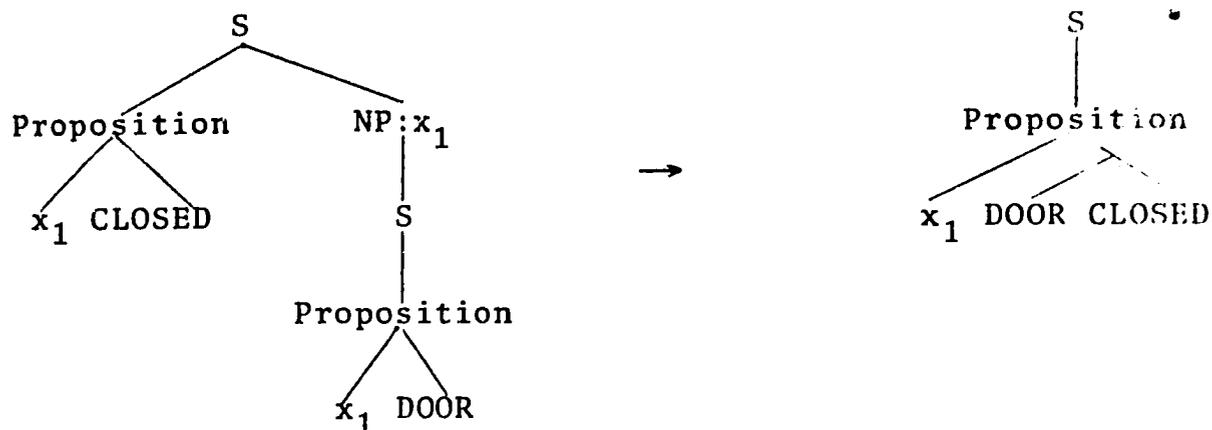
When incorporation is optional according to lexical considerations (cases iii and vi), conditions related to focus may enter.

Now consider the effect of noun incorporation. The noun root, whose source is a propositional noun phrase, is inserted to the left of the next higher predicate. Noun incorporation is already automatically accounted for by the predicate raising rule discussed above. Compare the process shown in (87) and (88) with that in (80), p. 48.

(87) wa?ktya?t ò:nv́hseh → wa?knhvhsá:tya?t
I bought a house



- (88) yo?na?tshárhv
The door is closed



The rule tentatively established in (85) can be generalized to cover all cases of patient incorporation as well by the inclusion of optional agent and dative indices.

- (90) $(NP:x_1) [(x_1)(x_2)x_3 \text{ PREDICATE}_1] (+NP:x_2) +$
 $_{NP:x_3} [x_w(x_y)(x_z) \text{ PREDICATE}_2]_{NP:x_3} \rightarrow$
 $(NP:x_1) [(x_1)(x_2)x_w(x_y)(x_z) \text{ PREDICATE}_2 \text{ PREDICATE}_1] (+NP:x_2)$

A further refinement is necessary in the rule. The separate noun phrase constituent does not always disappear when incorporation takes place. Consider the sentence below.

- (91) waknvhs'v:ti: hè:ní:kv: ò:nv'hseh
 wa+k+nvhs+vti+: he:ni:kv: o+nvhs+eh
 objective+1st-person+'house'+ 'make'+perfective 'that'
 non-human-objective+'house'+nominal-suffix
 I-house-built that house
 I built that house

The principles governing the "optionality" of this constituent deletion and the semantic difference deletion might make are

poorly understood at this time. The existence of sentences like that above, however, indicate that noun incorporation (predicate raising) must take place in two stages: first, a copying, then, an optional deletion.

- (92) (NP:x₁) [(x₁)(x₂)x₃ PREDICATE₁] (+NP:x₂) +
 [_{NP:x₃}x_w(x_y)(x_z) PREDICATE₂]_{NP:x₃} →
 (NP:x₁) (x₁)(x₂)x_w(x_y)(x_z) PREDICATE₂PREDICATE₁ (+NP:x₂)+
 NP:x₃ →
 (NP:x₁) [(x₁)(x₂)x_w(x_y)(x_z) PREDICATE₂PREDICATE₁] (+NP:x₂)

4. Classifier Stems

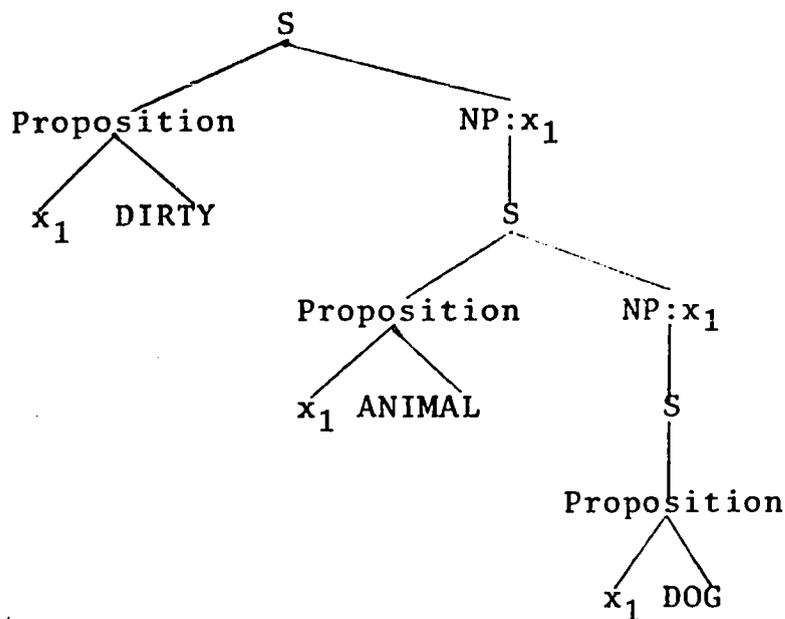
One noun may be incorporated into a verb while another coreferent noun occupies the external subject or object position. The incorporated stem is usually more general in meaning than the external noun phrase, although this is not always the case. An example is below.

- (93) tsi:r yotaskwa?n'vhrara?r
 tsi:r yo+taskw+a?n+vhr+a+r+a?r
 'dog' non-human-objective+'animal'+reflexive+'dirt'+
 joiner+'in'+ 'much'
 dog the-animal-is-dirty
 Dogs are dirty (animals).

When such classifying stems are present, the underlying noun phrase which serves as subject or object can be considered semantically complex. A significant feature of dogs is that they are a kind of domestic animal animal

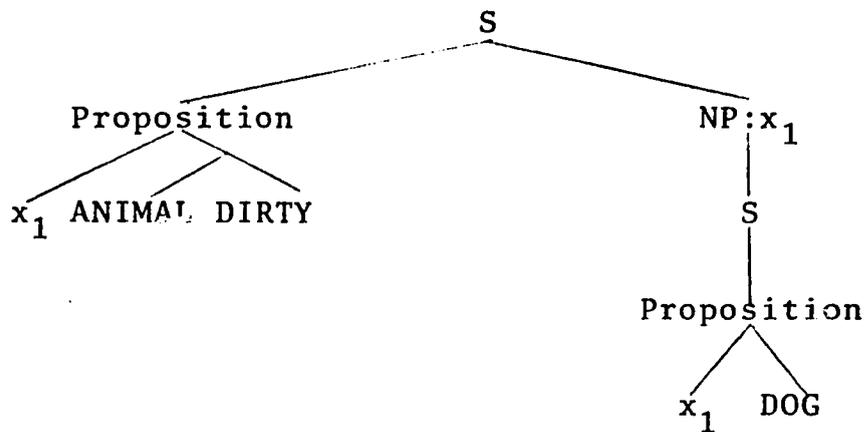
(taskw). The structure underlying (93) is (93a).

(93a)



Predicate raising (noun incorporation) converts (93a) to (93b).

(93b)



Lexical rules insert the verb stem taskwa?nvhrara?r for the predicate ANIMAL-DIRTY and the noun tsi:r for the predicate DOG. The noun is then fronted for focus.

It is an interesting fact that animate nouns are not incorporated. Instead, a stem referring to some inanimate

aspect of the animate referent is incorporated, such as kerh 'body' or ?tikvhr 'mind' for people, and this stem taskw for animals. Given that the structures underlying nouns are considered to be complexes of semantic features or predicates, it is not strange, within the theoretical model established here, that some features of a semantically complex noun should be raised without the others.

The addition of the rule of predicate raising to the grammar accomplishes a large number of things. It explains the assignment of surface case to verbs built on complex stems. It predicts the relative order among morphemes in stems on the basis of relative scope of modification. Since lexical insertion takes place after predicate raising, it provides an explanation of the morphemically conditioned variation apparent in the surface shapes of morphemes, as well as the fact that noun-incorporation is largely lexically determined. Items in the lexicon correspond to complex predicates and are inserted as units or not at all.

CHAPTER II

THE VERB

The lexicon of a language can be conceived of as a list of rules which relate semantic predicates to lexical items. Semantic predicates can be atomic, as in the lexical insertion rule

CAUSE → cause

or complex, as in the rule

ALIVE NOT BECOME CAUSE → kill.

Languages differ in their inventories of lexical rules. No language has a lexical item corresponding to all possible atomic predicates, nor to all possible complex predicates.

In Tuscarora, as in many languages, some of the semantic components of lexical items are distinguishable on the surface as morphemes. Although morphemes combine to form words in regular patterns, morphological rules are unlike some other syntactic rules, in that the processes they describe are not fully productive. Their operation depends in part on the identity of the particular morphemes involved. Morphologically complex items do not exist for

all semantically appropriate combinations of atomic predicates even though the morphemic components may be combined in strict accordance with morphological rules. The lexicon must serve as a filtering mechanism, inserting appropriate analyzable or unanalyzable lexical items, if they exist, for semantic predicates. Only those sentences in which all semantic predicates have been replaced by appropriate items are considered well-formed. Sometimes the semantic components of a lexical item do not correspond exactly to its morphemic components, as when words are used metaphorically or their meanings have shifted over time. In cases like these, a lexical rule simply relates the morphemically complex item to its actual meaning.

Many of the semantic components of predications in Iroquoian are reflected in segmentable morphemes in surface verbs. The structure of the Tuscarora verb can be analyzed into four sections on semantic and phonological grounds.

PREPRONOMINAL PREFIXES	PRONOMINAL PREFIXES	VERB BASE	ASPECT SUFFIXES
---------------------------	------------------------	--------------	--------------------

Every verb contains pronominal prefixes and a verb base. The pronouns identify the person, gender, and number of the subject and, if there is one, the object. The verb base consists of a verb root and possibly verb modifiers. All indicative verbs are marked for aspect as well. The prepronominal prefixes serve a variety of functions, such as

indicating tense and direction or location. The structure is more easily understood if one proceeds not from left to right in the surface form, but rather from underlying semantic structure toward the surface. Elements of the semantic predicate are expressed in the verb base, in the aspect suffixes, and in the prepronominal prefixes. The referential indices in the proposition are realized in the pronominal prefixes. The terminology used for the morphemes is essentially that established by Lounsbury (1953) for Oneida. It serves the purpose well and the correspondence should facilitate comparative study.

A. The Verb Base

A verb base consists minimally of a single verb stem which consists in turn of a single verb root. A number of modifiers may be added to verb roots to form ever more complex stems. Reflexive markers may precede the root. Incorporated noun stems may be present. Roots may themselves combine with inchoative, reversive, intensifier, or distributive morphemes. Instrumental, causative, and/or dative case markers may be affixed to form new stems. A stem may constitute a verb base in itself, or it may combine with an ambulative or purposive morpheme to form a complex base. The semantic distinctions reflected in each of these markers, along with their surface forms, are discussed below.

1. The Simple Root

The simplest verb stems consist of a single verb root, as in (1) and (2) below.

(1) r̂a:wēh
ra+wēh+h
masculine+'talk'+serial
he is talking

(2) r̂a:kvh
ra+k̄v+h
masculine+'see'+serial
he sees it

2. The Reflexive

Verb stems may contain a reflexive marker, (at), preceding the verb root. The reflexive has several functions. It is used to indicate that the subject and object of a transitive verb are coreferent or in the same grammatical person.

(3) wa?káthre?n
wa?+k̄+at+hren+?
aorist+1st-person+reflexive+'cut'+punctual
I cut myself

If the subject of a transitive verb is dual or plural in number, a reflexive marker can indicate either a reflexive action, as above, or a reciprocal action, in which the agents act upon each other.

(4) wa?nyv?n̄v:n̄v?θv?
wa?+n+yv+?nv+nv?θ+v+?
aorist+dualic+human+reflexive+'write'+dative+punctual
they wrote to each other.

The derivation of reflexive and reciprocal constructions is discussed under the pronominal string (II.D.1.)

The reflexive morpheme also appears in middle voice predications, as below.

- (5) $ne:\theta atkw$
 $ne\ddot{+}\theta+at+kw+\emptyset$
 dualic+2nd-person+reflexive+'dance'+imperative
 Dance!
- (6) $wahsatk'vha?$
 $wa+hs+at+kvh-a?+?$
 aorist+2nd-person+reflexive+'get-up'+punctual
 You got up (out of bed)

The basic form of the reflexive is { at }. Between the reflexive and stems beginning with { n } or { hn }, the nasalized vowel is inserted. This has occurred in (4) above.

at → atv / ___ (h)n

Between the reflexive and non-homorganic consonant clusters, namely those beginning with a velar stop, the vowel /e/ is inserted.

- (7) $wa?kayv?nekh'oknv?$
 $wa?+ka+yv+?ne+kh+oknv+?$
 aorist+plural+human+reflexive+'food'+ 'run-out'+punctual
 they ran out of food

at → /ate ___ kC₂

Automatic phonological rules convert the { t } of the reflexive to /?n/ before vowels, yielding the above form /(?a)?ne/.

(cf. VII.A.1r)

3. Incorporated Noun Stems

The incorporation of patient noun stems into verbs was discussed in I. C. 3. Simplex or complex noun stems can be incorporated. These follow the reflexive marker, if one is present, and immediately precede the verb root.

- (8) θ atkvhs \acute{o} há:re:
 θ +at+kvhs+ohare:+ \emptyset
 2nd-person+reflexive+'face'+ 'wash'+imperative
 Wash your face

If the noun stem ends in a consonant, the joiner /a/ appears between the noun and verb stems. This joiner never bears stress. (cf. VII.B.1.)

- (9) yota?narawé:kv
 yo+ta?nar+a+wek+v
 non-human-objective+'bread'+joiner+'tasty'+perfective
 the bread tastes good

cf. ya:we:kv it tastes good

A number of verb stems contain 'dummy noun roots' when no meaningful noun stem is incorporated. The shape of the dummy root is lexically determined, depending solely upon the particular verb root with which it is associated. The verb root { -ohare: } 'wash', for example, is preceded by the dummy { n } (/n/) when no other noun stem is incorporated.

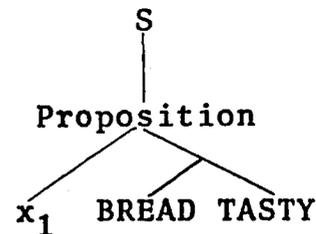
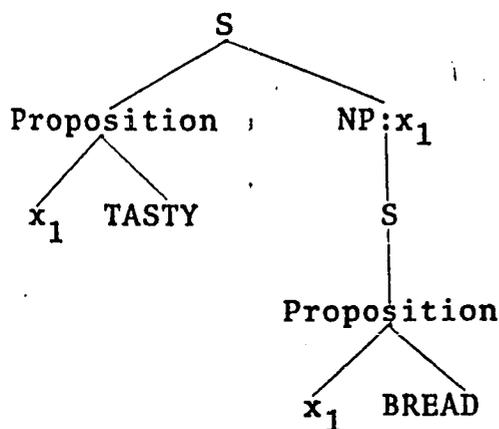
- (10) θ tohá:re:
 θ +t-ohare:+ \emptyset
 2nd-person+'wash'+imperative
 Wash it

Verb stems containing a dummy noun root will be listed in the lexicon with a hyphen, as, for example, { n-ohare: }. The segment preceding the hyphen automatically disappears following a noun stem.

NOUN STEM + DUMMY-VERB STEM → NOUN STEM + VERB STEM

Nouns are incorporated according to the regular mechanism of predicate raising. This analysis has the advantage of accounting for the fact that some verb roots only occur with incorporated nouns and some noun stems occur only incorporated, while other verb and noun stems never occur in constructions involving incorporation. If lexical insertion takes place after noun incorporation, these lexical peculiarities are automatically controlled by the repertory of complex stems existing in the lexicon. The structure underlying (9) is below.

(9) yota?narawe:kv
the bread tastes good



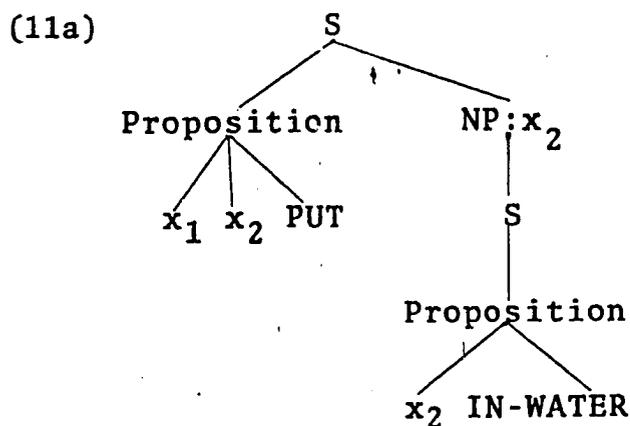
4. Double Root Compounds

Two independent verb roots may be joined to form a compound stem. Such a stem is contained in the verb in (11).

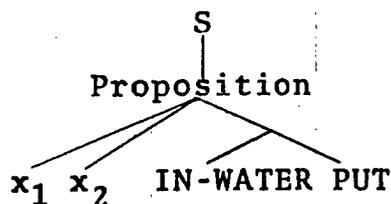
(11) wa?θóha
 wa?+θ+o+ha+∅
 translocative+2nd-person+'in-water'+ 'put'+imperative
 Put it in water

(12) wahrayvthwá:ko?
 wa+hra+yvthw+ako+?
 aorist+masculine+'plant'+ 'pick-off'+punctual
 He harvested.

The structure underlying such compound verbs can be represented as a set of predicates. (See section II.C.1.f. for a discussion of the translocative.)



Predicate raising yields (11b).



5. The Inchoative

A number of verb roots in Tuscarora are inherently perfective or adjectival in aspect. They have no corresponding serial, punctual, or imperative forms. Examples of verbs built on such roots are below.

- (13) wásθv:
w+asθv:
human-objective+'fat'-perfective
she is fat
- (14) yo?nà:ríhv:
yo+?narihv:
non-human-objective+'hot'-perfective
it is hot
- (15) yotsá?to:
yo+ts-a?to:
non-human-objective+'cold'+perfective
it is cold (to the touch)

The inception of a state can be predicated in a single surface verb in Tuscarora. The perfective root combines with the inchoative morpheme { ? } to form a new stem. This stem can be inflected in all aspects and tenses.

- (16) wa?vsθv:?
wa?+v+sθv:??
aorist+human-objective+'fat'-perfective+inchoative+
punctual
she got fat
- (17) yotsa?narihv?v
yo+ts-a?narihv+?+v
non-human-objective+'hot'-perfective+inchoative+perfective
it has become hot or it has boiled
- (18) yotsa?to?vhá:?nye?
yo+ts-a?to+?+v+ha?nye?
non-human-objective+'cold'-perfective+inchoative+
perfective+progressive
it is getting cold (an object)

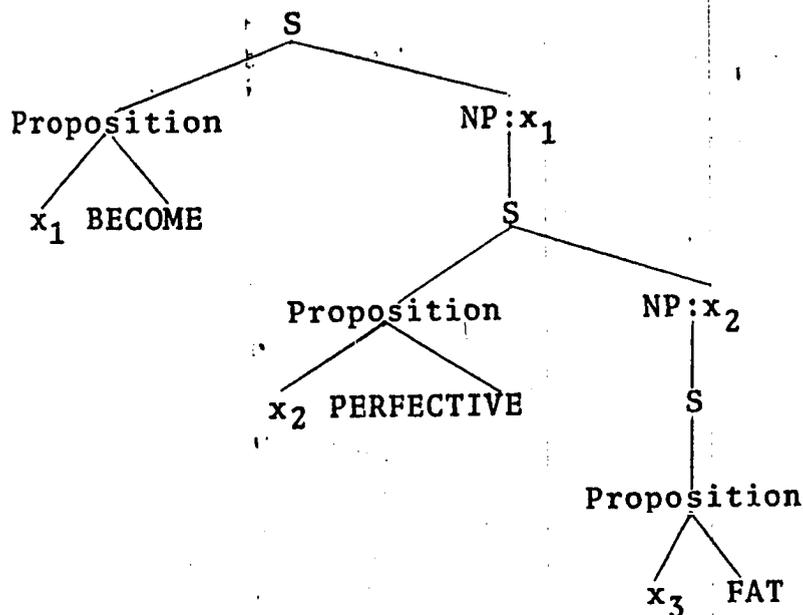
If the inchoative follows a consonant-final root, the vowel /a/ is inserted to break the resulting consonant cluster.

(19) yò:ra?θ
 yo+r+a?+θ
 non-human-objective+'in'+inchoative+serial
 it gets into things

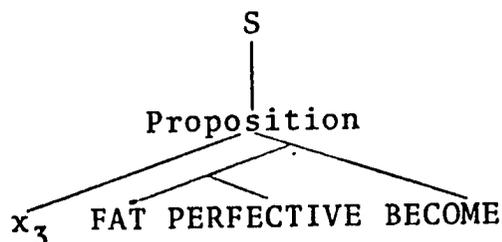
(20) waktvhtá?v
 w-a+k+tvht+a?+v
 objective-1st-person+'poor'+inchoative+perfective
 I got poor

The structures underlying these morphemically complex stems can be represented as sets of predicates. The structure underlying (16) is below.

(16) wa?vsθv:?
 wa?+v+sθv:+?+?
 she got fat



Predicate raising converts this to the structure below.



Inchoative stems require the { s } serial suffix, the { ? } punctual, and the { v } perfective. (By automatic phonological rule, $s \rightarrow \emptyset$ following ?, and two glottal stops combine to one. cf. VII.A.)

- (21) $katkw\grave{a}:r\acute{i}:tkv?\emptyset$
 ka+tkw-ar+itk+v+?+ \emptyset
 non-human+'blood'+ 'out'+perfective+inchoative+serial
 it is bleeding
- (22) $wa?katkw\grave{a}:r\acute{i}:tkv?$
 wa?+ka+tkw-ar+itk+v+? (+?)
 aorist+non-human+'blood'+ 'out'+perfective+inchoative+
 punctual
 it bled
- (23) $yotkwaritk\acute{v}?v$
 yo+tkw-ar+itk+v+?+v
 non-human-objective+'blood'+ 'out'+perfective+inchoative
 it has bled

4. The Reversive

A verb stem may combine with a reversive morpheme to form a new stem. The resulting verb predicates an action opposite to that of the original. The surface forms of the reversive are { hsi } and { hkw(i) }. Examples of their use are below.

- (24) $wahrahtr\acute{v}hsi?$
 wa+hra+htrv+hsi+?
 aorist+masculine+'tied'+reversive+punctual
 he untied it

(cf. wahráhtrv:? he tied it)

- (25) newakniθko?ro?nàríhsyv:
 ne+w+a+k+niθko?r+o?nàri+hsy+v:
 dualic+non-human+objective+1st-person+'button'+ 'hooked'
 +reversive+perfective
 I have unbuttoned it

(cf. newakniθko?ro?nàrhv:
 I have unbuttoned it)

- (26) v?nvhswa:nv́hkwi?
 v+?nv+hsw+añ+v+hkw-i+?
 aorist+non-human+reflexive+'cloud'+causative+reversive+
 punctual
 it got clear or the clouds cleared

(cf. (wah)v?nv́hswa:t it got
 cloudy)

When the reversives are suffixed to consonant-final stems, the vowel /a/ is inserted to break the resulting consonant cluster.

The conjugation of a reversive stem is illustrated in (27).

- | | |
|---------------------|---------------------|
| (27) ra?netyáhsyvhs | he is undressing |
| wahra?netyáhsi? | he undressed |
| θa?netyáhsi | undress |
| ro?netyáhsyv: | he has/is undressed |

(cf. θa?né:ti: get dressed)

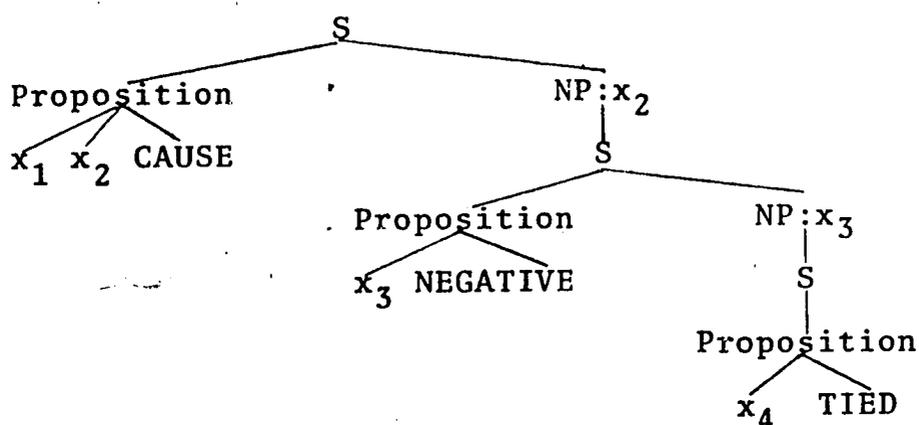
The reversives do not represent a negation of the entire predication. There is considerable difference between (24) and (28).

- (24) wahrahtrv́hsi?
 he untied it

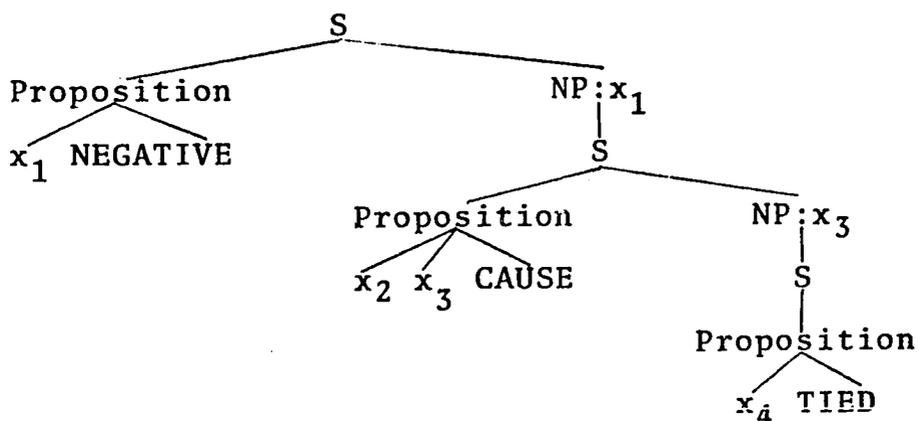
- (28) $\dot{\text{iskah}} \text{ wahráhrv:}?$
 iskah wa+hra+htrv+:+?
 not aorist+masculine+'tied'+causative+punctual
 he did not tie it

The difference between these two forms can be seen by comparing the two structures below.

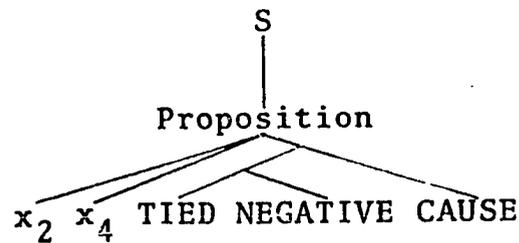
- (24) wahráhrvhsi?
 he untied it



- (28) $\text{iskah wahráhrv:}?$
 he did not tie it



Predicate raising yields a complex predicate.



5. The Intensifier

The meaning of a stem can be intensified by the addition of the morpheme { tsi }, 'thoroughly' or 'really'.

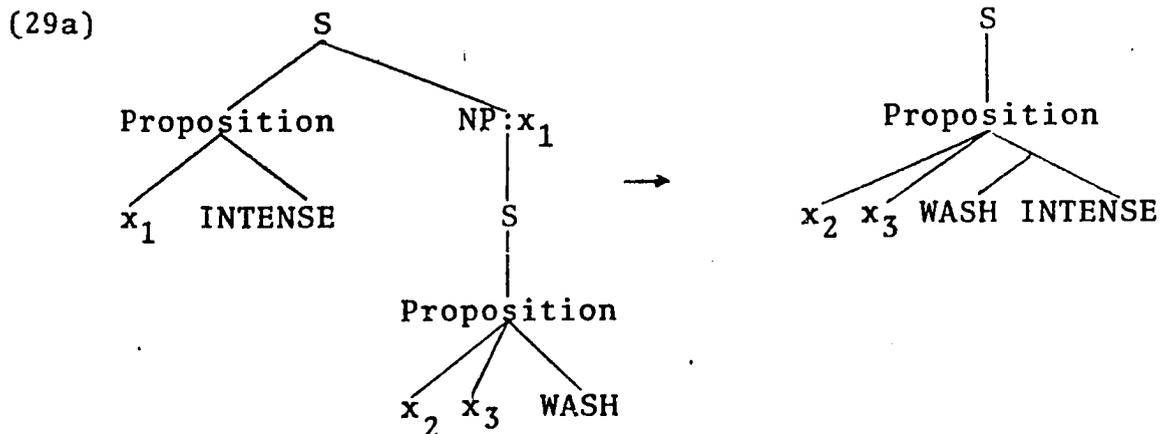
- (29) wa?ktohá:ré:tsi?
 wa?+k+t-ohare:+tsi+?
 aorist+1st-person+'wash'+intensifier+punctual
 I washed it thoroughly

cf. wa?ktohá:re:? I washed it

- (30) ra?netya?tsíha?
 r+a?n+ety+a?+tsi+ha?
 masculine+reflexive+'dress'+inchoative+intensifier+
 serial
 he is getting completely dressed → he is getting ready

cf. ra?netì:yahs he is dressing

The intensive marker further describes or modifies the verb stem.



6. The Distributive

The type of action predicated by a stem may be slightly altered by the addition of a distributive marker. This marker has the effect of spreading the action over time or space. The surface form of the distributive is determined by the particular lexical item to which it is suffixed. Allomorphs are { hθv: }, { hv: }, { hnv: }, { tyv: }, and { wv: }. If the distributive follows a consonant, the vowel /a/ is inserted to break the resulting cluster. Examples of each form are below.

- (31) wa?ktyò:r^éhθv:?
 wa?+k+tyore+hθv:+?
 aorist+1st-person+'swim'+distributive+punctual
 I swam around

cf. ktò:re? I am swimming

- (32) rayvthóhθvh
 ra+yvtho+hθv+h
 masculine+'plant'+distributive+serial
 he is planting things

cf. rà:yv:thohs he is planting
 it

- (33) θa?rekvry^éhv:
 θ+a?+rekvrye+hv:+θ
 2nd-person+reflexive+'roll'+distributive+imperative
 Roll around!

- (34) we?etohà:r^éhv:?
 we?+e+t-ohare+hv:+?
 aorist+human+'wash'+distributive+punctual
 she washed (things)

cf. we?etohá:re? she washed it

- (35) yahwa?nyekvθáhnv:?
yah+wa?+n+ye+kv-θ+ahnv:+?
translocative+aorist+dualic+human+'watch'+distributive+
punctual
they looked the place over

cf. kayvtkv?θeh they are
watching

- (36) kayetakré:tyv?
ka+ye+takre+tyv+?
plural+human+'dwell'+distributive+perfective
different

cf. kayetá:kre? they live there
or the inhabitants
or the tribe

- (37) yvkwá?nè:nv:tyv?
yv+k+wa+?ne:nv+tyv+?
objective+1st-person+'live'+distributive+perfective
our various homes

cf. yvkwá?nè:nv? we live here
or our home

- (38) neθne?kvhθáhnv:
ne+θ+ne?kvhθ+ahnv:+θ
dualic+2nd-person+'shake'+distributive+imperative
Shake it

- (39) yokerhá:rà:wv?
yo+kerh+a+r+awv+?
non-human-objective+'body'+joiner+'in'+distributive+
perfective
pictures

cf. yokérhar a picture

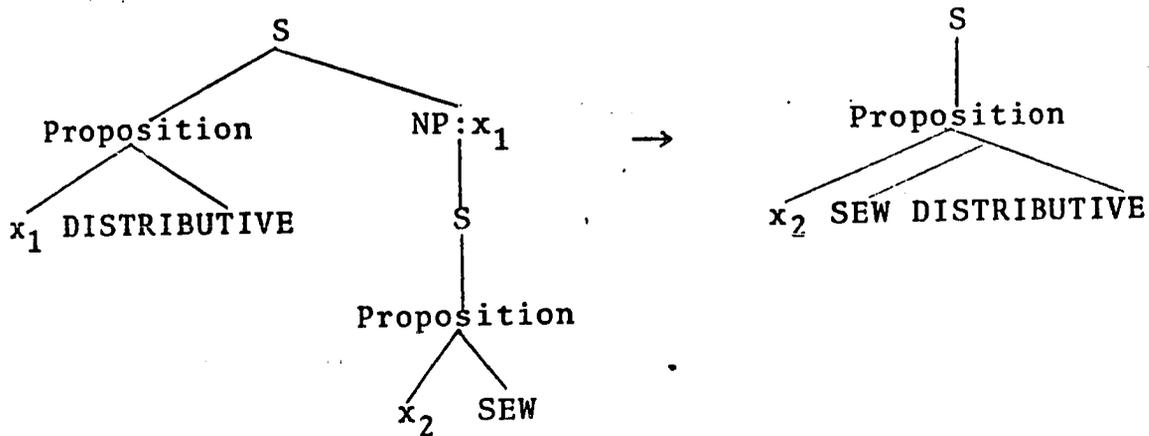
A sample conjugation is below.

- | | |
|----------------|----------------------|
| (40) ktikwáhnv | I am sewing (things) |
| wa?ktikwáhnv:? | I sewed it |
| θtikwáhnv: | Sew on this |
| waktikwáhnv:t | I have sewn |

cf. θtikw sew this one

The distributive dominates the predicate it modifies in underlying structure.

(40) Өtikwahne:
Sew



7. The Instrumental

A verb stem can be combined with an instrumental morpheme to describe the way in which something is used. Many names for tools consist of instrumental verbs which describe their function. The instrumental marker adds the meaning '-- with it' or 'used for --'. The forms of the morpheme are { hkw }, { ?t } and { ht }. If the forms { hkw } or { ?t } follow a consonant, the vowel /a/ is inserted to break the resulting cluster. When the form { ht } follows a consonant, the h is dropped.

$C + ht \rightarrow Ct$

When the form { hkw } is followed by the serial aspect { ha? }, there is metathesis.

hkw + ha? → hkhwa?

Some examples of instrumental verbs are below.

- (41) neyenv?θákhwa?

ne+ye+nv?θ+ákw+ha?

dualic+human+'write'+instrumental+serial

one writes with it

pencil

cf. neyè:nv:θha? one writes

(42) yeta?narvhs^vhkhwa?

ye+ta?n-ar+vhs^v+hkw+ha?

human+'bread'+'bake'+instrumental+serial

one-uses-it-to-bake-bread

oven

(43) yakwa?rotsr^vhkhwa?

yak+w+a?^v+rotsr^v+hkw+ha?

1-3rd-person+plural+reflexive+'gather'+instrumental+serial

we used it to gather (ourselves) in (habitually)

cf. yakwa?rótsrvhs we would gather ourselves together

(44) neyerv?nyá?ktha?

ne+ye+rv?n+ya?k+t+ha?

dualic+human+'tree'+'cut'+instrumental+serial

one uses it to cut logs

saw

(45) yeyvthóhtha?

ye+yvthó+ht+ha?

human+'plant'+instrumental+serial

one plants with it

planter

cf. yè:yvthohs one plants

(46) yerihvtyá?tha?

ye+rih+vty+a?t+ha?

human+'word'+'make'+instrumental+serial

one learns with it

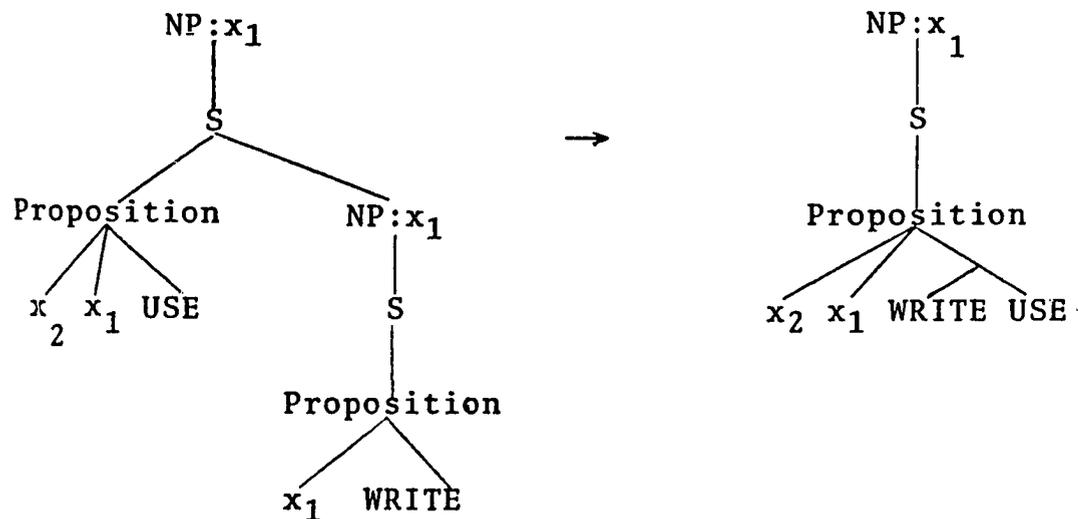
school

(47) yv?tkvnihsá?tha?
 yv+?tkvnihs+a?t+ha?
 human+'hold-council'+instrumental+serial
 one uses it to hod council
 council house

(48) yvtsoryá?tha?
 yv+tsory+a?t+ha?
 human+'eat'+instrumental+serial
 one uses it to eat
 kitchen

Now an instrument is really a secondary cause, used by an agent to accomplish an action. The structure underlying the word for 'pencil' is sketched below. x_1 refers to the pencil and x_2 to the user.

(41) neyenv?θákhwa?
 one uses it to write with → pencil



8. The Causative

The causation of a specific action may be described in a single verb. The causative morphemes, { ?t }, { ht },

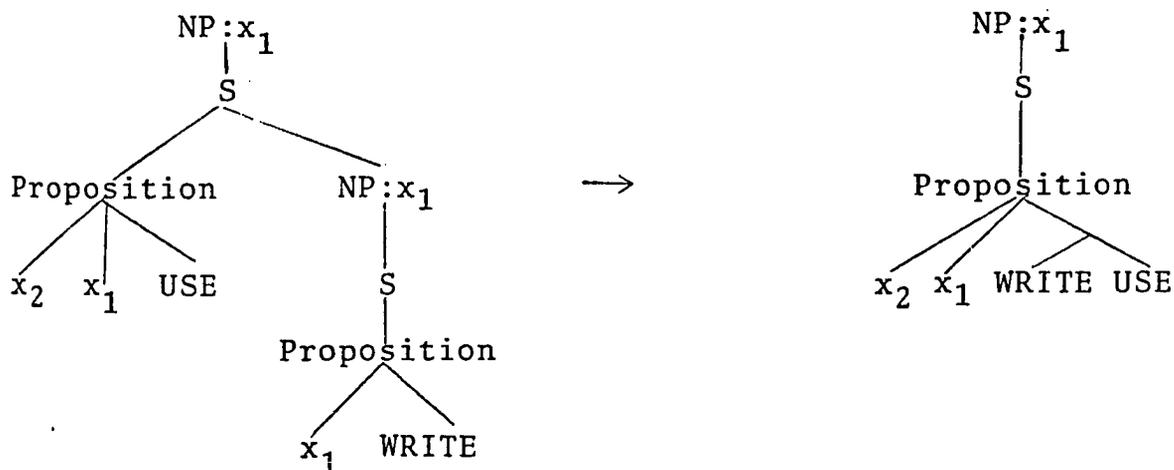
Please Note:
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(47) yv?tkvnihsa?tha?
yv+?tkvnihs+a?t+ha?
human+'hold-council'+instrumental+serial
one uses it to hold council
council house

(48) yvtsorya?tha?
yv+tsory+a?t+ha?
human+'eat'+instrumental+serial
one-uses it to eat
kitchen

Now an instrument is really a secondary cause, used by an agent to accomplish an action. The structure underlying the word for 'pencil' is sketched below. x_1 refers to the pencil and x_2 to the user.

(41) neyvne?θahkhwa?
one uses it to write with → pencil



10. The Causatives

The causation of an action can be predicated in a single verb. Two of the instrumental morphemes, { ?t } and { ht }, can function as causatives. A third marker, { hw }, functions only causatively. A causative, { ?t }, { ht },

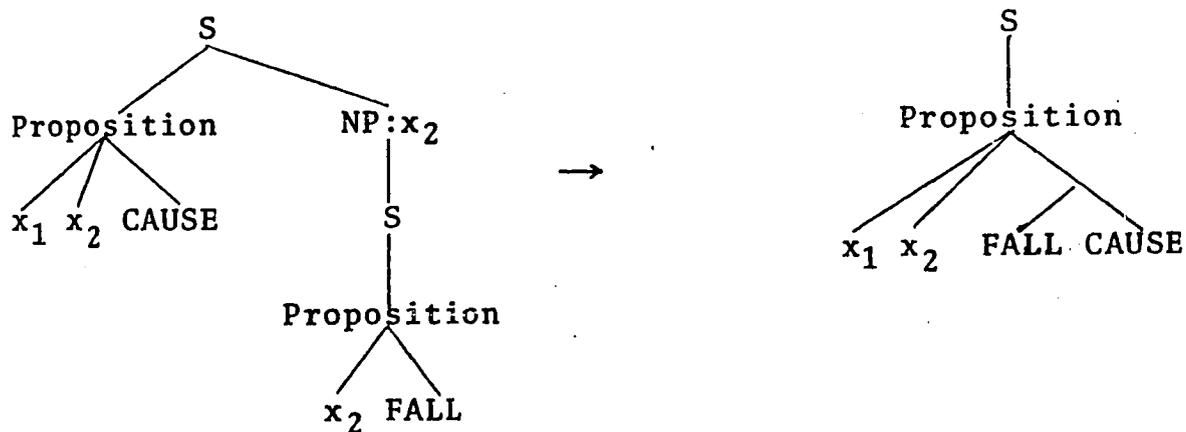
or { hw }, is suffixed to a verb stem to form a new stem, as below. The choice of allomorph is lexically determined. If the causative follows a consonant, the vowel /a/ is inserted to break the resulting cluster.

- (49) wahrá?θvht
 wa+hr+a?θ-v+ht (+?)
 aorist+masculine+'fall'+causative+punctual
 he dropped it
 cf. wahv?θv? it dropped
- (50) akatsá?toht
 a+k+atsa?to+ht (+?)
 indefinite+1st-person+'cold'+causative+punctual
 for me to cool myself
 cf. yotsá?to: it is cold
- (51) wa?ká?θwaht
 wa?k+a?θ-w+ahht (+?)
 aorist+1st-person+'out'+causative+punctual
 I blew it out
 cf. yo?θwá?v it is out
- (52) vksná:tha?t
 v+k+snath+a?t (+?)
 future+1st-person+'dry'+causative+punctual
 I will dry it
 cf. yosná:thv: it is dry
- (53) θheyv'hskwē?t
 θ+h+e+yv'hskwē+?t+θ
 2nd=person+objective+human+'smile'+causative+imperative
 Make him smile
 cf. tsyv'hskwē smile
- (54) θa?netyá?tsihw
 θ+a?n+ety+a?+tsi+hw+θ
 2nd-person+reflexive+'dress'+causative+intensifier+causative+imperative
 Get ready
 cf. θa?ne:ti: get dressed

- (55) vhrà:wihw
 v+hra+wi+hw(+?)
 future+masculine+'know'+causative+punctual
 he will learn

The structure underlying (53) was sketched in Chapter I. The structure of (49) is below.

- (49) wahrà?òvht
 he dropped it



Of course not all semantic predicates which contain the component CAUSE are expressed by surface verbs which contain causative morphemes. Numerous portmanteau roots like { riyo } 'kill' can be analyzed as causatives semantically, i.e., 'cause to become not alive', although they contain no overt causative morpheme.

No Tuscarora verb is ever associated with more than two different human arguments. Therefore a single verb is not used to describe the causation of a transitive action in which both the agent and patient are different humans. The causative element of such an event is expressed by means

of a separate verb which can also stand alone grammatically.

(56) wahra?néha?t he caused it

11. The Dative

The beneficiary, recipient, and the experiencer of actions are all designated in the same manner in Tuscarora. A dative marker is suffixed to the verb stem and the beneficiary, recipient, or experiencer functions as the syntactic object of the clause. Some examples of the uses of the dative marker are below.

(57) kvhrvhwá?θeh
k+v+hrvhwá+?θe+h
1st-person+objective-2nd-person+'wait'+dative+punctual
I am waiting for you

cf. wa?khrvhwá? I waited

(58) nakrihwáhk
n+a+k+rihwáhk+v+θ
dualic+objective+1st-person+'word'+ 'pick-up'+dative+
imperative
Sing for me

cf. neθríhwáhk sing

(59) yahwa?tkhè:nv?θv?
yah+wa?+t+k+h+e+nv?θ+v+?
translocative+aorist+dualic+1st-person+objective+
human+'write'+dative+punctual
I wrote to him

cf. wá?tknv?θ I wrote it

(60) wahskrihwís?a:θ
wa+hs+k+rihwís?a:θ
aorist+2nd-person+1st-person+'word'+ 'finish'+
punctual-dative
you promised me

cf. wa?krihwís?a:θ I promised

The form of the dative marker depends upon the verb stem it follows and the morpheme it precedes. Three patterns can be distinguished. The forms preceding the serial and perfective aspects are the same in each case, as are those before the punctual and imperative.

<u>Before</u>	I	II	III
Serial	?θe	ni	ani
Punctual	?θ	ahθ	v
Imperative	?θ	ahθ	v
Perfective	?θe	ani	ani

The patterns are illustrated below.

(61) yvtho 'plant'

rakyvthó?θeh	he plants for me
wahrakyvtho?θ	he planted for me
nakyvtho?θ	plant for me
rakyvthó?θe:	he has planted for me

(62) rako 'choose'

rakrá:kwatih	he is choosing one for me
wahrakrá:kwahθ	he chose one for me
nakrá:kwahθ	choose one for me
rakwakwá:ti:	he has chosen one for me

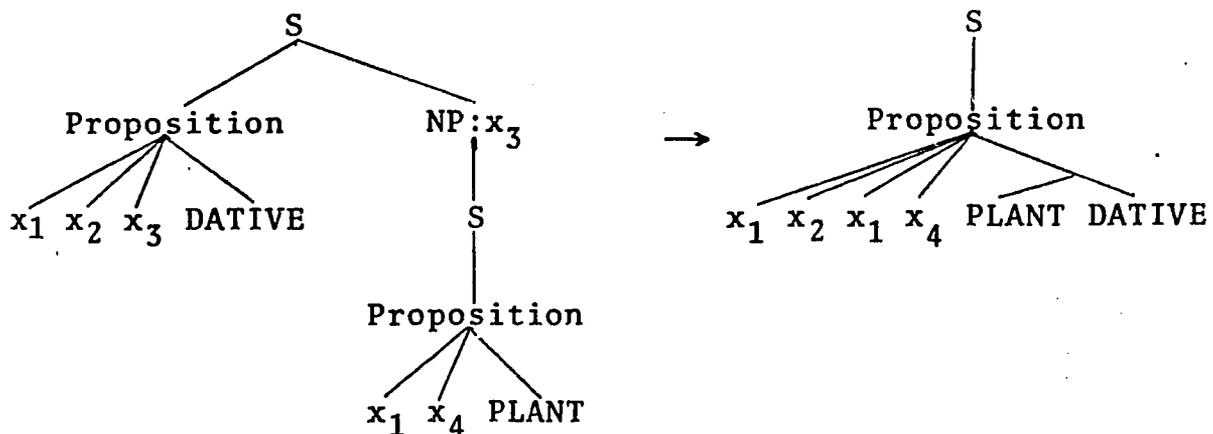
(63) rihvti 'make words'

kvrihvtyá:tih	I am teaching you
wa?kvrihv'tyv?	I taught you
nakrihv'tyv	teach me
kvrihvtyá:ti:	I have taught you

A benefactive or dative construction indicates that an agent directs toward a beneficiary his action. This predicate of 'directing toward' will be designated by the label DATIVE. Its first argument is the agent (director toward or benefactor), its second the beneficiary, and the third, the event directed.

The structure underlying a verb in (61) can be sketched as below.

(61) rakyvthó?θeh
he plants for me



A characteristic of benefactive constructions is that the one offering the act is always also agent of the act offered. Only x_1 can direct what x_1 is doing toward a beneficiary. The index x_1 must thus appear at least twice in the underlying structure of well-formed benefactive constructions, as above. This agent is mentioned only once in surface verbs, however, where his acts are combined into a single complex verb stem. A special rule is needed to delete the second occurrence of the index referring to the agent.

$x_1 \rightarrow \emptyset / x_1 x_2 \text{ --- } (x_4 \dots x_n)$ PREDICATE DATIVE

where PREDICATE = any simplex or complex semantic predicate

Not all complex semantic predicates which contain the element DATIVE have dative morphemes in their surface realizations, of course. The verb { v }, for example, can be translated as 'belong to' or 'exist for', and takes, as its syntactic object, the beneficiary of its existence.

12. The Facilitative

The morpheme { hsk } is occasionally suffixed to verb stems to add the meaning 'easily'. This morpheme is relatively rare. It is always followed by a perfective aspect marker.

(64) rowíh^hskv
 ro+wi+hw+sk+v
 masculine-objective+'know'+causative+facilitative+
 perfective
 he learns easily

cf. wahrà:wihw he learned

13. The Purposive

The fact that someone is about to do something (on the way or intending to), can be stated in Tuscarora in a single verb. Such verbs contain complex bases formed from a stem plus a purposive marker. The surface shape of this marker depends upon its morphemic environment. The basic forms are { hθe }, { hre }, { hθre } { hte }, and { he }.

If a distributive follows a consonant, the vowel /a/ is inserted to break the resulting cluster.

- (65) vka?nawvryáhθe?
v+k+a?n+awvry+ahθe+?
future+1st-person+reflexive+'stir'+purposive+punctual
I am going traveling

cf. wa?ka?nawv:rye? I was
traveling

- (66) wahrayvthóhθe?
wa+hra+yvthó+hθe+?
aorist+masculine+'plant'+purposive+punctual
he is going to plant

cf. rà:yv:thohs he is planting

- (67) vtskta?nyv?θéhre? hvh
v+t+s+k+ta?nvý+?θe+hre+?
future+cislocative+2nd-person+1st-person+'visit'+
dative+purposive+punctual ?
Will you come to visit me?

cf. wa?ktá:?nyv? I visited

- (68) wahrakyvtho?θéhre?
wa+hr+a+k+yvthó+?θe+hre+?
aorist+masculine+objective+1st-person+'plant'+dative+
purposive+punctual
He is going out to plant for me

cf. rakyvthó?θeh he is planting
for me

- (69) royo?nvhθrv
r+o+yo?n+v+hθr+v
masculine+objective+'work'+perfective+purposive+
perfective
He has gone to work

cf. wahrò:yó?nvh he works

- (70) neθa?tkwira?nvhte
ne+θ+a?=twira?nv+hte+
dualic+2nd-person+reflexive-'picnic'+purposive+imperative
Go and picnic

cf. watkwíra?nv the picnic

- (71) vkít?óhe?
 v+k+it?o+he+?
 future+1st-person+'sleep'+purposive+punctual
 I am going to bed

cf. vkvt?o? I will sleep

- (72) vkathvkarya?khe?
 v+k+at+hvkar-ya?k+he+?
 future+1st-person+reflexive+'enlist'+purposive+punctual
 I am going out to enlist

cf. vkathvká;rya?k I will
 enlist or volunteer

At first, the present tense of purposive verbs seems to exhibit a strange characteristic. Normally the aorist morpheme { w(a?) } marks past tense. The aorist tense marker and the punctual aspect marker are also present in purposive verbs which are translated into English as present tense.

- (73) wa?ktya?náhte?
 wá?+k+tya?n+ahte+?
 aorist+1st-person+'buy'+purposive+punctual
 I am going to buy it

cf. wá?ktya?t I bought it

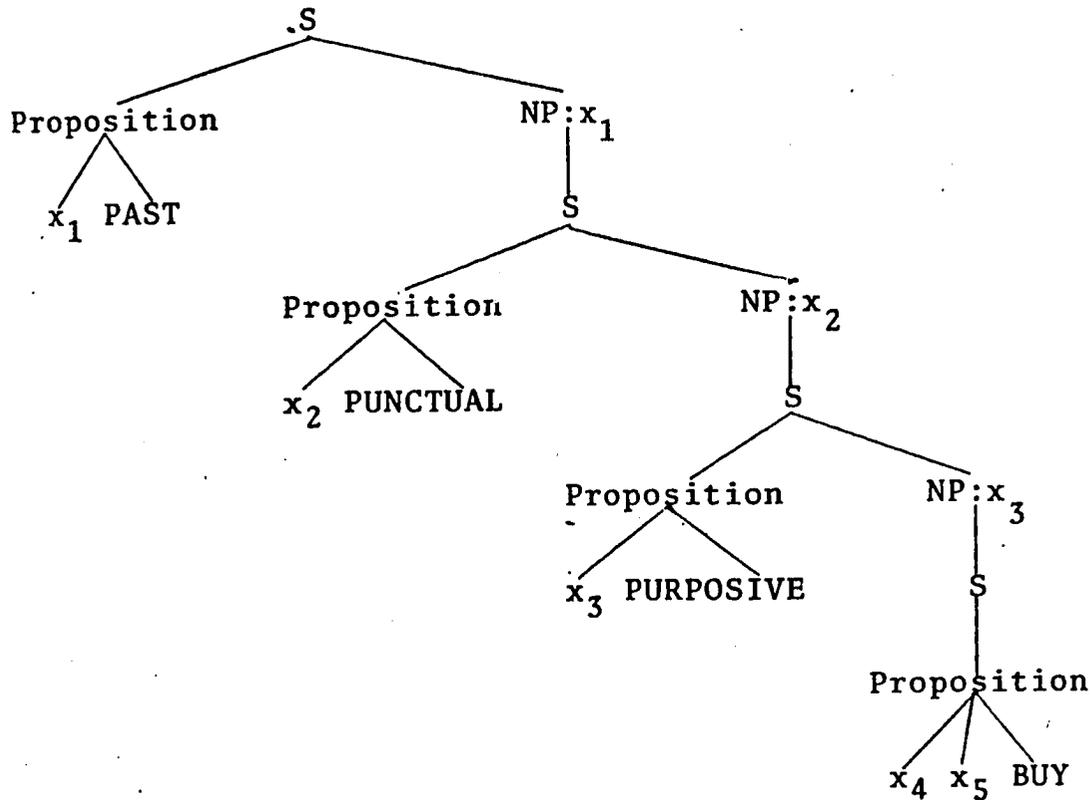
- (74) wahra?tkahryéhe?
 wá+hr+a?-tkahrye+he+?
 aorist+masculine+reflexive-'tell'+purposive+punctual
 He is going to tell

cf. wahra?tkáhrýe? he told

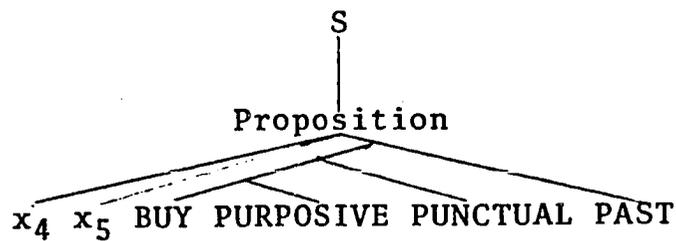
(Some speakers occasionally delete the aorist marker with no apparent change in meaning, although the punctual morpheme remains.) If a past purposive is requested, a perfective form like (67) is supplied. The purposive actually indicates that an action has been initiated or that it has begun. The

structure underlying (73) is below. (For discussion of tense and aspect see section II.B.)

(73) wa?ktya?náhte?
I am going to buy it



Successive applications of predicate yield the complex predicate below.



A later transformation moves the past tense marker into its prepronominal position.

12. Ambulative

The suffix { ?n } adds to a stem the meaning 'while walking'. If it follows a consonant, the vowel /a/ is inserted to break the consonant cluster.

- (75) tikakoyè:rá?nv
 ti+ka+k+o+yér+a?n+v
 partitive+plural+human+objective+'do'+ambulative+
 perfective
 they had done it while walking → on their way

13. Summary of Forms

The basic shapes of the morphemes of the verb base are summarized below.

INCHOATIVE	{ ? }
REVERSIVE	{ hsi }
	{ hkw(i) }
INTENSIFIER	{ tsi }
DISTRIBUTIVE	{ hθv }
	{ hv }
	{ hnv }
	{ tyv }
	{ wv }
INSTRUMENTAL	{ hkw }
CAUSATIVE	{ ?t }

	{ ht }
	{ hw }
DATIVE	{ ?θe }, { ?θ }
	{ ni }, { ahθ }
	{ ani }, { v }

$x_1 \rightarrow \emptyset / x_1 x_2 _ (x_4 \dots x_n)$ PREDICATE DATIVE

where PREDICATE = any simplex or complex semantic pred.

FACILITATIVE	{ hsk }
PURPOSIVE	{ hθre }
	{ hre }
	{ hθre }
	{ hte }
	{ he }
AMBULATIVE	{ ?n }

When any of these consonant-initial morphemes is combined with a consonant-final stem, the vowel /a/ is inserted to break the cluster.

$C_1 + C_2 \rightarrow C_1aC_2$

where C_1 = final consonant of a stem
 C_2 = initial consonant of a verbal modifier

B. Aspect and Tense

The event or state described by a Tuscarora verb can be situated temporally in two ways: according to its duration or frequency (aspect) and according to the point in time at which it takes place (tense). All indicative verbs are marked for aspect. Punctual, serial, and perfective aspects are distinguished, and all of these can be inflected for past, future, or indefinite tense. The surface forms of the aspect and tense markers are conditioned by their morphemic and phonological environments.

1. The Punctual Aspect

A punctual suffix indicates that the event described by the verb occurred or will occur at a particular point in time and is of limited duration. Examples of punctual aspect verbs are below.

- (1) vhrà:yv̄:tho?
 v+hra+yv̄tho+?
 future+masculine+'plant'+punctual
 he will plant
- (2) wahr̄v̄he?y
 wa+hr+v̄he?y
 aorist+masculine+'die'+punctual
 he died.
- (3) wahra?ná?nihr
 wa+hr+a?n-a?n-ihr(+?)
 aorist+masculine+reflexive-reflexive-'stand'+punctual
 he stood up

a. The Surface form of the punctual aspect marker

The punctual morpheme is { ? }.

- (4) wahrà:yé:nv:?
 wa+hra+yenv:~?
 aorist+masculine+'catch'+punctual
 he caught it
- (5) wahrá:kv?
 wa+hra+kṽ+?
 aorist+masculine+'see'+punctual
 he saw it

If a verb stem ends in a consonant or consonant cluster, the { ? } precedes the consonant or cluster.

$$VC(C)(C) + ? \rightarrow V?C(C)(C)$$

where ? = PUNCTUAL

- (6) wahrá:~nye:~r
 wa+hr+a?n+yēr+?
 aorist+masculine+reflexive+'do'+punctual
 he did it
- (7) vhráha?w
 v+hra+ḥaw+?
 future+masculine+'take'+punctual
 he will take it

If the verb base ends in a long vowel plus consonant (V:C) or in a consonant cluster which contains a laryngeal, the preposed punctual is dropped by automatic phonological rule (cf. VII.A.2).

- (8) wahrá:ri:k
 wa+hra+ri:k+?
 aorist+masculine+'bite'+punctual
 he bit it.

- (9) vhráhra:t
v+hra+hra:t+?
future+masculine+'count'+punctual
he will count
- (10) wa?thrà:nv?θ
wa?+t+hra+nv?θ+?
aorist+dualic+masculine+'write'+punctual
he wrote
- (11) wáhrahst
wa+hra+hst+?
aorist+masculine+'use'+punctual
he used it

b. Tense in the punctual aspect

Every verb containing a punctual aspect marker also contains a prepronominal tense marker. The tenses distinguished on punctual verbs are the aorist, future, and indefinite.

The aorist prefix indicates that the event took place at a specific time not in the future. This nearly always refers to past time in Tuscarora.¹

- (12) thé:?nv? wá?kko?
the:?nv? wa?+k+ko?
'yesterday' aorist+1st-person+'get'+punctual
Yesterday I got it.
- (13) θoterhívke wahv:to:t
θoterhv-ke wah+v+to:t+?
all-morning aorist+non-human+'rain'+punctual
It rained all morning

The future prefix indicates that the event will take place at a definite time later than the present or some other temporal reference point.

- (14) $\dot{v}:y\acute{o}rhv? \acute{v}:kko?$
 $v+y\acute{o}rhv+? \dot{v}+k+ko+?$
 future+verb+punctual future+1st-person+'get'+punctual
 tomorrow I will get it
- (15) $wahrarih\acute{w}\acute{i}s?a:? \dot{v}w\acute{v}:to:t$
 $wa+hra+rihw-is?a+? v+w+vto:t+?$
 aorist+masculine+'promise'+punctual future+non-human+
 'rain'+punctual
 he-promised-it it-will-rain
 He promised that it would rain (immediately or at a
 specific time)

The indefinite tense indicates that the point in time at which the event occurs is unspecified. This tense is common in clauses which function as nominals.

- (16) $waka?ne\theta w\acute{e}:ki \underline{a}r\acute{a}:kko?$
 $w+ak+a?ne-\theta w\acute{e}k+i \underline{a}ra+k+ko+?$
 non-human+objective+1st-person+reflexive-want'+perfective
 indefinite+1st-person+'get'+punctual
 I-want-it for-me-to-get-it
 I want to get it.
- (17) $wahrarih\acute{w}\acute{i}s?a:? \underline{a}rw\acute{v}:to:t$
 $wa+hra+rihw-is?a:+? \underline{a}r+w+vto:t+?$
 aorist+masculine+'promise'+punctual indefinite+non-human+
 'rain'+punctual
 he-promised-it for-it-to-rain
 He promised that it would rain (eventually).

The surface forms of the prepronominal tense markers and the morphophonemic rules to which they are subject are discussed in more detail in section II.C.

2. The Serial Aspect

A serial marker indicates that an action is repetitive or ongoing. Verbs with the serial aspect suffix alone may describe events in progress at the present or at

some other point in time.

- (18) rahè:yvhs
ra+heyv+h̄s
masculine+'die'+serial
he is/was dying
- (19) rà:yv:thohs
ra+yvtho+h̄s
masculine+'plant'+serial
he is/was planting or he plants
- (20) ratsyárhohs
ra+tseyarh-o+hs
masculine+'smoke'+serial
he is/was smoking or he smokes

a. The surface forms of the serial

The basic forms of the serial markers are { s }, { ha? }, { h }, and { e? }. Examples of the first are below.

- (21) rá:ri:ks
ra+ri:k+s
masculine+'bite'+serial
he bites
- (22) rà:rv?na:ts
ra+rv?na:t+s
masculine+'blow'+serial
he is blowing

Following a dental obstruent plus { i } or a velar obstruent plus { o }, the vowel /a/ is automatically inserted before the s serial marker.

$$\begin{Bmatrix} Di \\ ko \end{Bmatrix} +s \rightarrow \begin{Bmatrix} Di \\ ko \end{Bmatrix} + a+s$$

where s = serial
D = { t, n, r, or s }

•

(A later automatic phonological rule converts the vowels { i } and { o } to semi-vowels /y/ and /w/ respectively before other vowels.)

- (23) kweraká:ryahs
 k+wer+a+kary+ahs
 1st-person+'air'+joiner+'devour'+serial
 I am inhaling

(-kari+s → kari+a+s → kari+a+hs →
 -karyahs)

- (24) rohrá:kwahs
 r+o+hrakw+ahs
 masculine+objective+'pick-up'+serial
 he is picking them up

(-hrako+s -- hrako+a+s --
 -hrako+a+hs -- hrakwahs)

After vowel-final stems, /h/ is inserted before this serial marker.

V + s → Vhs

where s = serial

This added aspirate can be seen in the two verbs above and in the two below.

- (25) rà:yv:thohs
 ra+yvtho+h̄s
 masculine+'plant'+serial
 he is planting

- (26) wakrì:yohs
 w+a+k+riyō+hs
 non-human+objective+1st-person+'kill'+serial
 it is killing me

An automatic phonological rule converts { s } to /θ? following /?/ (cf. VII.A.1.)

- (27) yò:ra?θ
 yo+r+a?+θ
 non-human-objective+'in'+inchoative+serial
 it gets into things

The second form of the serial marker is { ha? }.

Examples of this are below.

- (28) rà:nv?θha?
 ra+nv?θ+ha?
 masculine+'write'+serial
 he writes

- (29) ráhstha?
 ra+hst+ha?
 masculine+'use'+serial
 he uses it

When this form follows a labio-velar cluster kw, the /h/ of the serial and the glide of the cluster are interchanged.

kw + ha? → khwa?

where ha? = SERIAL

- (30) nekátkhwa?
 ne+k+a[̄]+k[̄]w+ha?
 dualic+1st-person+reflexive+'dance'+serial
 I am dancing.
- (31) yehà:rákhwa?
 ye+har+ah[̄]k[̄]w+ha?
 human+'hang'+instrumental+serial
 one-uses-it-for-hanging
 hanger

Many vowel-final and r-final stems require the { h } serial. (A number of these vowel-final stems are formed from perfective verbs.)

- (32) nehrá?nvh
 ne+hr+a?nv+h
 dualic+masculine+'fly'+serial
 he is flying

- (33) neỳ: ẁ: rih
 ne+yv+wvri+h
 dualic+human+'stir'+serial
 she is stirring it

If the { h } follows a stem which ends in a long vowel,
 the length disappears.

V: + h → Vh

where h = SERIAL

- (34) raʔnehwá:tyvh
 r+aʔne-hw-atyv:+h
 masculine+reflexive-'look'+serial
 he is looking for it

If the { h } serial is suffixed to a resonant-final stem,
 the aspirate precedes the resonant.

R + h → hR

where h = SERIAL

R = n, r, w, or y

- (35) tihrà:yehr
 ti+hra+yēr+h
 partitive+masculine+'do'+serial
 what he does

A few stems require the { e } serial

- (36) ratkáhne?
 ra+tkahn+e?
 masculine+'chase'+serial
 he is chasing it

b. Tense in the serial aspect

A serial action can be located specifically in past

time by the suffixation of the morpheme { hk }. The resulting verb denotes a habitual or repeated activity of the past. When this is suffixed to a non-laryngeal consonant-final stem, the vowel /a/ is inserted to break the consonant cluster. (By automatic phonological rule, {?} drops before {h}. cf. VII A3.)

- (37) ráhsthahk
 ra+hst+hā+hk
 masculine+'use'+serial+past
 he used to use it
- (38) ratohárhahk
 ra+t-ohar+h+ahk
 masculine+'wash'+serial+past
 he used to wash
- (39) tihrà:yérhahk
 ti+hra+yer+h+ahk
 partitive+masc+serial+past
 he used to do it like that

Following the { s } serial marker, /h/ is prefixed to the past form.²

s + ahk → shahk

where s = SERIAL
 ahk = PAST

- (40) ratsyarhóhshahk
 ra+tsyarh-o+hs+hahk
 masculine+'smoke'+serial+past
 he used to smoke
- (41) rayvthóhshahk
 ra+yvtho+hs+hahk
 masculine+'plant'+serial+past
 he used to plant (it)

Serial actions can be located in future time by

the addition of the future tense marker { v }. In the presence of the future marker, the sequence { ek } is suffixed to the serial verb.³ The resulting verb often denotes a serial action which will continue into the future.

- (42) vhrayvthóhsek
v+hra+yvthó+hs-ek
 future+masculine+'plant'+serial
 he will be planting or he will keep planting
- (43) nvhrà:yérhek
n+v+hra+yér+h-ek
 partitive+future+masculine+'do'+serial
 he will keep doing it that way
- (44) vkayvtvhnì:nóhek
v+ka+yv+tv-hnìnv+h-ek
 future+plural+human+reflexive-'sell'+serial
 they will be selling things

The indefinite tense marker can be affixed to serial verbs to indicate a serial action that should or would take place at an unspecified time or no particular time.

- (45) ha? k'vhtsih té? há:ne? ahrayvthóhsek
ha? k+vhtsi+h te? ha:ne? a+hra+yvthó+hs-ek
 non-human+'should'+serial not this indefinite+
 masculine+'plant'+serial
 it-should-be not this for-him-to-be-planting
 He should not be planting like that.
- (46) ha? k'vhtsih ahratsoríhek
ha? k+vhtsi+h a+hr+atsóri+h-ek
 non-human+'should'+serial indefinite+masculine+
 'eat'+serial
 it-should-be for-him-to-be-eating
 He should keep eating.

The rule below inserts the sequence { ek } following the serial in the presence of the future or indefinite markers. The sequence does not add any meaning not already

present in the serial aspect and tense markers.

SERIAL → SERIAL + ek / — { FUTURE
INDEFINITE }

3. The Perfective Aspect

The perfective marker indicates a state. The state may be inherent. Inherent state perfectives often correspond to English adjectives.

- (47) kahehní:yo:
ka+hehn+iyó+:
non-human+'field'+'large'+perfective
the field is large
- (48) rakwà:nihst
ra+kwanihst
masculine+'handsome'-perfective
he is handsome
- (49) rahv́hstsi:
ra+hvhstsi+:
masculine+'black'+perfective
he is black.

The state may be the result of an action or event, in which case the stem has corresponding punctual and serial forms. The person or object in a resultant state is usually referred to by objective pronominal prefixes when only one argument is mentioned. Examples of resultant state perfectives are below.

- (50) rawvhá:yv:
r+aw+vhayv+:
masculine+objective+'die'+perfective
he has died or he is dead

- (51) ro?na?níhrv
 r+o+?n-a?n-íhr+v
 masculine+objective+reflexive-reflexive+'stand'+perfective
 he has stood up or he is standing
- (52) rò:yv̄:thv
 r+o+yv̄th+v
 masculine+objective+'plant'+perfective
 he has planted

a. The surface forms of the perfective

The most common perfective markers are { ? }, { v }, vowel length, and { t }. { ? } is particularly common among adjectival (inherent state) verbs.

- (53) rahwíhsne?
 ra+hwihsnē+?
 masculine+'strong'+perfective
 he is strong
- (54) k'vnhe?
 k+vnhē+?
 1st-person+'live'+perfective
 I am alive
- (55) kahahayè:ri?
 ka+hah+a+yēri+?
 non-human+'road'+joiner+'straight'+perfective
 the road is straight
- (56) kí?rv?
 k+i?rv+?
 1st-person+'be-present'+perfective
 I am here

Perhaps the most common perfective marker is { v }. Examples of this suffix are in (57) and (58).

- (57) rò:rí:kv
 r+o+ri:k+v
 masculine+objective+'bite'+perfective
 he has bitten it

- (58) ro?nyè:rv
 r+o+?n+yēr+v
 masculine+objective+reflexive+'do'+perfective
 he has done it

The perfective aspect may be marked by added length on the final vowel of a verb stem.

- (59) wakrí:yo:
 w+a+k+riyō+:
 non-human+objective+1st-person+'kill'+perfective
 I have killed it
- (60) nè:wák?nv:
 ne+w+a+k+?nv+:
 dualic+non-human+objective+1st-person+'fly'+perfective
 I have flown
- (61) wak?tihrv̄:ti:
 w+a+k+?tihr+v̄ti+:
 non-human+objective+1st-person+'lunch'+ 'make'+perfective
 I have made lunch.

Verb stems which end in long vowels usually require the { t } perfective.

- (62) ro?tikwáhnv:t
 r+o+?tikw+ahñv:+t
 masculine+objective+'sew'+distributive+perfective
 he had sewn
- (63) nehrowv̄:rye:t
 ne+hr+o+wvrye:+t
 dualic+masculine+objective+'stir'+perfective
 he has stirred it

A fourth perfective form, { i }, is less common than the others. It, also, forms a resultant state verb. On the basis of i-perfectives, new stems are often created which are then further inflected for other aspects and tenses. Examples of this marker are below.

- (64) ro?neθwé:ki
 r+o+?ne-θwék+i
 masculine+objective+reflexive-'want'+perfective
 he wants it
- (65) kyv?né:ri:
 k+yv?ner+i:
 1st-person+'discover'+perfective
 I know

b. Tense in the perfective aspect

Perfective aspect verbs may be located in time in the same ways as serial verbs. A past state may be indicated by the addition of the past marker to a perfective verb. The form /háhk/ from the serial combination { ha?+hk } has been generalized to most vowel-final perfectives.

- (66) royvthv'hahk
 r+c+yvth+v+ha-hk
 masculine+'plant'+perfective'+past
 he had planted
- (67) rotsha?rò:ríhahk
 r+o+tsha?r+orí+há-hk
 masculine+objective+'bile'+ 'break'-perfective+past
 he was angry
- (68) kakoyv':?nahk
 ka+k+o+yv'?n+ahk
 plural+human+objective+'belong-to'-perfective+past
 they had it
- (69) yvkwv?teyaró:tsrvhk
 yv+k+w+v?+tey+a+rotsrv?+hk
 objective+1st-person+plural+reflexive+'group'+ 'gather'+
 perfective+past
 we had gathered together

A remote past marker { he? } may be added to perfective verbs to situate them in the distant past.

- (70) rotsha?rò:ryéhe?
 r+o+tsha?r+orye+he?
 masculine+objective+'bile'+break'-perfective+remote
 he had been angry
- (71) kakawvhrì:yóhe?
 ka+k+aw+vhr+iyo+he?
 plural+human+objective+'group'+'large'-perfective+remote
 it was a large group

A perfective state can be located in future time or in indefinite (hypothetical) time by the addition of these tense markers. • A /k/ (/ak/ following consonants) is automatically suffixed to the perfective marker in the context of a future or indefinite marker.

An adjectival stem plus a future tense marker denotes a future inherent state.

- (72) vkahehní:yo:k
 v+ka+hehn+iyō+:-k
 future+non-human+'field'+'large'+perfective
 it will be a large field
- (73) vki?rv?na:k
 v+k+i?rv?n-a:k
 future+1st-person+'be-present'-perfective
 I will be staying

The addition of a future marker to a resultant state perfective verb yields a future resultant state verb.

- (74) vyo?na?níhrvk
 v+yo+?n-a?n-íhr+v-k
 future+non-human-objective+reflexive-reflexive-'stand'+
 perfective
 it will be upright
- (75) nvhrayahserhé:rv:k
 dūalic+future+māsculine+objective+'busy'+perfective
 n+v+hr+o+yahserhar+v-k
 he will be busy

A hypothetical state can be indicated by the addition of an indefinite tense marker to a perfective verb. Indefinite tense perfectives are used for states which occur at no specific time.

- (76) té? akyv?né:ri:k
 te? a+k+yv?ner-it:ʔk
 not indefinite+1st-person+'discover'+perfective
 I don't know
- (77) `iskah ayvkwáy:ʔna:k
 iskah a+yv+k+wá+yv?n-ak
 not indefinite+objective+1st-person+plural+'belong-to'-
 perfective
 we did not have it

Both inherent state and resultant state perfectives in the indefinite tense are used for irrealis constructions.

- (78) à:rvh arkwatshó?kho:k
 a:rvh ar+v+kw+atsho?k̄ho+: -k
 if indefinite+objective+first-person+'rich'+perfective
 if I were rich
- (79) ha? kv̄htsih ahroyv:thv̄k
 ha? k+v̄htsi+h a+hr+o+yv̄th+v-k
 non-human+'should'+serial indefinite+masculine+
 objective+'plant'+perfective
 it-should-be for-him-to-have-planted
 He should have planted
- (80) à:rvh wahv:to:t ó:ʔy ha? kv̄htsih nahroyé:rv̄k
 a:rvh wah+v+to:t(+?) o:ʔy ha? k+v̄htsi+h n+a+hr+o+yer+v-k
 if aorist+non-human+'rain'+punctual 'different'
 non-human+'should'+serial dualic+indefinite+
 masculine+objective+'do'+perfective
 if it-rained different it-should-be for-him-to-have
 done-it
 If it had rained, he would have done it differently.
- (81) ò:nv ha? kv̄ltsih ahrorv?nhá?vk
 o:nv ha? k+v̄htsi+h a+hr+o+rv?nh+a?+v-k
 now non-human+'should'+serial indefinite+masculine+
 objective+'used-to'+inchoative+perfective
 now it-should-be for-him-to-have-gotten-used-to-it
 He should have gotten used to it by now.

The rule below inserts the sequence { k } between perfective markers and future or indefinite markers.

PERFECTIVE → PERFECTIVE + k / ___ { FUTURE
INDEFINITE }

k → ak / C ___

A progressive marker { hatyv? } (→ /ha?nye?/) can be added to perfective verbs. It could be translated by the English progressive or the phrase 'in the process of'. A progressive perfective verb indicates that the act which creates a perfective state is in progress.

- (82) wakatkwenyvhá: ?nye?
w+a+k+at+kweny+v+ha?nye?
non-human+objective+1st-person+reflexive+'able'+
perfective+progressive
I am winning
- (83) rohnv?vhá: ?nye?
r+o+hn+v?+v+ha?nye?
masculine+objective+'gone'+inchoative+perfective+progr
he is vanishing
- (84) otstvhreh ro?nv?vhá: ?nye?
o+ttstvhr+eh r+o+?n-v?+v+ha?nye?
non-human-obj+'stone'+nominal-suffix masculine+objective+
'become'+perfective+progressive
stone he-was-becoming
he was turning into stone

4. The Imperative

Basic imperatives are the simplest of surface verb forms. They may consist solely of a pronominal marker and verb base with \emptyset imperative mode marker. It is necessary to posit the existence of this \emptyset marker, since its presence

conditions the shape of numerous markers with which it cooccurs, namely verb bases, the translocative, the cislocative, and second person pronominal markers. The most common imperatives are in second person.

- (85) tsy'v:tho
ts+yvtho+∅
2nd-person+'plant'+imperative
Plant!
- (86) θatsò:ri
θ+atsori+∅
2nd-person+'eat'+imperative
Eat!
- (87) θa?rih'v:tyv
θ+a?+rih+vty+v+∅
2nd-person+reflexive+'word'+make'+dative+imperative
Read this!

Imperatives may have subjects and objects of any person, number, and gender, however, just like other verbs.

- (88) né:?nyatkw
n+e?n+y+at+kw+∅
dualic+1-2nd-person+dual+reflexive+'dance'+imperative
let's dance (two of us)
- (89) néθwatkw
ne+θ+w+at+kw+∅
dualic+2nd-person+plural+reflexive+'dance'+imperative
dance, you all
- (90) θheya?tkáhri?θ
θ+h+ey+a?-tkahri+?-θ+∅
2nd-person+objective+human+'tell'+dative+imperative
Tell him!

Imperatives can be inflected for tense. The imperatives below are in the indefinite tense.

- (91) aka?rihv:tyv
 a+k+a?+rih+vty+v+∅
 indefinite+1st-person+reflexive+'word'+ 'make'+dative+imp
 let me read
- (92) ahra?rihv:tyv
 a+hr+a?+rih+vty+v+∅
 indefinite+masculine+reflexive+'word'+ 'make'+dative+imp
 let him read

Indefinite tense imperatives are usually used for negative commands. (In the presence of tense morphemes, the second person subjective marker is { hs }.)

- (93) kwvhs vθáhso
 kwvhs vθ+a+hs+o+∅
 not iterative+indefinite+'come'+imperative
 Don't come back
- (94) kwvhs ayò:ríhv
 kwvhs a+yo+rihv
 not indefinite+non-human-obj+'boil'
 Don't let it boil

Imperatives can be inflected for aspect as well. The sequence /ek/ is inserted following serial markers in the context of the imperative just as in the context of tense. The resulting verb is a command to perform a repeated or continuous action.

- (95) tsyvthóhsek
 ts+yvtho+hs-ek+∅
 2nd-person+'plant'+serial+imperative
 Keep planting
- (96) θatsoríhek
 θ+atsori+h-ek+∅
 2nd-person+'eat'+serial+imperative
 Keep eating

Imperatives inflected for aspect can be further

inflected for tense. The imperative in (97) commands a continuous action in the immediate future.

- (97) nvθwa?nvnò:rúhkwhek
 n+v+θ+w+a?nv+norvhkw+h-ek
 dualic+future+2nd-person+plural+reflexive+'love'+serial
 Love one another

The verb in (98) orders a continuous state of abstention.

- (98) thvθwahstá:wi:k
 th+v+θ+w+ahstawi+:-k
 contrastive+future+2nd-person+plural+'leave-alone'+
 perfective
 Leave it alone

The command in (99) refers to a continuous action that should not take place at any time.

- (99) kwvhs ahsatsoríhek
 kwvhs a+hs+atsori+h-ek
 not indefinite+2nd-person+'eat'+serial
 not for-you-to-be-eating
 Don't keep eating

The verb in (100) commands that a state should not be allowed to obtain at any time.

- (100) kwvhs akahwíshne:k
 kwvhs a+ka+hwíshne+?-k
 not indefinite+non-human+'strong'+perfective
 not for-it-to-be-strong
 Don't let it be (too) strong

5. Summary of Forms, Rules, and Conjugation Patterns

The basic forms of the tense and aspect morphemes are given on the left below. (For prepronominal tense

morphemes see II.C.) The non-automatic phonological rules to which each form is subject are listed on the right.

PUNCTUAL	{ ? }	$VC(C) (C)+? \rightarrow VC?(C) (C)$
SERIAL	{ s }	$\underline{s} \rightarrow \underline{as} / \begin{matrix} \{Di\} \\ \{ko\} \end{matrix} \underline{\quad}$ where D = t,n,r,s
		$\underline{s} \rightarrow \underline{hs} / V \underline{\quad}$
	{ ha? }	$kw+\underline{ha?} \rightarrow kh\underline{wa?}$
	{ h }	$V: \rightarrow V / \underline{\quad} \underline{h}$
		$r+\underline{h} \rightarrow \underline{hR}$
	{ e? }	
	SERIAL	$\rightarrow SERIAL+ek / \underline{\quad} \begin{Bmatrix} \text{FUTURE} \\ \text{INDEFINITE} \\ \text{IMPERATIVE} \end{Bmatrix}$
PERFECTIVE	{ ? }	
	{ v }	
	{ : }	
	{ t }	
		PERFECTIVE
IMPERATIVE	{ \emptyset }	
PAST	{ hk }	
	{ hahk }	
REMOTE PAST	{ he? }	
PROGRESSIVE	{ hatye? }	

$$C_1 + C_2 \rightarrow C_1 a C_2$$

where C_1 = final consonant of stem

C_2 = initial consonant of aspect or tense marker or k

Several patterns of aspect inflection can be recognized across large numbers of conjugations. The most common patterns are below with illustrative examples. The forms are given in the order serial, punctual, imperative, then perfective.

1. s ? -- v

wehróhahs_u he is putting it in water (-oha+s → -ohahs)

yahwahróha? he put it in water

wa?θóha put it in water

wehraóhv he has put it in water (-oha+v → v)

2. ha? ? -- v

ráhstha? he is using it

wáhrahst he used

(-ihst+? → -i?hst →
-ihst)

tsihst use it

róhsnv_u he has used it

(-ihst+v → ihs?nv →
-ihsnv)

3. s ? -- :

rakrì:yohs_u he is killing me

(-riyo+s → riyohs)

wahrakrì:yo? he killed me

θrì:yo kill it

rakrí:yo: he has killed me

4. h ? -- :

rakhw' :tih_u he is cooking

wahrakhw' :ti? he cooked

θekhw' :ti cook

rokhw' :ti: he has cooked

5. h ? -- t

ra?nehwá:tyvh he is looking for it (-atehwatyv:+h →
 wahra?nehwá:tyv:? he look for it -atehwatyvh
 tsyahnehwá:tyv: look for it
 ro?nehwá:tyv:t he has looked for it

Although many verb stems are inflected according to one of the above patterns, many others follow no common pattern at all. The forms of some stems vary in unpredictable ways before different aspect markers. These alternations, for the most part due to the individual history of the stem involved, cannot be described by general rule. They must be recorded in the lexicon.

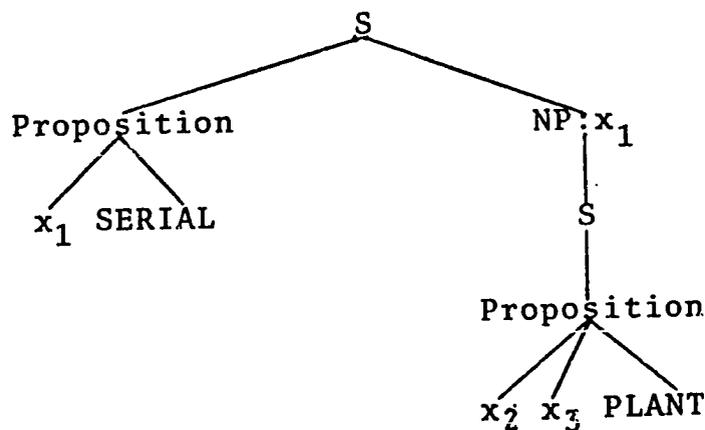
5. Semantic Representation of Tense and Aspect

The aspect-tense system resembles the verb base system in a number of ways. In both, a predicate is modified by the suffixation of morphemes of ever larger scope. Just as the addition of a causative morpheme to a verb stem can form a new stem, so the addition of an aspect marker to a verb base can form a new base. The shape of each aspect and tense marker depends on its morphemic environment. Just as some stems do not combine with the causative, some stems have no serial aspect forms. All indicative verbs must contain aspect markers to be

well-formed, however. The simplest way to account for these facts is to consider tense and aspect, like other verbal modifiers in the base, semantic predicates into which sentences are embedded. Lexical insertion rules will operate only on complex predicates which include mode or aspect predicates. In this way the distribution and surface forms of aspect and tense markers are accounted for by existing mechanisms in the grammar, as well as their relations of scope. To treat aspect and tense markers in any other way would considerably complicate the grammar with additional movement rules, rules governing cooccurrences of specific morphemes, and non-automatic phonological rules.

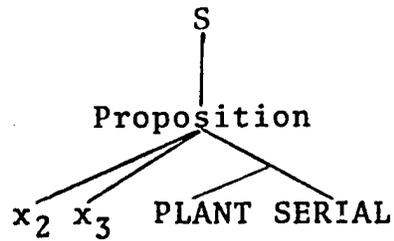
Accordingly, the structure underlying a verb like (19) can be represented as in (19a).

- (19) rà:yv:thohs
 ra+yvtho+hs
 masculine+'plant'+serial
 he is planting



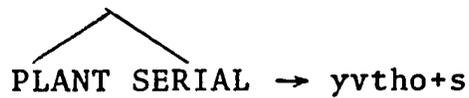
Predicate raising converts the structure to (19b).

(19b)



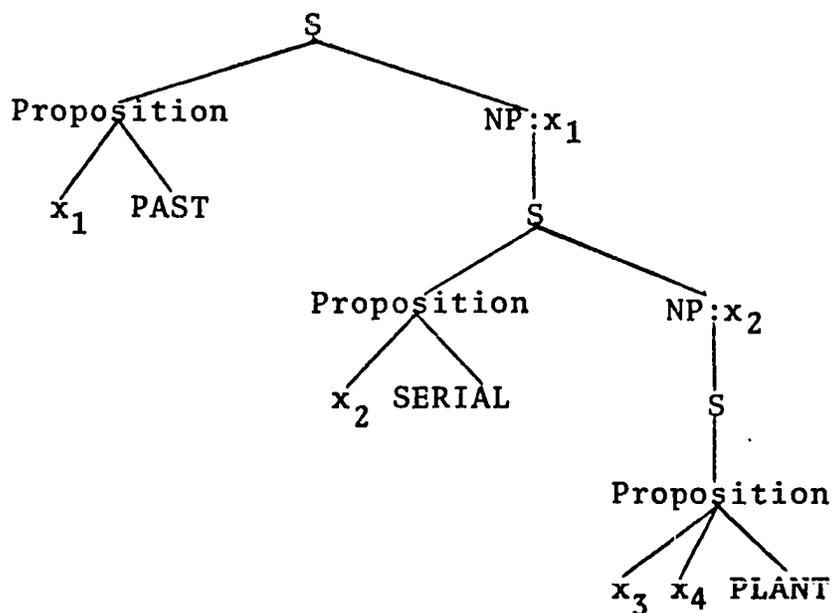
A lexical rule will insert a lexical item for the complex predicate.

(19c)



Tense and aspect markers are embedded in each other as in (41).

(41) rayvthóhshahk
 ra+yvtho+hs+hahk
 masculine+'plant'+serial+past
 he used to plant

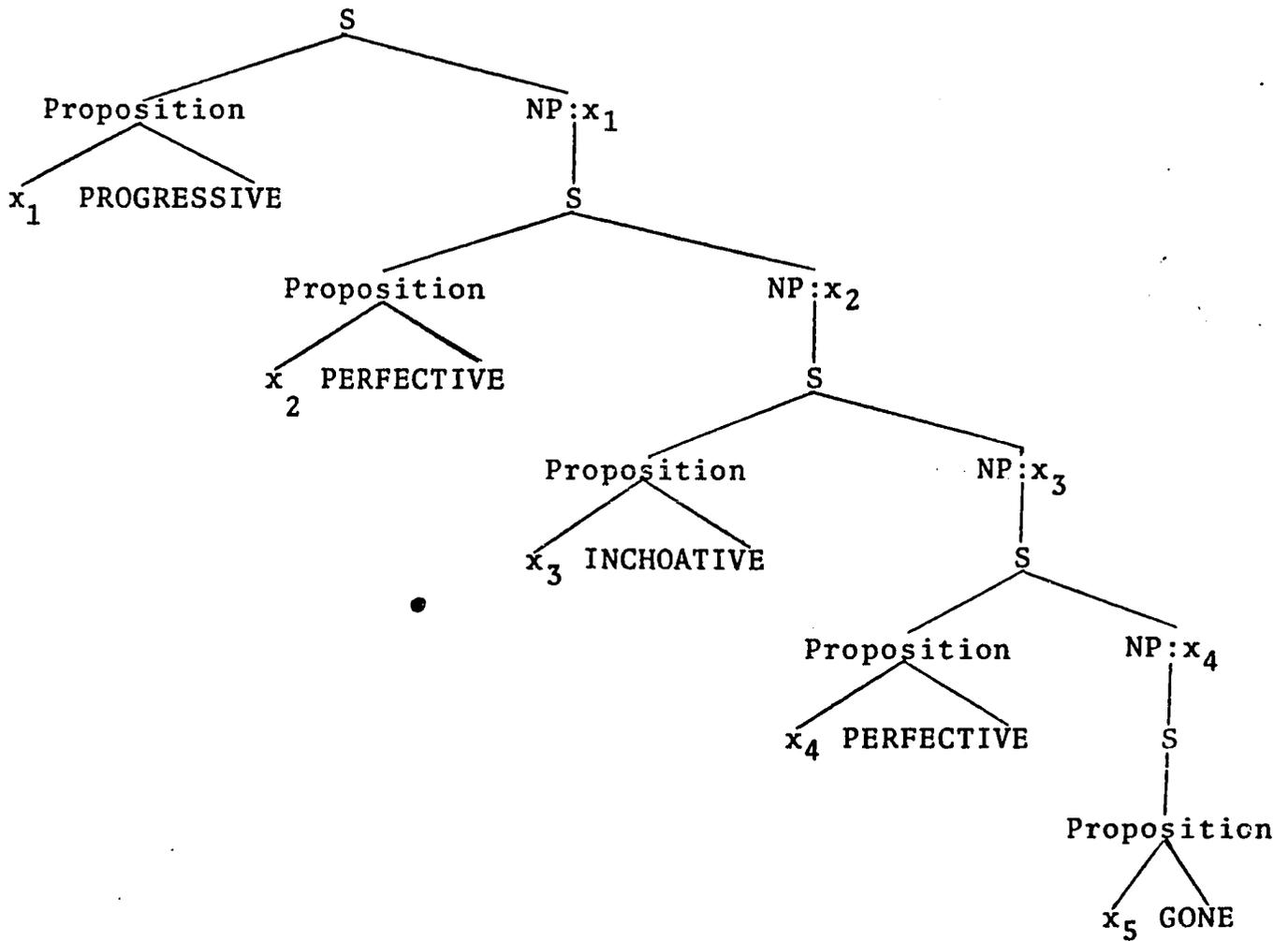


→

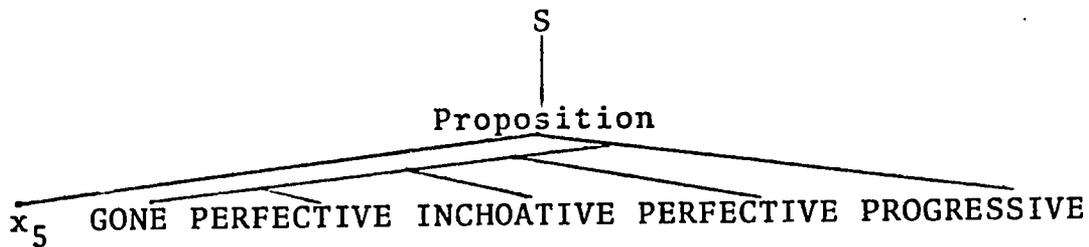


The verb in (83) contains several layers of aspect and tense inflection.

- (83) rohnv?vhá:?nye?
 r+o+hn+v+?+v+ja?nye?
 masculine+objective+'gone'+perfective+inchoative+
 perfective+progressive
 he is vanishing

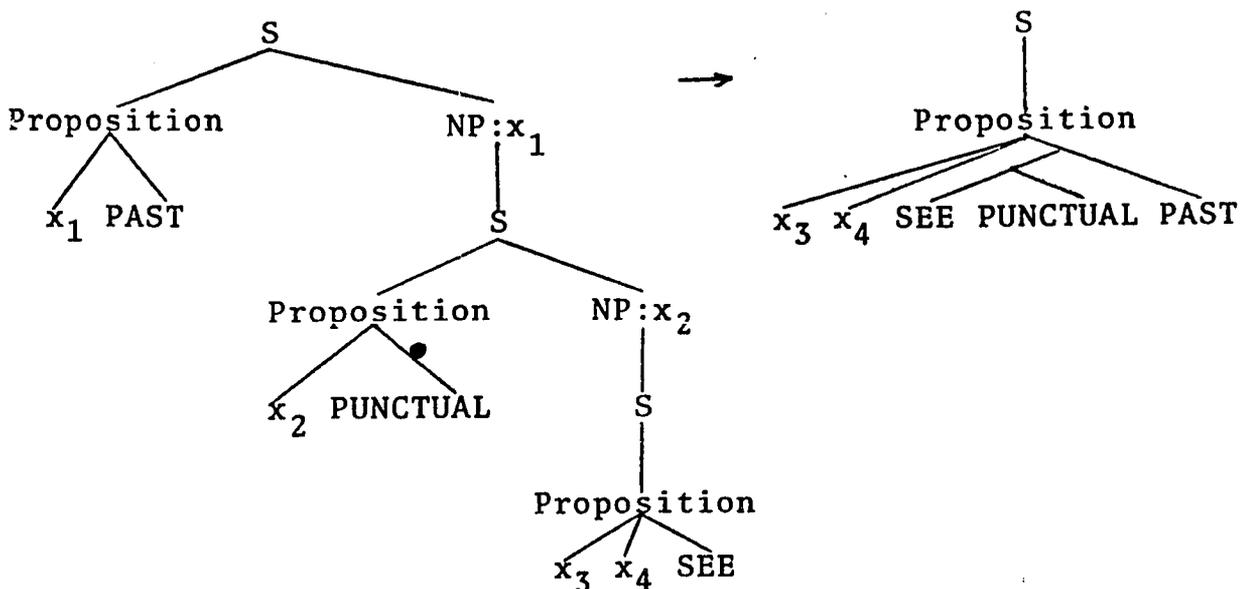


Predicate raising reduces this to the structure below.

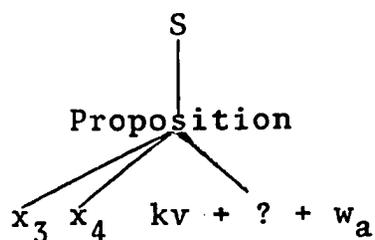


The aorist, future, and indefinite tense morphemes originate as higher predicates just like other tense markers. Note that the surface form of the past tense marker, { h k }, { h a h k }, or the aorist, depends upon the aspect marker with which it is associated. This is automatically accounted for if tense is already a part of the predicate at the time of lexical insertion. The structure underlying (5) is sketched below.

- (5) w a h r á : k v ?
 w a + h r a + k v + ?
 aorist + masculine + 'see' + punctual
 he saw it



Lexical insertion converts the structure to that below.



A later rule, described in the section on the prenominal prefix system (II.C), moves the aorist, future, and indefinite tense markers to the front of the verb.

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C. The Prepronominal Prefixes

The prepronominal prefix system consists of the morphemes which can occur before the pronominal markers in verbs. The system includes a contrastive, a partitive, a dualic, an iterative, and markers for tense and location. They are treated here as a group because of their position in the verb and because of the extensive mutually conditioned phonological alternation which they undergo.

Many of the prepronominal morphemes can function in a variety of ways. The dualic, for example, occurs in constructions with the number né:kti: 'two', with certain verb stems which indicate a separation or joining of two parts or a change of state or position, and with third person dual pronouns. The partitive appears in constructions involving certain quantifiers and numbers, with certain verb stems which describe size and amount, and with demonstratives. Semantic similarities can be abstracted from the various functions of each prepronominal morpheme, but the similarities do not completely account for the meaning of the morpheme in all of its functions. The meaning also depends upon the particular construction in which the morpheme occurs. The construction may directly involve other parts of the verb, such as the stem or the tense-aspect system, or it may involve other constituents of the sentence, as in the case of quantifiers and demonstratives. Because of this, the prepronominal markers are not generated directly

in their surface positions before the referential indices (pronominal markers) but rather with the verb stems or quantifiers with which they are in construction semantically.

1. The Shapes, Functions, and Sources of the Prepronominal Morphemes

The basic forms and derivational sources of each prepronominal marker are discussed below. Since their relative surface order depends upon the particular combination of markers present, they are first grouped according to semantic function.

a. The contrastive

The basic form of the contrastive morpheme is { th }. The morpheme appears only with certain specific verb stems and fundamentally affects the meanings of these stems. It contributes a meaning of 'being apart' to the predications in which it occurs. When the roots { ot } and { t } are combined with the contrastive, for example, they predicate the quality of being 'different'.

- (1) thyé?ne?
th+ye+?n+e?
contrastive+human+'stand'+serial
someone-stands-apart
a different person
- (2) o:?y thyakwawvtó:?nv:
o:?y th+yak+wa+wvt+o?n+v?
'different' contrastive+1-3rd-person+plural+'stand'+perf
different our-words-stand-apart
we speak different languages

Note that when the root { ot } occurs with the partitive instead of the contrastive, a very different predication can result.

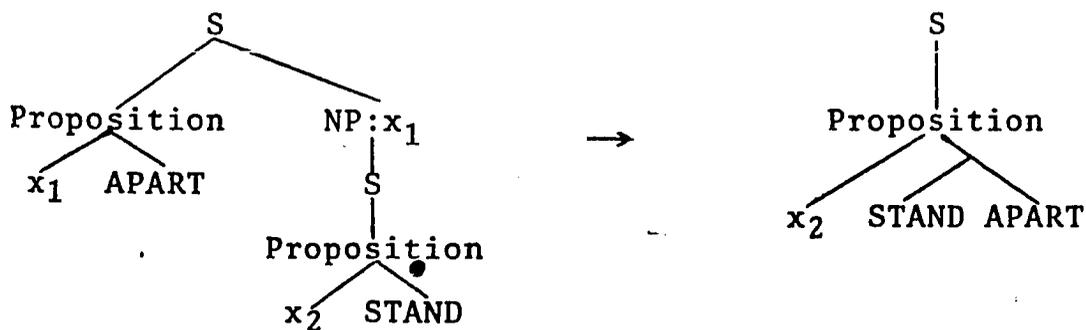
- (3) thwé:?n v:tsi tikanvhsó:?nv:
 thwe:?n v:tsi ti+ka+nvhs+o?n+v:
 all one partitive+non-human+'house'+ 'stand'+perf
 All the houses look alike.

Verbs based on the stem { ahstawi } which contain the contrastive mean 'leave alone' or 'stay away from'.

- (4) tha?θheyahstá:wi:k
 th-a?+θ+hey+ahstawi+:-k+∅
 contrastive+2nd-person+obj-human+'stay'+perfective+impertv
 Leave him alone

The contrastive modifies the meanings of verb stems in very much the same way as the verbal modifiers found within the surface verb base. Because its occurrence depends upon the presence of particular stems, and because it strongly affects the meanings of these stems, the contrastive will be generated as a component of complex predicates just like other verbal modifiers. The structure underlying (1) can be represented as in (1a).

- (1) thyé?ne?
 a different person



A later rule will move the contrastive marker to the front of the verb (cf. II.C.2.).

b. The partitive

The partitive fills a number of roles. It occurs in the following circumstances:

i. with certain verb roots indicating size or amount

- (5) tyakvθé?r?o:?y
 t+yak+vθ-e?r+?o:?y
 partitive+human+'size'+ 'big'
 she is big

ii. following certain quantifiers and numbers above two.

- (6) wisk tikanvhsá:ke:
 wisk tī+ka+nvhs+ake:
 'five' partitive+non-human+'house'+ 'number'-perfective
 five houses

iii. with demonstratives and certain relative constructions.

- (7) kv:ne? tihratá:kre?
 kv:ne? tī+hra+takr+e?
 'this-place' partitive+masculine+'dwell'+serial
 the place he inhabits

cf. hé?nv ratá:kre? he lives
 there

The basic form of the partitive is { n }. (Automatic phonological rules convert this to /t/ in most environments cf. VII.A.1.)

In case i, where it is required by certain verb stems, the partitive is generated as part of the complex predicate which refers to size or amount. As in the case

aspect and tense markers and the contrastive, the cooccurrence of specific stems and the partitive is then automatically governed by lexical insertion. The semantic element shared by the predicates underlying all those stems which require the partitive is clear.

The same semantic element is present in predications of enumeration. A lexical rule inserts the partitive morpheme along with the root used in enumeration. The stem { ake+n_p } can be translated 'to number'.

For discussion of the third source of the partitive, in constructions involving demonstratives and relatives, consult the chapter on complex sentences (VI).

c. The dualic

The dualic morpheme serves a variety of functions.

It occurs with:

i. verbs which indicate a joining or separation of two parts

- (8) wa?tkwáhriht
 wa?+t+k+wahri+ht(+?)
 aorist+dualic+1st-person+'break'+causative+punctual
 I broke it in two

ii. verbs which indicate a change of state or position

- (9) wa?tkatkétsa?kw
 wa?+t+k+at+ketsakw+?
 aorist+dualic+1st-person+reflexive+'jump'+punctual
 I jumped

iii. constructions involving the number 'two'

- (10) ne:kti: neyohv:warv:t
 ne-k-ti: ne+yo+hvwarv:+t
 'two' dualic+non-human-obj+'hollow'+perfective
 two they-are-hollow
 double barreled shotgun
- (11) nekahehná:ke:
 ne+ka+hehn+ake:
 dualic+non-human+'field'+ 'number'-perfective
 two fields

iv. dual third person referential indices

- (12) nè:yé:kvh
 ne+ye+kv+h
 dualic+human+'see'+serial
 they two see it

The basic shape of the dualic marker is { t }. (Automatic phonological rules convert { t } to /n/ in certain environments. cf. VII.A.1.)

Dualic morphemes in constructions of types i and ii reflect a common semantic element in the complex predicates with which they occur. They function in a way parallel to that of the contrastive, the partitive, and other verbal modifiers with respect to the original verb root. This fact, and the fact that many surface stems never occur without the dualic, can be accounted for if the dual is considered a component of certain complex predicates at the time of lexical insertion.

The dualic morphemes found in constructions of type iii originate as part of the complex predicates meaning to

'number two'. The dualic markers which identify the number (dual) of third person subject or object arguments are introduced transformationally from the pronominal section of verb. For specification of this rule, see II.D.3..

d. The iterative

The iterative morpheme serves one of three functions.

i. It indicates repetition of an action, or motion 'back'.

- (13) $\Theta\acute{a}:ko?$
 $\bar{\Theta}+a+k+o+?$
 iterative+aorist+1st-person+'come'+punctual
 I came back

ii. It occurs with the verb root { a:t } 'be one in number'.

- (14) $\Thetakan\acute{v}hsa:t$
 $\bar{\Theta}+ka+nvhs+a:t$
 iterative+non-human+'house'+ 'one-in-number'
 one house

iii. It serves as a characterizer, forming nouns from verbs by adding the meaning 'the one who'. The mechanism does not appear to be productive in modern Tuscarora, although the construction is still apparent in many nouns, particularly those referring to animals.

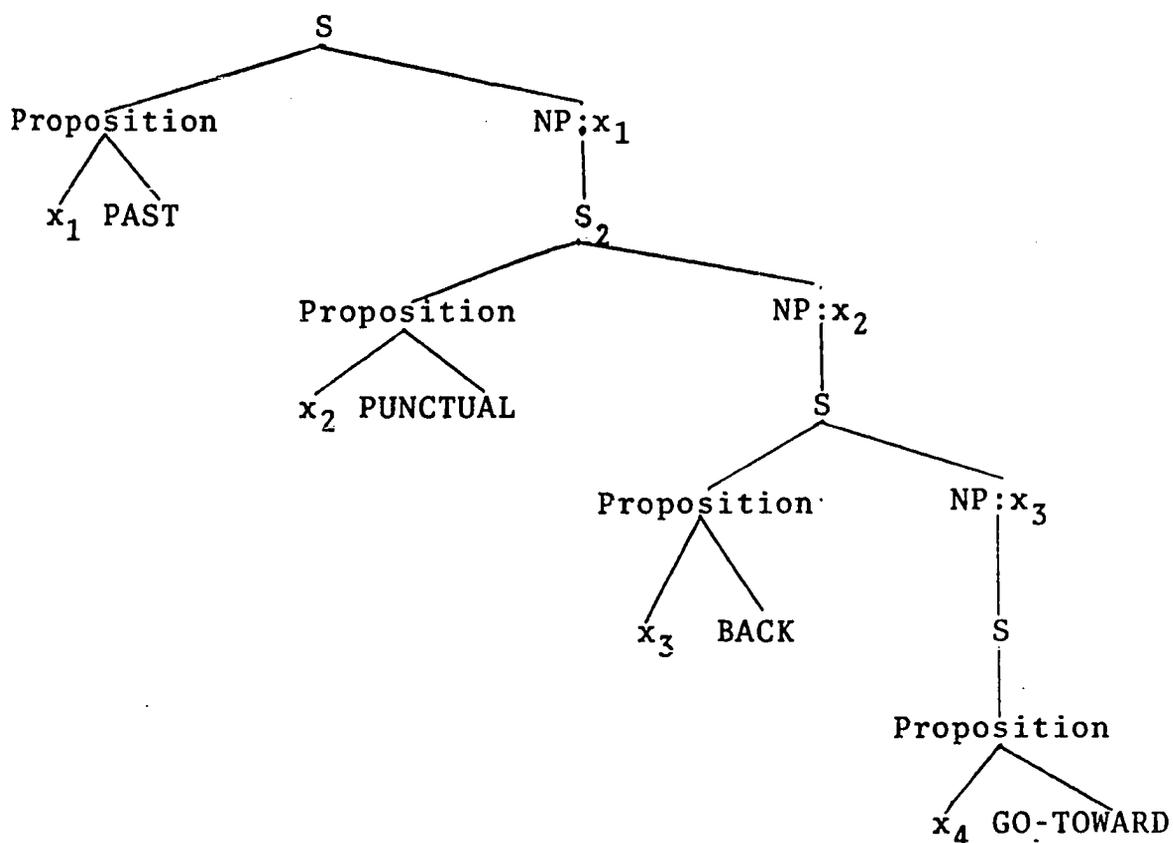
- (15) $\Theta k\grave{v}:n\acute{a}ksv:?$
 $\bar{\Theta}+k+vn+aksv+:?$
 iterative+non-human+'fur'+ 'bad'+perfective
 the one whose fur is bad
 fox

- (16) $\Theta r\acute{i}ra?r$
 \bar{e} lephant

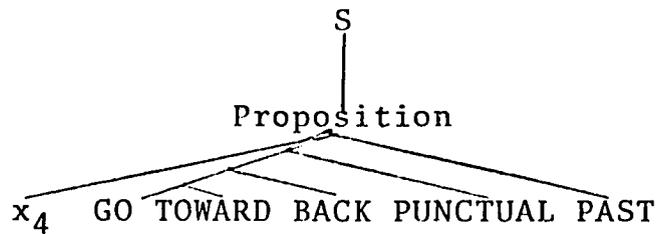
The basic form of the iterative morpheme is { θ }.

In its first function, that of indicating direction back, or repetition of an action, the iterative modifies the verb stem in very much the same way as other verbal modifiers found in surface verbs. It further describes the action predicated in a manner comparable to that of the contrastive, the distributive, the intensifier, and other elements of the surface verb base. Like other stem modifiers, it will be generated as a higher predicate into which the rest of a proposition is embedded. The structure underlying (12) at some point in its derivation can be represented as below.

(12) $\theta a:ko?$
I came back.



Predicate raising converts this to the structure below.



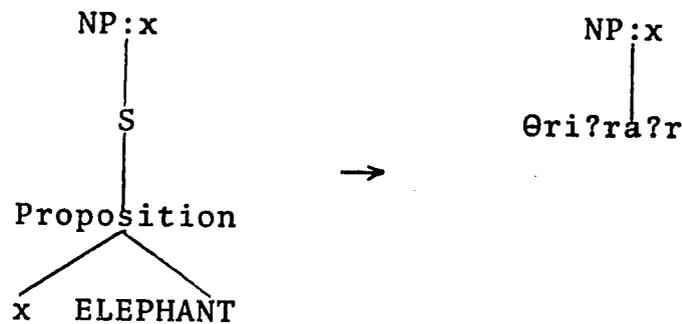
Lexical insertion replaces the complex semantic predicate with a morphemically complex lexical item. Later transformations move the iterative and the past tense marker (the aorist) to the front of the verb.

The iterative in constructions of type ii arises from a complex predicate { a:t + θ } 'to number one', into which noun roots are incorporated. The analysis of the verbs involved in enumerations as complex predicates involving the iterative, as above, the dualic ({ ake:+t } 'two'), or the partitive ({ ake:+n } 'three or more') has the advantage of accounting for the accord between enumerative roots and their associated prepronominal markers by means of mechanisms already present in the grammar, namely predicate raising and integral lexical insertion of items for complex predicates.

Since the third use of the iterative, as a characterizer, is no longer productive, the source of nouns which exhibit the construction is a single lexical insertion rule.

•

- (15) Өri?ra?r
elephant



e. Tense

Three of the prepronominal morphemes mark tense. As noted in section II.B., all punctual aspect verbs contain one of these: an aorist, future, or indefinite tense marker. Serial and perfective aspect verbs may contain future or indefinite markers. The tense morphemes are underlined in the verbs below.

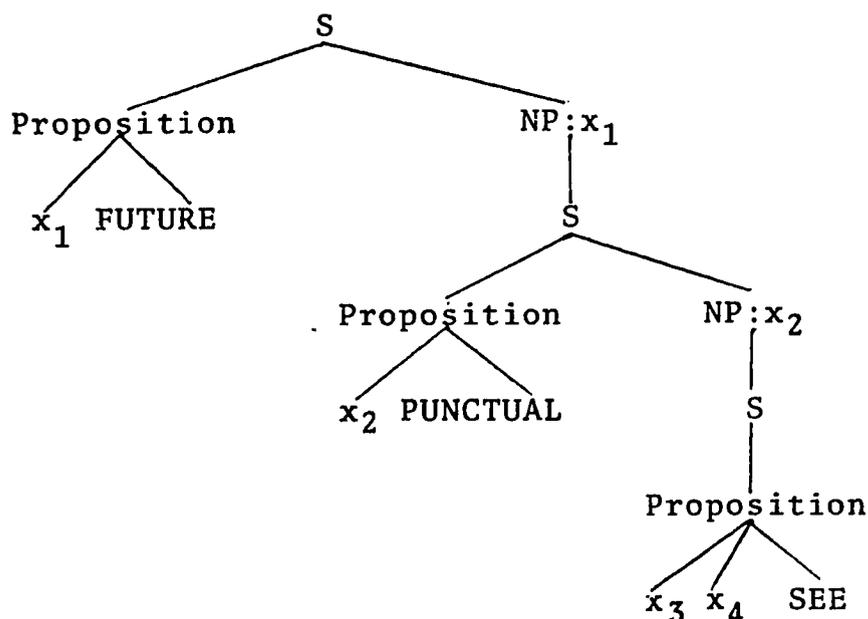
- (16) wá?kkv?
w-a?+k+kv+?
aorist+1st-person+'see'+punctual
I saw it
- (17) v?kkv?
v+k+kv+?
future+1st-person+'see'+punctual
I will see it
- (18) ará:kkv?
ara+k+kv+?
indefinite+1st-person+'see'+punctual
for me to see it

The basic form of the aorist is { a } in the context of the iterative or cislocative, and { w } elsewhere. The future marker is always { v }. The indefinite tense marker has

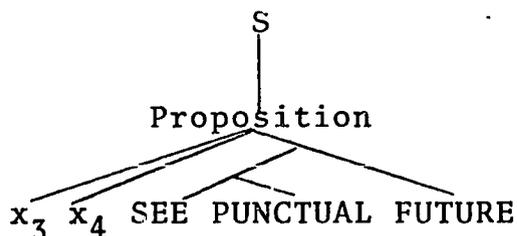
the basic shape { aa }.

In the preceding section on aspect and tense (II.B.), motivation was provided for considering tense a higher modifying predicate into which propositions are embedded, as below.

(17) \acute{v} :kkv?
I will see it



The application of predicate raising yields complex predicates from tensed verbs like that below.



A lexical insertion rule then substitutes a morphemically complex lexical item for the entire complex predicate in a

single operation. A later transformation moves the tense marker into its prepronominal position.

This treatment of tense markers has several advantages.

- 1) It permits the uniform treatment of all tenses for all aspects.
- 2) Not all verbs can be inflected for all tenses and aspects, so insertion for the complex as a unit insures that only permissible combinations of stem+aspect+tense occur.
- 3) The choice of the surface marker for past tense depends upon the aspect marker with which it is associated. Only punctual verbs can contain the aorist { w } or { a }. Serial and perfective verbs are inflected for past tense with the morpheme { hk } or { hahk }. Lexical insertion of the complex as a unit permits control over the marker chosen.
- 4) All punctual verbs must contain an aorist, future or indefinite tense marker. Under this analysis, no tenseless punctuals will be generated, since no lexical items exist which contain punctual markers without tense.

f. Location

The fact that an action is directed toward the location of the speaker or some third person, or that it takes place nearby, can be indicated by a prepronominal cislocative morpheme. Direction or location away from the speaker or a third person is marked by a prepronominal

translocative morpheme.

The surface form of the cislocative is determined by the mode and aspect of the verb with which it is associated. The marker has the form { ka } in imperative verbs, { ta } in serial verbs, and { t } in punctual and perfective verbs. (Automatic phonological rules convert { t } to /?n/ before vowels and /?/ always disappears word initially before consonants. cf. VII.A.1-2.) Examples of the cislocative are below.

Imperatives: { ka }

- (19) kaθá:ʔni
 k̄a+θ+aʔn-i+∅
 cislocative+2nd-person+'throw'+imperative
 Throw it to me!

cf. waʔθa:ʔni Throw it!

- (20) kaθehhá:wi:t
 k̄a+θ+h+e+hawit+∅
 cislocative+2nd-person+objective+human+'lead'+imperative
 Bring him here!

cf. waʔθehha:wi:t Take him away!

- (21) ká:tsi:
 k̄a+ts+i:∅
 cislocative+2nd-person+imperative
 Come here!

Serial verbs: { ta }

- (22) nakhá:wi?
 n̄a+k+hawi+?
 cislocative+1st-person+'carry'+serial
 I am bringing it

cf. kha:wi? I am carrying it

- (23) ná:ke?
 n̄a+k+e+?
 cislocative+1st-person+'go'+serial
 I am coming

cf. í:ke? I am walking

Punctual verbs: { t }

- (24) ná:ke:t
 n̄+a+k+e+:t
 cislocative+aorist+1st-person+'go'+punctual
 I came

cf. yahwá?ke:t I went

- (25) nahsa?nvtí:ye:t hvh
 n̄+a+hs+a?n+vtiyet (+?) hvh
 cislocative+aorist+2nd-person+reflexive+'send'+punctual ?
 Did you send it (here)?

cf. yahwahsa?nvtí:ye:t you sent
 it there

Perfective verbs: { t }

- (26) thró:?nv:
 t̄+hr+o+?n-y+v:
 cislocative+masculine+objective+'throw'+perfective
 He has thrown it (here)

cf. wehró:?nyv: he has thrown it

- (27) thro?nvtì:yé?nv
 t̄+hr+o+?n+vtiye?n+v:
 cislocative+masculine+objective+reflexive+'send'+perf
 He has sent it

cf. wehro?nvtì:yé?nv: he has
 sent it

The cislocative and iterative morphemes never cooccur in surface verbs. If both markers are present in surface structure, the iterative takes on the form of the dualic morpheme. Consider the verb below.

- (28) n̄vtso?
 n̄+v+t+s+o+?
 dualic+future+cislocative+2nd-person+'come'+punctual
 you will come back here.

If a dualic marker is already present, it serves both functions simultaneously. There can be no more than one occurrence of the dualic morpheme per word. The verb below, at-hah-ahk 'pick-up-the-road' → 'walk', normally appears with a prepronominal dualic morpheme.

- (29) nv?nakatháhahk
 n+v?n+a+k+at+hah+ahk (+?)
dualic+ cislocative+aorist+1st-person+reflexive+'road'
 +'pick-up'+punctual
 I walked back here.

cf. wa?tkatháhahk I walked

The rule below converts the iterative to the dualic in the presence of the cislocative.

ITERATIVE → DUALIC / CISLOCATIVE

A later rule combines all dualic markers into one.

The basic form of the translocative depends upon the tense and aspect of the verb with which it is associated. The allomorphs are { wa? } with imperatives, { we } with the serial and perfective aspects, { y } with the future and indefinite tense in the punctual aspect, and { yah } with the aorist tense in the punctual aspect. Examples of each form are below.

Imperatives: { wa? }

- (30) wá?θe
 wa?+θ+e+∅
 translocative+2nd-person+'go'+imperative
 Go!

- (31) wa?θóha
wa?+θ+o+ha+∅
 translocative+2nd-person+'in-water'+ 'put'+imperative
 Put it in water

Serial verbs: { we }

- (32) wehróhahs
we+hr+o+ha+hs
 translocative+masculine+'in-water'+ 'put'+serial
 He is putting it in water

Perfective verbs: { we }

- (33) wehra(w)óhv
we+hr+aw+o+h+v
 translocative+masculine+objective+'in-water'+ 'put'+perf
 He has put it in water

Future tense punctuals: { y }

- (34) yvkà:yv:t
y+v+ka+yv+:t
 translocative+future+plural+human-'go'+punctual
 They will go there
- (35) yvhróha?
y+v+hr+o+ha+?
 translocative+masculine+'in-water'+ 'put'+punctual
 He will put it in water

Indefinite tense punctuals: { y }

- (36) yaká:yv:t
y+a+ka+yv+:t
 translocative+indefinite+plural+human-'go'+punctual
 for them to go there
- (37) yahróha?
y+a+hr+o+ha+?
 translocative+indefinite+masculine+'in-water'+ 'put'+punctual
 for him to put it in water

Aorist tense punctuals

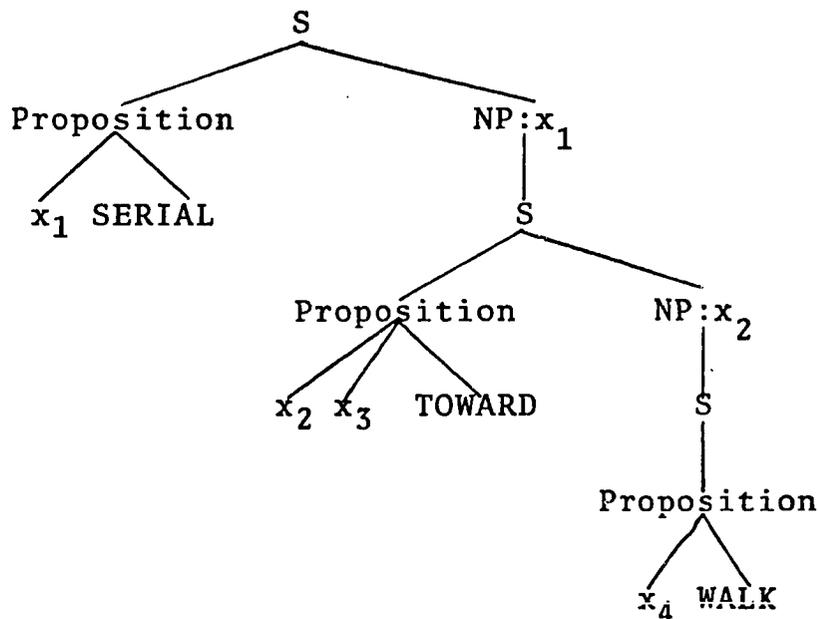
- (38) yahwa?kà:yv:t
yah+wa?+ka+yv+:t
 translocative+aorist+plural+human-'go'+punctual
 They went there

- (39) yahwahróha?
 yah+wa+hr+o+ha+?
 translocative+aorist+masculine+'in-water'+ 'put'+punctual
 He put it in water.

For semantic reasons, the cislocative and translocative do not cooccur in surface verbs.

These locatives modify a predication in much the same way as the morphemes in the verb stem and some of the other prepronominal morphemes. Furthermore, the shape of the translocative is conditioned by both the tense and the aspect of the verb with which it is associated. For these reasons the locatives are generated as components of complex predicates. The structure underlying (23) can be represented as below.

- (23) na:ke?
 I am coming



Now the above tree does not meet the necessary

future, indefinite, and aorist, the iterative and cislocative, nor the translocative and cislocative. The aorist occurs immediately preceding the pronominal string in the presence of the iterative or cislocative, otherwise before the dual.

From inspection of this sequence, it is clear that this order does not reflect the relative semantic scope of markers. Note, for example, that the translocative and the cislocative, which perform very similar semantic functions, are at opposite ends of the sequence. In fact, the cislocative occupies a different position in imperative verbs than in indicative ones. The aorist occurs either earlier or later than the indefinite tense markers, depending on the other morphemes present. The partitive, dualic, and iterative serve similar syntactic roles, but one occurs at the beginning of the sequence, one in the middle, and one at the end. The order of the markers cannot be inherent in semantic structure, but must rather be established by language-specific ordering rules.

The rules simply pull specific markers out of the verb base one by one and stack them before the pronominal string in the proper order. The markers are stacked from the inside out, i.e., from the pronominal string toward the front of the verb, to facilitate the description of alternations.

With one exception, the iterative and cislocative occur closest to the pronominal string. (The cislocative

{ ka }, which occurs in the context of the imperative, appears in the position of the translocative.)

(40) nvθkatháhahk
 n+v+θ+k+at+hah+ahk(+?)
 dualic+future+iterative+1st-person+reflexive+'road'+
 'pick-up+punctual'
 I'll walk back

(41) v:tke:t
 v+t+k+e+:t
 future+cislocative+1st-person+'go'+punctual
 I will come

The first reordering rule pulls these morphemes out of verb bases and sets them immediately before the pronouns.

$$V_1 + \begin{Bmatrix} C \\ I \end{Bmatrix} + V_2 \rightarrow I + C + V_1 + V_2$$

where V_1 = pronom string+verb root+any number of verbal modifiers
 V_2 = any verbal modifiers including \emptyset
 C = cislocative morphs { t } and { ta }

Because of its function as a conditioning context in later phonological rules, the aorist will be ordered first with the other tense markers and then later moved into its various surface positions.

The tense markers precede the iterative or cislocative in surface verbs.

(42) nvθkayv?tkáhnv?w
 n+v+θ+ka+yv-?tkahvw+?
 dualic+future+iterative+plural+human-reflexive-'wake-up'+
 punctual
 They will wake up again

- (43) $\overline{n}v\overline{t}katháhahk$
 $\overline{n}+v+g+k+at+hah+ahk (+?)$
 dualic+future+cislocative+1st-person+reflexive+
 'road'+'pick-up'+punctual
 I will walk here
- (44) $\overline{n}v\theta ahsatháhahk$
 $\overline{n}+v+\theta+a+hs+at+hah+ahk (+?)$
 dualic+indefinite+iterative+2nd-person+reflexive+
 '+road'+'pick-up'+punctual
 for you to walk back

The second reordering rule pulls out tense.

$$V_1 + T + V_2 \rightarrow T + V_1 + V_2$$

where V_1 = (iterative or cislocative)+pronom string+verb root
 (+verbal modifiers)
 V_2 = (verbal modifiers)
 T = tense markers { v }, { aa }, { w }, { a }

Preceding the tense markers is the dualic.

- (43) $ya?nv\theta e\theta wa?tikvkà:r\acute{v}hrv:?$
 $y-\overline{a}+?n+v+\theta+e\theta+wa+?tikv+karvhrv:+?$
 translocative+dualic+indefinite+iterative+2nd-person+
 plural+'mind'+'down'+punctual
 for your minds to be down there again -- for you to be
 depressed

The third reordering rule pulls out the dualic.

$$V_1 + D + V_2 \rightarrow D + V_1 + V_2$$

where V_1 = (tense)+(iterative/cislocative)+pronom string+
 verb root + (verbal modifiers)
 V_2 = (verbal modifiers)
 D = dualic marker { t }

Preceding the dualic is the translocative marker
 or, in imperative verbs, the cislocative.

- (44) ya?ná:ryv:t
 y-a+?n+ar+yv+?t
 translocative+dualic+indefinite+human-'go'+punctual
 for them two to go there
- (45) ka?neθtihárho
ka+?ne+θ+tiharho+θ
 cislocative+dualic+2nd-person+'run'+imperative
 Run back here

The fourth reordering rule pulls out these locatives.

$$V_1 + L + V_2 \rightarrow L + V_1 + V_2$$

where V_1 = (dualic)+(tense)+(cislocative/iterative)+pronom
 string+verb root+(verbal modifiers)
 V_2 = (verbal modifiers)
 L = translocatives { wa? }, { we }, { y }, and { yah }
 and cislocative { ka }

The partitive and contrastive morphemes occur immediately before the translocative, in word-initial position.

- (46) tyahwahrotatò:ra?θ
 t+yah+wa+hr+o+tator+a?+θ
 partitive+translocative+aorist+masculine+objective+
 inchoative+serial
 he got lazy

The fifth reordering rule moves to the front of the verb.

$$V_1 + P + V_2 \rightarrow P + V_1 + V_2$$

V_1 = (locatives)(tense)(dualic)(iterative)+pronominal string+
 verb root+(verbal modifiers)
 V_2 = (verbal modifiers)
 P = partitive { n } or contrastive { th }

The resulting order of morphemes is now that given at the

beginning of this section except for the aorist.

3. Phonological Readjustments

The phonological shapes of the prepronominal morphemes are conditioned by their morphemic and phonological environments. Because they undergo non-automatic phonological rules, the markers are set apart from other phonological sequences by means of subscripts. The variations in shape are most simply described by proceeding from the core of the verb outward, in this case from the pronominal string toward the front of the verb.

d. The iterative and cislocative

The forms of the iterative or cislocative and aorist or indefinite tense condition each other in both position and shape. In the context of the cislocative and the iterative, the form of the aorist is { a_t }. The basic form of the indefinite is { a_ta_t }. When these cooccur, the cislocative or iterative precedes the final { a_t } of the aorist or indefinite.

(47) θá:ko?
 θ+a+t+o+?
 iterative+aorist+1st-person+'come'+punctual
 I came back

(48) ná:ke:t
 n+a+k+e+:t
 cislocative+aorist+1st-person+'go'+punctual
 I came here

- (49) kwvhs v?náhsweh
 kwvhs v+?n̄+a+hs+weh+(?)
 not indefinite+cislocative+indefinite+2nd-person+'talk'
 (+punctual)
 Don't answer
- (50) iskah vθahrotaskwáyv':?na:k
 iskah v+θ̄+a+hr+o+taske+a+yv?n-ak
 not indefinite+iterative+indefinite+masculine+objective+
 'animal'+joiner+'belong-to'-perfective
 not for-him-to-have-that-animal-back
 He no longer has that wart

The rule below metathesizes the vowel and the consonants.

$$(a_t)a_t + \left\{ \begin{array}{c} t_c \\ t_a \\ \theta_i \end{array} \right\} \rightarrow (a_t) + \left\{ \begin{array}{c} t_c \\ t_a \\ \theta_i \end{array} \right\} + a_t$$

The vowel { a_t } is deleted between the iterative marker { θ_i } and a following { y } or { i }. (A later automatic phonological rule converts { θ } to /ṭs/ before these segments. cf. VII.A.1.) An example of this deletion can be seen in (51) below.

- (51) tsyv?ná:tha?w
 ts+(a)+yv+?n+at+haw+?
 iterative+(aorist)+human+reflexive+reflexive+'take'+
 punctual

The rule which deletes the vowel is below.

$$a_t \rightarrow \emptyset / \theta_i _ \left\{ \begin{array}{c} y \\ i \end{array} \right\}$$

In the context of the aorist or indefinite tense, the vowel /v/ precedes the iterative and cislocative.

- (52) yahvθáhre:t
 yah+v-θ+a+hr+e+:t
 translocative+iterative+aorist+masculine+'go'+punctual
 he went there

If the iterative or cislocative is word-initial, however, the vowel does not appear, as in (47) and (48) above.

(Since the first vowel of the indefinite marker still precedes the iterative and cislocative, this situation only obtains in the context of the aorist.) These facts are incorporated into the rule below.

$$\left\{ \begin{array}{c} t_c \\ t\bar{a}_c \\ \theta_i \end{array} \right\} \rightarrow v + \left\{ \begin{array}{c} t_c \\ t\bar{a}_c \\ \theta_i \end{array} \right\} / X \text{ ___ } a_t$$

where $X \neq \#$

b. The indefinite and aorist tenses

The indefinite and aorist tense markers exhibit considerable variation in shape. The indefinite $\{ (a_t)a_t \}$ merges with the $\{ e \}$ of the second person marker $\{ e\theta \}$.

- (53) eθwa?tkvhihs?a:?
 eθ+w+a?-tkvn-ihs?a:??
 2nd-person+plural+'hold-council'+punctual
 for you to hold a council

The rule which merges these vowels is below.

$$(a_t)a_t \rightarrow \emptyset / \text{___ } e$$

The first vowel of the indefinite merges with the nasalized vowel which was prefixed to the iterative or

cislocative by the rule above. The result of this merger can be seen in examples (49) and (50) above, and (54) below.

- (54) kwvhs vθáhso?
 kwvhs \bar{v} -θ+a+hs+o+?
 not indefinite-iterative+2nd person+'come'+punctual
 Don't come back

The rule below merges the vowels.

$$a_t \rightarrow \emptyset / _ v \begin{cases} t_c \\ ta_c \\ \theta_i \end{cases}$$

If the indefinite or aorist directly precedes a pronominal string which begins with { wa }, the second vowel { a_t } merges with the sequence to yield the nasalized vowel.

- (55) kwvhs arýkwahst
 kwvhs arā+w+akwahst
 not indefinite+non-human+'good'
 not for-it-to-be-good
 That would not do.

- (56) se:nv? arvkhýhsyv?
 se:nv? arā+wak+hvhs+yv?
 never indefinite+non-human-objective-1st-person+'ear'+ 'lay'+punctual
 never for-me-to-hear
 I never heard it

The rule below describes this merger.

$$a_t + wa \rightarrow v \begin{matrix} v \\ \bar{v} \\ u \\ a \end{matrix} / (a_t) _$$

After stress has been assigned, the two contiguous indefinite vowels merge if neither is stressed.

- (57) kwvhs ahsa?rì:yo?
 kwvhs \bar{a} +hs+a?+riyo+?
 not indefinite+2nd-person+reflexive+'kill'+punctual
 not for-you-to-fight
 Don't fight
- (58) akíhrv?
 \bar{a} +k+ihrv+?
 indefinite+1st-person+'say'+punctual
 I should say
- (59) yaká:yv:t
 y+a+ka+yv+:t
 translocative+indefinite+plural+human-'go'+punctual
 for them to go

This merging rule is below.

$$a_t + a_t \rightarrow a_t$$

where a_t is unstressed

If the first indefinite vowel is followed by any other vowel, /r/ is inserted between the two vowels. This occurs when the second { a_t } is stressed and the rule above does not apply, and also when the rule before it has applied, yielding the nasalized vowel. Note examples (55) and (56) above and (60) below.

- (60) àrá:kkv?
 a- \bar{r} -a+k+kv+?
 indefinite+1st-person+'see'+punctual
 for me to see

$$a_t + \begin{Bmatrix} a_t \\ v_t \end{Bmatrix} \rightarrow ar \begin{Bmatrix} a_t \\ v_t \end{Bmatrix}$$

c. The dualic

The other aorist, { w_t }, precedes the dualic marker.

- (61) wa?thràríhwahk
 w-a?+t+hra+rihw+ahk +(?)
 aorist+dualic+masculine+'word'+ 'pick-up'+punctual
 he sang

The rule below established this order.

$$t_d + w_t \rightarrow w_t + t_d$$

The dualic can originate from a number of different sources, but it can occur only once per word. The rule below merges all dualic markers to one.

$$t_d + t_d (+t_d) \rightarrow t_d$$

If the dualic marker is followed by a consonant, and not preceded by the aorist, the vowel /e/ is inserted between the two consonants. (Automatic phonological rules relate { t } and surface /n/. cf. VII.A.1.)

- (62) neθríhwahk
 nē+θ+tihw+ahk+(θ)
 dualic+2nd-person+'word'+ 'pick-up'+imperative
 sing

cf. wa?krihwahk I sang

This rule is below.

$$t_d \rightarrow t_d e / X \text{ _ } C$$

where C = any consonant
 X ≠ aorist

The aorist { w_t }, the translocative { y } (which occurs in the context of the future and indefinite tenses), the partitive { n_p }, and the contrastive { th_p } are

separated from the dualic and from most pronominal strings by the sequence { a? }.

- (63) wa?á:kto?
w-a?+ak+t+o+?
aorist+1-3rd-person+dual+'come'+punctual
we two came
- (64) ya?n'v:tsyv:t
y-a?+n+vts+yv+:t
translocative+dualic+iterative+human+'go'+punctual
they two went back there
- (65) tsv? ta?nakay'v?thnv?
tsv? t-a?+n+a+ka+yv?thnv+?
'set' partitive+dualic+indefinite+plural+human-'play'+punct
Its set for them to play.'
- (66) tha?θastá:wi:k
th-a?+θ+astawi:k+∅
contrastive+2nd-person+'leave'+imperative
Leave it alone

The rule does not apply where the pronominal strings begin with the second person marker { e } of { eθ }.

- (67) wēθa?tkáhri?θ
w-eθ+a-?tkahri+?+θ
aorist+2nd-person+'tell'+punctual+dative
someone told you

The rule must be formulated to exclude such cases.

$$\left\{ \begin{array}{l} n_p \\ th_p \\ y_t \\ w_t \end{array} \right\} + \left\{ \begin{array}{l} t_d \\ P \end{array} \right\} \rightarrow \left\{ \begin{array}{l} n_p \\ th_p \\ y_t \\ w_t \end{array} \right\} + a? + \left\{ \begin{array}{l} t_d \\ P \end{array} \right\}$$

where P = any pronominal string except one beginning with the second person marker { eθ }

d. The partitive

The form of the partitive is both morphologically

and phonologically conditioned. Like the dualic, the partitive marker can originate from several sources but it can occur no more than once per word.

$$n_p + n_p (+n_p) \rightarrow n_p$$

Before the aorist { w_t }, the basic form { n_p } is modified to { nh_p }. (Later automatic phonological rules convert this to /th/. cf VII.A.1.)

- (68) há:ne? thwahrá:ye:r
 ha:ne? \overline{th} +wa+hra+yer+?
 'that' partitive+aorist+masculine+'do'+punctual
 That's how he did it

The rule below inserts the laryngeal.

$$n_p + w_t \rightarrow n_p h w_t$$

Otherwise, if the partitive precedes a consonant, the vowel /i/ is inserted between the two.

- (69) ha:ne? tihrà:yehr
 ha:ne? \overline{ti} +hra+yer+h
 'that' partitive+masculine+'do'+serial
 That's how he did it.

The rule below inserts the vowel.

$$n_p \rightarrow n_p i / _ C$$

4. Summary of Basic Forms and Readjustment Rules

The basic shapes of the prenominal morphemes are listed below in their order of occurrence in the verb.

CONTRASTIVE	{ th _p }
PARTITIVE	{ n _p }
TRANSLOCATIVE	{ wa _t ? } _ (X) IMPERATIVE SERIAL { we _t } / _ (X) PERFECTIVE FUTURE { y _t } / _ (X) PUNCTUAL INDEFINITE { yah _t } / _ (X) PUNCTUAL AORIST
CISLOCATIVE	{ ka } / _ (X) IMPERATIVE
AORIST	{ w _t }
DUALIC	{ t _d }
FUTURE	{ v _t }
INDEFINITE	{ a _t a _t }
AORIST	{ a _t } ITERATIVE CISLOCATIVE (X) _
ITERATIVE	{ θ _i }
CISLOCATIVE	{ t _c } / _ (X) PERFECTIVE SERIAL { ta _c } _ (X) PUNCTUAL

where X = any number of verbal modifiers

The rules to which these markers are subject are listed below in their order of application.

$$(a_t)a_t + \left\{ \begin{matrix} t \\ t a_c \\ \theta_i \end{matrix} \right\} \rightarrow (a_t) + \left\{ \begin{matrix} t \\ t a_c \\ \theta_i \end{matrix} \right\} + a_t$$

$$a_t \rightarrow \emptyset / \theta_i _ \left\{ \begin{matrix} y \\ i \end{matrix} \right\}$$

$$\left\{ \begin{matrix} t \\ t a_c \\ \theta_i \end{matrix} \right\} \rightarrow v + \left\{ \begin{matrix} t \\ t a_c \\ \theta_i \end{matrix} \right\} / X _ a_t$$

$$(a_t)a_t \rightarrow \emptyset / _ e$$

$$a_t \rightarrow \emptyset / _ v \left\{ \begin{matrix} t \\ t a_c \\ \theta_i \end{matrix} \right\}$$

$$a_t + wa \rightarrow v / \cdot (a_t)$$

$$a_t + a_t \rightarrow a_t \quad \text{where } a_t \text{ is unstressed}$$

$$a_t + \left\{ \begin{matrix} a_t \\ v_t \end{matrix} \right\} \rightarrow ar \left\{ \begin{matrix} a_t \\ v_t \end{matrix} \right\}$$

$$t_d + w_t \rightarrow w_t + t_d$$

$$t_d + t_d (+t_d) \rightarrow t_d$$

$$t_d \rightarrow t_d e / X _ C$$

$$\left\{ \begin{matrix} n_p \\ th_p \\ y_t \\ w_t \end{matrix} \right\} + \left\{ \begin{matrix} t_d \\ P \end{matrix} \right\} \rightarrow \left\{ \begin{matrix} n_p \\ th_p \\ y_t \\ w_t \end{matrix} \right\} + a? + \left\{ \begin{matrix} t_d \\ P \end{matrix} \right\}$$

where P = any pronominal string except one beginning with second person (eθ)

$$n_p + n_p (+n_p) \rightarrow n_p$$

$$n_p \rightarrow n_p i / _ C$$

D. The Pronominal Prefixes

All Tuscarora verbs contain pronouns which refer to their subjects and, in transitive verbs, their objects. Marked on the pronouns are distinctions of person, number, and gender. The morphological analysis of these pronominal strings is complicated by several factors. First, not all possible distinctions of person, number, and gender are maintained in all combinations of subject and object pronouns. Gender is never marked for first and second persons, for example. Many pronominal strings can thus represent several different possible combinations of subject and object referents. Second, considerable fusion has taken place among the morphemes in each string, so that consistent identification and segmentation of the morphemic units is difficult. Third, because of historical analogical remodeling, certain patterns in the system are no longer intact. In all, there are 49 different basic strings. The surface shape of each string is further conditioned by its phonological and morphological environment.

The clearest description of the pronominal forms is the chart constructed in 1953 by Floyd Lounsbury. Data collected from my own informants between 1971 and 1973 agree completely with those in his chart, except for predictable dialect variation between /s/ and /θ/. The chart shows the

CHART OF TUSCARORA PRONOMINAL PREFIXES

Floyd Lounsbury

Obj. / Subj.		1 s			1 du			1 pl			2 s					
	1 s										kv- ^{c,i} /kvy- ^v 41					
	1-3 du															
	1-3 pl															
	1-2 du															
	1-2 pl															
	2 s	(-h)sk- ^{c,i,o} 44 /(-h)skw- ^{a,e,v} /(-h)ske- ^x			(-h)skti- ^c 45 /(-h)skt- ^{i,e,o}			46								
	2 du				/(-h)skn- ^v /(-h)sky- ^a			(-h)skwa- ^c /(-h)skwv- ⁱ /(-h)skw- ^{a,v}								
	2 pl															
	∅	wak- ^{c,v} /wake- ^x 15 /[v]k- ^{c,i,o} /[v]kw- ^{a,e,v} /[v]ke- ^x			(y)vkti- ^c 16 /(y)vkt- ^{i,e,o} /(y)vkn- ^v /(y)vky- ^a			(y)vkwa- ^c 17 /(y)vkwv- ⁱ /(y)vkw- ^{c,a,v}			(-e)sa- ^c /(-e)sv- ⁱ /(-e)s- ^a					
	N s/pl															
	N du	(-?)n-wak- ^{c,v} 32 /(-?)n-wake- ^x												(-?)n-(e)s- ^a /...sv- ⁱ /...s- ^a		
	M s	(-h)rak- ^{c,i,o} 33 /(-h)rakw- ^{a,e,v} /(-h)rake- ^x			27a									(y)esa- ^{c,a} /(y)esv- ⁱ /(y)es- ^o		
	I s	(y)vk- ^{c,i,o} 34 /(y)vkw- ^{a,e,v} /(y)vke- ^x			(y)vkhi- ^{c,i} / (y)vkhiy- ^v											
	M/I du	(-?)n-yvk- ^{c,i,o} 35 /(-?)n-yvkw- ^{a,e,v} /(-?)n-yvke- ^x												(-?)n-yesa- ^{c,a} /(-?)nyesv- ⁱ /(-?)n-yes- ^o		
	M/I pl	kayvk- ^{c,i,o} 36 /kayvkw- ^{a,e,v} /kayvke- ^x												kayesa- ^{c,a} /kayesv- ⁱ /kayes- ^o		

1 pl	2 s	2 du	2 pl	∅	N s/du/pl
	kv- ^{c,i} /kvy- ^v 41			k- ^{c,v} /ke- ^x	1
		kekti- ^c /kekt- ^{i,o} /kekn- ^v /keky- ^s 42		(y)akti- ^c / (y)akt- ^{i,o} / (y)akn- ^v / (y)aky- ^a	2
			kekwa- ^c /kekvw- ⁱ /kekwa- ^{e,o,v} 43	(y)akwa- ^c / (y)akwv- ⁱ / (y)akw- ^{e,a,v}	3
				(e?)ti- ^c / (-e?)t- ^{i,o} / (-e?)n- ^v / (-e?)ny- ^a	4
				(-e?)nwa- ^c / (-e?)wv- ⁱ / (-e?)nw- ^{e,a,v}	5
46				(-h)s- ^{c,v} / (-h)se- ^x / #j- ^v	6
-h) skwa- ^c -h) skwv- ⁱ -h) skw- ^{e,o,v}				(-e)sti- ^c / (-e)st- ^{i,o} / (-e)sn- ^v / (-e)jy- ^a	7
				(-e)swa- ^c / (-e)swv- ⁱ / (-e)sw- ^{e,a,v}	8
y)vkwa- ^c 17 y)vkvw- ⁱ y)vkwa- ^{e,o,v}	(-e)sa- ^c 18 / (-e)sv- ⁱ / (-e)s- ^{e,a}	(-e)sti- ^c 7a / (-e)st- ^{i,o} / (-e)sn- ^v / (-e)jy- ^a	(-e)swa- ^c 8a / (-e)swv- ⁱ / (-e)sw- ^{e,o,v}	(y)o- ^{c,e,i} / (y)aw- ^{e,o,v} 19	
				ka- ^c /kv- ⁱ /w- ^v / [v] -	9
	(-?)n-(e)sa ^{c,a} 37 / (-?)sv- ⁱ / (-?)s- ^e			(-?)n-ka- ^c / (-?)n-kv- ⁱ / (-?)n-w- ^v	10
27a	(y)esa- ^{c,a} 38 / (y)esv- ⁱ / (y)es- ^e		(y)vtsi- ^{c,i} / (y)vtsiy- ^v 31a	(-h)ra- ^c / (-h)rv- ⁱ / (-h)r- ^v	11
y)vkhiy- ^v				(y)e- ^{c,i} / (y)ak- ^{e,o,v} / (y)v ^{asv} (y)a- ⁱ	12
	(-?)n-yesa ^{c,a} 39 / (-?)nyesv- ⁱ / (-?)n-yes- ^e			(-?)n-ye- ^{c,i} / (-?)n-yak- ^{e,o,v} / (-?)n-yv- ^{asv} / (-?)n-ya- ⁱ	13
	kayesa- ^{c,a} 40 / kayesv- ⁱ / kayes- ^e			kaye- ^{c,i} / kayak- ^{e,o,v} / kayv- ^{asv} / kaya- ⁱ	14

	I s	M/I du	M/I pl
	/khəy- ^v 24	(-?)n-khe- ^{c,i} 25 /(-?)n-khey- ^v	kakhe- ^{c,i} 26 /kakhey- ^v
	27		
	(y)vkhi- ^{c,i} / (y)vkhiy- ^v		
	she- ^{c,i} / (-h)shəy- ^v 28	(-?)n-she- ^{c,i} 29 /(-?)n-shəy- ^v	kahshe- ^{c,i} 30 /kahshey- ^v
	31		
	(y)vtsi- ^{c,i} / (y)vtsiy- ^v		
20	ka- ^c / kv- ⁱ 9a /w- ^v / [v] -	(-?)n-ka- ^c 10a /(-?)n-kv- ⁱ /(-?)n-w- ^v	23
	(y)ako- ^{c,a,i} 21 / (y)akaw- ^{e,o,v}	(-?)n-yako- ^{c,a,i} 22 / (-?)n-yakaw- ^{e,o,v}	kako- ^{c,a,i} /kakaw- ^{e,o,v}
	47	48	49
	?n- ^{v,y,w} / (-a?)na?- ^{r,t} t- ^{k,s,?} / -yv?na?n- ^{v,y,w} - ^{r,t} / -yv?nat- ^{k,s,?}		
	(-?)n-yv?na?n- ^{v,y,w} / (-?)n-yv?na?- ^{r,t} / (-?)n-yv?nat- ^{k,s,?}		
	kayv?na?n- ^{v,y,w} /kayv?na?- ^{r,t} /kayv?nat- ^{k,s,?}		

KEY TO SYMBOLS

Alternations in form correlated with following environment:

Environments in which the various alternant forms of prefixes occur are indicated by superscript indices.

i, e, a, o, v - stems beginning with these vowels

i, a - alternants of i- and a- stems which lack the initial i or a

a
i₂ - initial of the root ihēy/vhēy 'die'

e₂ - zero alternant of the root e 'go'

V - any vowel stem
C - any consonant stem
y, w, r, t, k, s, ?

stems beginning with these consonants

x - stems beginning with clusters of two stops or stop plus h

Alternations in form correlated with preceding environment:

() - enclosed segment alternates with zero.

(-) - enclosed segment never occurs in word-initial position.

- prefix occurs only in word-initial position

- enclosed phoneme belongs to two morphemes

forms used by speakers of the /s/-dialect, which contains no /θ/. Speakers of the /θ-dialect substitute /θ/ for /s/ whenever /s/ is not preceded by /h/ on the chart (cf. 7, 8, 18, 31, 37-40) and in imperative forms.

1. The Merging of Categories and the Ordering of Markers

Definite patterns can be observed in the construction of the surface strings in the pronominal system. The relationships between the semantic categories of subjective and objective person, number, and gender, and their surface realizations in pronominal strings, can be described in terms of general rules. The rules developed here are not meant to reflect synchronic psychological processes, however. Pronominal strings are probably inserted into verbs and nouns as single lexical units, not derived each time they are used. Yet structurally, the forms do constitute an interesting system, in which apparent irregularities can be seen to be the results of analogical remodeling processes.

First, the regular sequential order of semantic markers is established: the person or gender, then number of the subject referent, then the person or gender and number of the object referent plus an objective case marker.

$$g_1n_1 + g_2n_2obj$$

where

g_1 = person or gender of subject (first person (1),

inclusive first person (1-2), exclusive first person (1-3), second person (2), non-human gender (N), masculine gender (M), or indefinite human gender (I))

n_1 = number of subject (singular (s), dual (d), or plural (p))

g_2 = person or gender of object

n_2 = number of object

obj = objective case marker

It is not necessary to specify person and gender separately, since gender is distinguished only in third person.

The objects of intransitive verbs will be considered zero (\emptyset). The underlying form of an intransitive pronominal string is represented as

$$g_1 n_1 + \emptyset$$

Although the rules presented in this section may appear, at first glance, quite numerous, the fact should be kept in mind that they reduce 225 hypothetical combinations to 63 occurring forms and order the markers in each form. The rules are of several different types. Early syntactic transformations rearrange and replace semantic markers in reciprocal and reflexive constructions. Merging rules neutralize certain person and gender distinctions in specific contexts. Ordering rules establish the sequential order of number and object markers in surface strings. Later phonological readjustment rules describe phonologically and morphologically conditioned alternations in the surface shapes

of the markers. Finally, the analogical remodeling of the pronominal strings is discussed.

a. Rearrangements of referents

In several types of constructions, the morphological subject and object markers of surface verbs do not correspond directly to the subject and object arguments of the underlying proposition expressed. Two such constructions are discussed below.

1) Reciprocal and reflexive constructions

When the subject and object of a verb are coreferent, i.e., an agent somehow acts upon himself, the reflexive morpheme { at } replaces the object pronoun in the verb. Examples of reflexive verbs are below.

(1') ká:tkvh I see myself

(6') sá:tkvh you see yourself

(9') ká:tkvh it (an animal) sees itself

(11') rá:tkvh he sees himself

(12') y'v:tkvh she sees herself or someone sees himself

(kv = verb root 'see', h = serial aspect)

A reflexive formation rule deletes a coreferent object pronoun and adds a postpronominal reflexive marker.

REFLEXIVE FORMATION

$g_1n_1 + g_1n_1obj \rightarrow g_1n_1 + \emptyset + \text{REFLEXIVE}$

(g = any person or gender marker
n = any number marker)

Now a dual or plural subjective pronoun plus a reflexive marker can indicate either a reflexive action, similar to those above, or a reciprocal action, in which two or more subjects are acting on each other.

(2') yakyá:tkvh we two see ourselves or we see each other

(3') yakwá:tkvh we (three or more) see ourselves or we see each other

(7') tsyá:tkvh you two see yourselves or you see each other

(8') θwá:tkvh you (three or more) see yourselves or you see each other

(13') nè:yv:tkvh they two see themselves or each other

(14') kà:yv:tkvh they (three or more) see themselves or each other

A reciprocal construction actually predicates two or more actions. The verb yakyá:tkvh actually means 'I see you and you see me'. An early syntactic rule forms reciprocal constructions from conjoined verbs. Where two verbs are identical except that the subject of each is coreferent with the object of the other, the verbs are combined to form a single, reciprocal verb (I see you + you see me → we see each other). The two subjects are combined to form a new, derived subject (I + YOU → WE), and the two objects combine in the same way (ME + YOU → US).

RECIPROCAL FORMATION

$$\begin{aligned}
 & v [(X) + g_1 n_1 + g_2 n_2 \text{ obj} + Y]_v \quad \& \quad v [(X) + g_2 n_2 + g_1 n_1 \text{ obj} + Y]_v \\
 & \rightarrow v [(X) + g_1 + g_2 \ n_1 + n_2 + g_1 + g_2 \ n_1 + n_2 \text{ obj} + Y]_v
 \end{aligned}$$

where X = any prepronominal prefixes
 Y = remainder of the verb

(g = any person or gender marker
 n = any number marker)

Subjects combine as would be expected. When both subjects are of the same person and gender, the derived subject is the same.

2 + 2 → 2

M + M → M

I + I → I

N + N → N

First person plus second person yields inclusive first person.

1 + 2 → 1-2

First person plus any third person yields exclusive first person.

$$1 + \begin{pmatrix} M \\ I \\ N \end{pmatrix} \rightarrow 1-3$$

Second person plus any third person yields second person.

$$2 + \begin{pmatrix} M \\ I \\ N \end{pmatrix} \rightarrow 2$$

Combinations of masculine and indefinite human always yield indefinite human gender.

M + I → I

Two singulars yield a dual.

s + s → d

All other combinations of number yield plural.

Once reciprocal formation has applied, the subject and object of the resulting verb are coreferent, and the string undergoes reflexive formation. The relative order of these two rules is, then,

RECIPROCAL FORMATION
REFLEXIVE FORMATION.

The derivation of a reciprocal verb would thus include the following steps.

	1s+2s obj+SEE+SERIAL	&	2s+1s obj+SEE+SERIAL	→
(RECIPR)	1-2d+1-2d obj+SEE+SERIAL			→
(REFLEX)	1-2d+∅+REFLEXIVE+SEE+SERIAL			--
	:			
	:			
	:			
	<u>yakya:tkvh</u>		'we see each other'	

b. The Masculine gender distinction

In third person, three genders are distinguished: masculine (M) for male persons, indefinite human (I), for female persons and those of unspecified sex, and non-human (N) for animals and inanimate objects. Masculine persons are not distinguished from other humans in all pronominal strings, however. In dual and plural forms, for example,

all humans are referred to by the same indefinite markers. Note the possible translations of the verbs below. The pronominal string in each verb is underlined.

- (13) nè:yé:kvh they two (M or F or comb.) see it
 (14) kà:yé:kvh they (M or F pl or comb.) see it
 (15) kakhé:kvh I see them (M or F pl or comb.)
 (29) nehshé:kvh you see them two (M or F or comb.)
 (40) kayeθá:kvh they (M or F pl or comb.) see you
 (49) kayv?ná:tkvh they (M or F pl or comb.) see him/her/them

In fact, masculine gender is distinguished in only a small number of strings. Only when an argument functions as a singular subject with a zero, first person singular, or non-human object, or where it functions as a singular object with a zero or non-human subject, is masculine gender specified. The subjects of the first two verbs below and the object of the third are unambiguously male humans.

- (11) rá:kvh he sees it (Ms + Nsubj)
 (33) rá:kkvh he sees me (Ms + 1subj)
 (20) ró:kvh it sees him (Ns + Msubj)

The rule below merges the masculine gender category (M) with indefinite human gender (I) in all pronominal combinations except those in (11), (20), and (33). Numbers in parentheses to the right of the rules refer to strings in Lounsbury's chart which undergo the rule.

MASCULINE-INDEFINITE GENDER MERGER

M → I / X

$$\text{where } X \neq \left\{ \begin{array}{l} _s + \left(\begin{array}{l} \{Nn\} \\ \{1s\} \text{obj} \end{array} \right) \\ (Nn) + _s \text{obj} \end{array} \right\}$$
(10a, 13-14,
22-31, 27a,
31a, 35-36,
38-40, 47-49)

(M = third person masculine gender
I = third person indefinite
human gender
N = third person non-human gender
s = singular number
n = any number marker)

c. Number placement

In general, third person dual and plural markers occur at the front of pronominal strings, and non-third person dual and plural markers occur at the end of the strings. Since each of the number marker ordering rules eliminates any other number distinction in the string to which it applies, the ordering of these rules is crucial.

First, if any non-third person argument is plural, the plural marker appears at the end of the string. No other number markers are present in the surface forms. The plural number markers are underlined below.

- (3) yakwá:kvh we (excl pl) see it/them
 (5) nwá:kvh we (incl pl) see it/them
 (8) θwá:kvh you (pl) see it/them or it sees you (pl)
 (17) yvkwá:kvh it sees us (pl)
 (43) kekwá:kvh we (pl) see you (s, du, pl) or we (du) see you (pl)
 (44) skwá:kvh you (pl) see me or you see us (pl)

The rule below places the plural marker of a first or second person pronoun at the end of the string and eliminates any other number marker. Parentheses indicate that either subject or object may be \emptyset .

NON-THIRD PLURAL PLACEMENT

$$(g_1n_1) + (g_2n_2\text{obj}) \rightarrow (g_1) + (g_2\text{obj}) + \underline{pl} \quad (3, 5, 8, 17, 27, 27a, 31, 31a, 43, 46)$$

where $\begin{Bmatrix} g_1n_1 \\ g_2n_2 \end{Bmatrix} = \begin{Bmatrix} 1-2 \\ 1-3 \\ 2 \end{Bmatrix} p$

(g = person or gender
p, pl = plural number
n = number)

Next, if there is no non-third person plural argument, but there is a non-third person dual, the dual marker appears at the end of the pronominal string. No other number distinction is specified. In the examples below, the dual marker is underlined.

- (2) yaktí:kvh we two (excl) see it/them
 (4) tí:kvh we two (incl) see it/them
 (7) θ tí:kvh you two see it/them or it/they see you two
 (16) yvktí:kvh it/they see us two
 (42) kekí:kvh we two see me or us two or you (s or du) see us two

The rule below moves the dual marker of a first or second person argument to the end of the string and eliminates any other number markers.

NON-THIRD PERSON DUAL PLACEMENT

$$(g_1 n_1) + (g_2 n_2 \text{ obj}) \rightarrow (g_1) (g_2 \text{ obj}) + \underline{\text{du}} \quad (2, 4, 7, 16, 27, 27a, 31, 31a, 42, 45)$$

$$\text{where } \begin{cases} g_1 n_1 \\ g_2 n_2 \end{cases} = \begin{cases} 1-2 \\ 1-3 \\ 2 \end{cases} d$$

(g = person or gender
d, du = dual number
n = number)

If there is no non-third person dual or plural argument in a string, then third person number markers appear. If there is a human plural, a plural marker appears first in the pronominal string. No other number distinction is specified. The plural markers are underlined in the verbs below.

- (14) kà:yé:kvh they (p1) see it/them
- (23) kakó:kvh it/they (animals) see them (human p1)
- (26) kakhé:kvh I see them (p1)
- (30) kahshé:kvh you (s) see them (p1)
- (36) kà:y'v:kkvh they (p1) see me
- (40) kayeθá:kvh they (p1) see you (s)
- (49) kayv?ná:tkvh they (p1) see him/them/her or
he/she/they see them (p1)

Plural number of non-human arguments is never marked on the surface. The rule below moves the plural marker of a human argument to the front of the string and eliminates any other number distinctions.

THIRD PERSON PLURAL PLACEMENT

$$(g_1 n_1) + (g_2 n_2 \text{ obj}) \rightarrow \underline{p1_3} + (g_1) + (g_2 \text{ obj}) \quad (14, 23, 26, 30, 36, 40, 49)$$

where $\begin{Bmatrix} g_1 n_1 \\ g_2 n_2 \end{Bmatrix} = I_p$

(g = person or gender
 n = number
 I = third person indefinite
 human gender
 p, p1₃ = plural number)

If there is no human plural, duality of third person can be represented by the prepronominal dualic morpheme. Verbs with third person dual subjects are below. The prepronominal dualic morpheme in each is underlined.

- (10) neká:kvh they two animals see it/them
 (12) nè:yé:kvh they two (M or F) see it/them
 (32) nè:wá:kkvh two animals see me
 (35) nè:y'v:kkvh they two (M or F) see me
 (37) neθá:kvh they two animals see you
 (39) neyeθá:kvh they two (M or F) see you
 (48) neyv'ná:tkvh they two (M or F) see him/her/them two

The rule below inserts the prepronominal dualic morpheme and eliminates any other number distinctions.

THIRD PERSON SUBJECTIVE DUALIC PLACEMENT

$$(x) + \begin{Bmatrix} N \\ I \end{Bmatrix} d + \left(\begin{Bmatrix} 1 \\ 2 \\ I \end{Bmatrix} n \text{ obj} \right) \rightarrow \text{DU} + (X) + \begin{Bmatrix} 1 \\ 2 \\ I \end{Bmatrix} \text{obj} \quad (10, 13, 32, 37, 39, 48)$$

where X = FUTURE or INDEFINITE and/or ITERATIVE or CISLOCATIVE

(N = third person non-human gender
 I = third person indefinite
 human gender
 n = any number marker
 d = dual number
 DU = prepronominal dualic morpheme)

Verbs with human dual objects are below. Number is not marked for non-human objects.

- (22) neyakó:kvh it/they (animals) see them two (humans)
 (25) nekhé:kvh I see them two (humans)
 (29) nehshé:kvh you (s) see them two (humans)
 (48) neyv?ná:tkvh they two (humans) see him/her/them two
 he/she/they two see them two

The rule which inserts the dual morpheme for dual human objects also eliminates any other number markers in the strings to which it applies.

THIRD PERSON OBJECTIVE DUALIC INSERTION

(X) + (gn) + Idobj → DU + (X) + (g) + Iobj (22, 25, 29, 48)

where X = future or indefinite and/or iterative or cislocative

(g = any person or gender marker
 I = third person indefinite
 human gender
 s = singular number
 d = dual number
 DU = prepronominal dualic morpheme)

No other number distinctions are specified in surface pronominal strings. The rule below eliminates any number markers that remain after the application of the above rules.

NUMBER DROP

$$\begin{pmatrix} s \\ d \\ p \end{pmatrix} \rightarrow \emptyset$$

(1, 6, 9, 12,
18-21, 24, 27,
33, 34, 38, 41,
44, 47)

d. The non-human gender distinction

The category of non-human gender is sometimes merged with that of indefinite human gender in Tuscarora, and sometimes with zero. The pronominal strings which represent zero subjects with third person human singular and dual objects ($\emptyset + I \begin{pmatrix} s \\ d \end{pmatrix} \text{obj}$) have the same surface forms as those strings which represent non-human singular and dual subjects with zero objects ($N \begin{pmatrix} s \\ d \end{pmatrix} + \emptyset$). (Recall that zero subjects are found in intransitive verbs after PERFECTIVE PRONOUN SWITCH.) The similarity between these indefinite human object pronouns and the non-human subject pronouns can be seen from the verbs below. The pronominal strings are underlined.

- (9) kvhè:yvhs it is dying (Ns + \emptyset , serial aspect)
 (9a) kvhé:yv: someone has died ($\emptyset + I \text{obj}$, perfective aspect)
 (10) nekvhè:yvhs two animals are dying (Nd + \emptyset , serial aspect)
 (10a) nekvhé:yv: they two (M or F) have died ($\emptyset + I \text{obj}$, perfective aspect)

ihéy = verb root 'die'

The rule below merges the indefinite human gender category with the non-human gender category following zero subjects. The merger does not occur between plural forms.

HUMAN-NON-HUMAN GENDER MERGER

$$X + \emptyset + Iobj \rightarrow X + N + \emptyset \quad (9a, 10a)$$

where $X \neq pl_3$

(I = third person indefinite
human gender)

(N = third person non-human
gender)

Otherwise, non-human and zero arguments have the same surface realizations. In some environments, both are realized as zero. In others, both are realized as the non-human morpheme.

All non-human objective markers are realized on the surface as zero. Thus pronominal strings in transitive (Nobj) and intransitive (\emptyset obj) verbs can be identical, as illustrated below.

- (1) kyv^hskoh I am laughing (1 + \emptyset)
 (1) i:k^hvh I see it/them (1 + Nobj)
- (11) ra:y^hskoh he is laughing (M + \emptyset)
 (11) ra:k^hvh he sees it/them (M + Nobj)
- (12) ye:y^hskoh she is laughing (I + \emptyset)
 (12) ye:k^hvh she sees it/them (I + Nobj)
- (14) kaye:y^hskoh they are laughing (pl+I + \emptyset)
 (14) ka:y^e:k^hvh they see it/them (pl+I + Nobj)

The rule below replaces non-human objective pronouns with zero.

NON-HUMAN OBJECT NULLIFICATION

$$Nobj \rightarrow \emptyset \quad (1-14)$$

(N = non-human gender)

Non-human gender markers are also realized as zero when combined as subjects with any second or third person human object. The similarity between strings with non-human and zero subjects can be seen in the pairs of perfective verbs below. The pronominal strings are underlined.

- (18) $\theta\grave{a}:y\acute{v}hskwe:t$ you have laughed ($\emptyset + 2obj$)
 (18) $\theta\grave{a}:kv:$ you have seen it/them ($\underline{N} + 2obj$)
- (20) $r\grave{o}:y\acute{v}hskwe:t$ he has laughed ($\emptyset + Mobj$)
 (20) $r\grave{o}:kv:$ he has seen it/them ($\underline{N} + Mobj$)
- (23) $ka\grave{k}\acute{o}:y\acute{v}hskwe:t$ they have laughed ($pl + \emptyset + Iobj$)
 (23) $ka\grave{k}\acute{o}:kv:$ they have seen it/them ($pl + \underline{N} + Iobj$)

The rule below replaces non-human gender with zero in the environment of any second or third person human object.

NON-HUMAN SUBJECT NULLIFICATION

$$N \rightarrow \emptyset / _ \begin{matrix} 2 \\ M \\ I \end{matrix} obj \quad (7a, 8a, 18)$$

Before first person objects, zero subjects are replaced by the non-human gender marker. Note the identity of the pronominal strings in the pair of perfective verbs below, one with a zero subject, the other with a non-human subject.

- (15) $w\acute{a}ky\acute{v}hskwe:t$ I have laughed ($\emptyset + 1obj$)
 (15) $w\acute{a}:kkv:$ I have seen it ($\underline{N} + 1obj$)

The rule below merges zero with non-human subjects before first person objects.

ZERO-NON-HUMAN MERGER

$\emptyset \rightarrow N / _ \text{lobj}$ (15-17)

(N = non-human gender
1 = first person)

e. The Inclusive-exclusive distinction

First person pronouns which include the second person are sometimes distinguished from those which do not. Inclusive first person pronouns refer to the speaker and the person(s) spoken to (1-2). Exclusive first person pronouns refer to the speaker plus one or more other persons not spoken to (1-3). The distinction is, of course, relevant only in non-singular forms. Note the differences between forms (4) and (2), and between (5) and (3).

- (4) tí:kvh you and I see it (1-2du)
 (2) yaktí:kvh he/she and I see it (1-3du)
 (5) nwá:kvh you (du or pl)
 (3) yakwá:kvh they and I see it (1-3pl)

The inclusive-exclusive distinction is not maintained in all first person non-singular forms, however. It is lacking in all objective pronouns.

- (16) yvktí:kvh it sees us two (excl or incl)
 (17) yvkwá:kvh it sees us all (excl or incl)

- (27a) yvkhí:kvh he/she/they see us (excl or incl)
 (45) sktí:kvh you see us two (excl or incl)
 (46) skwá:kvh you see us all (excl or incl)

The rule below deletes inclusive and exclusive markers from first person objects.

INCLUSIVE-EXCLUSIVE DELETION

$\begin{matrix} \{1-2\} \\ \{1-3\} \end{matrix} \rightarrow 1/ \text{__obj}$ (16-17, 27a, 45-46)

Inclusive first person subjects take on the exclusive form before third person human objects.

- (22) yvkhí:kvh we (excl or incl) see him/her/them

The rule below merges these two categories in this environment.

INCLUSIVE-EXCLUSIVE MERGER

1-2 \rightarrow 1-3 / __ Iobj (27)

(I = indefinite human gender of third person)

f. The Dual-plural distinction in first and second person

Dual and plural number are not distinguished for first and second person arguments in some environments. When first or second person plural subjects are combined with third person human objects, the number markers merge with those of dual pronouns.

- (27) yvkhí:kvh we (du or pl) see him/her/them
 he/she/they see us (du or pl)

(31) yvtsí:kvh you (du or pl) see him/her/them
 he/she/they see you (du or pl)

A rule merges dual and plural markers to a non-singular number marker in these environments.

NON-SINGULAR MARKER

$$\left\{ \begin{array}{l} \text{pl} \\ \text{du} \end{array} \right\} \rightarrow \text{ns} / \left\{ \begin{array}{l} \text{I} + \left\{ \begin{array}{l} 1 \\ 2 \end{array} \right\} \text{obj} \text{ ---} \\ \left\{ \begin{array}{l} 1-3 \\ 2 \end{array} \right\} + \text{Iobj} \text{ ---} \end{array} \right\} \quad (27, 27a, 31, 31a)$$

g. The Objective case markers

Objective case is not realized by an overt marker in all contexts. The marker is reordered in some environments, deleted in others, and replaced by the reflexive in still others.

The objective case marker of first person precedes the person marker.

(15) wá:kkvh it sees me (N + obj1)

a. = objective case marker
 k = first person marker

The rule below places the objective marker before first person.

OBJECTIVE CASE REORDERING

lobj → obj1

(15-17, 27a, 32-36)

Following second person subjects, the objective case marker of second person is deleted.

- (44) íhs_Δkvh you see me
 (45) s_Δktí:kvh you see us two
 (46) s_Δkwá:kvh you see us all

Following the second person marker and before dual, plural, and non-singular markers, the objective case marker is again deleted.

- (7) θ_Δtí:kvh it sees you two
 (8) θ_Δwá:kvh it sees you all
 (31a) yvts_Δí:kvh he/she/they see you (two or more)

The environments in which the case marker is lost are summarized in the rule below.

OBJECTIVE CASE DELETION

$$\text{obj} \rightarrow \emptyset / 2 \text{ --- } \begin{pmatrix} 1 \\ \text{du} \\ \text{pl} \\ \text{ns} \end{pmatrix} \quad (7, 8, 31a, 44-46)$$

(1 = first person
 2 = second person
 du = dual number
 pl = plural number
 ns = non-singular number)

An interesting surface string results when third person human subjects are combined with other third person human objects. A double reflexive morpheme replaces the object pronoun. The meaning of the reflexive is thus somewhat more general than it first seemed. It occurs whenever human

subjects and objects are in the same grammatical person. When the two are not coreferent, a situation which only obtains when the arguments are third person, a double reflexive appears. The double reflexive ({atat}) is underlined in the verbs below.

- (47) ná:tkvh he/she sees him/her
 (48) neyv?ná:tkvh he/she/they two see them two
 they two see: him/her/them two
 (49) kayv?ná:tkvh he/she/they see them
 they see him/her/them

The rule below replaces the objective pronoun with the double reflexive in this context.

THIRD TO THIRD REFLEXIVIZATION

I + Iobj → I + REFLEXIVE REFLEXIVE (47-49)

(I = third person indefinite human gender)

h. Imperatives

When the subject of an imperative verb is second person, the imperative marker conditions special forms of the second person marker. When the object is first person, the second person subject is expressed by the prepronominal dualic marker (t_d) (→ n / # ___ V). The pronominal strings are underlined once in the forms below and the dualic twice.

nakta?naratyá?thahθ go buy me some bread

naktita?naratyá?thahθ go buy us some bread

nakwata?natya?thahθ go buy us (pl) some bread

n = prepronominal dualic marker
a = objective case marker of
 first person
k = first person marker
ti = dual number marker
wa - plural number marker

That this is, in fact, the dualic morpheme and not the cislocative (which can also be realized as surface n), is shown by the verb below. The verb contains the iterative morpheme vθ, which does not cooccur with the cislocative.

tswé?ke nvθá:knv:t give me a second helping (feed me again)

n = dualic morpheme
vθ = iterative morpheme
a = objective case marker
k = first person marker

The rule below replaces the marker of second person with the prepronominal dualic morpheme in this environment.

DUALIC MARKING ON IMPERATIVES

(X) + 2 + obj 1 + Y + IMPERATIVE → DU + (X) + 1 obj + Y + IMPR

where X = iterative or cislocative (44-46)

Y = $\left\{ \begin{array}{l} \text{du} \\ \text{pl} \end{array} \right\}$ + verb stem

2. The Basic Forms of the Pronominal Markers

The basic phonological shapes of the person, gender, number, and objective case markers are given in the following chart. The shapes of many of the markers are conditioned by their morphemic contexts.

Person

1 → { k' }

1-2 → { et }

1-3 → { ak' }

2 → { θ } / ___ X IMPERATIVE # (where X = remainder of pronominal string + verb)

2 → { e } / 1 ___

2 → { eθ } / ___ obj

2 → { hs } / elsewhere

GenderN → { k^wa }M → { hra }

I → { e' }

Numberdu → { ni }DUALIC → { t_d }pl → { wa }pl₃ → { ka }

ns → { ii }

Objective Caseobj → {k}/ 2 ___ { du / pl }

REFLEXIVE → { at }

obj → {a}/ { 2 ___ 1 }

obj → ∅ / ∅ + { I / N }

obj → { h } / { 1 / 2 } I ___

3. Phonological Readjustment Rules

The surface shapes of the pronominal markers are conditioned by their phonological environments, which can include the verb stems they precede, other pronominal markers, and prepronominal morphemes.

a. Phonological alternations in verb stems

A number of stems exhibit morphologically and/or phonologically conditioned alternation in their surface shapes. Specific suffixes most often affect the final segments of the stems, while the phonological shapes of pronominal strings affect the initial segments. Systematic patterns of phonologically conditioned alternation in the stems can be encoded into the representation of their underlying phonological shapes.

The majority of { i }-initial stems follow one of two patterns in their combination with pronominal strings. Verbs of the most common type systematically lose their initial vowel following vowels. Such verbs are ihst 'use' and itvht 'be poor'. Note the alternation in the shapes of the underlined stems.

ihst 'use'

(1) wá?kihst I used it

(3) wákwahst we used it

(6) tsíhst use it!

itvht 'be poor'

(15) wakí:tvht I am poor

(17) yvkwá:tvht we are poor (pl)

(20) ró:tvht he is poor

- (11) wáhrahst he used it (21) yakó:tvht she is poor
 (12) wé?ehst she used it (22) kakó:tvht they are poor

Verbs which follow this pattern can be categorized in the lexicon with a special symbol such as { i }. The verbs above, for example, can be listed in the forms { ihst } and { itvht }. They are then subject to the following rules:

$$\underline{i} \rightarrow \emptyset / V _$$

$$\underline{i} \rightarrow i / \text{elsewhere}$$

Stems of the second type follow a very different pattern. Their initial vowel combines with a preceding { a } (of the plural { waa }, masculine { raa }, and non-human { kaa }) to yield the nasalized vowel v. Such a verb is ihey 'die'.

ihey 'die'

- (1) vkíhe?v I will die
 (3) yakwvhè:yvhs we (pl) are dying {ak-wa + iheyv-s}
 (9) kvhè:yvhs it is dying {ka + iheyv-s}
 (11) rvhè:yvhs he is dying {hra + iheyv-s}
 (12) waíhe?v she died {a + ihey-? }

No special symbol is necessary to categorize these verbs, since the two types of i-initial stems are already distinct. Only verbs of this second type undergo the rule:

a + i → v.

(3, 5, 8, 10, 11,
17, 43, 46)

Certain { e }-initial stems, such as e 'go', combine with the human gender marker in a particular way. Their patterns of combination, encoded in the lexicon by the symbol { e }, will be further discussed with the human gender marker { e' }.

b. The Dual marker { ni }

The dual number marker of first and second person has several different surface forms. Before { a }-initial verb stems, the consonant disappears and the vowel becomes a palatal glide by automatic phonological rule (i → y / __V).

(2) yakya?n^v:ro? we two are friends { ak+ni+atvro? }

(7) né:tsyatkw you two dance! { te+θ+ni+atkw }

ni → i / __ a (2, 4, 7, 16, 42, 45)

Before other vowels, the i is deleted. ({ n } → t by automatic phonological rule.)

(2) yá:kte? we are walking { ak+ni+e? }

(2) wa?á:kto? we came { wa?+ak+ni+o+? }

The rule below deletes the remaining instances of i before other vowels.

ni → n / __ V (2, 4, 7, 16, 42, 45)

c. The { a } of { wa }, { k^wa }, and { hra }

In the section on alternations in verb stems, it was noted that { a + i → v }. Elsewhere, the vowel { a } is deleted before other vowels.

Before v

- (3) yakẃnhe? we (pl) are alive { ak'+wa+vnhē+? }
 (9) ẃnhe? it (an animal) is alive { k^wa+vnhe+? }
 (11) ŕnhe? he is alive { hraa+vnhe+? }
 (43) wa?ké:kwv? I gave it to you (pl) { waa?+k'+e+k+wa+v+? }
 (44) wáhskwv? you all gave it to me { wa+a?+hs+k'+wa+v+? }

Before e

- (3) yá:kwv? we (pl) are walking { ak'+wa+e+? }
 (9) ì:we? it (an animal) is walking { k^wa+e+? }
 (11) íhre? he is walking { hraa+e+? }

Before a

- (3) wa?akwatshv̄:n̄v̄:ti? we liked it { wa+a?+ak'+wa+atshvn+vni+? }
 (5) ne?nwátkhwa? you and I are dancing { t+et+wa+at-kw+ha? }
 (9) nè:wá:tkhwa: it (an animal) is dancing { te+k^wa+at-kw+ha? }
 (11) θahráhrko? he went back { θ+a+hraa+ahrko+? }
 (11) wahratshv̄:n̄v̄:ti? he was glad { wa+a?+hraa+atshvn+vni+? }
 (11) nehrátkhwa? he is dancing { t+hraa+at-kw+ha? }

The rule below deletes the vowel { a } before other vowels.

a → ∅ / ___ v

(3, 5, 8, 10, 11,
17, 43, 46)

(13) nè:ýv:kvh they two see it

cf. wa?nyé:kvh they two saw it
(AORIST+DUAL+HUMAN)

(14) kà:yé:kvh they see it

cf. wa?kà:yé:kv? they saw it
(AORIST+PLURAL+HUMAN)

(34) ýv:kkvh someone sees me

cf. wa?v:kkv? someone saw me

(38) yeθá:kvh someone sees you

cf. weθá:kv? someone saw you

(19) yó:kv: it has seen it

The rule below inserts the glide.

$$X + V \rightarrow X + \bar{y} + V$$

where X ≠ AORIST

(2-3, 12-14, 16-17, 19, 21-23, 27, 27a, 31, 31a, 34-36, 38-40, 47-49)

V = initial vowel of pronominal string or following the plural marker { ka }.

Before /i/, the vowel { e' } dissimilates to /a/.

(12) yaírha? she is drinking

(12) wa?aíhrv:? she said it

The vowel is lowered according to the following rule.

$$e' \rightarrow a / _ i \quad (12-14)$$

Before all other vowels, a /k/ is inserted following the lowered vowel.

- (12) yakè:rih she thinks { e'+eri+h }
 (14) kayakè:rih they think { ka+e'+eri+h }
 (14) kayakvnhéhkv they are living on it { ka+e'+eri+h }
 (21) yakó:kvh it sees her { ak+o+kv+h }

The rule below inserts the velar.

$$e' + \begin{Bmatrix} e \\ v \\ o \end{Bmatrix} \rightarrow ak \begin{Bmatrix} e \\ v \\ o \end{Bmatrix} \quad (12-14, 21-23)$$

The vowel { e' } disappears between its objective marker { h } and the non-singular marker { ii }.

- (27) yvkhí:kvh we see him/her/them { ak'+h+e'+ii }

$$h + e' + ii \rightarrow h + ii \quad (27, 31)$$

Otherwise, the marker acts like other { e }.

$$e' \rightarrow e$$

The mid front vowel merges with a following { a } or { e } to yield the nasalized vowel.

- (41) ký:kvh I see you { k'+e+a+kv+h }
 (12) wá^k?v:t she went { w_a+a?^k+e+e:t }

$$e + \begin{Bmatrix} a \\ \underline{e} \end{Bmatrix} \rightarrow v \quad (12-14, 34-36, 41)$$

At this stage in its derivation, the third person human objective case pronoun has the form

ka + y + ak + o

(ka = plural marker
y = glide inserted before vowel-
initial pronominal strings
ak = indefinite human gender
o = objective case

In surface forms, the glide and one of the adjacent vowels are deleted. Note that this elision occurs only in the objective case pronoun.

(23) kakó:kvh it sees them

cf. kayakvnhékhvh they live on it

The deletion rule thus involves the entire pronominal string.

ka + y + ak + o → kako (23)

e. The third person objective case marker { o }

The object marker of third person acquires a glide before vowel-initial stems. Note the alternations in the forms below.

Before consonant-initial stems:

(19) neyoskané:kvht it is peculiar { te+y+o+skanekv+ht }

(20) nehroskané:kvht he is peculiar { te+hra+o+skanekv+ht }

(21) neyakoskané:kvht she is peculiar { te+hra+o+skanekv+ht }

(23) nekakoskané:kvht they are peculiar { te+ka+ak+o+skanekv+ht }

(20) ró:kv: he has seen it { hra+o+kv+: }

(20) nehrotihárhv he has run { te+hra+otiharh+v }

(20) rorá:thv: he has climbed { hra+orathv+: }

Before vowel-initial stems:

- (20) rawého:t he has shown it { hrao+eho:t+? }
- (20) ráwo: he has arrived { hrao+o+: }
- (20) rawkwé?v he has been defeated { hrao+vkwe+?+v }
- (20) rawetì:yv he had made it { hrao+etii+v }
- (23) kakawetì:yv they had made it { ka+ako+etii+v }

The rule can be stated as follows:

$$\underline{o} \rightarrow aw / \underline{\quad} V \quad (19-23)$$

f. The non-human marker k^w

The velar stop { k^w }, which indicates non-human gender, becomes a glide before all vowels except { v }, the result of { a + i }. Note the alternating shapes of this marker in the verbs below.

Before { a }

- (9) ì:we? it is coming { k^wa+e+? }

Before { a }

- (9) wahnv'tha? it destroys things { k^wa+ahnv+?t+ha? }

Before { v }

- (9) wv'to:ts it is raining { k^wa+vto:t+s }

But before { y }

- (9) kvhè:yvhs it is dying { k^wa+ihey+vs → k^wvhey+vs }

The rule below converts the stop k^w to a glide before all vowels except { v }.

$$k^w \rightarrow \underline{w} / _ V \quad (9)$$

where $V \neq \{ \underline{v} \}$

g. { k' }, { hs }, and { θ } of first and second person

When the first or second person markers immediately precede a cluster of two stops or a stop plus /h/, the vowel /e/ is inserted to break the cluster. The inserted vowel is underlined in the verbs below.

- (1) ketkáhne? I am chasing it { $k+tkahte+?$ }
- (6) θétkaht chase it! { $\theta+tkaht$ }
- (6) setkáhne? you are chasing it { $hs+tkahte+?$ }
- (15) waketkáhne? it is chasing me { $w+a+k+tkahte+?$ }
- (32) newaketkáhne? two animals are chasing me { $tc+w+a+k+tkahte+?$ }
- (33) raketkáhne? he is chasing me { $hra+a+k+tkahte+?$ }
- (34) yvketkáhne? she is chasing me { $y+e'+a+k+tkahte+?$ }
- (35) neyvketkáhne? they are chasing me { $te+y+e'+a+k+tkahte+?$ }
- (36) kayvketkáhne? they (pl) are chasing me { $ka+y+e'+a+k+tkahte+?$ }

The rule below inserts a vowel between these consonant-final pronominal strings and any consonant-cluster-initial stems.

$$C \rightarrow Ce / _ \begin{Bmatrix} t \\ k \\ h \end{Bmatrix} \begin{Bmatrix} t \\ k \\ h \end{Bmatrix} \quad (1, 6, 15, 32-36)$$

where C = final consonant of a pronominal string

Before low vowels, a velar glide appears after the objective first person marker. This glide is underlined below.

Before /v/

- (33) whrákwv? he gave it to me { wa?+hra+a+k'+v+? }
- (35) wa?nyv:kwv? they two gave it to me { wa?+t+y+e'+a+k'+v+? }
- (44) nákwv give it to me { t+a+k'+v+∅ }
- (44) aráhskwv for you to give it to me { aa+hs+k'+v }

Before /e/

- (44) nakwehó:thh∅ show me { t+a+k'+eho:t+hah∅ }

Before /a/

- (44) nakwa?tkáhri? ∅ tell me { t+a+k'+a?-tkahri+∅+? }

The rule below inserts the glide before low vowels.

$$ak' \rightarrow ak'w / _ \begin{cases} e \\ v \\ a \end{cases} \quad (15, 33-36, 44)$$

h. The Aorist

Certain alternations involving the aorist tense marker have appeared in Tuscarora, some quite recently.

The aorist combines with the neuter w plus the vowel /a/ (objective case marker or initial of a stem) to yield the nasal vowel /v/.

- (9) $\underline{v}:\text{?w}$ it came ({ $w+a?\underline{k}^w_a+o+?$ } \rightarrow $w+a?+\underline{w}+aw+?$)
- (9) $\underline{v}\theta\acute{a}:w?a:?$ it started ({ $w_a+a?\underline{k}^w_a+a\theta aw?a:??$ } \rightarrow $w_a+a?+\underline{w}+a\theta aw?a:??$)
- (15) $\underline{v}':kkv?$ it saw me ({ $w_a+a?\underline{k}^w_a+a+k'+kv+?$ } \rightarrow $w_a+a?+\underline{w}+a+k'+kv+?$)
- (15) $\underline{v}kw\acute{a}?ni?$ I lost it ({ $w_a+a?\underline{k}^w_a+a+k'+at-i+?$ } \rightarrow $w_a+a?+\underline{w}+a+k'+at-i+?$)

The rule below merges this sequence.

$$w_a + a? + \underline{w} + a \rightarrow \underline{v} \quad (9, 15)$$

(w_a = aorist tense marker
 \underline{w} = neuter or non-human gender)

Occasionally, the sequence /wah/ is prefixed to aorist forms which have undergone the above rule. These augmented forms are considered incorrect by many speakers but they are frequently used.

- (9) $\underline{w}ahv:\text{?w}$ it came
- (9) $\underline{w}ahv\theta\acute{a}:w?a:?$ it started
- (15) $\underline{w}ahv':kkv?$ it saw me
- (15) $\underline{w}ahvkw\acute{a}?ni?$ I lost it

The rule below is optional.

$$\underline{v} \rightarrow \underline{w}ahv \quad (9, 15)$$

(\underline{v} = $w_a a? \underline{w} a$)

Recall that a velar glide is inserted between the first person marker { k' } and a following low vowel, as in (15) above. This glide does not appear if a /w/ is present

elsewhere in the surface pronominal string, however. A /w/ appears in the surface string representing the non-human gender when no aorist is present to trigger the obligatory rule above ($w_a + a? + \underline{w} + a \rightarrow \underline{v}$). Compare the two verbs below. In the first, the glide follows the first person marker. In the second, no glide appears, since the non-human gender marker w is present.

- (15) yahvkwá?ni?
 { yah^w_aa?+k^w_a+a+k'+a?ti+? }
 translocative+aorist+non-human+objective+first-person+
 'throw'+punctual-aspect
 I threw it
- (15) wewak, á?nye?θ
 { we+k^w_a+a+k'+a?tie+?+θ }
 translocative+non-human+objective+first-person+'throw'+
 causative+serial
 I am throwing it

The rule below eliminates the glide in the presence of the non-human gender marker w. It applies after the coalescence of the aorist and non-human gender marker.

$$w \rightarrow \emptyset / \underline{w}ak' \underline{\quad} \quad (15, 32)$$

(w = non-human gender
 k' = first person)

Recall that following the aorist marker { w_a }, the sequence /a?/ is inserted before all pronominal prefixes except those beginning with the second person marker { eθ }. This enlarged aorist marker is sometimes partially merged with a following pronoun in modern Tuscarora.

The aorist increment /a?/ and the indefinite human

gender marker combine in several ways. The aorist may retain its form before the indefinite, as below.

(12) wa?etohá:re:? she washed it

(12) wa?é:kv? she saw it

The vowel of the aorist increment may be raised to the position of the following indefinite marker.

(12) we?etohá:re:? she washed it

(12) we?é:kv? she saw it

This optional assimilation is effected by the rule below.

$$w_a + a? + e' \rightarrow we'e' \quad (12)$$

The entire increment may be deleted before the indefinite human subject marker or before the first person exclusive marker.

(2) waktitohá:re? she and I washed it

cf. wa?aktitohá:re? she and I
washed it

(3) wakwatkáhtho? they and I looked

cf. wa?akwatkáhtho? they and
I looked

(12) wetohá:re:? she washed it

cf. wa?etohá:re:? she washed it

(12) waíhrv:? she said

cf. wa?aíhrv:? she said

The rule below deletes the indefinite human gender marker in word-initial position and following the aorist in this environment.

$$(y)v \rightarrow \emptyset / \left\{ \begin{array}{c} \# \\ w_a a? \end{array} \right\} _ \text{tat} \quad (47)$$

(Later automatic phonological rules convert $t \rightarrow ?n$ before vowels and merge the two glottal stops.)

4. Analogical Remodeling

Several of the pronominal strings do not appear to be constructed according to the same patterns as the others. Their surface shapes can be easily explained, however, in terms of their partial resemblances to these other strings. Among strings which were originally partially similar in shape, analogical leveling has occurred, disrupting the normal patterns of string formation.

The basic shapes of the strings expressing zero or non-human subjects with first person dual or plural objects should be the following, according to the patterns abstracted from the rest of the system.

(16) $*y+a+k'+\underline{ni} \rightarrow *yakti/yakt/yakn/yaky$

(17) $*y+a+k'+\underline{wa} \rightarrow *yakwa/yakwv/yakw$

In the actual forms, the first vowel is nasalized.

(16) $yvkti/yvkt/yvkn/yvky$

(17) $yvkwa/yvkwv/yvkw$

The nasalization is unexpected. Note, however, that when first person objects are combined with other third person objects, the resulting strings contain nasalized vowels. The vowels are the result of the combination of the indefinite marker (e') and the objective case marker of first person.

(34) $y+e'+a+k' \rightarrow yvk'$

cf. $y\acute{v}kkvh$ someone sees me
 $yvk\acute{h}i:kvh$ someone sees us

The first person forms which contain non-human subject markers were probably remodeled by analogy to those containing human subjects.

$$\underline{w} + a + k' + \left\{ \begin{array}{l} \underline{ni} \\ \underline{wa} \end{array} \right\} \rightarrow vk \left\{ \begin{array}{l} \underline{ni} \\ \underline{wa} \end{array} \right\} \quad (16, 17)$$

The remodeled strings show the same alternation as their models. The glide /y/ precedes them in the absence of the aorist. The remodeling rule must therefore be ordered before the rules for phonological alternations.

A second unexpected resemblance is apparent between subjective and objective second person non-singular strings. The expected forms of the subjects would be:

(7) $*hs+\underline{ni} \Rightarrow *(-h)sti/st/sn/tsy$

(8) $*hs+\underline{wa} \rightarrow *(-h)swa/swv/sw$

The actual forms of the subjective pronouns are identical to

second person objective forms, however. The person marker is { eθ } instead of the expected { hs }.

(7), (7a) (-e)θti/θt/θn/tsy

(8), (8a) (-e)θwa/θwv/θw

These subjective markers must have been remodeled to resemble their objective counterparts.

$$hs \rightarrow e\theta / \underline{\quad} \left\{ \begin{array}{l} \underline{ni} \\ \underline{wa} \end{array} \right\} \quad (7, 8, 31)$$

The third major irregularity in the system involves a number of strings which have come to resemble each other totally or partially. According to the patterns apparent in the structure of the other pronominal strings, the expected surface shapes of (27), (27a), (31), and (31a) would be those below.

(27) *(y)+ak'+h+e+ii → *(y)akhii

(27a) *(y)+e'+a+k'+ii → *(y)vkii

(31) *(e)θ+h+e+ii → *(e)θhii

(31a) *e'+(e)θ+ii → *eθii

The actual forms of the strings are quite different. (27) and (27a) have merged, as have (31) and (31a).

(27), (27a) yvkhii

cf. yvkhí:kvh we see him/her/them
he/she/they see us

(31), (31a) yvtsii

cf. yvtsí:kvh you see him/her/them
he/she/they see you

It appears that the four strings have exerted mutual influences in analogical leveling processes. Probably on the model of (27a), the first vowel of (27) was nasalized.

(y)akhii → (y)vkhii (27)

On the model of (27), /h/ was added to (27a).

(y)vkii → (y)vkhii (27a)

On the model of (31), /h/ was added to (31a).

(e)θii → (e)θhii (31a)

On the model of (27), the first vowel of strings (31a) and (31) were nasalized, and the glide (y) introduced.

(e)θhii → (y)vθhii (31)

As with the other analogically remodeled strings, the new strings follow the same patterns of phonological alternation as their models. The remodeling rules are therefore ordered before the rules which describe the alternations.

The rules involved in the derivation of pronominal strings are listed below in their order of application.

5. Summary of Rules Involved in the Derivation Pronominal Strings

RECIPROCAL FORMATION

$${}_v [(X) + g_1 n_1 + g_2 n_2 \text{obj} + Y]_v \quad \& \quad {}_v [(X) + g_2 n_2 + g_1 n_1 \text{obj} + Y]_v$$

$$\rightarrow {}_v [(X) + g_1 + g_2 n_1 + n_2 + g_1 + g_2 n_1 + n_2 \text{obj} + Y]_v$$

where X = any prepronominal prefixes
Y = remainder of the verb

REFLEXIVE FORMATION

$$g_1 n_1 + g_1 n_1 \text{obj} \rightarrow g_1 n_1 + \emptyset + \text{REFLEXIVE}$$

PERFECTIVE PRONOUN SWITCH

$${}_v [(X) + g_1 n_1 + (Nn \text{obj}) + V + \text{PERFECTIVE (+T)}]_v \rightarrow$$

$${}_v [(X) + \emptyset + g_1 n_1 \text{obj} + V + \text{PERFECTIVE (+T)}]_v$$

where X = any prepronominal prefixes
V = verb stem
T = tense marker

MASCULINE-INDEFINITE GENDER MERGER

$$M \rightarrow I / X$$

$$\text{where } X \neq \left\{ \begin{array}{l} _s + (\left\{ \begin{array}{l} Nn \\ 1s \end{array} \right\} \text{obj}) \\ (Nn) + _s \text{obj} \end{array} \right\}$$

(10a, 13-14,
22-31, 27a,
31a, 35-36,
38-40, 47-49)

NON-THIRD PLURAL PLACEMENT

$$(g_1 n_1) + (g_2 n_2 \text{obj}) \rightarrow (g_1) + g_2 \text{obj} + \underline{pl} \quad (3, 5, 8, 17, 27, 27a, 31, 31a, 43, 46)$$

$$\text{where } \left\{ \begin{array}{l} g_1 n_1 \\ g_2 n_2 \end{array} \right\} \begin{array}{l} h \\ s \end{array} \left\{ \begin{array}{l} 1-2 \\ 1-3 \\ 2 \end{array} \right\} p$$

NON-THIRD PERSON DUAL PLACEMENT

$$(g_1 n_1) + (g_2 n_2 \text{ obj}) \rightarrow (g_1) (g_2 \text{ obj}) + \underline{du} \quad (2, 4, 7, 16, 27, 27a, 31, 31a, 42, 45)$$

$$\text{where } \begin{pmatrix} g_1 n_1 \\ g_2 n_2 \end{pmatrix} = \begin{pmatrix} 1-2 \\ 1-3 \\ 2 \end{pmatrix} d$$

THIRD PERSON PLURAL PLACEMENT

$$(g_1 n_1) + (g_2 n_2 \text{ obj}) \rightarrow \underline{pl}_3 + (g_1) + (g_2 \text{ obj}) \quad (14, 23, 26, 30, 36, 40, 49)$$

$$\text{where } \begin{pmatrix} g_1 n_1 \\ g_2 n_2 \end{pmatrix} = I_p$$

THIRD PERSON SUBJECTIVE DUALIC PLACEMENT

$$(X) + \begin{pmatrix} N \\ I \end{pmatrix} d + \begin{pmatrix} 1 \\ 2 \\ I \end{pmatrix} n \text{ obj} \rightarrow DU + (X) + \begin{pmatrix} N \\ I \end{pmatrix} + \begin{pmatrix} 1 \\ 2 \\ I \end{pmatrix} \text{obj} \quad (10, 13, 32, 37, 39, 48)$$

THIRD PERSON OBJECTIVE DUALIC PLACEMENT

$$(X) + (gn) + I d \text{ obj} \rightarrow DU + (X) + (g) + I \text{ obj} \quad (22, 25, 29, 28)$$

where X = future or indefinite and/or iterative or cislocative

NUMBER DROP

$$\begin{pmatrix} s \\ d \\ p \end{pmatrix} \rightarrow \emptyset \quad (1, 6, 9, 12, 18-21, 24, 28, 33, 34, 38, 41, 44, 47)$$

HUMAN-NON-HUMAN GENDER MERGER

$$X + \emptyset + I \text{ obj} \rightarrow X + N + \emptyset \quad (9a, 10a)$$

where X ≠ pl_3

NON-HUMAN OBJECT NULLIFICATION

$$N \text{ obj} \rightarrow \emptyset \quad (1-14)$$

NON-HUMAN SUBJECT NULLIFICATION

$$N \rightarrow \emptyset / _ \left\{ \begin{array}{c} 2 \\ M \\ I \end{array} \right\} \text{obj} \quad (7a, 8a, 18)$$

ZERO-NON-HUMAN MERGER

$$\emptyset \rightarrow N / _ 1 \text{obj} \quad (15-17)$$

INCLUSIVE-EXCLUSIVE DELETION

$$\left\{ \begin{array}{c} 1-2 \\ 1-3 \end{array} \right\} \rightarrow 1 / _ \text{obj} \quad (16-17, 27a, 45-46)$$

INCLUSIVE-EXCLUSIVE MERGER

$$1-2 \rightarrow 1-3 / _ I \text{obj} \quad (27)$$

NON-SINGULAR MARKING

$$\left\{ \begin{array}{c} \text{pl} \\ \text{du} \end{array} \right\} \rightarrow \text{ns} / \left\{ \begin{array}{c} I + \left\{ \begin{array}{c} 1 \\ 2 \end{array} \right\} \text{obj} _ \\ \left\{ \begin{array}{c} 1-3 \\ 2 \end{array} \right\} + I \text{obj} _ \end{array} \right\} \quad (27, 27a, 31, 31a)$$

OBJECTIVE CASE REORDERING

$$1 \text{obj} \rightarrow \text{obj} 1 \quad (15-17, 27a, 32-36)$$

OBJECTIVE CASE DELETION

$$\text{obj} \rightarrow \emptyset / 2 _ \left\{ \begin{array}{c} 1 \\ \text{du} \\ \text{pl} \\ \text{ns} \end{array} \right\} \quad (7, 8, 31a, 44-46)$$

THIRD TO THIRD REFLEXIVIZATION

$$I \diamond I \text{obj} \rightarrow I + \text{REFLEXIVE REFLEXIVE} \quad (47-49)$$

DUALIC MARKING OF IMPERATIVES

(X) + 2 + obj1+Y+ IMPERATIVE \rightarrow DU + (X)+1 obj+Y+IMPERATIVE
 where X = iterative or cislocative, Y = ($\left\{ \begin{array}{c} \text{du} \\ \text{pl} \end{array} \right\}$) + verb stem

PHONOLOGICAL READJUSTMENT RULES

Analogical Remodeling

$$\underline{w} + a + k' + \begin{Bmatrix} \underline{ni} \\ \underline{wa} \end{Bmatrix} \rightarrow vk' \begin{Bmatrix} \underline{ni} \\ \underline{wa} \end{Bmatrix} \quad (16, 17)$$

$$hs \rightarrow e\theta / _ \begin{Bmatrix} \underline{ni} \\ \underline{wa} \end{Bmatrix} \quad (7, 8, 31)$$

$$(y)akhii \rightarrow (y)vkhii \quad (27)$$

$$(y)vkii \rightarrow (y)vkhii \quad (27a)$$

$$(e)\theta ii \rightarrow (e)\theta hii \quad (31a)$$

$$(e)\theta hii \rightarrow (y)v\theta hii \quad (31)$$

Phonological Alternations

$$\underline{i} \rightarrow \emptyset / V _$$

$$\underline{i} \rightarrow i / \text{elsewhere}$$

$$\underline{a} + i \rightarrow \underline{v} \quad (3, 5, 8, 10, 11, 17, 43, 46)$$

$$\underline{ni} \rightarrow i / _ a \quad (2, 4, 7, 16, 42, 45)$$

$$\underline{ni} \rightarrow n / _ V \quad "$$

$$\underline{a} \rightarrow \emptyset / _ v \quad (3, 5, 8, 10, 11, 17, 43, 46)$$

$$e \rightarrow \emptyset / \# _ \begin{Bmatrix} \theta \\ t \end{Bmatrix} \quad (4-5, 7-8, 7a, 8a, 18)$$

$$X + V \rightarrow X + y + V$$

where X ≠ AORIST

V = initial vowel of pronominal string or first vowel after plural marker /ka/

(2-3, 12-14, 16-17, 19, 21-23, 27, 27a, 31, 31a, 34-36, 38-40, 47-49)

$e' \rightarrow a / _ i$ (12-14)

$e' + \begin{Bmatrix} e \\ v \\ o \end{Bmatrix} \rightarrow ak \begin{Bmatrix} e \\ v \\ o \end{Bmatrix}$ (12-14, 21-23)

$h+e'+ii \rightarrow hii$ (27, 31)

$e' \rightarrow e$

$e + \begin{Bmatrix} a \\ e \end{Bmatrix} \rightarrow v$ (12-14, 34-36, 41)

$ka + y + ak + \underline{o} \rightarrow kako$ (23)

$\underline{o} \rightarrow aw / _ V$ (19-23)

$k^w \rightarrow \underline{w} / _ V$ (9, 9a)

$C \rightarrow Ce / _ \begin{matrix} t \\ k \\ h \end{matrix}$ (1, 6, 15, 32-36)

where C = final consonant of a pronominal string

$ak' \rightarrow ak'w / _ \begin{Bmatrix} e \\ v \\ a \end{Bmatrix}$ (15, 33-36, 44)

The Aorist and Pronominal Strings

$w_a + a? + \underline{w} + a \rightarrow \underline{v}$ (9, 15)

opt $\underline{v} \rightarrow wahv$ (9, 15)

$w \rightarrow \emptyset / \underline{wak}' _$ (15, 32)

opt $w_a + a? + e' \rightarrow we'e'$ (12)

opt $a/ \rightarrow \emptyset / w_a _ V$ (2, 3, 12, 16, 17, 19)

where V = initial vowel of a # pronominal string

$(y) \rightarrow \emptyset / \begin{Bmatrix} \# \\ w_a a? \end{Bmatrix} _ tat$ (47)

"

,

6. Sample Conjugation

The verb { tkaht } 'chase' is conjugated below in the aorist tense. The numbers to the left of the forms refer to boxes in Lounsbury's chart.

- (1) wa?kétkaht I chased it
- (2) wa?aktí:tkaht he and I chased it
- (3) wa?akwá:tkaht they and I chased it
- (4) we?tí:tkaht you and I chased it
- (5) we?nwá:tkaht you (du or pl) and I chased it
- (6) wahsétkiht you chased it
- (7) weθtí:tkaht you two chased it or it chased you two
- (8) weθwá:tkaht you all chased it or it chased you all
- (9) wa?ká:tkaht an animal chased it
- (10) wa?tká:tkaht two animals chased it
- (11) wahrá:tkaht he chased it
- (12) we?é:tkaht she chased it
- (13) wa?nyé:tkaht they two chased it
- (14) wa?kà:yé:tkaht they chased it
- (15) wahvkétkiht it chased me
- (16) wa?vktí:tkaht it chased us two
- (17) wa?vkwá:tkaht it chased us all
- (18) weθá:tkaht it chased you
- (19) no aorist form (yotkáhny: it has chased it)
- (20) wahró:tkaht it chased him
- (21) wakó:tkaht it chased her
- (22) wa?nyakó:tkaht it chased them both

- (23) wa?kako':tkaht it chased them all
- (24) wa?khe':tkaht I chased him/her
- (25) wa?tkhe':tkaht I chased them two
- (16) wa?kakhé':tkaht I chased them all
- (27) wvkhí':tkaht we chased him/her/them or he/she/they chased us
- (28) wahshé':tkaht you chased him/her
- (29) wa?tshé':tkaht you chased them two
- (30) wa?kahshé':tkaht you chased them all
- (31) wvtsí':tkaht you all chased him/her/them or he/she/they
chased you
- (32) wa?nwaké'tkaht two animals chased me
- (33) wahraké'tkaht he chased me
- (34) wa?vké'tkaht she chased me
- (35) wa?nyeké'tkaht they two chased me
- (36) wa?kayvké'tkaht they all chased me
- (37) wa?nyeθá':tkaht two animals chased you
- (38) weθá':tkaht he/she chased you
- (39) wa?nyeθá':tkaht they two chased you
- (40) wa?kayeθá':tkaht they all chased you
- (41) wa?kv':tkaht I chased you
- (42) wa?kektí':tkaht I chased you two
- (43) wa?kekwa':tkaht I chased you all
- (44) wahské'tkaht you chased me
- (45) wahsktí':tkaht you chased us two
- (46) wahskwa':tkaht you chased us all
- (47) wa?na?ná':tkaht he chased him/her
- (48) wa?nye?na?né':tkaht he/she chased two of them
- (49) wa?kayv?na?né':tkaht he/she/they chased them or
they chased him/her/them

CHAPTER III

NOUNS

Tuscarora words can be classified formally, according to their internal morphological structure, or functionally, according to the ways in which they enter into larger lexical and syntactic constructions. Formal nouns exhibit a rigid, characteristic internal structure, just as verbs do. A set of attributive suffixes can be added to all words which function as nominals, however, whether they be morphological nouns, verbs, or unanalysable particles.

A. Formal Nouns

Basic morphological nouns can be analyzed into three sections.

PRONOMINAL PREFIX	NOUN STEM	NOMINAL SUFFIX
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1. The Pronominal Prefix

The prefixes occurring in nouns are nearly identical in form to those found in intransitive morphological verbs. In nouns, the pronominal prefixes refer to the person(s) or objects identified. Since no number distinction is made in non-human objective pronouns, no number distinction is usually

made neuter nouns. The prefixes are underlined in the nouns below.

Neuter Nouns

ò-n'vhs-eh house(s)

ó:-khw-eh food

ò:-n'vtsh-eh arm(s)

à:w-v-? water

à:w-v'hr-eh soil

à:w-v'n-eh day(s)

Masculine Singular Nouns

ra-táskw-eh slave

r-v':kw-eh man

ra-ká:θ?ah boy

ra-?níha:? man

Feminine-Indefinite Human Singular Nouns

e-θrà:y-eh young lady

ú:-kw-eh person

e-ká:θ?ah child or little girl

Indefinite Human Dual Nouns

neye-?níha:? two men

neye-θrà:y-eh two young ladies

Indefinite Human Plural Nouns

kaye-?níha:? men

kaye-θrà:y-eh young women

These prefixes are identical in shape to those found in verbs, with one exception. The word-initial /y/, which precedes neuter and feminine-indefinite singular pronouns on verbs, is absent from nouns.

<u>ò</u> :n ^v hsch	house	<u>y</u> ohratóhsnv	it has frozen
<u>à</u> :w ^v hrch	soil	<u>y</u> awvhè:yv?	it has died
<u>c</u> θrà:yeh	young lady	<u>y</u> c ^y v ^h skoh	she is laughing
<u>rat</u> áskweh	slave	<u>rà</u> :y ^v hskoh	he is laughing
<u>ncyc</u> θrà:yeh	two young ladies	<u>ncyè</u> :y ^v hskoh	they two are laughing
<u>kaye</u> θrà:yeh	young ladies (pl)	<u>kayè</u> :y ^v hskoh	they are laughing

Note that the /y/ is still present in the dual and plural pronouns /neye/ and kaye/, where it is not word-initial. A rule must delete the glide initially, after its general insertion has taken place.

$y \rightarrow \emptyset / \# _ V + X$

where V = initial vowel of a pronominal string
X contains a noun stem and nominal suffix

2. The Noun Stem

a. Simplex stems

The vast majority of noun stems in Tuscarora consist of simple noun roots which are morphologically unanalysable. The nouns in the examples above contain simplex stems.

b. Derived Stems

Noun stems can also be derived from verbs. A derived stem usually consists of a verb stem plus a nominalizing morpheme.

PRONOMINAL PREFIX	NOUN STEM		NOMINAL SUFFIX
	VERB STEM	NOMINALIZER	

The nominalizer is underlined in the nouns below.

o-tkwá <u>htsr</u> -eh	dance	(<u>atkw</u> = verb root 'dance')
o-?tkahryé <u>htsr</u> -eh	story	(<u>a?tkahrey</u> = verb root 'tell')
aw-vnhé? <u>tsr</u> -eh	heart	(<u>vnhe?</u> = verb root 'live')
o-?netyá <u>hst</u> -eh	clothing	(<u>a?netya</u> = verb root 'dress')
o-?thn <u>vhst</u> -eh	ball	(<u>a?thnv</u> = verb root 'play ball')

The verb stem may itself be complex, containing an incorporated noun root and/or other verbal modifiers in addition to the verb root.

PRONOMINAL PREFIX	NOUN STEM			NOMINAL SUFFIX
	VERB STEM		NOMINALIZER	
	(REFL)	(NOUN)		

Some nouns whose stems are built on complex verb stems are below.

okerhó:tsreh
 o+kerh+o+tsr+eh
 non-human-objective+'body'+ 'cover'+nominalizer+nominal-suffix
 that-which-covers-the-body
 dress

o?nekhwahráhtsreh
 o+?ne+khw+a+hra+htrs+eh
 non-human-objective+'food'+joiner+'set'+nominalizer+nom-suffix
 that-which-food-is-put-on
 table

These derived noun stems can be incorporated into verbs just as simplex noun stems can. The cycle can be run repeatedly through the formation of ever larger noun and verb stems by incorporation, nominalization, incorporation, ..., but multi-cycle constructions are relatively rare.

kaθetsrayatò:re?
 ka+θe+tsr+a+yatore+?
 non-human+'drag'+nominalizer+joiner+'fast'+perfective
 the thing-which-drags-goes-fast
 automobile

ratkwahtsrawíhvh
 r+at+kw+a+htrs+wihv+h
 masculine+reflexive+'dance'+nominalizer+joiner+'know-how'+serial
 he is good at dancing

A number of noun stems clearly originated as compounds of morphemes, but fusion has rendered them morphologically unanalyzable. Some nouns consistently appear with antepenultimate stress.

ótkwareh blood
 ohskv':?nareh bark of a tree
 ohv':wareh pipe
 otá':?nareh bread

These stems probably originated as verb stems consisting of a verb root r 'in' plus an incorporated noun root.

Epenthetic /a/, which does not bear stress, was inserted between the stems when the noun stem ended in a consonant.

c. The specific marker

The morpheme { vn } can be suffixed to the noun stem to form a new stem. The morpheme adds the meaning 'a certain' or 'a specific kind of'. The morpheme is underlined in the nouns below.

onvhsv́:teh a certain kind of house

cf. ò:nv́hseh house

awv?ń:teh certain day

cf. à:wv?neh day

okhwv́:teh a kind of food

cf. ó:khweh food

eyehsv́:teh a certain person

Nouns of this form are used in questions requesting a specification (which one) and in statements which point out or specify.

tà:wv́:teh oyehsv́:teh ha? tsi:r wáhskv?

ta:wv:teh o+yehs+vt+eh tsi:r wa+hs+kv+?

'which' non-human-obj+'being'+specific+nominal-suffix

'dog' aorist+2nd-person+'see'+punctual

which certain-individual dog you-saw-it

Which dog did you see?

kyé:nv: orv?v́:teh

k+ye:nv: o+rv?+vt+eh

1st-person+'hold' non-human-obj+'tree'+specific+nominal-suffix

this certain-tree

This is the tree.

4. The Nominal Suffix

Nearly all true morphological nouns end in the morpheme -eh. A very few nouns end in -a?, -v?, and -?.

o-hwíst-a? money

o-htsíhr-v? bear

à:w-v-? water

It appears that some of the few remaining suffixes in -a? and -v? are being remodeled to -eh. Twenty-five years ago, Lounsbury recorded the words below from William Chew, who was then a very old man.

ka-kvhs-a? face

o-?wáhr-v? meat

Elton Greene now pronounces these as

o-kvhs-eh face

o-?wáhr-eh meat.

B. Other Functional Nominals

Clauses, verbs, and unanalyzable particles can function as nominals as well as formal nouns. Clausal nominals such as sentential subjects and complements are described in the chapter on complex sentences. Verbal nominals, which usually describe their referents, are constructed according to principles discussed in the chapter

on verbs. The unanalyzable particles, which enter into larger lexical and syntactic constructions in the same way that formal nouns do, arise from three sources.

A few unanalyzable nouns are onomatopoeic in origin, or borrowed from languages in which they were onomatopoeic.

kwékwe duck

Many unanalyzable nouns have been borrowed from other languages.

króhsih 'store'

o:ts oats

áha:θ horse

tá:ko:θ cat

thi: tea

A large number of unanalyzable nouns originated as verbal descriptions of their referents. Animals, for example, are often designated in terms of their characteristic appearance or behavior. In many cases, the roots on which the verbs were based subsequently fell out of the language except in these animal names, or historical changes obscured the original morphological structure of the descriptive verb. Many animal names are perfective verbs with masculine subjects which describe(d) usual behavior. (The animals are referred to by regular non-human pronominal

prefixes in verbs.)

roya?kwáhehr dinosaur (he sets it on his midriff)

rò:rá:thv black snake (he climbs)

rohsnarò:ro? butterfly

rohskwá:?neh snake[•]

Occasionally the initial /r/ drops on these words, leaving what resembles the neuter prefix /o/.

ohskwá:?neh snake

On many other nouns, the pronominal prefix has been lost, leaving the bare stem.

tsihkw louse

tsí?nv? bird

C. Possessive Constructions

Ownership is shown in Tuscarora by two main types of constructions, those designating inalienable possession, such as of body parts, and those indicating alienable possession, where ownership could be disputed. Although some possessive constructions are realized as surface verbs, all are discussed in this section together for purposes of comparison.

1. Inalienable Possession

Surface constructions indicating inalienable

possession are quite simple. The neuter pronominal prefix on the possessed noun is replaced by a subjective pronoun referring to the possessor. Note that the /y/-less forms of the pronouns are used. The stem and nominal suffix remain the same.

o-?éhn-eh hand

k-?éhn-eh my hand(s)

ti-?éhn-eh our (du) hands

s-?éhn-eh your hand(s)

θti-?éhn-eh your (du) hands

θwa-?éhn-eh your (pl) hands

ka-?éhn-eh its hands (of an animal or statue)

ra-?éhn-eh his hand(s)

e-?éhn-eh her hand(s)

neye-?éhn-eh their (du) hands

kaye-?éhn-eh their (pl) hands

o-tkwar-eh blood

ké-tkwar-eh my blood

sc-tkwar-eh your blood

rá-tkwar-eh his blood

é-tkwar-eh her blood

kà:yé-tkwar-eh their blood

a:w-vtkwé:θ-eh knee

k-vtkwé:θ-eh my knee(s)

s-vtkwé:θ-eh your knee(s)

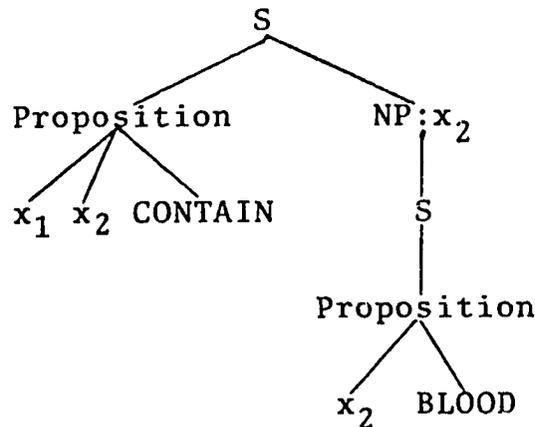
r-vtkwé:θ-eh his knee(s)
 ak-vtkwé:θ-eh her knee(s)
 neyak-vtkwé:θ-eh their (du) knees
 kayak-vtkwé:θ-eh their (pl) knees

o-?rwáhθ-eh tail

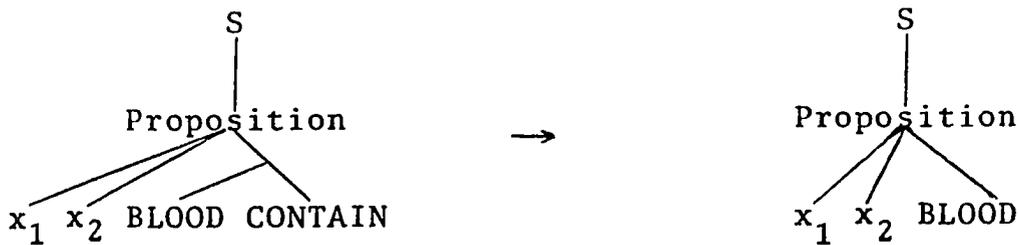
k-i?rwáhθ-eh my tail
 ka-?rwáhθ-eh an animal's tail
 ra-?rwáhθ-eh his tail

The structures underlying possessed nouns can be represented as below. x_1 refers to the possessor and x_2 to the blood.

ketkwareh my blood



Predicate raising yields the structure below, in which the possessor is still the first argument, i.e., the subject. The predicate CONTAIN is realized on the surface in these words as \emptyset .



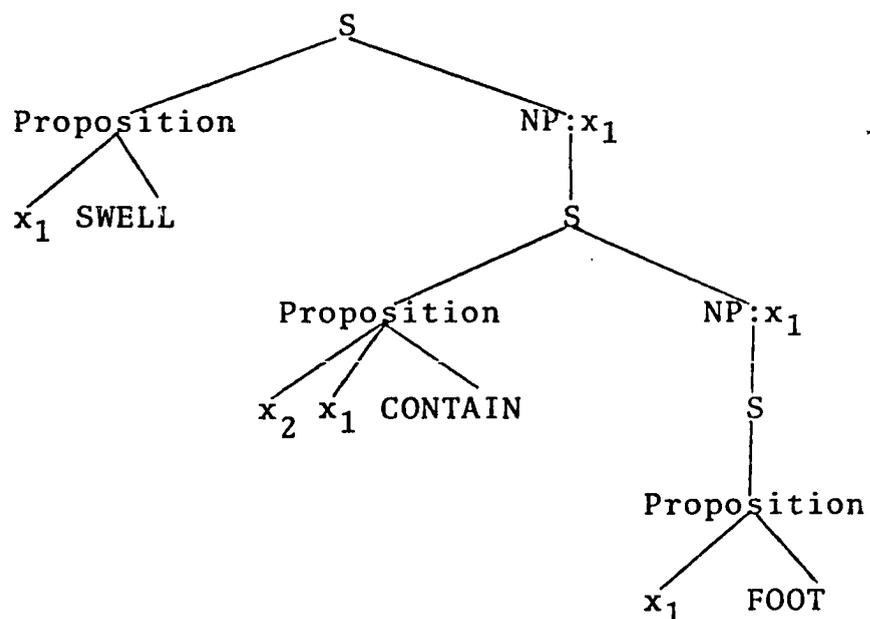
2. Incorporation of Inalienably Possessed Nouns

Inalienably possessed nouns can be incorporated into higher verbs. Such a noun is incorporated below.

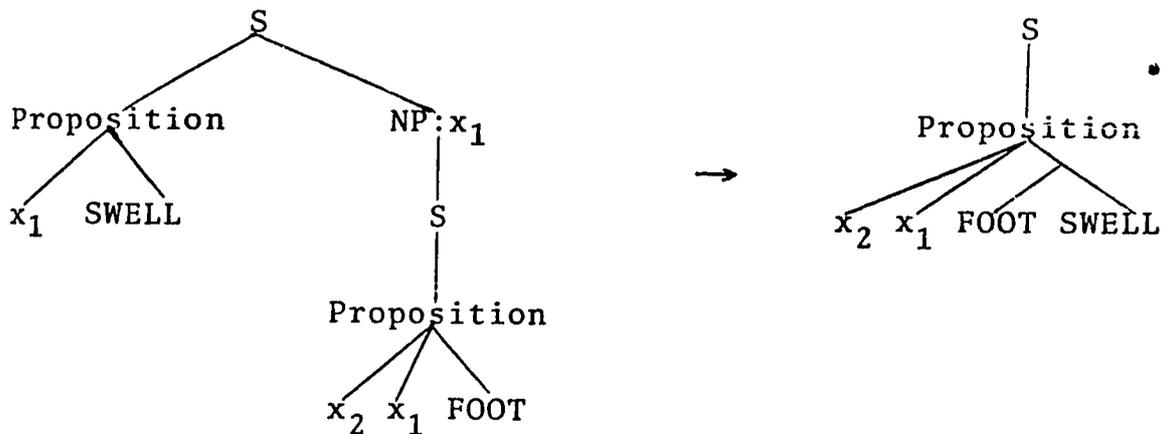
ka?nahsóhnhv
 k+a?n+ahs+ohnv+h
 1st-person-reflexive+'foot'+ 'swell'+serial
 my foot is swelling

cf. wa?nóhnhv it is swelling

The structure underlying this verb is below. x₂ refers to the first person possessor and x₁ to the foot.



Predicate raising yields



When an agent acts upon the inalienable possession of another person, the possessor is realized as the object. (Note the resemblance between these constructions and the French Je lui ai coupé les cheveux or the German Ich habe ihm die Haare geschnitten, where the possessor is the indirect object or dative.)

wa?khehké?wákwaht
 wa?+khe+hke?w+a+kwaht
 aorist+1st-person+obj-masc+'hair'+joiner+'cut'-punctual
 I-him-hair-cut
 I cut his hair.

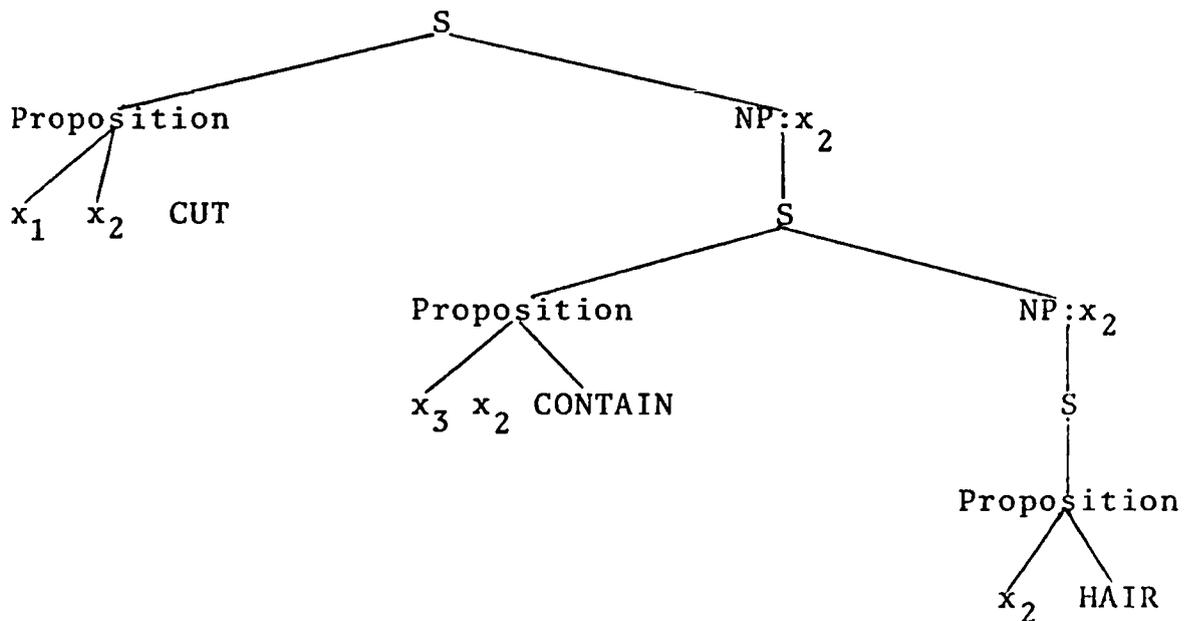
cf. wá?kkwaht I cut it

wa?khekvhsohá:re:?
 wa?+k+he+kvhs+ohare:+?
 aorist+1st-person+objective+human+'face'+ 'wash'+punctual
 I-him-face-washed
 I washed his face

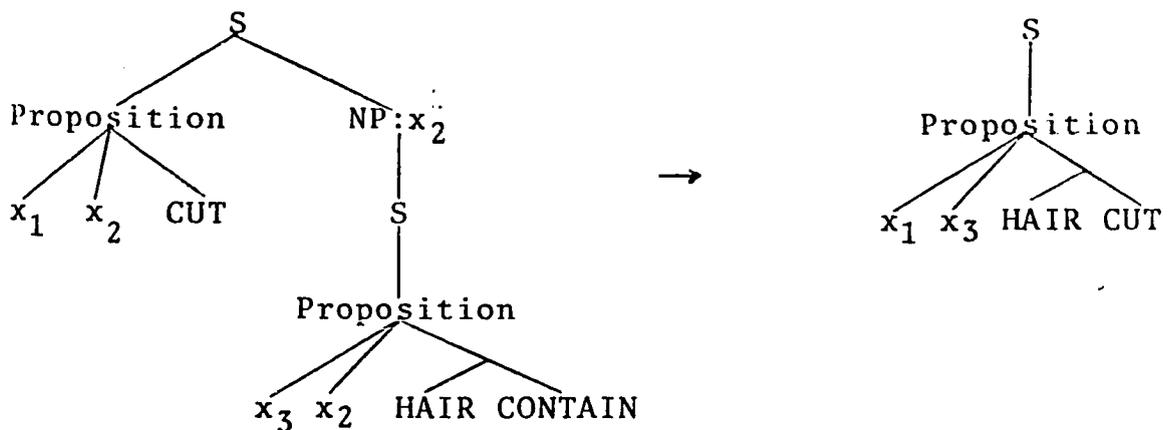
cf. wa?ktoha:re? I washed it

The fact that the possessor appears as the morphological subject is predicted by the underlying structure set up for

inalienably possessed nouns. The structure underlying such transitive verbs with incorporated possessed objects can be represented as below. x_1 is the agent (cutter), x_2 the hair, and x_3 the possessor of the hair.



Successive applications of predicate raising yield a single, complex proposition.



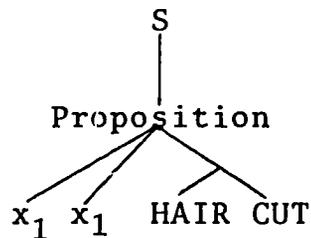
When an agent acts upon his own inalienable possession, he himself is considered the syntactic object, so a reflexive

verb results.

wa?kathké?wakwaht
 wa?+k+at+hke?w+a+kwaht
 aorist+1st-person+reflexive+'hair'+joiner+'cut'-punctual
 I-myself-hair-cut
 I cut my hair.

wa?katkvhsohá:re:?
 wa?+k+at+kvhs+ohare:??
 aorist+1st-person+reflexive+'face'+ 'wash'+aorist
 I-myself-face-washed
 I washed my face.

The structure underlying the first verb above is the same as that just sketched, except that the agent, x_1 , and the possessor of the hair are coreferent. After predicate raising, the structure is

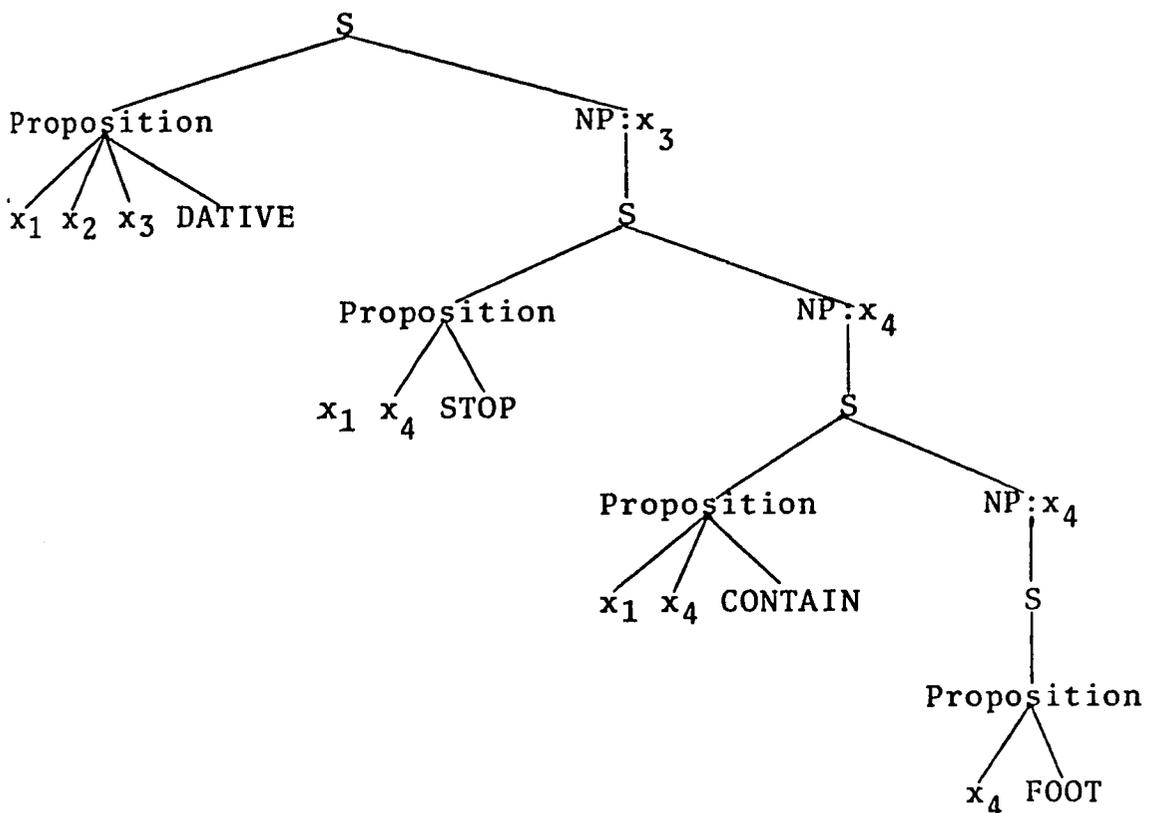


Inalienably possessed objects can also be instruments or secondary causes of actions. Consider the verb below.

wa?tkheya?rvhsahr^hwhah^θ
 wa?+t+k+h+ey+a?+rvhs+a+hrvhw+hah^θ
 aorist+dualic+1st-person+objective+human+reflexive+'leg'+
 joiner+'sto'+dative-punctual
 I stopped my foot for him → I tripped him

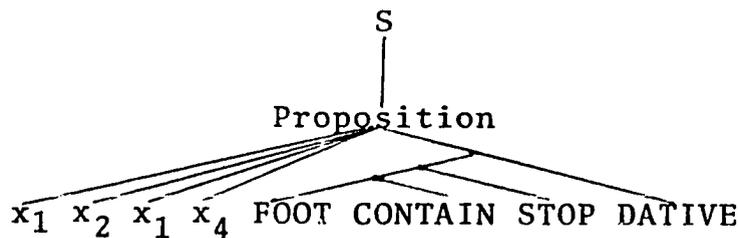
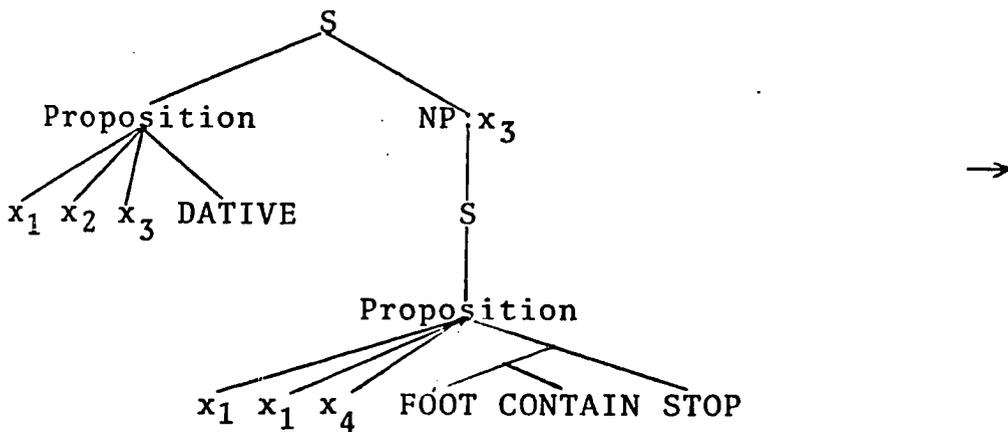
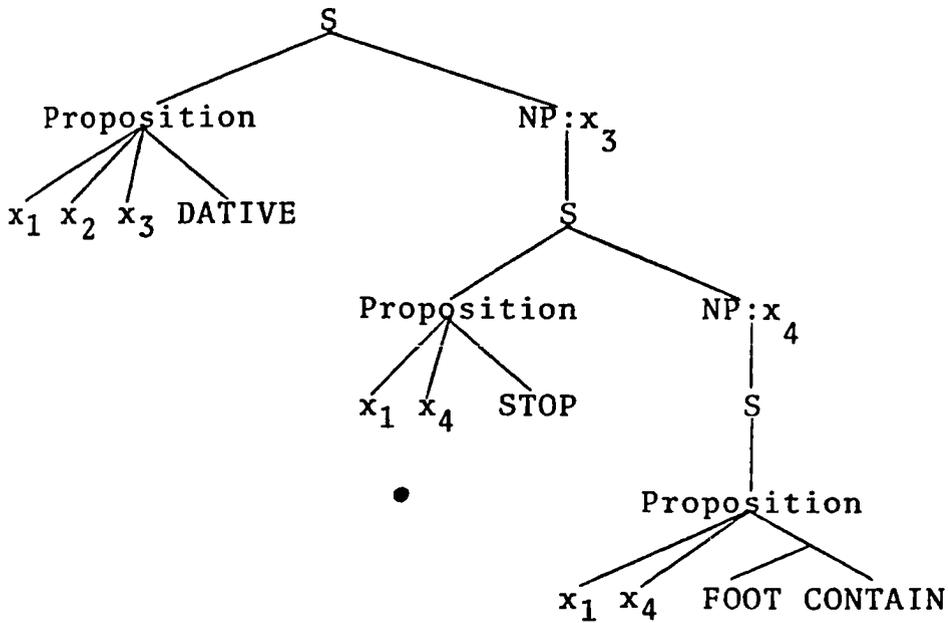
The verb contains a dative morpheme relating the agent and the beneficiary (victim) plus a reflexive indicating that the possessor of the incorporated instrument is coreferent

with the primary agent. The structure proposed for inalienable possessions predicts the occurrence of surface structures just like that above. Under this analysis, the structure underlying the verb above is as follows. x_1 is the agent and possessor, x_2 the beneficiary of the act, and x_3 the act. x_4 is the foot.



Successive applications of predicate raising yield the structures below. The resulting order of semantic predicates is exactly that of the morphemes in the surface verbs.

•



The indices referring to animate arguments, x_1 , x_2 , and x_1 , are realized as the sequence $k+hey+a?$ (first-person+objective-human+reflexive).

3. Alienable Possession

The possession of objects whose ownership could be disputed is expressed in one of several ways. If the possessed noun functions as an argument in a higher proposition, the noun is incorporated into a perfective verb. Although the words are morphological verbs, the y-less pronominal prefixes are used to refer to the owner. (The pronouns yvkti and yvkwá, which received the /y/ through analogical remodeling, generally do not lose it here.)

ò:nv́hseh house

akn'v́hsawv my house

yvktì:nv́hsawv our (du) house(s)

yvkwà:nv́hsawv our (pl) house(s)

èà:nv́hsawv your house

ètì:nv́hsawv your(du) house(s)

èwà:nv́hsawv your (pl) house(s)

rò:nv́hsawv his house

akò:nv́hsawv her house

neyakò:nv́hsawv their (du) house(s)

kakò:nv́hsawv their (pl) house(s)

rotshá:rawv his door

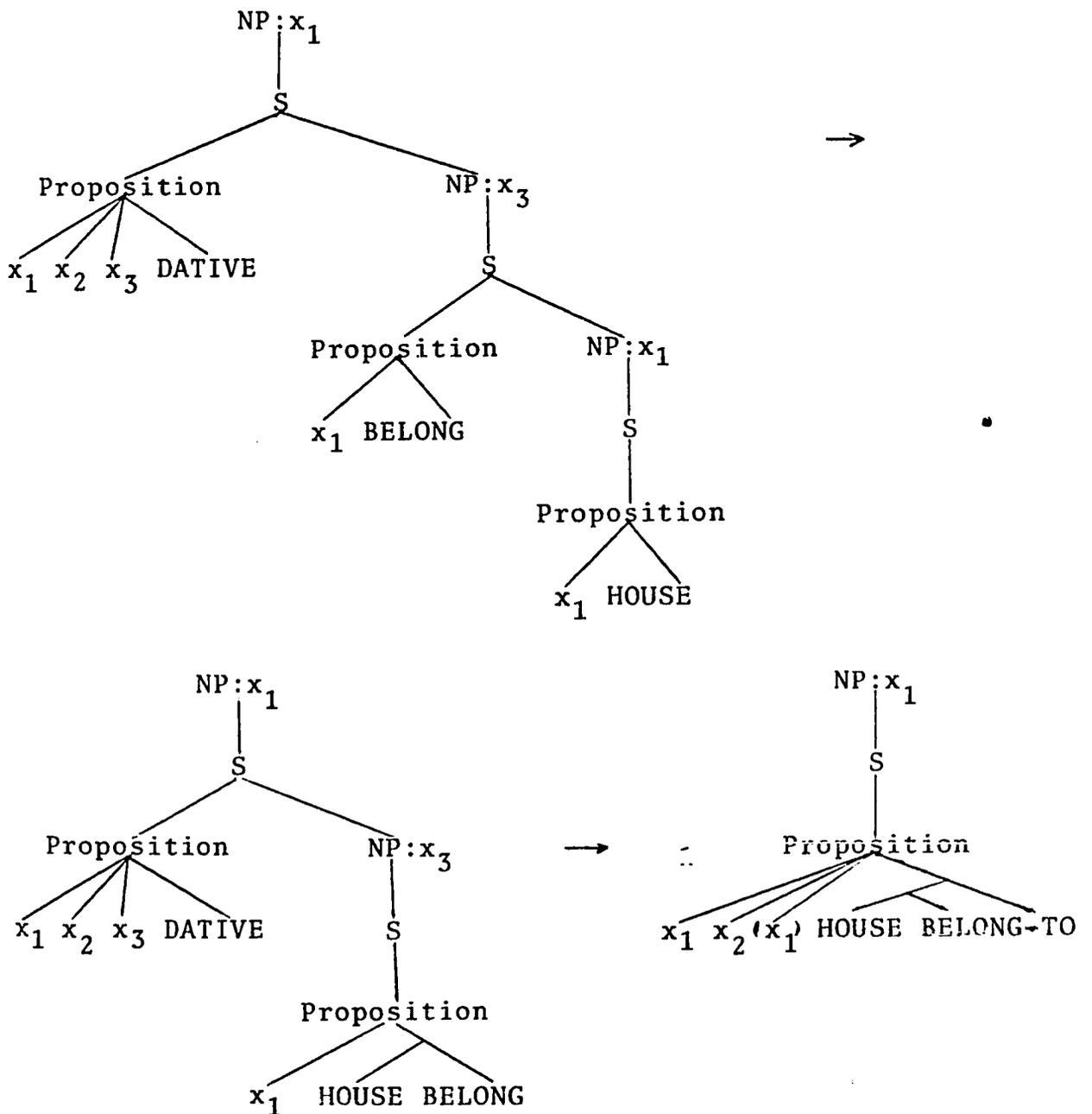
akò:wí:rawv her baby

Derived noun stems can be incorporated in the same way into possessive verb stems.

akokerhó:tsrawv
 ak+o+kerh+o+tsr+a+wv
 human+objective+'body'+ 'cover'+nominalizer+joiner+'belong-to'
 -perfective
 her dress

The structure underlying these alienable possessives is below.
 x₁ refers to the house, and x₂ to the owner.

aknvhsawv my house



If the alienable possession of the object is the main predication, the same verb may be used without incorporation of the noun. Compare the two sentences below.

hè:ní:kv: okerhó:tsreh v̂:nv? akà:wv
 he:ni:kv: o+kerh+o+tsr+eh v:nv? ak+aw+v
 that non-human+'body'+cover'+nominalizer+nominal-suffix
 'mother' human+objective+'belong-to'-perfective
 that dress mother it-belongs-to-her
 That dress belongs to my mother.

v̂:nv? akokerhó:tsrawv
 v:nv? ak+o+kerh+o+tsr+a+wv
 'mother' human+objective+'body'+cover'+nominalizer+joiner+
 'belong-to'-perfective
 mother her-dress
 That is my mother's dress.

The verb yv? 'exist for' or 'belong to' is also used to predicate alienable possession in main clauses. In contrast with the forms above, which contained y-less nominal pronouns, these verbs contain regular verbal pronominal prefixes.

waktáskwayv?
 wak+taskw+a+yv?
 non-human-objective-first-person+'animal'+joiner+'belong-to'-
 perfective
 I have a pet

rohwístayv?
 r+o+hwist+a+yv?
 masculine+objective+'money'+joiner+'belong-to'-perfective
 he has money

yakohwístayv?
 yak+o+hwist+a+yv?
 human+objective+'money'+joiner+'belong-to'-perfective
 she has money

cf. yakò:yv? she has it

Nominals which are morphological verbs cannot, of course, be incorporated into possessive verbs. A separate verb is used to indicate possession in these cases.

nekahehná:ke: rò:yv?
 ne+ka+hehn+a+ke r+o+yv?
 dualic+non-human+'field'+joiner+'number' masculine+objective+
 'belong-to'-perfective
 two-fields it-belongs-to-him
 He has two fields.

4. Some Relations of Kinship

Possessive constructions are used with kinship terms which refer to relatives older than the 'possessor', i.e., for grandparents, parents, uncles, aunts, and older siblings. The possessive pronouns are underlined in the forms below.

akhryáhso:t my grandfather

yvktihryáhso:t our (du) grandfather

yvkwahryáhso:t our (pl) grandfather

əahryáhso:t your (s) grandfather

ətihryáhso:t your (du) grandfather

əwahryáhso:t your (pl) grandfather

akohryáhso:t his/her grandfather

neyakohryáhso:t their (du) grandfather

kakohryáhso:t their (pl) grandfather

ákhso:t my grandmother

akóhso:t his/her grandmother

akhri?v my father

akohri?v his/her father

ro?v his mother

ako?v her mother

(v:nv? my mother)

akhrya:to:? my uncle (MB)

rohrya:to:? his uncle

akhryáhtsi? my elder brother

ákhtsi? my elder sister

róhtsi? his elder sister

Note that although the elder relative is not referred to pronominally in the normal manner, terms referring to male relatives contain the additional segment { hri }. ({ hrau } is the masculine pronominal marker in regular verbs and nouns.)

The addition of the diminutive { ?áh } or the augmentative { ?o:?y } yields the results illustrated below.

akhrayhsó:to:?y my great grandfather

akhsó:to:?y my great grandmother

akhri?vháh my father's brother (my little father)

sa?vháh your mother's sister (your little mother)

Kin relationships among persons of equivalent age are designated by reciprocal verbs containing joint subjects.

All relatives by marriage are included in this group.

yakyá:tkv:? my younger brother (we two are brothers to each other)

yakwá:tkv:? we three are brothers

yakya?nè:nohs my sister (we are sisters to each other)

akyá:?nyoh my brother-in-law

akyá:ryeh my sister-in-law

yaktihv:Øv my mother-, father-, daughter-, son-in-law
(male or female speaker)

yakya?nè:ro? my friend (we two are friends to each other)

neyv?nè:ro? his friend

In terms for spouses, only the 'possessor' is referred to pronominally.

waktyá:kv my husband

rotyá:kv his wife

Terms for children involve a verb root meaning 'be parent to' with which the parent, if first or second person, appears as the morphological subject and the child the object.

kheya?nó?nv? my child (son or daughter)

sheya?nó?nv? your child (son or daughter)

When the parent is a third person, however, he is referred to by an objective pronoun and the child is not referred to

at all pronominally.

ro?nó?nv? his son or daughter

wa?nó?nv? her son or daughter

Grandchildren are referred to by verbs containing only objective pronominal references to the grandparents.

waka?ré?tshv? my granddaughter/grandson

ʔa?ré?tshv? your granddaughter/grandson

In general, nicknames rather than kin terms are used conversationally for relatives, especially parents, so many of these terms occur relatively infrequently.

D. Attributive Suffixes

A number of suffixes can be added to any semantically appropriate words which function as nominals, whether they are morphological nouns, verbs, or particles.

1. Adjectival Suffixes

Certain adjectival roots can occur with y-less nominal pronouns even when they incorporate noun stems. The resulting words often function as nominals and can be further inflected just like morphological nouns.

owerahwíhsne? a strong wind

cf. ó:wereh wind

onvhsà:nvha:? an old house

cf. ò:nv'hseh house

ohahá:θe? a new road

cf. oháheh road

ohskwv?nahè:reh greensnake

cf. ohskwv':?neh snake

2. Locatives

Various locative suffixes can be added to functional nominals. Among these are { ke }, 'in', 'on', 'to', or 'from', { kv } 'in', { akwt } 'near'. The resulting words can function syntactically as either nominals identifying a place or as adverbials situating a predication. The structures underlying locative adverbial constructions are discussed in Chapter IV.

The first of these locatives, { ke }, is the only one which probably originated as a nominal suffix. It occurs with all semantically appropriate formal nouns.

ohahá?ke
o+hah+a?+ke
non-human+'road'+nominal-suffix+locative
on the road

cf. oháheh road

awvhrá?ke
aw+vhr+a?+ke
non-human-obj+'soil'+nominal-suffix+locative

cf. à:wv'hreh soil

à:wv?ke
aw+v?+ke
non-human-obj+'water'+nominal-suffix+locative
in the water

The suffix can be added to nouns based on derived stems.

o?nekhwahrátsrá?ke
 o+?ne+khw+a+hra+htsr+a?+ke
 non-human-obj+reflexive+'food'+joiner+'set'+nominalizer+
 nominal-suffix+locative
 on the table

cf. o?nekhwahrátsreh table

This locative can be suffixed to inalienably possessed nouns, as below. It is often used with body parts to indicate the outside surface of the part, or even any body part which has an outside surface.

kha?θv?ke
 k+ha?θ+v?+ke
 1st-person+'nech'+suffix+possessive+locative
 my neck (front surface)

cf. ohá?θeh neck

sihswv?ke
 s+ihs+w+v?+ke
 2nd-person+'back'+suffix+possessive+locative
 your back

cf. óhsweh back

rahetshv?ke
 ra+hets+h+v?+ke
 masculine+'seat'+suffix+possessive+locative
 his seat

cf. ohétsheh seat (of a person)

It can be suffixed to nouns which have lost their pronominal prefixes and to unanalysable functional nouns.

tsikhé?ke
 tsikhe?+ke
 salt+locative
 ocean

cf. tsíkhe? salt

athó?ke
 atho?+ke
 'cold'+locative
 north

cf. a:tho? the cold

The suffix occurs with kin terms.

akhri?v?ke
 ak+hri+?+v?+ke
 my+male+parent+locative
 to my father's (place)

cf. akhrí?v? my father

It occurs with borrowed nouns.

krohsíhke
 krohsis+ke
 store+locative
 at/to the store

cf. króhsih store

The locative also occurs with nouns containing adjectival
 attributive suffixes.

o?wnanvhá?ke
 o+?wn+a+nvhá?+ke
 non-human-obj+'land'+joiner+'old'+locative
 in the old land

cf. a?wná?ke in the world

Note that the regular nominal suffix /eh/ is
 converted to /a?/ before the locative in simple formal
 nouns and to /v?/ in inalienably possessed nouns.

ohahá?ke on the road
 kha?θv?ke (on) my neck

A rule is necessary to convert /eh/ to /a?/ before this locative.

eh → a? / ___ ke

The segment /v?/ will be considered the result of a merger between a possessive marker { v } and the nominal suffix { a? }.

v + a? → v?

where v = possessive
a? = nominal suffix

Elsewhere, this possessive marker is realized as ∅.

v → ∅.

where v = possessive

The suffix { kv: } (in some dialects { kvw }) 'in' probably originated as a verb root, since an epenthetic /a/ is required to separate it from the noun stems to which it is added, and no nominal suffix follows the root. Words with this suffix function as subjects and objects of clauses as well as adverbally.

o?náhkwa^ukv:
o+?nahkw+a+kv:
non-human-objective+'box'+joiner+'in'
in the box

cf. o?náhkweh box

o?té:yakv:
o+?tey+a+kv:
non-human-objective+'team'+joiner+'in'
in a crowd

cf. o?tè:yeh team (of horses)

otá:ʔnakv:
 o+taʔn+a+kv:
 non-human-objective+'settlement'+joiner+'in'
 town or in/to/from town

The suffix occurs with nouns based on derived stems.

oʔnekhwahráhtsrakv:
 o+ʔne+khw+a+hra+h̄tsr+a+kv:
 non-human-objective+reflexive+'food'+joiner+'set'+nominalizer+
 joiner+'in'
 under the table

cf. oʔnekhwahráhtsreh table

It also occurs with inalienably possessed body parts.

raʔrwv̄hθakv:
 ra+ʔrwv̄hθ+a+kv:
 masculine+'tail'+joiner+'in'
 under his tail

The suffix akwt adds the meaning 'near' or 'toward'.

As before, no nominal suffix follows the noun stems in these locatives.

oʔnáhkwakwt
 o+ʔnahkw+akwt
 non-human-objective+'box'+ 'near'
 near the box

ò:nv̄hsakwt
 o+nv̄hs+akwt
 non-human-objective+'house'+ 'near'
 near the house

oháhakwt
 o+hah+akwt
 non-human-objective+'road'+ 'near'
 to the road

à:wv̄ʔnakwt
 aw+vʔn+akwt
 non-human-objective+'day'+ 'near'
 Saturday (near the day: Sunday)

3. The Characterizer

The morpheme { ?a:ka: } (→ ha:ka: / V ___), which can be translated as 'the person(s) characterized by ___', occurs suffixed to both nouns and verbs.

onvta?kehá:ka: Onondaga(s)

to?á:ka: Seneca(s)

kani?kehá:ka: Mohawk(s)

kwvyokwvhá:ka: Cayuga(s)

wahstvhá:ka: American(s) (from Boston)

These names are so close to their expected cognates in the Five Nations languages that they must be considered recent borrowings. The word for 'Onondaga', for example, although formed according to Tuscarora morphological rules, is clearly a borrowing, since its regular development in Tuscarora would be:

onv?na?kehá:ka:
 o+n^v?n+a?+ke+ha:ka:
 non-human-objective+'hill'+joiner+nominal-suffix+locative+
 characterizer
 those who are on the hill.

The characterizer suffix appears more often in inherited Tuscarora nominals formed from serial verbs.

ratsihsaks?á:ka:
 ra+ts+ihsak+s+?a:ka:
 masculine+'fish'+ 'seek'+serial+characterizer
 the-one-who-fishes
 fisherman

ratorats?á:ka:
 r+atorat+s+?a:ka:
 masculine+'hunt'+serial+characterizer
 the-one-who-hunts
 hunter

rayenvhs?á:ka:
 ra+yenv+hs+?a:ka:
 masculine+'catch'+serial+characterizer
 the-one-who-catches
 (baseball) catcher

4. The Populative

The suffix { hronv? } can be added to nominals which identify locations to yield nominals which identify referents as residents of that place.

karvhya?kehrò:nv?
 ka+rvhy+a+?ke+hronv?
 human-objective+'sky'+nominal-suffix+locative+populative
 he-resides-in-the-sky
 angel

twahrò:nv?
 (unanalyzable borrowing)
 Oneidas

5. The Customary

The suffix { keha:? } can be added to functional nominals to form new nominals. The meaning of the suffix is 'affairs of' or 'customs of'. Examples of this suffix are below.

otakre?kéha:?
 o+takre?+keha:?
 non-human-objective+'dwell'+customary
 national affairs

cf. kayetá:kre? they dwell → the inhabitants → tribe

vkwehvwehkéha:?
 v+kwe+hvweh+keha:?
 human+'person'+ 'real'+customary
 an Indian custom or the Indian way

cf. vkwehv:weh real people → Indians

6. The Intensifier

The intensifier suffix which is added to verbs, { tsi }, can also be added to nouns. The resulting word can be used adjectivally or nominally. It designates an abundance of whatever is referred to by the noun.

onv?néhtsi
 o+nv?n+eh+tsi
 non-human-objective+'hill'+nominal-suffix+intensifier
 hilly (place)

cf. ò:nv?neh hill

orv?nakrí?tsi
 o+rv?-nakrí+?+tsi
 non-human-objective+'sugar'+nominal-suffix+intensifier
 sugary

cf. orv?ná:kri? sugar

orv?nakrí?tsi otá:?nareh sugar bread → cake

7. The Diminutives and Augmentatives

A diminutive suffix { ?áh } (→ /háh/ / V ___) can be added to any functional nominal.

owireháh small infant

cf. ò:wì:reh child

ohvwareháh trumpet

cf. ohv:wareh pipe

takoθ?áh little cat

cf. tá:ko:θ cat

A suffix which simultaneously expresses smallness and plurality is { ?vtíh } (→ /hvtíh/ / V ___).

takoθ?vtíh several little cats

cf. tá:ko:θ

ohtsihrv?vtíh little bears

cf. ohtsíhrv? bear

o?nahkwehvtíh little boxes

cf. o?náhkweh box

kayekwatihs?vtíh little boys

cf. kayekwá:tihs boys

An augmentative suffix { ?o:?y } (→ /ho:?y / V ___) can be added to functional nominals.

takó:θ?o:?y a big cat

rosató:?o:?y a big raccoon

cf. rosá:to:? raccoon

akohsó:t?o:?y her great grandmother

(r)ohskwv?ného:?y a big snake

The augmentative usually combines with other morphemes to form more specific verb stems, such as a?n-vθ-?o:?y 'be thick', eθ-?o:?y 'be long' or 'be tall', vθ-e?r-?o:?y 'be big' (of a person or animal), hwahθ-a?θ-?o:?y 'be wide'.

Another suffix, { ?nvne:θo? }, simultaneously

marks bigness and plurality.

otsihrv?v̄:né:θo? big bears

takoθ?v̄:né:θo? big cats

8. The Decessive

An adjective k'vhe? 'it is dead', has been derived from the verb root ihey 'die'.

tá:ko:θ yawvhè:yv?
 ta:ko:θ yaw+vhey+v?
 cat non-human-objective+'die'+perfective
 cat it-has-died
 The cat has died or The cat is dead or the dead cat

tá:ko:θ k'vhe?
 ta:ko:θ non-human+'dead'
 cat it-is-dead
 The cat is dead or the dead cat

The adjective kvhe? often follows functional nominals indicating that the person, object, condition, or time designated by the noun or verb is no longer in existence. It is often included in words intonationally as a suffix. No words ever intervene between the decessive and the noun or verb it modifies.

tsí:wi: k'vhe? the late tsi:wi: (person by the name of tsí:wi:)

Jim Johnson k'vhe? the late Jim Johnson

aθv kkwatihs k'vhe? when I was a young man

akhryahsotk'vhe? my late grandfather

akvha?kek'vhe? last summer

awv?nakwtk'vhe? last Saturday

CHAPTER IV

ADVERBIAL CONSTRUCTIONS

There is no separate morphological class in Tuscarora for word which function adverbally. Predications can be modified by morphemes within surface verbs, by particles, by separate nouns, by separate verbs, or by entire clauses. Morphemes which describe place (cislocative and translocative), time (tense and aspect) and manner (distributive and others) were discussed under verb morphology. This chapter will deal with several types of adverbial constructions which extend beyond the morphology of the main verb of a clause. The adverbials are classified here according to their semantic functions first and then the characteristics of their surface forms.

A. Locatives

Locative adverbials indicate the source, goal, or location of an event or state. In general, these three functions are not distinguished in surface forms.

1. Surface Locative Constructions

Location can be specified by a particle, a noun, a verb, or a longer clause.

a. Locative Particles

Locative particles are inherently relational in function. They locate an event with respect to the speaker or to some aspect of the setting under discussion. Examples of such particles are in (1) and (2).

- (1) ì:nv hvh hè:ní:kv: thwa?ká:ye:?r
 i:nv hvh he:ni:kv: th+wa?+ka+yér?
 'far' ? 'that' partitive+aorist+non-human+'do'-punct
 far ? that it-happened
 Did it happen far away? (from here)
- (2) hé?tkv Øhrv
 he?tkv Ø+hrv+Ø
 on-top 2nd-person+'set'+imperative
 on-top you-set-it
 Set it on top

For some locative particles, the reference point is omitted when clear from context, as in (3) and (4), but otherwise explicitly stated, as in (5) and (6).

- (3) yó:?ne:ks ohv:?nv?
 yo+?nek+s o+hv:?nv?
 non-human-objective+'burn'+serial non-human-obj+ahead
 it burns it-before
 A fire was burning before (her).
- (4) v:ke tkà:yv?
 v:ke t+ka+yv?
 'inside' partitive+non-human+'lay'-perfective
 inside it-is-laying
 It is inside.
- (5) Abraham ra?nyvhwáhnv ha? ohv:?nv? rawè:nì:yo:
 Abraham r+a?n+yvhwahnv+h ha? o+hv:?nv? r+aw+vn+iyo:
 Abraham masculine+reflexive+'bless'+serial non-human-obj+
 'ahead' masculine+objective+'spirit'+ 'great'-perfective
 Abraham he-sacrificing ahead his-spirit-is-great
 Abraham was sacrificing before the Great Spirit.
- (6) yahwa?kkotshvè:ri? hè:ní:kv: v:ke yonvhsáhs?v
 yah+wa?+k+kotshvri+? he:ni:kv: v:ke yo+nvhs+ahs+?v
 translocative+aorist+1st-person+'find'+punctual 'that'
 'inside' non-human-obj+'house'+ 'destroyed'+inch+perf

I-found-it-there this inside house-had-been-destroyed
 I found it inside the house that had been destroyed.

Two of the most common locative particles are kv:ne? 'here' and hé?thoh 'there or 'in that place'. They locate an event at (or toward or from) the place under discussion. hé?thoh often functions pronominally, standing for a location mentioned earlier in the discourse. In general, these two particles immediately precede the main verbs of the clauses they modify.

- (7) kv:ne? wá?khe?r
 kv:ne? wa?+1+her+?
 'here' aorist+1st-person+'set'+punctual
 here I-set-it
 I set it here.
- (8) ìskah wa?kà:yvkkv? káhne? hé?thoh íke?θ
 iskah wa?+ka+yv+k+kv+? kahne? he?thoh i-k+e+?+θ
 'not' aorist+plural+human+obj+1st-person+'see'+
 punctual 'who' 'there' 1st-pers+'go'+inch+serial
 not they-saw-me who there I-walking
 They did not see me walking there.
- (9) wahrvhrv? ha? nyowihsáhrarv hé?thoh yvhsvti?rwvθóha?
 wa+hr+vhrv+? ha? n+yo+wihs+ahr+a+r+v he?thoh y+v+hs+
 vti?rwvθ+o+ha+?
 aorist+masculine+'say'+punctual ha? partitive+non-human
 objective+'ice'+ 'hole'+joiner+'in'+perfective 'there'
 transloc+future+2nd-person+'tail'+in-water+'put'+
 punctual
 he-said a-hole-is-in-ice there you-will-put-your-tail-in
 He said, "There's a hole in the ice. You'll put your
 tail in there."

b. Locative Nouns

Locative morphemes can be suffixed to functional nominals to indicate the location or direction of an event. Examples of the resulting denominal locative adverbials

are below.

- (10) o?náhk^wakwt oyat^vhsteh kà:yv?
 o+?nahkw+akwt o+yatv-hst+eh ka+yv?
 non-human-obj+'box'+near non-human-obj+'written-
 matter'+nominal-suffix non-human+'lay'-perfective
 near-the-box book it-is-laying
 The book is near the box.
- (11) akhri?^v?ke tísⁿv? v̄:n^v?ke y^v:ke:t
 ak+hri-?v+ke tísⁿv? v̄:n^v?ke y+v+k+e+:t
 obj-1st-person+'father'+locative 'and' 'mother'+locative
 transloc+future+1st-person+'go'+punctual
 to-my-father and to-my-mother I-will-go-there
 I am going to my father's and mother's.
- (12) wa?kayv?rakvryéh^v:? o?k^vhrakv: o?teh^a?ke
 wa?+ka+yv+?+rakvry+ehv:?? o+?kvhr+a+kv: o+teh+a?+ke
 aorist+plural+human+reflexive+'roll'+distributive+
 punctual non-human-obj+'dust'+joiner+'in'
 non-human-obj+'sand'+nominal-suffix+locative
 they-rolled-around in-the-dust on-the-sand
 They rolled around in the dust and the sand.

c. Locative Verbs

The location or direction of an event or state can be indicated by a separate verb. The verb can somehow describe the setting, as in (13), (14), and (15). Since there are no locative morphemes for verbs comparable to those for nouns, the locative function of such verbs is inferred from context.

- (13) vkteyaró:tsrv:?[?] kè:ní:kv: Θwá?wna:t
 v+k+tey+a+rotsrv:?? ke:ni:kv: Θ+w+a?wn+a:t
 future+1st-person+'group'+joiner+'gather'+punctual
 'this' iterative+non-human+'land'+number'
 I-will-them-together this one-place
 I will gather them together in one place.
- (14) ro?nè:nv? yahwa?kkotsh^v:ri?
 r+o+?nenv? yah+wa?+k+kotshvri+?
 masculine+objective+'live'-perfective translocative+

aurist+1st-person+'find'+punctual
 he-lives-there I-found-it-there
 I found it in his house.

- (15) yahwahráhko? kayeyvkwí:rya?ks
 yah+wa+hr+ahko+? ka+ye+yvkwí+ya?k+s
 translocative+aurist+masculine+'go'+punctual
 plural+human+'wood'+ 'cut'+serial
 he-went-there they-are-chopping-wood
 He went to a chopping bee.

Verbs can also be used to predicate the state of being in a certain location, as in (16).

- (16) tha?nekrvhsokè:nv ha? ki?rwv^hθeh yvθwe:t
 tha+?ne+k+rvhs+oken+v ha? k+i?rwv^hθ+eh y+v+θ+w+e+:t
 prt+dualic+1st-person+'leg'+between'+perfective
 1st-person+'tail'+nominal-suffix translocative+
 future+iterative+non-human+'go'+punctual
 between-my-legs my-tail it-will-go-back-there
 My tail will go back between my legs.

Locations can also be specified by larger clauses which contain overt nominals of their own. Sentential locatives are discussed under complex sentences.

2. The Structures Underlying Locatives

Except for the deictics, locative adverbials generally appear at the edges of the clauses they modify. Recall that the basic order of major constituents in a Tuscarora clause is Subject-Predicate-Object (except when the subject of an intransitive verb is sentential, in which case the predicate precedes the subject). A constituent can be moved to the front of the clause for focus.

S P O → P S O

S P O → O S P

Interestingly, the focus-fronting rule can operate without involving locatives. In a sentence containing an initial locative, a focused predicate or object nominal can be fronted to a position following the locative.

$$L \ S \ \underline{P} \ O \ \rightarrow \ L \ \underline{P} \ S \ O$$

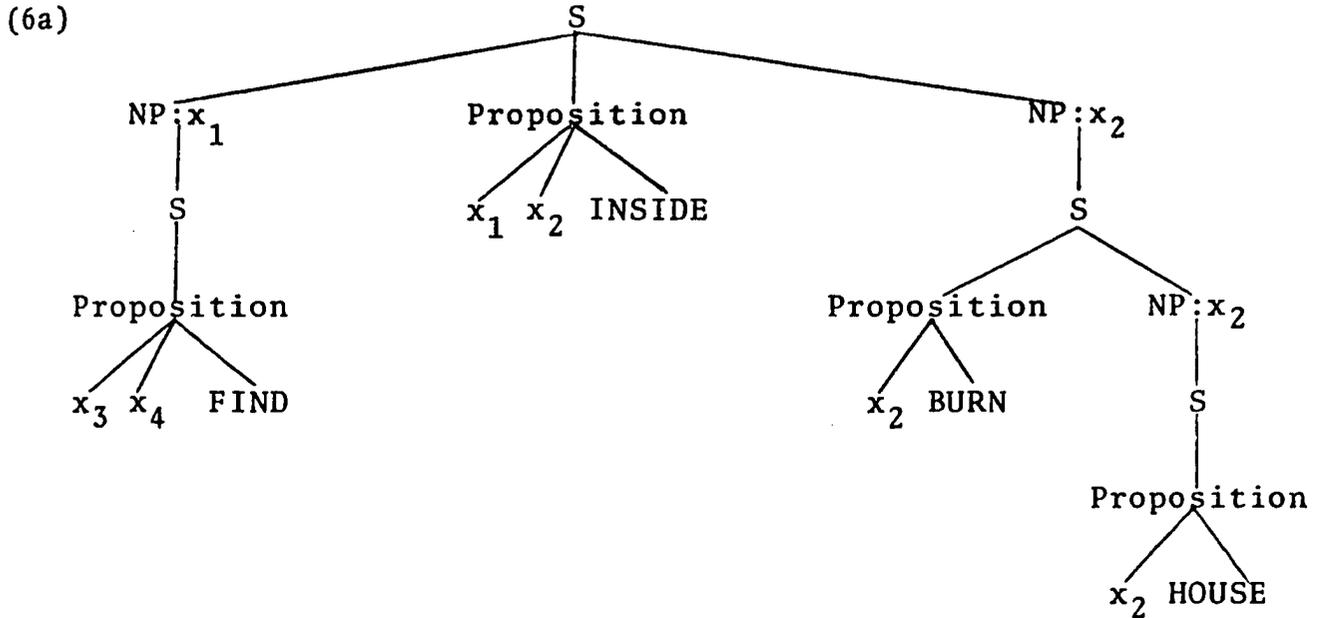
$$L \ S \ P \ \underline{O} \ \rightarrow \ S \ \underline{O} \ S \ P$$

Examples of focus-fronting with initial locatives are in (17) and (18) below. The predicates have been fronted across the subjects but not across the locatives.

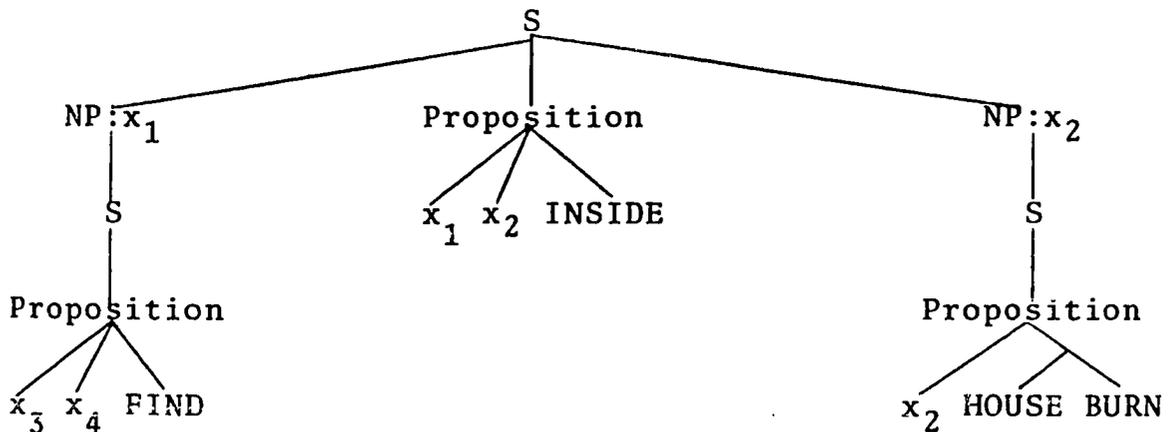
- (17) otá:?nakv: wa?ákte:t ha? yakya?n̄:ro?
 o+ta?n+a+kv: wa?+ak+t+e+:t ha? yak+y+a?n+vro?
 non-human-obj+'settlement'+joiner+'in'-perf
 aorist+1-3rd-person+dual+'go'+punctual ha?
 1-3rd-person+dual+reflexive+'friend
 town we-went we-are-friends-to-each-other
 I went to town with my friend.
- (18) na?taskwá:wi thweθk̄v?rv? hé?thoh rò:nv̄θkarv?
 n-a?t+taskw+awi th+w+eθ+k+v?rv? he?thoh r-o-nv̄θkarv?
 reflexive-reflexive+'animal'+give-perf partitive+
 translocative+iterative+non-human+'be' 'toad'
 he-had-given-him-the-animal it-was-settled-there
 there toad
 The wart was left back on the man he had given it to.

Fillmore (1971) has proposed that locative (and temporal) adverbials originate in clauses which dominate the clauses they modify. The higher clause predicates the fact that the event took place at a certain location. The two arguments related by the predicate are the event and the location. Under this analysis, the structure underlying sentence (6) would be represented as in (6a). x_1 is the event, and x_2 the location.

- (6) yahwa?kkotshv:ri? he:ni:kv: v:ke yonvhsahs?v
I found it inside the house that burned.



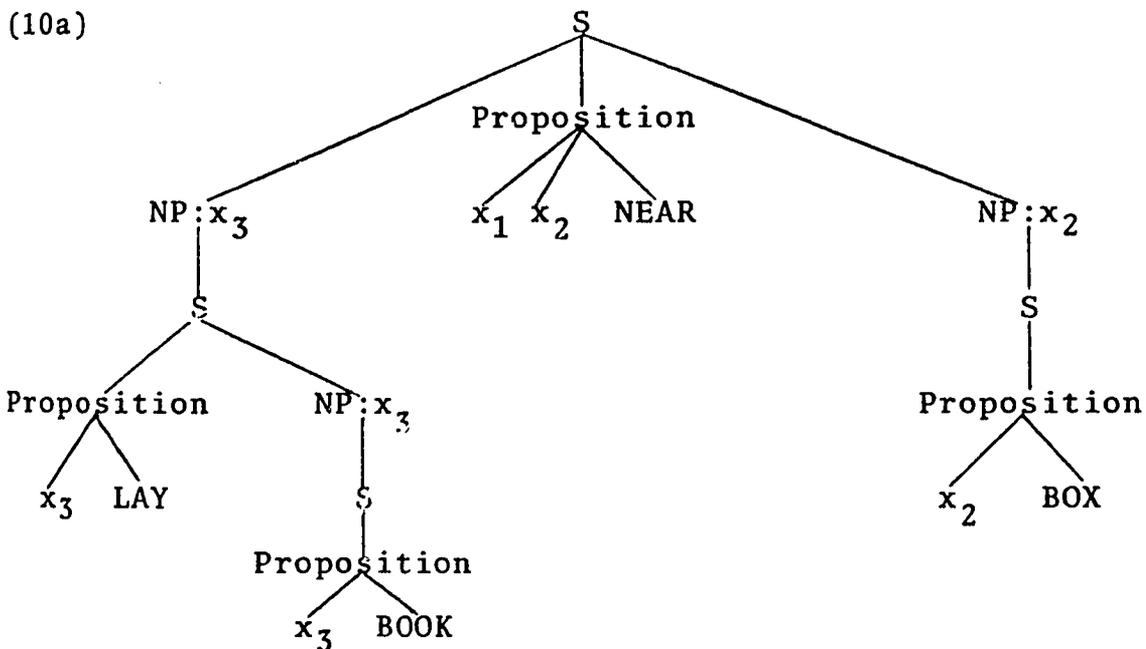
Predicate raising (noun incorporation) yields (6b).



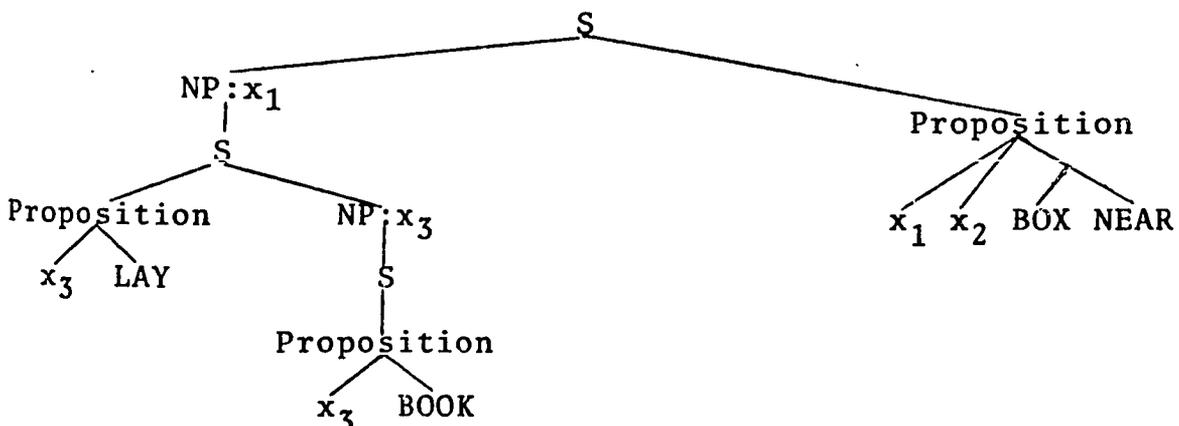
The application of this analysis of locatives to Tuscarora produces pleasing results. The fact that focus fronting does not necessarily involve locative adverbials is easily explained as a natural consequence of the status of locatives as higher predicates.

Under this analysis the structures underlying locative nouns are quite straightforward. The locative morpheme originates as a locative predicate under which the object noun, which specifies location, is embedded. The structure underlying (10) can be represented, at some point in its derivation, as in (10a)

(10) o?náhkwa^kwt oyatv^hsteh kà:yv?
Near the box the book is laying.



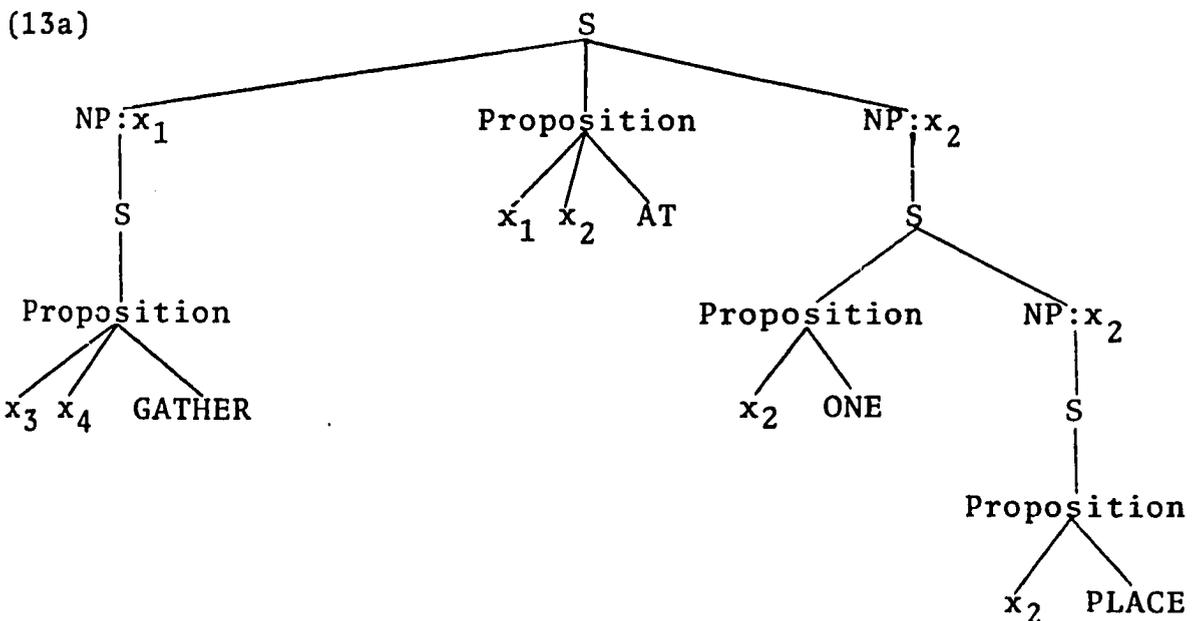
Predicate raising (incorporation of x_2) yields (10b).



The locative constituent is then fronted for focus.

The structures underlying locative verbs are equally straightforward. When no noun root is incorporated into the locative predicates dominating these verbs, the predicates are realized as \emptyset on the surface. The structure underlying (13) is, at some point, as in (13a).

- (13) vkteyerótsrv:? kè:ní:kv: θwá?wna:t
I will gather them together in one place.



The location, NP: x_2 , is realized as a surface verb. The predicate AT is realized as \emptyset , but its meaning is inferrable.

Deictics like kú:ne? 'here' and hé?thoh 'there' also indicate location or direction, but the location is not identified by an overt noun phrase. This is known from linguistic context, perhaps overt identification in an earlier sentence, or from the location of the speaker and

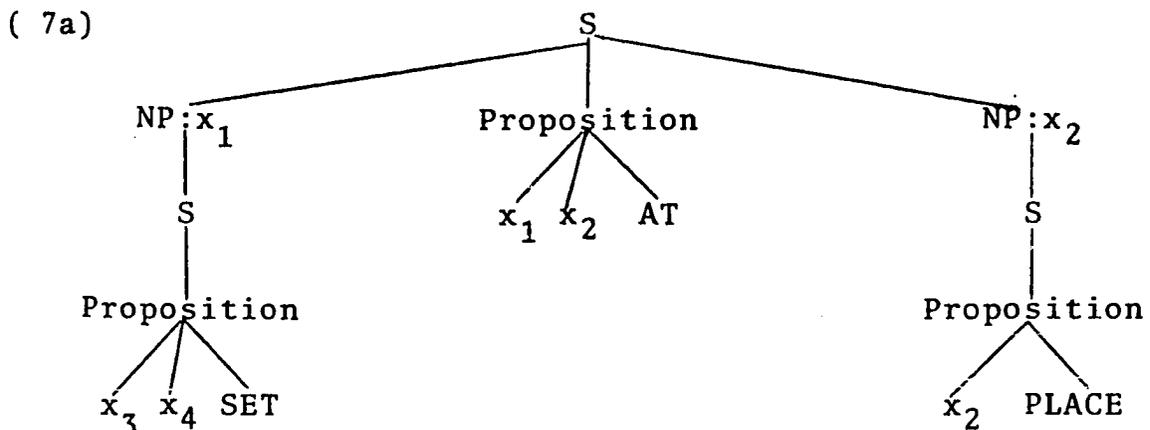
speech act. Deictics are in this sense pronominal.

- (19) tsyv?na?rá:t?a:? kè:ní:kv: ohvá?ke.
 ts+yv?na?+ra-t?a:+? ke:ni:kv: o+hvw+a?+ke
 iterative (aorist)+reflexive-reflexive+'in'+causative+
 punctual ke:ni:kv: non-human-obj+'boat+nominal-
 suffix+locative
 He put him back in the boat.

Ahsv tikayá:kv: ha? skarò:rv? hé?thoh kayera?náhkØe?
 ahsv ti+ka+yak+kv ha? skaro:rv? he?thoh ka+ye+r-a?n-hk+Øe+?
 'three' partitive+plural+'set' 'Tuscarora' 'there'
 plural+human+'ride'+purposive+punctual
 three of-them Tuscarora there they-were-riding
 Three Tuscaroras were riding in it.

The sentences underlying deictic constructions lack a separate object noun phrase identifying the syntactic object of the locative proposition, the location. The structure underlying (7) is (7a).

- (7) kv:ne? wá?khe?r
 I set it here.

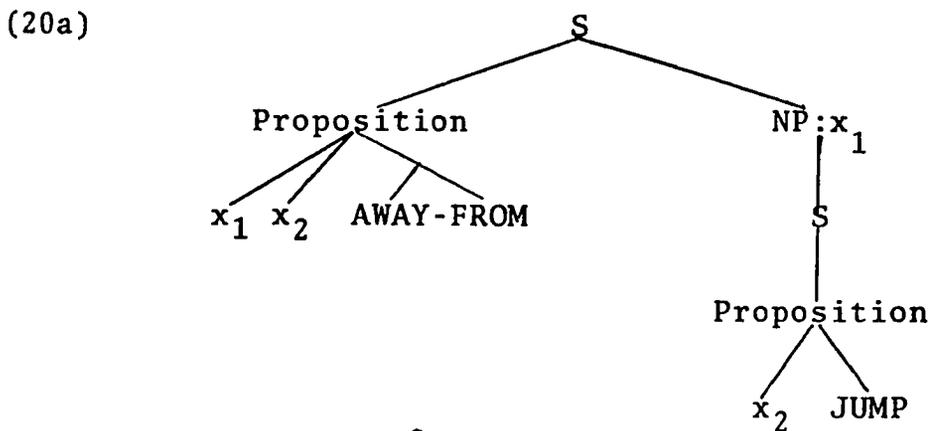


A special transformation moves the deictic particles to their surface position directly before the main verbs of their surface clauses.

3. The Interaction of Locative Morphemes and Locative Adverbials

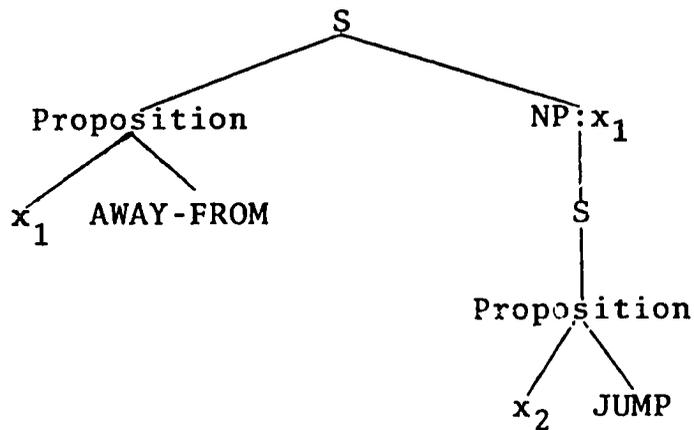
In the chapter on verb morphology, it was noted that an action can be characterized as directed toward or away from the speaker or some person under discussion. The direction is indicated by a prepronominal cislocative or translocative morpheme. These morphemes can also indicate proximate or distant location. The morphemes are represented in underlying structure as in (20a).

- (20) yahwa?tkatkétsha?kw
yah+wa?+t+k+at-ketshakw+?
translocative+aorist+dualic+1st-person+reflexive-
'jump'+punctual
I jumped (in there)



AWAY-FROM is a two-place predicate which relates the direction of event x_1 (my jumping) to x_2 (me). Before predicate raising can take place, the second argument of AWAY-FROM or TOWARD (TRANSLOCATIVE or CISLOCATIVE) is deleted, since it never occurs on the surface, although the point of reference

is clear. This yields (20b).



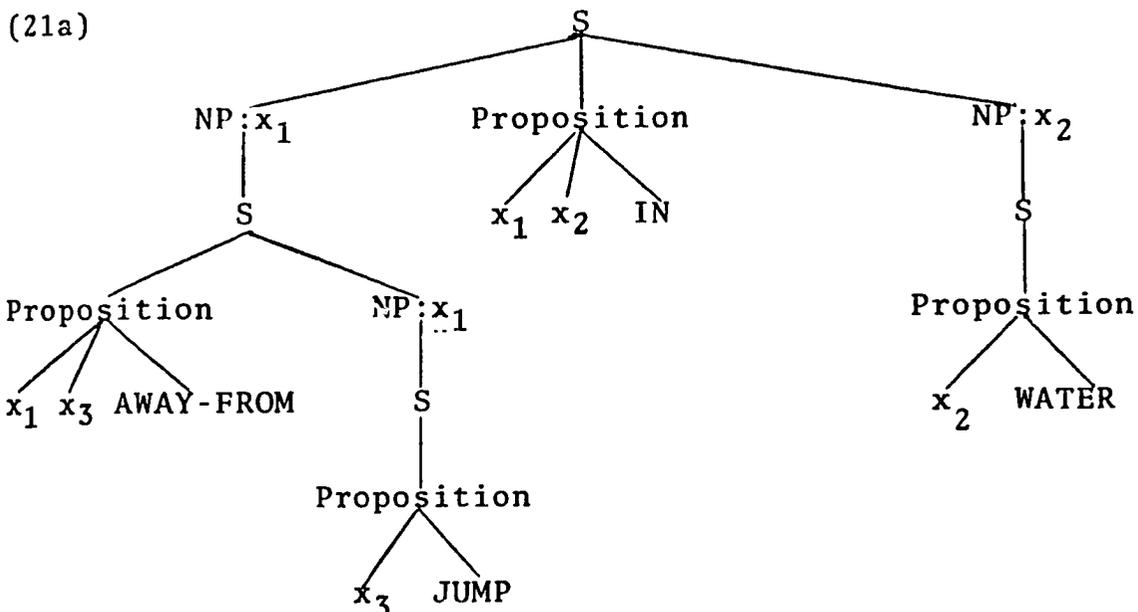
Predicate raising then takes place to yield a combined predicate JUMP+AWAY-FROM.

Direction or distance is often indicated in sentences which also contain overt locative adverbials, as in (21).

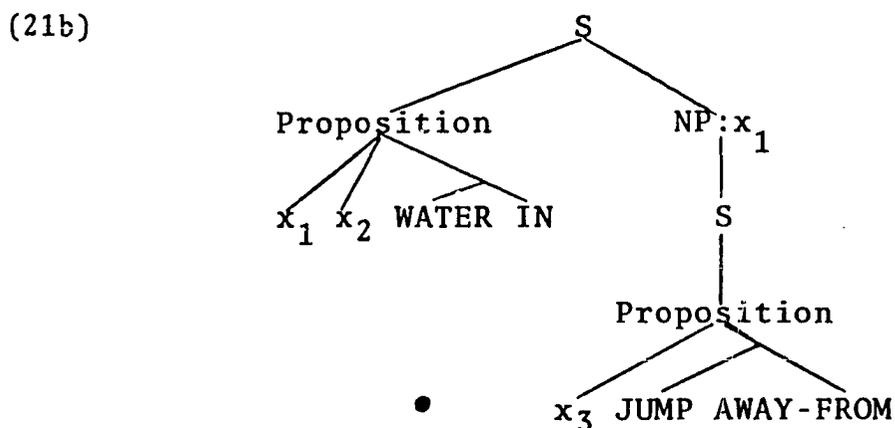
- (21) à:wv?ke yahwa?tkatkétsha?kw
 aw+v+?+ke yah+wa?+t+k+at-ketshakw+?
 non-human-obj+'water'+nominal-suffix+locative
 transloc+aorist+dualic+1st-person+reflexive-'jump'+
 punctual
 in-th^o-water I-jumped-in-there
 I jumped into the water

In the structure underlying (21), the event, x_1 , is related to the water, x_3 , by the predicate IN and to me, x_2 , by the predicate AWAY-FROM.





The second argument of AWAY-FROM, x_2 , is deleted as before. Then predicate raising of NP: x_1 (x_3 JUMP into AWAY-FROM) and of NP: x_2 (x_2 WATER into IN) occurs, yielding (21b). The event of my jumping is now a single argument of the intransitive predicate 'WATER-IN', so it follows the main verb in the surface clause.



B. Temporal Adverbials

Tense and aspect are marked morphologically on Tuscarora verbs. In addition, the specific time at which, during which, or until which an event takes place can be indicated by separate adverbials. The surface forms of temporal adverbials parallel in many ways those of locative adverbials.

1. Surface Temporal Constructions

The time of an event can be specified by a particle, a noun, a verb, or a larger clause. Most temporal adverbials are morphological particles. It is clear from their forms that a large number of these were originally morphological verbs but since the stems on which they were built are no longer productive, and certain phonological changes have obscured their structure, the words are no longer morphologically analysable.

Just as locative adverbials relate an event and a location, so temporal adverbials relate an event and a time. The time may be defined with reference to the present, as in (22), (23), and (24). Note that the adverbs generally occur at the beginning of the clauses they modify.

- (22) kewvh̀:weh vkatsitsíhskvhw
 k+ewv+hvweh v+ka+tsitsihskv-hw (+?)
 non-human+'soon'+ 'real' future+non-human+'flower'+
 inchoative+(punctual)
 very soon it will bloom

- (23) thé:ʔnvʔ tsi:r waʔká:ri:k tá:ko:θ
 the:ʔnvʔ tsi:r waʔ+ka:ri:k ta:ko:θ
 yesterday 'dog' aorist+non-human+'bite' 'cat'
 yesterday dog it-bit-it cat
 Yesterday the cat bit the cat.
- (24) ò:nvha:ʔ kvhθ kwà:nv ká:tkwvʔθ
 o+nvha:ʔ kvhθ kwa:nv ka+tkwv-ʔ+θ
 non-human-obj+'old' formerly 'much' non-human+'snow'+serial
 it-is-old formerly much it-snows
 Long ago, it used to snow a lot.

Two events can be related temporally by temporal particles like áθv 'when', ò:nv 'at the time', θvhróʔ 'until', tyà:reh 'before', and kanyóʔ 'as soon as'. Some examples of such temporals are below.

- (25) áθv kkwà:tihs kvhθ nekáʔthnvh
 aθv k+kwatihs kvhθ ne+k+aʔ-thnv+h
 'when' 1st-person+'young' formerly dualic+1st-person+
 reflexive-'play'+serial
 when I-young formerly I-play-ball
 When I was a young man, I used to play ball.
- (26) ò:nv réhrhaʔ kè:ní:kv: wahrotkwahò:rvh
 o:nv r+ehr+haʔ ke:ni:kv: wa+hr+o+tkw+a+horvh(+?)(+?)
 at-this-time masculine+'drink'+serial 'this' aorist+
 masculine+objective+'belly'+joiner+'grow'(inchoative)
 (+punctual)
 at-this-time he●drinking this his-belly-began-to-grow
 As he drank, his belly began to swell.
- (27) θahráhrkoʔ haʔ ò:nv θá:koʔ
 θ+a+hr+ahrko+ʔ hāʔ o:nv θ+a+ko+ʔ
 iterative+aorist+masculine+'go'+punctual at-this-time
 iterative+aorist+1st-person+'come'+punctual
 he-went-back at-this-time I-came-back
 He left when I came back.
- (28) vhsvnhvya:rvʔ θvhróʔ thwé:ʔn vwaʔriʔrótshiʔ
 v+hs+vnvhvya:rvʔ θvhróʔ thwe:ʔn v+w+aʔ+riʔr+o-t-hsi+ʔ
 future+2nd-person+'watch'+punctual 'until' 'all'
 future+non-human+reflexive+'skin'+ 'cover'+reversive+
 punctual
 you-will-watch until all skin-will-become-uncovered
 You have to watch until all the skin peels off.

- (29) tyà:reh wa?katsókarvht ò:nv tsv? ná:ke:t
 tyà:reh wa?+k+at+tsokar+v+ht (+?) o:nv tsv? n+a+k+e+:t
 'before' aorist+1st-person+'whiskers'+ 'fall'+causative+
 (punctual) at-this-time set cislocative+aorist+
 1st-person+'go'+punctual
 before I shaved at-this-time I came
 I shaved before I came.
- (30) kanyó? yahvrerví:ti? á:tho? wahv:ti?
 kanyo? yah+v+rervti+? a:tho? wah+vti?
 as-soon-as translocative+aorist-non-human+'go-under'+
 punctual 'cold' aorist+non-hu+'made'
 as=soon-as it-went-under cold it-made-it
 As soon as the sun set it got cold.

Just as the locative pronouns kví:ne? 'here' and hé?thoh 'there' locate an event in the setting under discussion, so the temporal pronoun ò:nv 'at this time' situates an event in the time under discussion. This particle also occurs at the beginning of the clause it modifies. Some examples of its use are below.

- (31) ò:nv θa?nv?tyv?nv
 o:nv θ+a?nv+?tyv?nv+∅
 at-this-time 2nd-person+reflexive+'try'+imperative
 at-this-time you-try-it
 Now you try it.
- (32) ò:nv wathvka:ryá?kv
 o:nv w+at+hvkar-ya?k+v
 at-this-time human-obj+'volunteer'+perfective
 at-this-time she-had-volunteered
 she had already volunteered
- (33) ò:nv vhrer?r wakihè:yv sá?skv?
 o:nv v+hr+er+? w+a+k+ihey+v sa?skv?
 at-this-time future+masculine+'think'+punctual
 non-human+obj+1st-person+'die'+perfective 'supposedly'
 at-this-time he-will-think-it I-am-dead supposedly
 Now he'll think I'm dead.

Other temporal adverbs are clearly morphological verbs, but they usually function only as adverbials and



never as independent predicates.

- (34) sè:rih hvh v:wv:to:t ha? yohθá:tho?
 s+eri+h hvh v+w+vtto:t (+?) ha? yo+hθath+o?
 2nd-person+'think'+serial ? future+non-human+'rain'+
 punctual - non-human-obj+'night'+verb
 you-think-it ? it-will-rain to-night
 Do you think it will rain tonight?
- (35) tkv:yahws ti:tsyohv?v
 t+k+vy+ahws ti+ts+yo+rhv?+v
 cislocative+1st-person+obj-2nd-person+'give'+serial
 partitive+iterative+non-human-obj+verb+perfective
 I-give-it-to-you every-day
 I give it to you every day.
- (36) yo?tká?ne? hé?thoh tihra?ná?nihr na?á:ktakwt
 yo+?-tka?ne? he?thoh ti+hr+a?n-a?n-ihr (+h)
 na?+a+k+t+akwt
 non-human-obj+reflexive-verb'there' partitive+
 masculine+reflexive-reflexive-'stand'+serial
 cislocative+objective+1st-person+'place'+ 'near'
 off-and-on there he-stands in-my-place
 He substitutes for me off and on.

Morphological nouns do not usually function alone as temporal adverbials. Noun roots do occur incorporated into verbs which indicate duration, as in (37) and (38).

- (37) nehroyahserhá:r?v áhsv tiwv?ná:ke:
 ne+hr+o+yahserhar+?+v áhsv ti+w+v?n+ake:
 dualic+masculine+objective+'busy'+inchoative+perfective
 'three' partitive+non-human+'day'+ 'number'-perfective
 he-busy three three-days
 He was busy for three days.
- (38) nvhroyahserhá:rv:k ha? tiwahθv?:ne:θ
 n+v+hr+o+yahserhar+v:k ha? ti+w+ahθ+v?ne:θ
 dualic+future+masculine+objective+'busy'+perfective
 partitive+non-human+'night'+verb
 he-will-be-busy whole-night
 He will be busy all night.

2. The Structures Underlying Temporal Adverbials

Temporals are like locatives in that they occur

near the beginning or the end of the clauses they modify. Furthermore, if they occur adjacent to locatives, they generally occur outside of the locatives, i. e., further from the center of the clause modified.

- (39) V L T
wáhso? h'v'h kv:ne? thé:?'nv?
wa+hs+o+? hvh kv:ne? the:?'nv?
aorist+2nd-person+'come'+punctual ? 'here' 'yesterday'
you-came ? here yesterday
Did you come here yesterday?
- (40) T L V
thé:?'nv? otá:?'nakv: yahwa?káhke:t
the:?'nv? o+ta?'n+a+kv: yah+wa?'k+ahke+:t
'yesterday' non-human-obj+'settlement'+joiner+'in'
translocative+aorist+1st-person+'go-&-return'+punctual
yesterday town I-went-there
Yesterday I went to town.

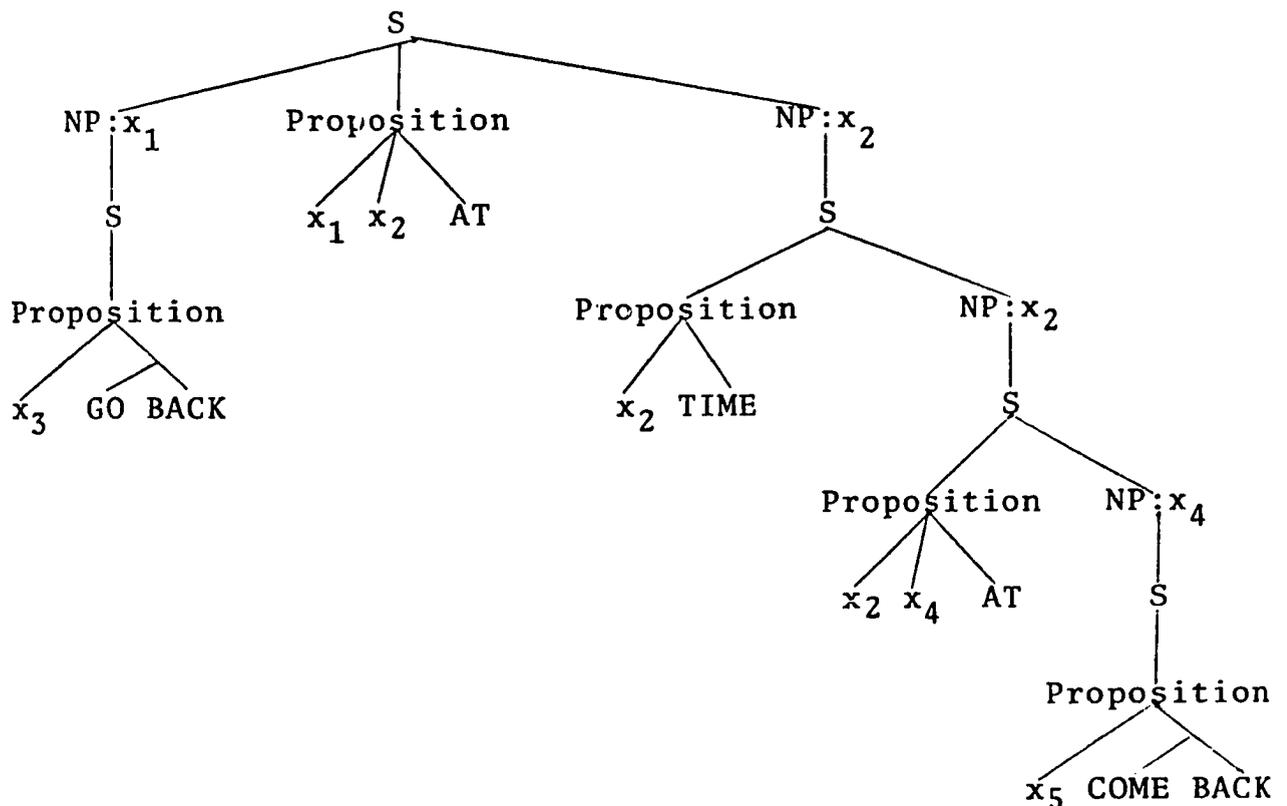
Furthermore, focus-fronting can take place without affecting the temporal adverbial. The focused element appears immediately following the temporal. In (41) below, the main verb has been fronted across the subject but not across the temporal adverbial.

- (41) T V S
thwa?'tsyò:rv? wa?'kakovnhwá:khv? stà:wv:teh
th+wa?'+ts+yo+rv? wa?'+ka+k+o+nvhwakh+v+? sta:wv:teh
partitive+aorist+iterative+non-human+verb+punctual
aorist+plural+human+objective+'sick'+perfective+
causative-punctual something
off-and-on it-made-them-sick something
Off and on, they were made sick by something.

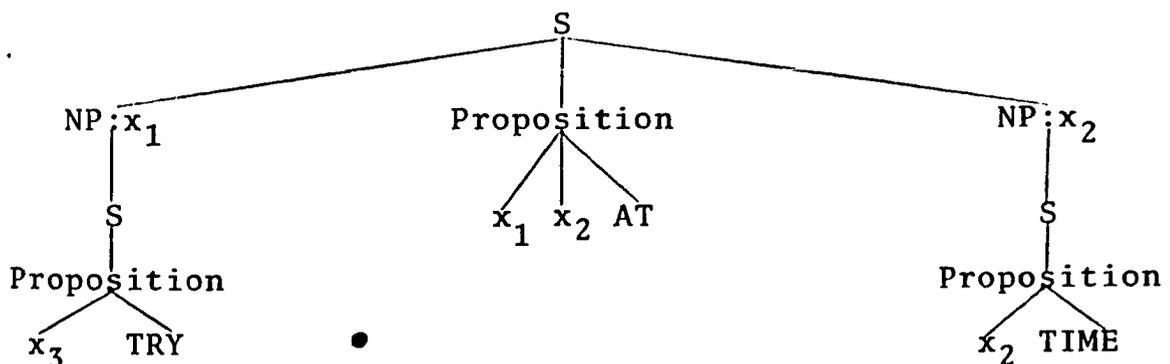
If Fillmore's analysis of temporal adverbials as higher clauses is adopted for Tuscarora, these facts are natural consequences of the semantic structures underlying the sentences. A higher predicate relates an event to a

time. The time may be overtly identified by a noun phrase (realized as a clause, verb, noun, or particle), as in (27), or it may simply be marked by a deictic, as in (31).

- (27) Θahráhrko? ha? ò:nv Θá:ko?
He left when I came back.



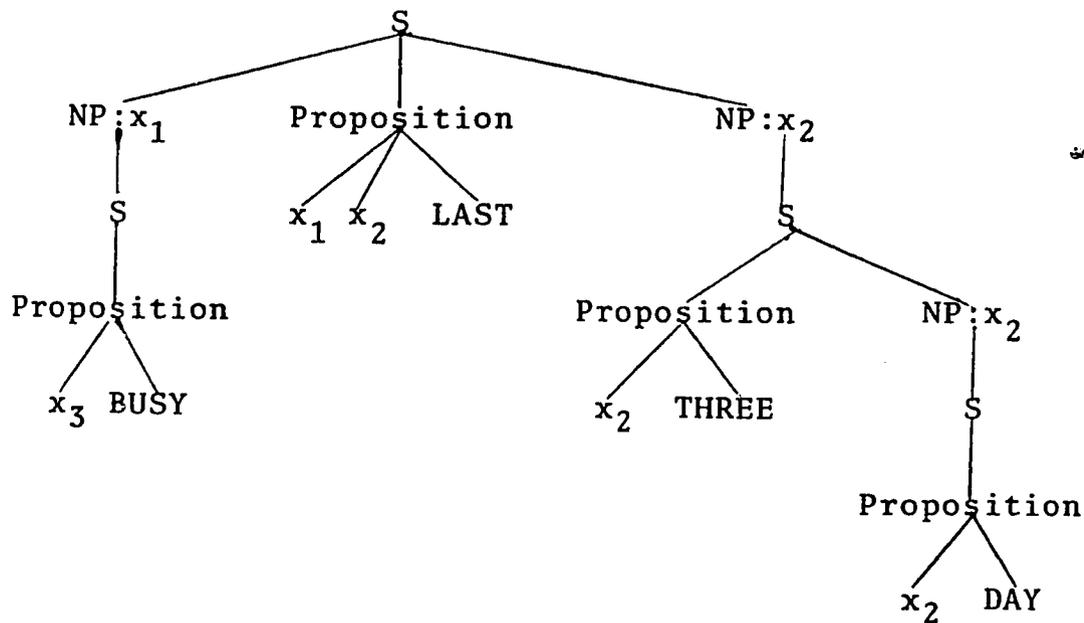
- (31) ò:nv Θa?nv?tyv?nv
Now you try it



The complex predicate TIME-AT is realized as the deictic ò:nv.

When a time is identified by a morphological verb, the noun phrase cannot be incorporated into a higher verb. In this case, the temporal predicate is realized as \emptyset and the adverbial function of the temporal constituent must be inferred. In (37), the predicate LAST does not appear on the surface.

- (37) nehroyahserhá:r?v áhsv tiwv?ná:ke:
He was busy for three days.



C. Manner Adverbials

As was seen in the chapter on verb morphology, considerable modification of propositions can be accomplished by morphological means. Manner can also be expressed by larger constructions.

1. The Surface Forms of Manner Adverbials

Manner particles are relatively rare. They generally directly precede the verbs they modify. Examples of such particles are in (42) and (43).

(42) kwarihat Økvhrok
 kwarihat Ø+kvhrok+Ø
 'fast' 2nd-person+'hit'+imperative
 fast you-hit-it
 Hit it quick!

(43) atsi?ahá:?nye? nakáhratohst
 atsi+?ah+a?nye? n+a+ka+hratohst (+?)
 'bit'+diminutive+progressive cislocative+aorist+non-
 human+'freeze'+punctual
 little-by-little it-froze
 Little by little it froze.

Most often, manner is indicated by a separate predication which describes the action. These adverbials would be grammatical sentences in isolation.

(44) yohstò:re? wahrohò:rvh
 yo+hstore? wa+hr+o+horvh+(?)
 non-human-obj+'fast'-perfective aorist+masculine+
 objective+'grow'+punctual
 it-is-fast he-grew
 He grew fast.

(45) tikà:yv? nàrv?nya?k
 ti+ka+yv? n+ar+v+?n+ya?k(+?)
 partitive+non-human+'láy'-perfective dualic+indefinite+
 non-human+reflexive+'break'+punctual
 it-is-easy for-it-to-break
 It breaks easily.

(46) kwvhs kahwisne? ayorihvh
 kwvhs ka+hwisne? a+yo+rih+vh
 'not' non-human+'strong'-perfective indefinite+non-
 human-obj+'boil'+perfective
 not it-is-strong for-it-to-be-boiling
 Don't boil it too hard.

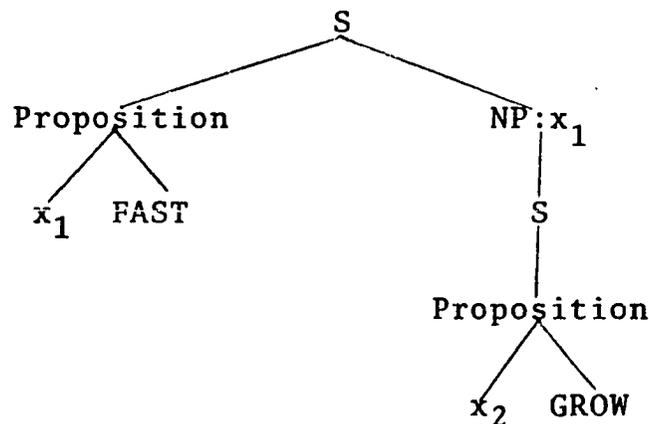
The adverbial predication may have a neuter subject, namely the sentence modified, as in (44) - (46), or it may have as subject the agent of the action described. In this case, the predications are syntactically independent, although they are often translated into English adverbially.

- (47) ná:kye:ʔr nekawv̄:rih waʔktáʔtawvʔ haʔ ohséhareh
 n+a+k+yer+ʔ ne+k+awvri+h waʔ+k+aʔ+tawvʔ o+hsehar+eh
 cislocative+aorist+1st-person+'do'+punctual dualic+
 1st-person+'stir'+serial aorist+1st-person+reflexive+
 'dissolve'+causative-punctual non-human-obj+'ash'+
 nominal-suffix
 I-continued-it I-stirring I-caused-to-dissolve ash
 Continuously stirring, I dissolved the ashes.

2. The Structures Underlying Manner Adverbials

Adverbial particles, like other modifiers, originate as higher clauses into which sentences are embedded. The structure underlying (44) is below. The higher predicate analysis accounts both for the non-human subject in the modifier and for the order of constituents.

- (44) yohsto:reʔ wahroho:rvh
 He grew fast.



CHAPTER VI
COMPLEX SENTENCES

The term 'complex' usually describes sentences which contain more than one surface clause. Types of English complex sentences include those with sentential subjects, objects, or adverbials, indirect question, relatives, appositives, purpose clauses, and other subordinate constructions.

The identification of complex sentences in Tuscarora is complicated by two factors.

- 1) Certain lexical markers of subordination have been lost in Tuscarora although they still function in the other Iroquoian languages. In those languages, particles like ne: and tsi? can indicate that the clause which follows is subordinate to another clause. The particles have no cognates or counterparts in Tuscarora.
- 2) Because Tuscarora verbs contain obligatory pronominal references to their subjects and objects, they can usually stand alone as grammatical sentences. For this reason it can sometimes be difficult to determine whether a particular verb in an utterance is functioning as a dependent constituent of another clause or actually constitutes a separate sentence in itself.

In this chapter, four common types of multi-clause

utterances are discussed. The syntactic relationships between the clauses in each are examined, and tests are devised for detecting relations of coordination and subordination. The results of these tests are of primary importance in the identification of complex sentences.

A. Four Types of Utterances

Several types of Tuscarora utterances are systematically translated into English complex sentences. Yet the Tuscarora constructions appear in most cases to consist simply of strings of independent clauses. It could be questioned whether the relation of subordination is expressed in Tuscarora at all. Four types of multi-clause utterances are examined below.

1. Sentential Subjects and Objects

The subject or object of a surface predicate may be the fact stated by an entire clause. Examples of Tuscarora utterances with sentential arguments are below. Each consists of two clauses. The second clause in each example identifies some argument of the first clause. (1) and (2) contain sentential subjects, and (3) and (4) sentential objects (complements).

- (1) tehésnv: thwa?ká:ye?r wahro?wvθv?ni? otsíhrv?
 tehesnv: th+wa?+ka+yer+? wa+hr+?wvθ+v?ni+? o+tsihr+v?
 then partitive+aorist+neuter+'do'+punctual aorist+
 masculine+obj+'tail'+lose'+punctual neuter+'bear'+suf
 then it-happened he-tail-lost bear
 Then it happened that the bear lost his tail.

- (2) vyo?rihwà:yv?θ hèní:kv: sa?káhne? kè:ní:kv: v:yé:nv:t
 v+yo+?+rihw+ayv?θ he:ni:kv: sa?kahne? ke:ni:kv: v+ye+nv:t
 future+non-human+reflexive+'affair'+ 'necessary' this
 someone this future+human+'feed' (+punctual)
 it-will-be-necessary that someone this he-will-feed-it
 It will be necessary for someone to feed it. →
 Someone will have to feed it.
- (3) ò:nv hésnv: we?é:kv? nahrà:yv?
 o:nv hesnv: we?+e+kv+? n+a+hra+yv+?
 now then aorist+human+see+punctual cisloc+aorist+
 masculine+'enter'+punctual
 Now then she-saw-it he-came-in
 Now, then, she saw him come in.
- (4) nahrá:ye:?r wáhreh
 n+a+hra+yer+? wa+hr+ehr (+?)
 cisloc+aorist+masculine+'do'+punctual aorist+masc+'drink'
 (+punctual)
 he-continued-it he-drank
 He continued to drink.

In Tuscarora, the component clauses of utterances with sentential arguments can stand alone as grammatical, independent sentences. The first predications in (1) - (4) contain pronominal references to their subjects and objects and are grammatical in themselves, provided that the referents of the pronouns are somehow identified in the discourse.

- (1a) tehésnv: thwa?ká:ye:?r
 Then it happened.
- (2a) vyo?rihwà:yv?θ hèní:kv:
 This must be done.
- (3a) ò:nv hésnv: we?é:kv?
 Now then, she saw it.
- (4a) nahrá:ye:?r
 He continued (it).

The second clauses, the sentential arguments, are also

grammatical in isolation.

- (1b) wahro?wvho'v:ni? ohtsíhrv?
The bear lost his tail.
- (2b) sa?káhne? kè:ní:kv: v:yé:nv:t
Someone will have to feed it.
- (3b) nahrà:yv?
He came in.
- (4b) wáhreh
He drank.

Note that this is not always the case in English. Sentential arguments fill obligatory syntactic functions. Without them, a sentence is incomplete. There are no English sentences like:

Now then happened

The heat caused

although there are sentences like

Now then it happened that the bear lost his tail. (From:
Now then, that the bear lost his tail happened.)

For this reason, it has been assumed that English sentential subjects and objects originate as underlying embedded clauses. The English sentences which are the translations of (1) - (4) would be derived from single, complex sentence structures.

In Tuscarora, however, there appears to be no basis on which to determine how many separate sentences are involved. Intonation is not a reliable clue. Each

utterance in (1) - (4) consists either of two, independent sentences juxtaposed, or of one, complex sentence with invisible bonds connecting the clauses.

2. Questions and Pro-Form Clausal Nominals

Question-word questions in Tuscarora are formed much as in English. A question-word fills the syntactic role of the constituent requested, i.e. subject, object, location, time, etc. Question-words in Tuscarora are the following:

káhne? 'who' (subject or object)

tà:wv:teh 'what' (subject or object)

v:weh 'where'

kahnv?ke 'when'

té? 'how'

The question-word occurs in initial position in questions. Some examples of question-word questions are in (5) - (9).

(5) káhne? weθa?tkáhri?θ
 kahne? w+eθ+a+?tkahri+?+θ
 who aorist+human+2nd=pers+obj+'tell'+punctual+dative
 who someone-told-you
 Who told you?

(6) káhne? wa?na?na?tkáhri?θ
 kahne? wa?+na?n+a?tkahri+?+θ
 who aorist+human+reflexive+'tell'+punctual+dative
 who someone-told-someone
 Who did he tell or Who told him?

" " " "

- (7) tà:wv:teh weθa?tkáhri?θ
 what aorist+human+2nd+person+objective+'tell'+punct
 +dative
 what someone-told-you
 What did he tell you?
- (8) v:weh nyv:ke:t
v:weh n+y+v+k+e+:t
 where partitive+transloc+future+1st-person+'go'+punctual
 Where shall I go?
- (9) kahnv?ke nvtsáhrko?
kahnv?ke n+v+t+s+ahrko+?
 when partitive+future+iterative+2nd-pers+'go'+punctual
 when you-will-go-back
 When are you going home?

Question-word questions can serve as arguments of other predicates. Examples of sentences whose objects are (indirect) questions are in (10) - (13).

- (10) té? akyv?né:ri:k káhne? wa?na?rì:yo?
 te? a+k+yv?ner+ik káhne? wa?na?riyo+?
 not indefinite+1st-pers+'know'+serial aorist+human+reflexive
 'kill'+punctual
 not for-me-to-know-it who someone-killed-someone
 I do not know who killed him.
- (11) té? akayeyv?né:ri:k tà:wv:teh wa?nehá?tha?
 te? a+ka+ye+yv?ner+ik ta:wv:teh wa?n-eha-?t+ha?
 not indefinite+plural+human+'know'+serial what
 non-human+'cause'+serial
 not for-them-to-know what it-causes-it
 They did not know what was causing it.
- (12) kyv?né:ri: v:weh tihro?nè:nv?
 k+yv?neri+: v:weh ti+hr+o+?nenv? |
 1st-person+'know'+perfective where partitive+masculine+
 objective+'live'
 I-know-it where he-lives-there
 I know where he lives.
- (13) kyv?né:ri: kahnv?ke thwahrà:yv:tho?
 k+yv?neri+: kahnv?ke th+wa+hra+yvtho+?
 first-person+'know'+perfective when partitive+aorist+
 masculine+'plant'+punctual
 I-know-it when he-planted
 I know when he planted.

Note that in each of the above sentences, the object of the first verb is considered non-human regardless of the gender of the question-word. The pronoun refers to the answer to the question, the identity of the referent of the question word, not to the referent itself.

The set of question-words has a second function as well. Just as surface arguments (subjects, objects, etc.) can be identified by nouns or verbs, they can also be identified by entire clauses. Such constructions consist, in effect, of double predications on a single argument. No noun identifies the argument. The pro-forms used in questions also fill the syntactic roles of the arguments identified by clauses. Examples of sentences with pro-form clausal nominals are in (14) - (19).

- (14) iskah wa?kà:yv:tkv? káhne? hé?thoh íhrc?θ
 iskah wa?+ka+yv+t+kv+? káhne? he?thoh íhr+c?+θ
 not aorist+plural+human+reflexive+'see'+punctual
 who there masculine+'go'+serial
 not they-saw-someone who there he-walking
 They did not see the one who was walking there.
- (15) wa?kayv?na?nit?ó:thahs ha? káhne? kayv?na?nvhyahr
 ha? General Porter
 wa?+ka+yv+?na?n+it?o+t+hahs ha? kahne? ka+yv+?na?n+
 vhyar+h ha? General Porter
 aorist+plural+human+reflexive+'sleep'+causative+
 punctual+dative ha? who plural+human+reflexive+
 'guard'+serial ha? General Porter
 he-caused-them-to-sleep who they-guarding-him General
 Porter
 He put to sleep the ones who were guarding General Porter.

3. Restrictiveness

Usually, no overt surface distinction is made in Tuscarora between restrictive and non-restrictive relative constructions. It is possible to express a delimitation somewhat akin to restrictiveness, however.

It was noted in the chapter on nouns that the marker { vn } (→ /vt/) can be suffixed to noun stems to add the meaning of specificness. The presence of this marker in a relative clause can provide an element roughly approaching restrictiveness.

- (21) eká:θ?ah we?ekotshv̄:ri? kè:ní:kv: onvhs̄v̄:teh waktýá?nv?
 e+kaθ?ah we?+e+kotshvri+? kenikv: o+nvhs̄+vt+eh w+a+k+tya?t+v?
 human+'child' aorist+human+'find'+punctual 'this'
 non-human+'house'+specific+nom-suffix non-human+
 objective+first-person+'buy'+perfective
 little-girl she-found-it this certain-house I-bought-it
 A little girl found it in the house I bought.

The answer to a question like:

- (22) káhne? rayehs̄v̄:teh ha? Tom rayá:θv wahshé:kv?
 who 'individual' Tom he-is-called you-saw-him
 Which Tom did you see?

might be:

- (23) ha? rayehs̄v̄:teh otá:?nakv: thro?nè:nv?
 ha? ra+yehs+vt+eh o+ta?n+a+kv: t+hr+o+?nenv?
 masculine+being+specific+nom-suffix non-human+
 'settlement'+joiner+'in' partitive+masculine+obj+
 'live'
 that-individual town he-lives-there
 the one who lives in town

When no noun is involved, phrases built on the

particle v̄:tsi 'one' or ha? tì:wa?θ 'the amount' function somewhat like restrictive relatives in delimiting only a specific referent or set of referents. A specific relative clause identifies the subject of (24) below.

- (24) ò:nv h́esnv: ha? tì:wa?θ k̀è:ní:kv: yahwa?k̀à:yé:ya?k
 wa?tkayv?nehahsi?
 o:nv hesnv: ha? ti+w+a?θ kenikv: yah+wa?+ka+ye+ya?k
 wa?+t+ka+yv?+n+ehahsi+?
 'now' 'then' partitive+non-human+'amount' 'this'
 transloc+aorist+plural+human+cross-punctual
 aorist+dualic+plural+human+reflexive+separate+punct
 now then the-amount this they-crossed they-
 separated-themselves
 Now then, those who crossed separated themselves
 (from the others).

A similar clause identifies the object of (25).

- (25) ha? tì:wa?θ té? vhsísa?nv? vhsyv?né:ri:k nvθa?tikvhk̀à:r̀vhrv?
 ha? ti+w+a?θ te? v+hs+isa?nv? v+hs+yv?neri+:k
 n+v+θ+a+?tikvh+karvhrv+?
 partitive+non-human+'amount' future+2nd-person+
 'know'+perfective partitive+future+2nd-person+obj+
 'mind'+ 'bother'+punctual
 the-amount not you-will-bury-them you-will-know
 they-will-bother-you
 You will see that the ones you do not bury will bother you.

In the text preceding (24) was a statement that some of the people in a group of wanderers had crossed a river. The subject of (24) consists of all and only those who were part of that group. Before (25) was a command to bury the bodies of some monsters which had just been killed. The object of (25) is a specific subset of those monsters.

If a referent is countable and singular, a phrase with v̄:tsi 'one' can be used in a similar manner to identify

it. The sentence below followed the statement that there were three boys, a fast runner, an average runner, and a slow one.

- (26) ò:nv hésnv: v:tsi ha? royatkà:yv? wahroyè:nv:?
 o:nv hesnv: v:tsi ha? r+o+yatkayv+? wa+hr+o+yenv+?
 'now' 'then' 'one' masculine+objective+'slow'+
 perfective aorist+masculine+objective+catch+punctual
 now then one he-slow it-caught-him
 Now then, it caught the one who was slow.

4. Apposition

One very frequent type of construction in Tuscarora involves a double predication on a single argument, where the argument is also identified by a noun. The argument can function as a surface subject, object, or temporal or locative adverbial in each clause, not necessarily the same in both. Some examples of this construction are in (27) - (29).

- (27) v:tsi tyahwáhe:t v:kweh kayekwà:rì:ye? kakawvhrí:yo:
 v:tsi t+yah+wahe:t v+kweh ka+ye+kwariye+? ka+k+aw+vhr+iy+o:
 'one' partitive+transloc+aorist-go-punct human+'person'+
 nom-suffix plural+human+'move'+serial plural+human+
 objective+'group'+ 'great'+perfective
 one time people they-traveling their-group-large
 One time some people were traveling who were a large group.
- (28) neyv?nè:ro? newahθraté:kv wahrvhrv? "hau?"
 ne+yv+?n+vro? ne+w+ahθratek+v wa+h+vhrv+? 'hau?'
 dualic+human+reflexive+'friend' dual+human+'together'+
 perfective aorist+masculine+'say'+punctual 'OK'
 they-two-are-friends they-two-together he-said OK
 His friend, who was sitting next to him, said, "O.K."
- (29) wahrà:rá:ko? ha? k'vtsyv h ís?vh yahwahráhrhr
 wa+hra+ra-ko+? k+vtsyv+h ís?vh yah+wa+hra+hrihr
 aorist+masculine+'take-out'+punctual non-human-'fish'+
 nom-suffix 'far' transloc+aorist+masculine+'throw'+punct
 he-took-it-out fish far he-threw-it-there
 He took out a fish which he threw far away.

The shared argument may be overtly identified by a separate noun in both clauses, as in (30).

- (30) ò:nv hēsuv: ó?nv? Θáhe?, Θáhe? kè:ní:kv: tikatkwà:rá:yv:t
 nvyakwà:yéhrak
 o:nv hēsuv: o?nv? Θahe?, Θahe? ke:ni:kv: ti+ka+tkw-a-r+
 ayvt n+v+yak+wa+yehrak
 'now' 'then' 'other' 'bean' 'bean' 'this' partitive+
 non-human+'red' partitive+future+1-3person+plural+
 'mix' (+punctual)
 now then also beans beans this red we'll mix'in
 Now then, we'll also mix in red beans.

The noun may be incorporated in either or both clauses.

- (31) ha? ò:nv wa?ka?ta?tawv? ò:nvha? ò:nvheh ha? vkweh:v:weh
 yvkwà:nvhawv
 ha? o:nv wa?+k+a?+tawv+? o+nvha? o+nvh+eh ha? v+kweh+vweh
 yv+k+wa+nvh+a+w+v
 'now' aorist+1st-person+'dissolve'+punctual non-human+
 'old' non-human+'corn'+suffix human+'person'+ 'real'
 objective+1st-person+plural+'corn'+joiner+'belong-to'+
 +perfective
 then I dissolved-it then corn real-people the-corn-
 belongs-to-us
 Then I dissolved the corn, Indian corn.

The argument may be overtly identified by a noun in just one of the clauses. In (32), the first clause contains two nouns.

- (32) waktáskwayv? tá:ko:θ tiwvθé?r?o:?y
 w+a+k+taskw+a+yy? takoθ ti+w+vθ-e?r--?o:?y
 non-human+objective+1st-person+'animal'+ 'belong-to' 'cat'
 partitive+non-human+'big'
 I-have-a-pet cat it-is-big
 I have a big cat.

The argument may be identified by an incorporated noun in one clause and be referred to only pronominally in the other.

- (33) wa?thra^{kér}hahk wáhre?r rawvhé:yv:
 wa?+t+hra+kerh+ahk wa+hr+er+? r+aw+vheyv+:
 aorist+dualic+masculine+'body'+ 'pick-up (+punctual)
 aorist+masculine+'think'+punctual masculine+objective
 'die'+perfective
 he-picked-up-the-body he-thought-it he-had-died
 He picked up the body he thought was dead.

Utterances of this type are systematically translated into English with relative clauses, i.e., with one clause subordinate to the other. Yet most of the Tuscarora utterances appear to consist of a simple string of independent clauses. The component clauses of (27) - (29) can all stand alone grammatically.

- (27a) v̄:tsi tyahwáhe:t v̄:kweh kayekwarì:ye?
 One time some people were traveling.

- (27b) kakawvhrí:yo:
 They were a large group.

- (28a) neyv?n̄:ro? newahθhraté:kv
 Two friends were sitting together.

- (28b) wáhrv̄hrv? "hau?".
 He said, "O.K."

- (29a) wáhrà:rá:ko? ha? kv̄tsyvh
 He took out a fish.

- (29b) 'ís?v̄h yahwáhráhrìhr
 He threw it far away.

No overt marker relates the clauses. Again, the question is raised as to whether these utterances consist, in Tuscarora, of one sentence or two.

B. Underlying Structures: The Coordination Test

Four types of utterances have been described which are systematically translated into English complex sentences. Yet on the surface, the Tuscarora constructions appear to consist of simple strings of independent clauses, with no evidence of any relations of dominance or subordination between them.

A test can be constructed to determine whether in fact any such relations are expressed in Tuscarora. If the component clauses of an utterance can be joined by a coordinating conjunction, and no change in meaning results, the clauses were probably of equal syntactic status in underlying structure: one was not subordinate to the other.

The test was first applied to constructions involving sentential arguments, like those in (1) - (4) above. A Tuscarora speaker was presented with sentences (1') - (4'), identical to (1) - (4) except that the coordinating conjunction tisnv? 'and' occurred between the component clauses of each.

- (1') tehéhsnv: thwa?kà:ye?r tisnv? wahro?wvóv?ni? otsíhrv?
Then it happened and the bear lost his tjal.
- (2') vyo?rihwà:yv?θ hè:ní:kv: tisnv? sa?káhne? kè:ní:kv:
v̂:yé:nv:t
It will be necessary and someone will feed it.
- (3') ò:nv hésnv: we?é:kv? tisnv? nahrà:yv?
Now then, she saw it and he came in.
- (4') nahrá:ye:?r tisnv? wáhreh
He continued and he drank.

The Tuscarora speaker stated that while (1') - (4') could be considered grammatical, they were somewhat peculiar semantically and differed considerably in meaning from (1) - (4). Connections of coreference between the pronominal subject or object of the first clause, and the second clause, are destroyed. It is no longer clear, from (1'), what happened, from (2'), what must be done, from (3'), what she saw, or from (4'), what he continued. As in English, backwards pronominalization between independent (conjoined or successive) clauses is impossible. The argument of a predicate must be either clear from context, or identified by a noun phrase in the first main clause in which it occurs. The test indicates that the component clauses of utterances (1) - (4) cannot have been of equal syntactic status in underlying structure.

Application of the coordination test to sentences containing indirect questions and pro-form relatives yields similar results. The insertion of tísnv? 'and' destroys relations of coreference.

- (10') té?akv?né:ri: tísnv? káhne? wa?na?rì:yo?
I did not know and who killed him.
- (11') té? akayeyv?nà:ri: tísnv? tà:wv:teh wa?nehá?tha?
They did not know and what causes it.
- (12') kv?né:ri: tísnv? v:weh tihro?nè:nv?
I know and where does he live.
- (13') kv?nè:ri: tísnv? kahnv?ke thwahràyv:tho?
I know and whenever he plants.

As before, it must be concluded that the component clauses of such utterances are not independent in underlying structure.

The application of the test to pro-form nominal constructions, in which an argument is identified by a clause, yields similar results. If the coordinating conjunction is inserted between the component clauses of such an utterance, the meaning is changed. As before, relations of coreference disappear. The second clause can be interpreted only as a question.

(14') ìskah wa?kà:yv̀tkv? tísuv? káhne? hé?thoh íhre?θ
They did not see it and who was walking there

(17') vkayvtvhnì:nv̀hek kè:ní:kv: tísuv? tà:wv̀:teh kayektì:yahs
They will be selling this and what are they making.

(19') hé?thoh yahvθáhre:t tísuv? v̀:weh thrawè:nv̀:~nv
He will go back and where does he live.

These clauses could not have been of equivalent syntactic status in underlying structure, since conjunction distorts their relationships to each other.

The application of the conjunction test to appositive constructions yields very different results. The component clauses of such utterances can be joined with no significant change in meaning.

(27') v̀:tsi tyahwáhe:t v̀:kweh kayekwarì:yv? tísuv?
kakawvhri:yo:
One time people were traveling and they were a large group.

(28') neyv?nv̀:ro? : θhraté:kv tísuv? wahrv̀hrv? "hau?"
His friend was sitting next to him and he said, "O.K."

- (29') wahrà:rá:ko? ha? kv́tsyvh tísuv? ís?vh yahwahráhrihr
He took out a fish and he threw it far away.

The clauses must be derived from syntactically equivalent propositions in underlying structure.

The conjunction test has indicated that sentential arguments, pro-form nominal clauses, and specific relatives do not arise from sets of clauses of equivalent syntactic status. The same test has indicated that appositive constructions do. A second test has been devised to detect relationships of subordination between clauses.

C. The Subordination Test

The particle ha? can be used in Tuscarora to emphasize major constituents. It usually sets off subjects, objects, locatives, or temporals. It is not used to emphasize main predicates of simple sentences, nor entire clauses. Examples of its use and misuse are below.

- (34) ha? tsi:r wa?ká:ri:k tá:ko:Ø
tsi:r wa?+ka+ri:k ta:ko:Ø
'dog' aorist+non-human+'bite' (+punctual) 'cat'
dog it-bit-it cat
The dog bit the cat.
- (35) tsi:r wa?ká:ri:k ha? tá:ko:Ø
The dog bit the cat.
- (36) ha? tsi:r wa?ká:ri:k ha? tá:ko:Ø
The dog bit the cat.
- (37) ha? thé:ʔnv? tsi:r wa?ká:ri:k tá:ko:Ø
Yesterday, the dog bit the cat.

The sentences in (38) and (39) sound wrong.

(38) ?tsi:r ha? wa?ká:ri:k tá:ko:θ

(39) ?ha?, tsi:r wa?ká:ri:k tá:ko:θ

This ha? can occur before a predicate or a clause under certain conditions, however. This happens when the predicate is part of a sentential subject or object. The particle, which marks major constituent boundaries before arguments, is very common before sentential subjects and objects.

(1") tchésnv: thwa?ká:ye:?r ha? wahro?wvhθv:?ni? ohtsihrv?
Then it happened that the bear lost his tail.

(2") vyo?rihwà:yv?θ hè:ní:kv: ha? sa?káhne? kè:ní:kv?
v:yó:nv:t
It is necessary for someone to feed it.

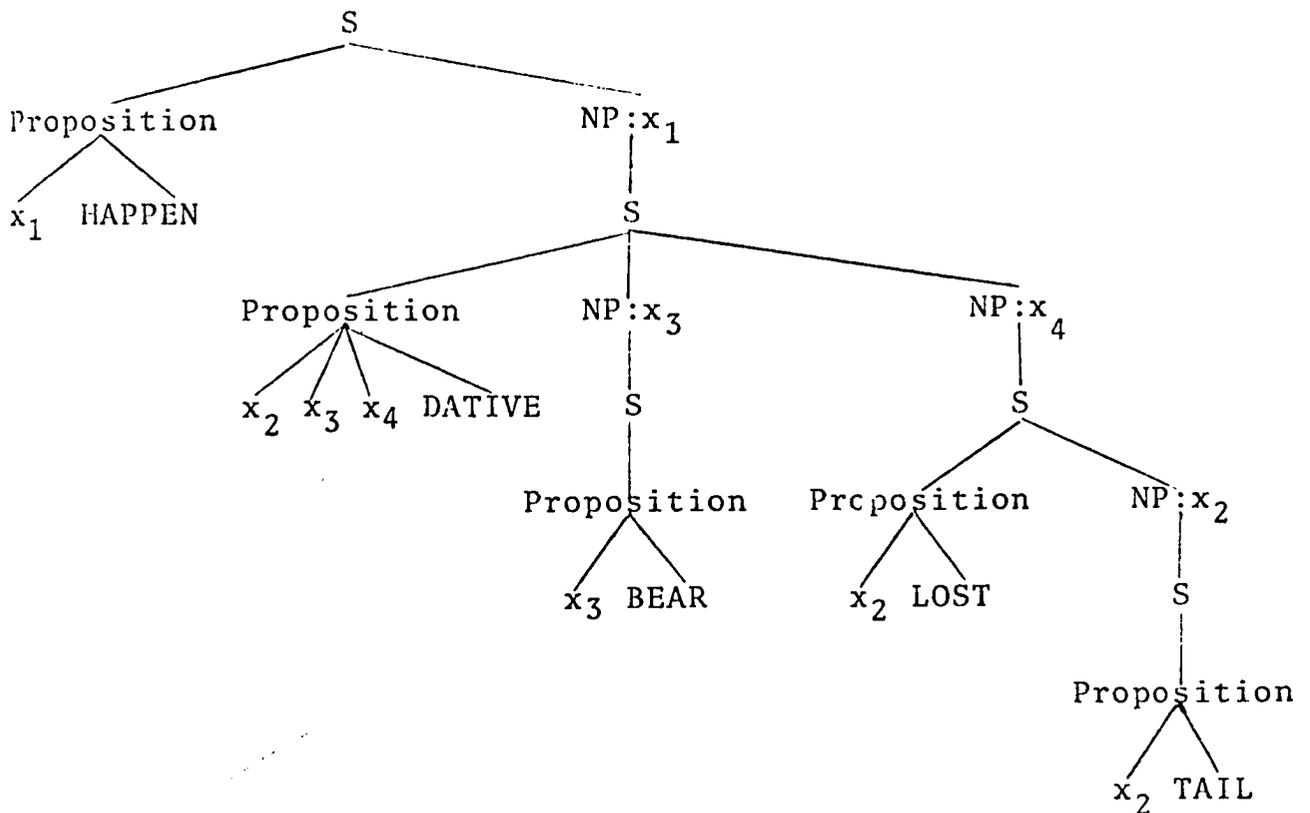
(3") ò:nv hésnv: we?ó:kv? ha? nahrá:yv?
Now then, she saw him come in.

(4") nahrá:ye:?r ha? wáhrchr
He continued drinking.

The presence of ha? confirms the conclusion that the sentential arguments are actually functioning as dependent constituents of the first predication in (1) - (4).

Accordingly, the structure underlying (1) can be represented, at some point in its derivation, as below. The subject of the predicate HAPPEN, x_1 , is the whole sentence under the node NP: x_1 .

- (1) tehesnv: thwa?ka:ye:?r (ha?) wahro?wvhθv?ni? ohtsihrv?
Then it happened that the bear lost his tail.



The particle ha? also occurs quite frequently before clauses which function as pro-form nominals.

- (15) wa?kayv?na?nit?óhahs ha? káhne? kayv?na?nvhyahr ha?
kè:ní:kv: ha? General Porter
He put to sleep those who were guarding General Porter.

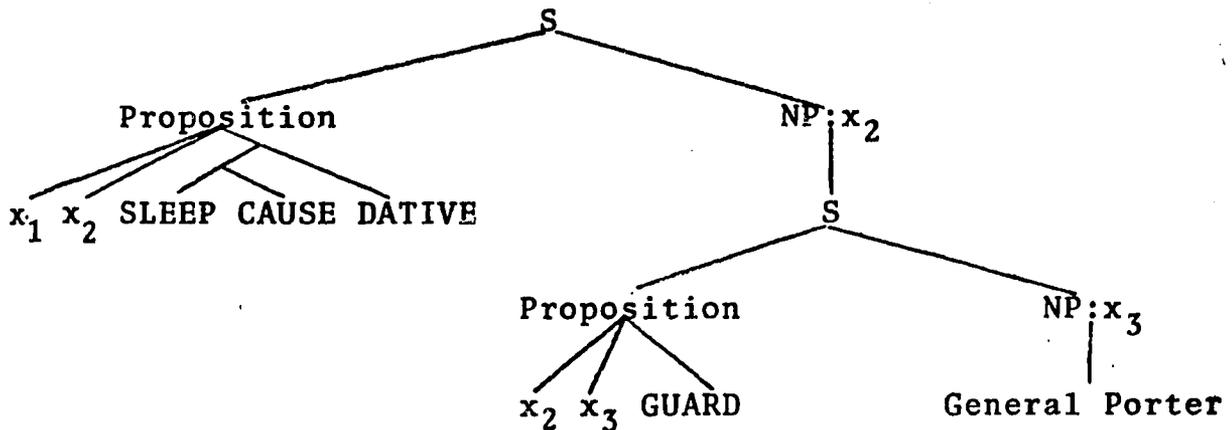
- (17) vkayvtvhnì:nvhek kè:ní:kv: ha? tà:wv:tch kayaketì:yahs
They will be selling the things that they make

In fact, it can always be inserted in such sentences with no resulting change in meaning. This indicates that the pro-form nominal clause is a dependent constituent of the clause it follows. Recall that the subjective or objective pronominal marker of that first clause agrees in number and gender with the pro-form. They are coreferent. Accordingly,

•

the structure underlying (15) can be sketched as below.

- (15) wa?kayv?na?nit?óthahs ha? káhne? kayv?na?nvhyahr ha?
 kè:ní:kv: ha? General Porter
 He put to sleep those who were guarding General Porter.



The pro-forms káhne?, tà:wí:teh, v:wéh, and kahnv?ke are inserted into sentences like that above where no nominal is present.

The particle ha? is always present in specific relative constructions. Again, the ha? sets off one clause as a subordinate constituent of another clause. While the phrases

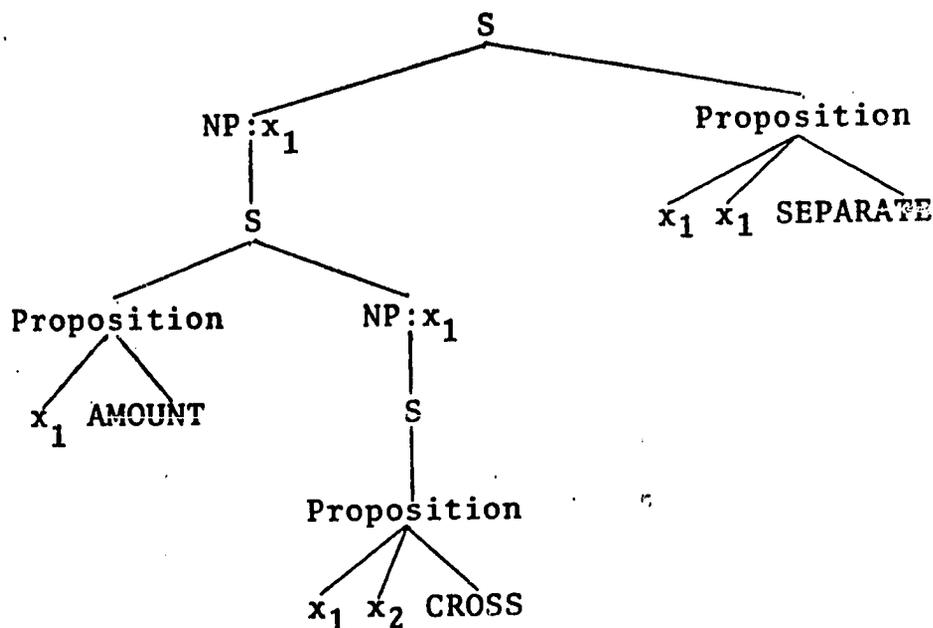
ha? tì:wa?θ kè:ní:kv: yahwa?kà:yé:ya?k
 (the ones who crossed)

ha? tì:wa?θ te? vhsísa?nv?
 (the amount which you do not bury)

do not constitute acceptable sentences in themselves, they can function as constituents of other clauses, as in (24) and (25). The structure underlying (24), at some point in

the derivation as below.

- (24) o:nv hesnv: ha? ti:wa?θ ke:ni:kv: yahwa?ka:ye:ya?k
 wa?kayv?nehahsi?
 Now then, the ones who crossed separated themselves.



It is interesting that ha? also occurs frequently in appositive constructions, where the component clauses are of equivalent status in underlying structure.

- (31) ha? ò:nv wa?ka?tá?tawv? ò:nvha? ò:nvheh ha?
 vkwehv:weh yvkwanvhawv
 Then I dissolved the corn, which is Indian corn.

In fact, the particle can always be inserted into such structures.

- (28") neyv?nv:ro? ha? newahθhré:kv wahrvhrv? 'hau?".
 His friend, who was sitting next to him, said, "O.K.".

In surface structure, the clauses preceded by ha? serve as

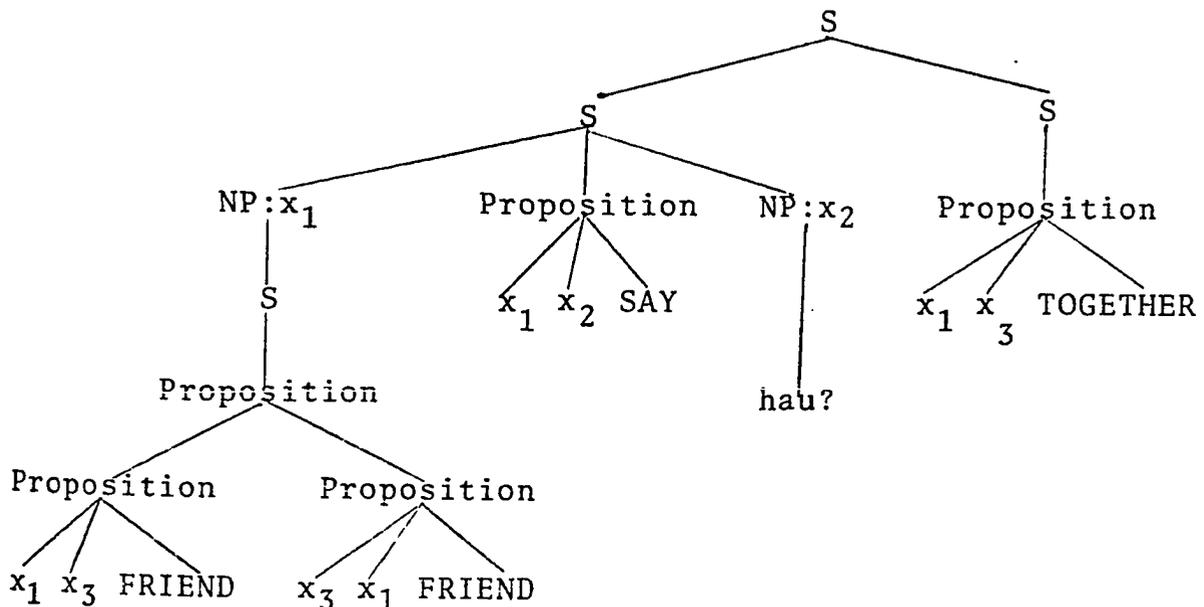
additional (appositive) constituents, subordinate to the other clauses.

A third test can be applied to confirm the fact that the particle ha? does indeed mark subordination. Both the coordinating conjunction tísnv? 'and', and the constituent marker ha?, are inserted into a single appositive construction. The resulting sentences are ungrammatical.

(28'') *neyv?nù:ro? ha? newahθhraté:kv tísnv? wahrvhrv? "hau?"
 *His friend, who was sitting next to him, and he said, "O.K.".

The first 'clause' now lacks a main verb, since this was overtly marked by ha? as subordinate. In this form, it cannot be conjoined to a complete clause.

It is now possible to describe the derivation of appositive sentences. They originate as conjoined structures. The semantic representation of (28) is below.



A transformation moves the second clause to a position within the first immediately following the noun phrase it modifies.

D. Conclusion

The ha? test indicates that subordination is marked in Tuscarora, although not always overtly. Often the sequential order of clauses is the only clue to relationships of subordination, since dependent clauses follow the constituents or clauses under which they are embedded. The tísnv? test indicates that the relationship of subordination does not originate in underlying structure. Appositive constructions are derived from a conjoined source, a pair of syntactically equivalent clauses. A transformation embeds one of these clauses into the other.

CHAPTER VI

PHONOLOGY

In this chapter, some of the major relationships between basic phonological strings and phonetic utterances are described in terms of rules which systematically convert the first to the second.

A. Automatic Phonological Rules

Systematic alternations in forms are evident whenever certain segments are adjacent to each other within words. The alternations are of three main types: those involving dentals, those involving laryngeals, and those involving semi-vowels.

1. Automatic Alternations Involving Dentals

Whenever the fricative { θ } is followed by { i } or { y }, it is realized as an affricate [ts]. This is observable in verbs containing the iterative followed by a { y } -initial pronominal prefix and in second person imperatives based on { i } -initial or { y } -initial verb stems.

- (1) n'v:tsyv?w
(τ+v+θ+y+v+?+w)
dualic+indefinite+iterative+human+'go'+punctual
for them two to come back

- (2) tsíhrv:
 { θ+íhrv:+Ø }
 2nd-person+'say'+imperative
 Say it!
- (3) tsyvhskwe
 { θ+yvhskwē+Ø }
 2nd-person+'smile'+imperative
 Smile!

The rule below describes this alternation.

$$\theta \rightarrow \underset{\circ}{t}s / \text{---} \begin{Bmatrix} \text{y} \\ \text{i} \end{Bmatrix}$$

Throughout the language there is systematic alternation between /t/ and /n/. The partitive /t~th~n/, the dualic /t~?n~n/, the cislocative /t~na/, and the reflexive morphemes /at~a?n~a? / all show this alternation in their surface forms. Verb stems also exhibit this alternation. Compare the underlined stems in the verbs

- (4) rehó:tha?
 he show it
- (5) wahrehó:?nv?
 he showed it

To account for the alternations, it is necessary to posit the existence of two different underlying phonological segments, { n } and { 't } . The first is that found in the partitive, { n_p } . The second is that found in the dualic morpheme { 't_d } .

{ n } is realized as a nasalized stop /n/ before the nasalized vowel { v } and as an oral stop /t/ elsewhere.

Compare the two forms of the partitive below.

- (6) nyv́hre:t
 { n+y+v+hr+e+:t }
 partitive+translocative+future+masculine+'go'+punctual
 he will go there
- (7) tyahwáhre:t
 { n+yah+wa?+hr+e+t }
 partitive+translocative+aorist+masculine+'go'+punctual
 he went there

The rule below describes this alternation. Note that the resulting t is not preglottalized.

$n \rightarrow t / _ X$

where $X \neq \begin{pmatrix} i \\ y \end{pmatrix} v$

{ 't } is realised as /ʔn/, /n/, /ʔ/, or /t/ depending upon its phonological environment. Before vowels, the glottalization of { 't } is strengthened and the obstruent nasalized.

't \rightarrow ʔn / V

Before dentals, the glottalization of { 't } is strengthened and the dental obstruent is lost.

't \rightarrow ? / $\begin{pmatrix} t \\ n \\ r \end{pmatrix}$

Otherwise, it is realized as an oral, somewhat preglottalized dental stop.

- Examples of the alternations in morphemic shapes

brought about by the preceding two rules can be seen in verbs containing the reflexive morpheme, whose underlying phonological shape is { a't }.

- (8) $\theta a?n\acute{e}:ti:$
 { $\overline{\theta}+a't+eni:+\emptyset$ }
 2nd-person+reflexive+'make'+imperative
 Get dressed!
- (9) $\theta a?rakvry\acute{e}hv:$
 { }+a't+rakvri+ehv:+ \emptyset }
 2nd-person+reflexive+'roll'+distributive+imperative
 Roll around!
- (10) $\theta atkwar\acute{i}ha?t$
 { $\overline{\theta}+a't+kwarih+a?t+\emptyset$ }
 2nd-person+reflexive+'fast'+causative+imperative }
 Hurry up!

2. Automatic Rules Involving Laryngeals

Glottal stop never functions distinctively in word-initial position, although it is automatically inserted there before vowels. The loss of the stop before word-initial consonants can be observed by comparing different verb forms containing the dualic morpheme { 't_d } or the cislocative { 't_c }.

Dualic

- (11) $t\acute{s}v? ta?nek\grave{a}:y\acute{v}?thnv\acute{h}$
 { $t\acute{s}v? n+a'te+ka+yv?thnv+h$ }
 'set' partitive+dualic+plural+human+'play'+serial
 They are set to play
- (12) $nekay\acute{v}?thnv\acute{h}$
 { 'te+ka+yv+?thnv+h }
 dualic+plural+human+'play'+serial
 they are playing (ball)

Cislocative

- (13) kwvhs v?náhsweh
 { kwvhs v+'t+a+hs+weh+? }
 'not' indefinite+cislocative+indefinite+2nd-person+
 'talk'+punctual
 Don't answer
- (14) ne?tì:weh
 { 't+e't+ni+weh+∅ }
 cislocative+1-2-person+dual+'talk'+imperative
 let's talk together

The rule below eliminates initial glottal stops.

? → ∅ / # __ C

The laryngeal spirant /h/ never occurs word-initially before a consonant. The loss of h can be observed by comparing words which begin with the masculine marker, normally { hra }, and those which contain it internally.

- (15) vhrà:weh
 { v+hra+weh+? }
 future+masculine+'talk'+punctual
 he will talk
- (16) rà:weh
 { hra+weh+h }
 masculine+'talk'+serial
 he is talking

The rule below eliminates the spirant word-initially before consonants.

h → ∅ / # __ C

The two preceding rules, both of which delete laryngeals before word-initial consonants, can be combined into a

single rule.

$$\begin{Bmatrix} ? \\ h \end{Bmatrix} \rightarrow \emptyset / \# _ C$$

Laryngeals never cluster together. If { h } and { ? } are adjacent, they combine to yield the spirant /h/. This can be observed in verbs containing the aorist { wa? } and the punctual { ? }.

(17) wahrà:weh
 { wa?+hra+weh+? }
 aorist+masculine+'talk'+punctual
 he spoke

$$\begin{Bmatrix} h \\ ? \end{Bmatrix} + \begin{Bmatrix} ? \\ h \end{Bmatrix} \rightarrow h$$

Geminate laryngeals are simplified to single ones.

(16) rà:wch
 { hra+weh+h }
 masculine+'talk'+serial
 he is talking

(18) wá?tkyd?k
 { wa?+t+k+ya?k+? -- wa?+t+k+ya??k }
 aorist+dualic+1st-person+'break'+punctual
 I broke it.

$$L_1 + L_1 \rightarrow L_1$$

where L = $\begin{Bmatrix} h \\ ? \end{Bmatrix}$

3. Alternations Involving Semi-vowels

The high vowels become glides before other vowels.

These alternations are observable in verbs whose stems end in { i } and { o }.

- (19) yekhw[́]:t^hi
 { ye+khw+evi+h }
 human+'food'+ 'make'+serial
 she cooks
- (20) yeθakhwvtyá:t^hi
 { ye+θ+a+khw+vni+ati+h }
 human+2nd-person+objective+'food'+ 'make'+dative+serial
 she cooks for you
- (21) wá?kko?
 { wa?+k+ko+? }
 aorist+1st-person+'get'+punctual
 I got it
- (22) wákkwv
 { w+a+k+ko+v }
 non-human+objective+1st-person+'get'+perfective
 I have gotten it

The rules which describe these alternations are below.

$$i \rightarrow y / _ V \begin{matrix} \{C\} \\ \{ \# \} \end{matrix}$$

$$o \rightarrow w / _ V \begin{matrix} \{C\} \\ \{ \# \} \end{matrix}$$

Historically, the Iroquoian languages contained two distinctive nasalized vowels, one front vowel and one back vowel. These have merged to a single, central, nasalized vowel { v } in modern Tuscarora. When the velars { w } or { o } followed any consonant except { k }, and preceded the back nasalized vowel, they disappeared.

$$*C + \begin{pmatrix} o \\ w \end{pmatrix} + \tilde{u} \rightarrow *C\tilde{u} \qquad \tilde{u} \rightarrow v$$

where $C \neq k$.

This deletion has resulted in alternations in the shapes of certain morphemes in modern Tuscarora. Compare the forms below.

- (23) kyv':thohs
 { k+yvtho+hs }
 1st-person+'plant'+serial
 I am planting
- (24) wakyv':thv
 { w+a+k+yvtho+ũ }
 non-human+objective+1st-person+'plant'+perfective
 I have planted
- (25) katsitsihskvhws
 { ka+tsitsihs-kv-hw+s }
 non-human+'bloom'+serial
 it is blooming
- (26) yotsitsihskv'hv
 1 { yo+tsitsihs-kv-hw+ũ }
 non-human-objective+'bloom'+perfective
 it has 'bloomed

B. The Placement of Stress and Tone

Both stress and tone are nearly predictable in Tuscarora.

1. Stress

There is one primary stress per word. Most commonly, stress is penultimate and the stressed syllable bears high or rising tone. All other syllables bear normal tone, with

the exception of the pretonic syllable, which occasionally bears falling tone. Some examples of penultimate stress with high tone are below.

- (27) oháheh
 { o+hah+eh }
 non-human+'road'+nominal-suffix
 road
- (28) ohahá?ke
 { o+hah+a?+ke }
 non-human+'road'+nominal-suffix+locative }
 on the road

Not all words have penultimate stress, however. A number of surface verb forms have antepenultimate stress. These verbs include incorporated noun stems. If an incorporated stem ends in a consonant, an epenthetic vowel /a/ is inserted to break the resulting cluster. This vowel does not enter into the determination of penultimate stress, so if the joiner would be penultimate, stress appears to be antepenultimate. An example of this is below.

- (29) wahvkrvhsari:k
 { wah+v+k+rvhs+a+ri:k (+?)
 aorist+non-human-objective+1st-person+'leg'+joiner+
 'bite' (+punctual)
 it bit my leg

A number of nouns appear to have antepenultimate stress. Their stems, which were originally formed from shorter noun stems incorporated into the verb r 'in', all end in -ar. The shorter stems were connected to the verb root by the

joiner /a/. Since the joiner does not bear stress, the nouns appear to have ante-penultimate stress. Because the morphological analysis is no longer always clear, the stress of these nouns must be marked in the lexicon. Such nouns are in (30), (31), and (32).

- (30) ótkwareh blood
 (cf. otkweh belly)
- (31) otá:ʔnareh bread
- (32) ohskv':ʔnareh tree bark

In a small number of cases, stress is on the ultimate syllable. These cases involve specific lexical items, which are listed in the lexicon along with their stress.

- (33) seʔtsíh because, too
- (34) tawvtehtóh whatever (suffix -tóh 'ever')
- (35) tsirʔáh little dog (suffix ʔáh diminutive)

The placement of stress is described by the rule below. Stress is penultimate unless the ultimate syllable is already stressed. The epenthetic joiner does not enter into the syllable count.

$$V \rightarrow \acute{V} / _ (C) (C) (C) C (V_1 (C) (C) (C) C) V_2 (C) (C) (C) \#$$

where V_1 = epenthetic stem joiner
 V_2 is unstressed

2. Tone

Vowels which precede any single resonant (n, r, w, or y) and a stressed syllable automatically bear falling tone.

- (36) ò:nv́ha?
lóng ago
- (37) rò:ré?kwv:
hē is gone
- (38) v̇:yórhv?
tomorrow
- (39) rà:wv̇:ro
hīm

The rule below adds falling tone these vowels.

VŔ → V̇RV́

where R = $\begin{pmatrix} n \\ r \\ w \\ y \end{pmatrix}$

Stressed vowels which precede a single resonant and short vowel also bear falling tone.

- (40) skà:rò:rv?
Tuscařora
- (41) ò:nv
at this time
- (42) à:wv?
water
- (43) ì:yv?θ
she is walking

Examples (44) and (45) below illustrate the fact that the tone is low only when following vowels are short.

(44) kyv?né:ri:
I know

(45) 0hè:yé:nv:
Arrest him!

The rule below lowers the tone on these vowels.

VRV̄ → V̄RV̄

where R = $\left\{ \begin{array}{c} n \\ r \\ w \\ y \end{array} \right\}$

Otherwise, stressed vowels bear high or rising tone.

A small number of words are exceptions to this pattern. Their tones are noted in the lexicon.

(46) v̄:hvh
yes

3. Length

Some lexical items have inherent ultimate length.

Length in other syllables is predictable.

All low-toned vowels are long.

(47) kwà:nvh
many

(48) kwè:ro?
rabbit

(49) ò:wí:0reh
snow

- (50) ɒrì:yo
Kill it

The rule below lengthens vowels with falling tone.

ṽ → ṽ:

High toned vowels followed by a single consonant which is not a laryngeal are lengthened. The sequences ʔ_n (derived from { 't }), ts_s , and kw_w , act as single consonants with regard to this rule. Some examples of length before single consonants are below:

- (51) $\text{tá:ko:}\theta$
cat
- (52) rakwá:tihs
young man
- (53) ohsv́:ʔneh (ʔ_n)
stocking
- (54) v́:tsi (ts_s)
one
- (55) v́:kweh (kw_w)
person

The rule below lengthens these vowels.

$\acute{v} \rightarrow \acute{v}: / _ CV$

where C = t, k, s, θ , ts_s , ʔ_n , or kw_w

High toned vowels followed by one oral stop plus a second oral stop or a laryngeal are lengthened.

$\acute{v} \rightarrow \acute{v}: / _ \begin{Bmatrix} t \\ k \end{Bmatrix} \begin{Bmatrix} t \\ k \\ h \\ ? \end{Bmatrix}$

Examples of the effect of this rule are in (56) - (58).

(56) né:kti:
two

(57) á:tho?
cold

(58) ʔa?rá:tʔah

High toned vowels followed by a single consonant plus a resonant are lengthened.

(59) né:krv:
eight

(60) teʔ tihsá:ʔnyehr
What are you doing?

(61) wahrá:tyaʔt
he bought it

The rule below lengthens vowels in this environment.

$\acute{V} \rightarrow \acute{V}: / _ \text{CRV}$

where C = any consonant including ʔn, tʂ, and kw
R = n, r, w, or y

C. Phonetic Realizations

The forms cited in this study are represented at approximately the stage in their derivation obtained by applying the discussed up to this point. The number of symbols used in transcription is eighteen, two of which are for tone and one for length. The combinations of phonetic features which the symbols represent are discussed below.

1. Consonants

Ten of the symbols stand for consonants. Of these, two represent oral stops, two sibilants, four resonants, and two laryngeals. Although the segments /t̥s/ and /ʔn/ pattern like single consonants with respect to the determination of vowel length, they are otherwise phonetically indistinguishable from the pairs of segments /t+s/ and /ʔ+n/.

a. Stops

There are three stops in Tuscarora: an apico-dental /t/, a dorso-velar /k/, and a labio-velar /kw/. The /t/ is normally preglottalized except immediately following other consonants. (The preglottalization mark is not used in transcription.) The /k/ is strongly palatalized before /e/.

k → ky / e

This can be heard in the words

(62) kè:rih
[ky̥:rih]
I think

(63) à:wvʔkə
[ʔo:wvʔky̥h]
in the water

When /k/ precedes itself, it is slightly aspirated, as in:

(64) kkwá:tihs
[khkwó:tihs]
I am young

(65) waʔkkoʔ
[wóʔkhkuʔ]
I got it

The automatic rule which inserts aspiration is below.

k → kh / ___ k

The phonetic realization of /kw/ is indistinguishable from that of /k+w/ except that the glide of /kw/ is not subject to the phonological alternations exhibited by the resonant /w/.

Voice onset time for the stops is simultaneous with stop closure if 1) the stop is initial or preceded by a vowel, and 2) it is followed by a vowel. Otherwise, voice onset time follows closure.

b. Spirants

There are two spirants, /s/ and /θ/, plus the affricate /tʃ/. In the speech of some Tuscaroras, no distinction is made between /s/ and /θ/, and both are pronounced as [s]. Those who do make the distinction do so in a uniform way and consistently. All data presented in this study are in the θ-dialect.

/θ/ is a voiceless, fronto-alveolar spirant.

Examples of this sound can be heard in the words below.

- (66) θti:kw
[θti:kw]
Sew!
- (67) ohθv:ʔneh
[ʰuhθv:ʔneh]
night
- (68) ò:wí:θreh
[ʰù:wí:θreh]
snow
- (69) áha:θ
[ʰáha:θ]
horse

/s/ is a voiceless, blade alveolar spirant. Examples of words with this sound are below.

- (70) stá:kwi:ʔ
[stó:kwi:ʔ]
high

- (71) ohsv:ʔneh
[ʔuhsə:ʔnəh]
stocking
- (72) raʔneti:yahs
[rəʔnəti:yəhs]
he is getting dressed

Following /t/, and optionally before /i/ and /y/,
/s/ is palatalized to š .

s → š / t _

opt s → š / _ $\begin{pmatrix} i \\ y \end{pmatrix}$

The palatalized spirant can be heard in the verbs

- (73) ráhra:ts
[róhrə:tš]
he is counting
- (74) ahsíhsnaʔt
[ʔəhšíhsnəʔt]
for you to hit it

c. Resonants

The resonants /n/, /r/, /w/, and /y/ are all subject to the same rules of non-distinctive, automatic alternation.

All are strongly preaspirated in word-final position or before a laryngeal.

R → hR / _ $\begin{pmatrix} ? \\ h \\ \# \end{pmatrix}$

Examples of this preaspiration can be found in the words below.

- (75) θrén
[θrahŋ]
Cut it!

(76) rawv?n'hyar
[rowʊ?nəhɔpɪr]
he had watched it

(77) ʔhaw
[ʔhɔhɔ]
Take it!

(78) oyh'vɥakw
['uhɥhəhɔkw]
along the river → Lewiston

All resonants become voiceless fricatives in these environments and before /s/.

$$R \rightarrow R^f / _ \left\{ \begin{array}{l} (h) \\ ? \\ \# \\ s \end{array} \right\}$$

The voiceless variant of /n/ involves a silent movement of the tongue accompanied by an audible escape of breath through the nose! The voiceless fricative variant of /r/ differs from the voiced variant in degree of stricture. It is so spirantized by a few speakers that it merges phonetically with /s/, but this is a constant feature in the speech of a specific group of individuals. The fronto-palatal fricative involves the same point of articulation as its glide variant [ɣ] but again there is more stricture. Examples involving these sounds are below.

(79) tswé?n
[tswɛ?n]
hello

(80) k'ynhe?
[k'ɥnhɛ?]
I am alive

- (81) o?nhvhseh
 ['u?nhshse,h]
 egg
- (82) ktohahr
 [ktúhphr]
 I am washing it
- (83) wa?kúhe?y
 [wə?kúhe.?χ]
 it died
- (84) ti:wá?θ?o:?y
 [ti:wó?θ?u:?χ]
 it is big.

The fricative variant of the velar glide is bilabial.

- (85) v?w
 ['é?φ]
 it arrived
- (86) vθá:w?a:?
 ['əθə:φ?ə:?]
 it began
- (87) tsyatvhstv?nahw
 [tšyatəhstə?nohφ?]
 burn these papers

It should be noted here that velar glide which is part of the labio-velar segment kw is not considered a resonant and does not undergo the above rules of alternation. Note the words below.

- (88) tsíhkw
 [tšíhkw]
 louse
- (89) neθatkétsakw
 [nəθotkyətsəkw]
 Jump!

d. Laryngeals

There are two laryngeal consonants, a voiceless spirant /h/ and a glottal stop /ʔ/. The /h/ has the color of an adjacent vowel. Intervocally, its color shifts from that of the preceding to that of the following vowel. Some examples of these sounds are in the words below.

(90) ohéhneh
 ['uhʒhnɔh]
 field, lard

(91) ó:khweh
 ['ú:khwɛh]
 food

(92) oʔéhneh
 ['uʔʒhnɔh]
 hand

(93) tsiʔnvʔ
 [tʂiʔnɛʔ]
 bird

2. Vowels

There are four distinct oral vowels and one nasal vowel. There are no diphthongs.

/i/ is a high, front, unrounded oral vowel [i] which is slightly lowered toward [ɪ] when short.

(94) i:nv
 ['i:nɛh]
 far

(95) níhrv:
 [ní.hrɛ:]
 nine

/e/ is a mid-low, front, oral, unrounded vowel ranging around [ɛ.] when short and [ɛ:] when long.

(96) wá?ke?
[wɔ?kyɛ.ʔ]
I am going

(97) wá?ke:t
[wɔ?kyɛ:t]
I went

/a/ is a low, back, unrounded, oral vowel ranging around [ɒ] . Variants occurring after /y/ are further forward, ranging around [a]

(98) à:wv?
[ʔɔ:wũʔ]
water

(99) oyatv́hsteh
[ʔuyatə́hstəh]
written matter

/o/ is a high, back, weakly rounded, oral vowel [u] which is sometimes lowered toward [o.] when short.

(100) ò:nv
[ʔù:nə́h]
at this time

(101) wí:yo:
[wí:yu:]
it is big

(102) a:tho?
[ʔá:thoʔ]
cold

/v/ is a mid high, unrounded, nasalized vowel ranging around [ĩ̃] , [ẽ̃] , [ə̃] , and [ũ̃]. Higher front variants

occur after /y/ and higher back variants after /w/ and /k/.

(103) ò:nv̄hseh
 ['u:nãhsɛ̄h]
 house

(104) rò:yv̄?
 [rú:yĩ̄?]
 he has it

(105) à:wv̄?
 ['d̄:wũ̄?]
 water

In the environment of a nasalized consonant (/n/) or vowel (/v/), a vowel may assimilate some of the nasalization. The slight nasalization is a matter of free variation.

(106) thwé:ʔn
 [thwã:ʔn̄]
 all

(108) kè:wv̄
 [kyã:wẽ̄h]
 today

Utterance-initial vowels are automatically preceded by slight glottal closure. This was indicated by the symbol ['] in the above phonetic transcriptions. Utterance-final short vowels are automatically followed by [h].

3. Stress and Tone

In words of five or more syllables, slight secondary stress is occasionally given to all odd syllables in the word if the primary stress is odd, to all even syllables if it is even. High tone has a rising contour on long vowels. Low tone has a falling contour. Numerous examples of all of these situations can be found throughout this section.

D. Summary of Automatic Phonological Rules

Dentals

$$\theta \rightarrow t_s / _ \left\{ \begin{array}{l} y \\ i \end{array} \right\}$$

$$n \rightarrow t / _ X$$

where $X \neq \left\{ \begin{array}{l} (i) \\ y \end{array} \right\} v$

$$'t \rightarrow ?_n / _ V$$

$$'t \rightarrow ? / _ \left\{ \begin{array}{l} t \\ n \\ r \end{array} \right\}$$

Laryngeals

$$\left\{ \begin{array}{l} ? \\ h \end{array} \right\} \rightarrow \emptyset / \# _ C$$

$$\left\{ \begin{array}{l} h \\ ? \end{array} \right\} + \left\{ \begin{array}{l} ? \\ h \end{array} \right\} \rightarrow h$$

$$L_1 + L_1 \rightarrow L_1$$

where $L = \left\{ \begin{array}{l} h \\ ? \end{array} \right\}$

$$i \rightarrow y / _ V \left\{ \begin{array}{l} C \\ \# \end{array} \right\}$$

$$o \rightarrow w / _ V \left\{ \begin{array}{l} C \\ \# \end{array} \right\}$$

$$C + \left\{ \begin{array}{l} o \\ w \end{array} \right\} + \ddot{u} \rightarrow c\ddot{u}$$

$$\ddot{u} \rightarrow v$$

Stress and Tone

$$V \rightarrow \acute{V} / _ \begin{array}{l} (C) (C) (C) C (V_1 (C) (C) (C) C) + \\ V_2 (C) (C) (C) \#^1 \end{array}$$

where V_1 = epenthetic stem joiner
 V_2 is unstressed

$$VR\acute{V} \rightarrow \grave{V}R\acute{V}$$

$$\acute{V}R\check{V} \rightarrow \check{V}R\check{V}$$

Length

$$\acute{V} \rightarrow \acute{V}:$$

$$\acute{V} \rightarrow \acute{V}:$$
 $_ CV$

where $C = t, k, s, \theta, t_s, ?_n, \text{ or } kw$

$$\acute{V} \rightarrow \acute{V}:$$
 $/ _ \left\{ \begin{array}{l} t \\ k \end{array} \right\} \left\{ \begin{array}{l} t \\ k \\ h \\ ? \end{array} \right\}$

$$\acute{V} \rightarrow \acute{V}:$$
 $_ CRV$

where $C = \text{any consonant including } ?_n, t_s, \text{ and } kw$

Unless otherwise specified:

C = any consonant

V = any vowel

R = any resonant (n, r, w, y)

$\#$ = word boundary

Stops

$$k \rightarrow ky / _ e$$

$$k \rightarrow k^h / _ k$$

Spirants

$$s \rightarrow \dot{s} / t _$$

$$\text{opt: } s \rightarrow \dot{s} / _ \begin{pmatrix} i \\ y \end{pmatrix}$$

Resonants

$$R \rightarrow hR / _ \begin{pmatrix} ? \\ h \\ \# \end{pmatrix}$$

$$R \rightarrow R^f / _ \begin{pmatrix} h \\ ? \\ \# \\ s \end{pmatrix}$$

$$w^f \rightarrow \phi$$

Vowels

$$i \rightarrow \begin{pmatrix} i \\ \tau_i \end{pmatrix}$$

$$e: \rightarrow \alpha:$$

$$e \rightarrow \varepsilon_v$$

$$a \rightarrow \alpha / X _$$

where $X \neq y$

$$o: \rightarrow u:$$

$$o \rightarrow \begin{pmatrix} u \\ o_n \end{pmatrix}$$

Vowels, continued

$$v \rightarrow \begin{pmatrix} \tilde{i} \\ \tilde{e} \end{pmatrix} / y _$$

$$v \rightarrow \tilde{u} / \begin{pmatrix} w \\ k \end{pmatrix} _$$

$$v: \rightarrow \tilde{a}:$$

$$v \rightarrow \begin{pmatrix} \tilde{u} \\ \tilde{e} \end{pmatrix}$$

$$V \rightarrow 'V / \# _$$

$$V \rightarrow Vh / _ \#$$

NOTES

Introduction

¹For discussions of the basic principles of generative semantics see the works of G. Lakoff and J. McCawley listed in the bibliography.

Chapter I

¹For discussions of case grammar see the articles by C. Fillmore listed in the bibliography.

²For a more treatment of noun incorporation in Iroquoian see the dissertation by H. Woodbury, "Noun Incorporation in Onondaga".

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