kansas working papers in linguistics

volume 3
1978

Anthony Staiano and Feryal Yavaş

Editors

Introduction

This third volume of the Kansas Working Papers in Linguistics covers a diversity of topics which range from general linguistic theory to child language. To provide coherency, we have, therefore, grouped the papers into a number of major sections as reflected in the Table of Contents. What follows is our attempt to capture the major point of each paper, organized according to those sections.

The first paper is Ken Miner's "On the Notion 'Restricted Linguistic Theory': Toward Error Free Data in Linguistics." Miner maintains that linguistic theories must be more firmly grounded on secure data bases. He contends that the attempt to construct theories based on limited data from a few languages leads to serious errors. Rather than seeking to construct general theories, Miner advocates that we should limit ourselves to "restricted theories" which may be confined to one language family.

The Phonetics-Phonology section contains four very different papers. Geoff Gathercole's research demonstrates that instrumental evidence can play a crucial role in phonological analysis. His instrumental research on strong and weak stops in Kansas Potawatomi clearly indicates that the underlying contrast between these series is preserved even in final positions, not neutralized as heretofore supposed. In addition, the paper provides evidence for the interaction between stress and the syntactic structure of Potawatomi.

Mehmet Yavas' paper on the implications of borrowing for Turkish phonology provides a modus operandi for the analysis of languages which have lexicons replete with loan words. In the case of Turkish, previous analyses, though recognizing the importance of loan words, have neglected to incorporate them into their descriptions. Drawing evidence from borrowing, Yavas proposes that current treatments of vowel and consonant harmony should be drastically revised: consonant harmony plays the pivotal role in determining the vowel choice, not conversely. By so analyzing Turkish, he is able to account for a wide range of data unaccounted for by treatments which assume the primacy of vowel harmony.

Robert Rankin's study of Quapaw as a dying language supports the evidence from child language acquisition, aphasia, and comparative linguistics that there exists a universal hierarchy of sound-type complexity. As Quapaw functioned less and less as a native language, principled changes occurred in its phonology: the types of series lost and the order in which they were lost were determined by their relative complexity, with the most marked being lost first.

Code-mixing is the topic of Maria Dobozy's paper. Taking a letter written by a bilingual American-Hungarian as her data, Dobozy describes the phonological rules that are operating in such a code-mixing, with special emphasis on vowel harmony. She demonstrates that vowel harmony is an important process in the system and plays a central role in the rendition of English words by such speakers.

The first paper in the Syntax-Semantics section is Gerald Denning's, "Meaning and Placement of Spanish Adjectives." Denning attempts to clarify the problems of the differences in the meaning and treatment

of restrictive adjectives in three dialects of Spanish. He argues that a strict generative semantic approach will not handle the data and suggests an analysis within the framework of pragmatics.

Virginia Gathercole provides a cross-linguistic study of the use of the deictic verbs "come" and "go." She formulates the uses of "come" and "go" in eleven languages by extending Talmy's (1975) model for verbs of motion to include a presuppositional component. Gathercole divides the contexts in which "come" and "go" are used into (a) immediate deixis and (b) extended deixis. Her goal is to characterize the use of deictic verbs of motion in the eleven languages studied by a limited number of assertional and presuppositional components and thus suggest a possible universal framework for such verbs.

Whereas Denning and Gathercole focus on language related issues, Juan Abugattas takes a more general, philosophical approach in his discussion of speech acts. He claims that previous speech act analyses used the sentence as the basic unit. Abugattas believes, however, that we must go beyond the sentence: "social reality" dictates that we categorize sets of sentences into speech acts, which he calls "complex acts."

Kurt Godden's paper, "Problems in Machine Translation Between Thai and English Using Montague Grammar," brings us to a specific language oriented concern: how to mechanically translate sentences, in particular those containing restrictive relative clauses, from one language to the other. He enumerates the problems related to such a task and proposes a solution involving meaning postulates and context within a Montague framework.

Historical and Comparative Linguistics is represented by Karen Booker's "On the Origin of Number Marking in Muskogean." Booker reconstructs two proto-Muskogean number markers, one dualizer and one pluralizer which were first used with intransitive verbs of location and then generalized to locative transitives. Later these markers spread to intransitive non-locatives. Booker maintains that the highly complex suppletive verb system of Muskogean arose when these markers lost their original meaning.

Three papers, Esther (Etti) Dromi's analysis of the acquisition of locative prepositions by Hebrew children, Gregory Simpson's study of children's categorization processes, and John More's review of relative clause research, constitute the Child Language Acquisition section of the working papers. Dromi's study, which is one of the few published works in the acquisition of Hebrew, compares the order of acquisition of Hebrew locatives with Brown's (1973) order for English and also with Slobin's (1973) universals. Among her findings, Hebrew al ("on") is acquired later than English on. Her findings for Hebrew locatives are particularly interesting in that they allow a comparison of the acquisition of prefixes with that of full prepositions. Her conclusions point to the pivotal role that morphological complexity plays in the order of acquisition of locatives in Hebrew.

Gregory Simpson's major concern has to do with the process by which children form conceptual categories. He argues, on the basis of experimental data, that overextensions should not be taken as evidence

for category formation. His data suggest a distinction between concept formation and object naming, a distinction not made in previous studies. "Function," what objects can do or what can be done to them, determines how that object is conceptualized, but an object's perceptual properties may determine the name given to it. Therefore, "the child may know that two objects don't really belong together, but gives them the same name until he has more evidence."

The acquisition of relative clauses has been a topic of great interest among psycholinguists. John More presents a valuable critical review of the recent literature with special emphasis on the debate between Dan Slobin (1971), Amy Sheldon (1974), Michael Smith (1975), Tavakolian (1977), and deVilliers et al. (1976). The Minimal Distance Principle, the Noun-Verb-Noun Strategy, the Parallel Function Hypothesis, and Slobin's operating principles are compared, along with the formulations of deVilliers and Tavakolian.

Five major topic areas are represented in this third volume of the Kansas Working Papers in Linguistics. Each paper in its own way is a contribution to linguistic scholarship: some provide evidence in new areas of inquiry, others bring new evidence to bear on old questions, while still others suggest future courses of research.

Anthony Staiano and Feryal Yavas

Editors

CONTENTS

Volume 3, 1978

ON THE ORIGIN OF NUMBER MARKING IN MUSKOGEAN[1]

Karen M. Booker

Introduction

One of the most intriguing aspects of Muskogean verb morphology is the treatment of number in these languages. Nouns are not morphologically marked for number, although animates may optionally take a collective indicator in some languages. However, number (singular, dual and/or plural) is indicated by affixation or by lexical replacement in a large group of predicates traditionally (though somewhat loosely) termed suppletive verbs. A comparison of these verbs across the languages reveals a number of interesting patterns which support the reconstruction of two morphological number markers in Proto-Muskogean (henceforth PM), *ho, a dualizer, and *či, a pluralizer. In this paper the modern reflexes of the two PM number markers will be presented followed by some hypotheses concerning the origin and spread of number marking in Muskogean.

Pluralizing Morphology in Muskogean Suppletive Verbs

The term 'suppletion' in its narrowest sense is used to describe predicates characterized by complete stem replacement. This process is common in Muskogean to indicate the number of the subject of an intransitive and the object of a transitive verb. Table I illustrates fully suppletive intransitive forms in the various languages.[2]

	Singular	Dual	Plural		
Choctaw	ittola	akkaha	liwi:-li	'fall down'	(Heath 1975)
Alabama	haca:-li	hiki:-li	loko:-li	'stand'	
Mikasuki	ɬini:-k-om[3]	pala:-k-om	mota:-k-om	'run'	(West 1974)
Creek	at-ita	wilak-ita	foll-ita	'go about'	

Table I: Fully Suppletive Verbs

The term 'suppletion' has also been used to describe verbs composed of a root plus a plural morpheme. The root may be identical to the singular, but it need not be. This type of suppletion, too, is found in Muskogean and is the main concern of this paper. Examples of this phenomenon are provided in Table II.

In Mikasuki and Creek, this pluralizing morphology is quite productive, but in Choctaw and (probably) Alabama/Koasati, it has been bleached of its original meaning and appears only in fossilized form.

	Singular	Dual	Plural		
Choctaw	tala-y-a	tal-oh-a	tal-oh-	'set'	(Nicklas 1974)
Koasati	a+ta	a+ta-ci	ama:-ka	'go'	(Haas 1972)
Mikasuki	casa:-k-om	casa-s-k-om	casa-s-ka-:c-om	'hang'	
Creek	cak-k-ita	cak-ho-k-ita	cak-k-ak-ita	'catch up'	(Haas 1972)

Table II: Pluralizing Morphology

Nonetheless, the occurrence of cognate morphemes in either productive or fossilized form in all of the Muskogean languages, allows for the reconstruction of two number markers in the proto-language. These morphological correspondences are illustrated in Table III: i) ho ~ oh in both the Eastern and Western languages, ii) ci ~ ic in all of the languages, and iii) Choctaw š corresponding to s in the Eastern languages.

PM	Choctaw	Alabama/Koasati	Hitchiti/Mikasuki	Creek
*ho	ho ~ oh	ho ~ oh	ho	ho
*či	ci	ci	ci ~ ic	ic
*č	š	s	s	

Table III: Morphological Correspondences

Reflexes of PM *ho

Reflexes of PM *ho appear in all of the daughter languages. Of the two number markers, *ho has the widest distribution, combining with pronominals as well as with predicates. In many of the languages ho is the innovated third person plural pronoun. In Mikasuki it pluralizes the second person pronoun, while in Choctaw it is found as part of the first person multiple pronoun and as the marker for one of the imperatives. Note the examples below.

Hitchiti (Swanton 1921-22)

    am-batap-ho-li-n   'where they hit on me'

Mikasuki (West 1974, 3)

    il-i:,ho:,p-om   'They (multiple) killed him.'
    ci-hi:,ho:,ca-la:ka   'He will see you (multiple).'

Alabama

    hi:ca-lo   'He will see.'
    ho-hi:ca-lo   'They will see.'
    ca-bánna   'I want.'
    ho-bánna   'They want.'

Koasati (Haas 1946, 327)

    ipá   'He ate.'

Koasati (cont.)

oh-ipá	'They ate.'
pa‡‡í	'He split.'
ho-pa‡‡í	'They split.'

Choctaw (Nicklas 1974, 57-58; Byington 1870, 348, 351)

nakni mat cito-h	'That man is big.' (lit. man-that-big)
nakni mat ho-cito-h	'Those men are big.'
ia	'to go'
il-ia	'We go.'
il-oh-ia	'We (all) go.'
canli	'to chop'
ii-ho-canli	'We (all) chop.'
has-takci	'Tie! (you few)'
ho-takci	'Tie! (you all)'
oh-ia	'Go! (you all)'

Besides appearing as a pronominal pluralizer, reflexes of *ho also occur as a number marker in many suppletive verbs. In Creek, suffixation of -ho is found in the dual of a large class of intransitive verbs (Haas 1972).

Singular	Dual	Plural	
som-k-ita	som-ho-k-ita	som-ic-ita	'to get lost'
yakap-ita	yakap-hoy-ita [7]	yakap-ak-ita	'to walk'
ala-k-ita	ala:-ho-k-ita	ya-ic-ita	'to arrive'

Many Choctaw suppletive verbs contain fossilized reflexes of *ho (Heath 1975, 16-17).[8]

Singular	Nonsingular	
taka:-li	tak-oh-li	'to be hanging'
lapa:-li	lap-oh-li	'to be against a vertical surface'

Such examples support the reconstruction of PM *ho with the probable meaning of a dual number marker. The fact that it is retained solely as the dual affix in many suppletive verbs in Creek makes this meaning assignment a plausible one. When three numbers are distinguished in the language, ho marks the dual regardless of the affix or suppletive form in the plural. When only two numbers are marked, ho is never used in the nonsingular form, where the dual and plural are collapsed. Note the following examples from Haas (1972).

Singular	Dual	Nonsingular	Plural	
tam-k-ita	tam-ho-k-ita		tam-ic-ita	'to fly'
cak-k-ita	cak-ho-k-ita		cak-ak-ita	'to catch up'
at-ita	at-hoy-ita[7]		aw-ita	'to come'
apay-k-ita		atih-k-ita		'to be inside'

Instances of ho cited in Hitchiti/Mikasuki seem to indicate only a nonsingular function. An interesting statement from Swanton (1921-22, 13), however, suggests that historically, the situation was similar to modern Creek: "ho, sign of the third person dual and plural subjective, with some verbs confined to the dual."[9] The present Mikasuki forms represent the generalization of the dual as a nonsingular marker. *ho has been generalized in precisely the same way in Choctaw; the affix has acquired a nonsingular or plural meaning.

One related point of interest concerns the reconstruction of the number 'two' by Haas (1969, 42) as PM *hotokolo, although Creek is the only language to retain the initial syllable, *ho. In the other languages, the number is based on *tok(o)lo. Perhaps the PM root was *tok(o)lo, to which Creek prefixed the dual number marker *ho.

Reflexes of PM *či

Turning now to the second plural marker, *či, we notice that like *ho, it has a very wide distribution, appearing in all four branches of the family. In Creek it occurs in its metathesized form in the plurals of many transitives as well as intransitives (Haas 1972).

Singular	Dual	Nonsingular	Plural	
tam-k-ita	tam-ho-k-ita		tam-ic-ita	'to fly'
hoyan-ita	hoyan-hoy-ita		hoyani-ic-ita	'to go past'
nis-ita		nis-ni-ic-ita		'to buy'
tolom-ita		tolom-to-ic-ita		'to roll'

Similarly, in Hitchiti/Mikasuki the affix is the productive marker for plural intransitive verbs.

Mikasuki

Singular	Dual	Plural	
casa:-k-om	casa-s-k-om	casa-s-ka-:c-om	'be hanging'
ayy-om	yo:-k-om	yo-li-:c-om	'be around (moving)'
ont-om	ala:w-om	onti-:c-om	'come'
i:l-om	itaw-k-om	ila-:c-om	'arrive here' (West 1974, 135)

Hitchiti (Swanton 1921-22, 16, 26)

albá-li-li-s	'I put (it) under my head.'
alba-s-lí-ci-li-s	'I put them under my head.'
bána-li-s	'I want.'
po-bá,s,na-ci-s	'We want.' (cf. Mikasuki po-ba,s,na-:c-om)

Hitchiti (Haas 1972)

Singular	Dual	Plural	
aɬ-i:ki	aɬ-i,s,y-i:ki	aɬa-:c-i:ki	'to go'
no:c-i:ki	no,s,c-i:ki	no,s,ci-:c-i:ki	'to sleep'
ayy-i:ki	yaw-k-i:ki	yaw-li-:c-i:ki	'to go about'

Only isolated examples of c̲i̲ are available for Alabama/Koasati. Its use in Alabama seems to be restricted to the third person.

Alabama

ila	'to come (here), sg.'
ila-c̲i̲	'to come (here), pl.'
st-onti-lo	'He will bring.'
ho-st-onti-c̲i̲-lo	'They will bring.'
st-aɬ-ya-lo	'He will send.'
ho-st-aɬ-ya-c̲i̲-lo	'They will send.'

Koasati   (Haas 1972)

Singular	Dual	Plural	
aɬɬa	aɬɬa-ci	ama:ka	'go'
a:ya	aya:-c̲i̲	yomabli	'go about'

The presence of c̲i̲ has gone unnoticed in Choctaw because of the existence of the homophonous causative, c̲i̲. Heath (1975, 14) analyzes the dual forms of the verbs of motion listed below as combinations of the comitative prefix and the causative suffix.

Singular	Dual	Plural	
iya	itt-iya:-ci	iɬko:li	'to go'
ala	itt-ala:-c̲i̲	a:y-ala	'to arrive here'
ona	itt-ona:-c̲i̲	a:y-ona	'to arrive there'

Nicklas (1974, 59) makes the same assumption in his dissertation: "Three motion verbs i̲y̲a̲ ['to go'], a̲l̲a̲ 'to arrive here,' and o̲n̲a̲ 'to arrive there' form the dual bases by prefixing i̲t̲t̲i̲ (reciprocal prefix) and suffixing -c̲h̲i̲ (causative suffix)." Clearly, this c̲i̲ is cognate to the plural marker in the Eastern languages.
   A number of other examples can be found among Heath's suppletive verbs: ɬǫb-li 'cause to be punctured,' ɬǫ:-li-ci 'cause to be punctured (distributive)' (1975, 34). In this instance the plural causative has the marker c̲i̲ which the singular lacks. It can be interpreted only as a plural morpheme. The following forms are not the causative roots which, incidently, lack c̲i̲) and there is no reason to analyze this c̲i̲ as the causative (Heath 1975, 31).[10]

Singular	Nonsingular	
ɬipi:-y-a	ɬip-ka-c̲i̲	'to lie face-down' (cf. ɬipi:-li 'to cause to lie face down.)
faha:ta	faha:-ka-ci	'to swing'
bico:ta	bico:-ka-c̲i̲	'to bend over' (cf. bico:-li 'to cause to bend over')

Still other occurrences of c̲i̲ appear as one member of a doublet in

some noncausative plurals (Heath 1975, 34).

Singular	Nonsingular	
apakfo:pa	apakfo:wa apakfo:-ka-ci	'to go around'
folo:ta	folo:to:wa folo:-ka-ci	'to turn around'

The probable historical development of these doublets hinges on a sound change described for Choctaw by Nicklas (1974, 58). He remarks that the sequence -oh + a (plural + classifying suffix) usually changes to -owa. The first of the doublets, then, could well be the regular development of *apakf-oh-a and *folo:t-oh-a, the singular plus the dualizer, *ho. Such an analysis readily accounts for the occurrence of two nonsingular forms, one the dual, and the other, the plural. But since the pluraliz- ing morphology is no longer productive in the language, speakers lost the distinction and the two forms became synonomous.

The reconstruction of *či as a PM plural marker can hardly be dis- puted, given the modern reflexes in all branches of the family. Its pre- cise meaning was probably that of a plural as opposed to a dual indicator.

In Creek ic marks the plural of verbs with a distinct dual form. The same holds true in Hitchiti/Mikasuki; ci marks the plural in con- trast to the dual.

At first, the patterning of ci in Alabama/Koasati and in some Choc- taw forms seems to differ from that of Creek and Hitchiti/Mikasuki. In some instances, ci appear in the dual. When this happens in Choctaw, however, ci co-occurs with itti, the reciprocal (Nicklas 1974, 59) or itta, the comitative (Heath 1975, 15). It can be argued that it is the comitative which carries the dual meaning. Numerous occurrences of ci marking nonsingular forms (where the dual and plural are not distinguish- ed) have already been cited for Choctaw.

A slightly different situation is found in Koasati. The two verbs with ci listed by Haas (1972) use the morpheme without additional mor- phology. Interestingly enough, the plural forms of these verbs are ful- ly suppletive. One can argue that these modern dual forms were older plurals which shifted to a dual meaning with the acquisition of a new suppletive plural.

The š ∿ s Correspondence

The final correspondence set is š in Choctaw and s in Alabama/Koasa- ti and Hitchiti/Mikasuki. No occurrences of a plural s have been noted in Creek.

Mikasuki appears to have made the greatest use of the affix. It is widely used as a dual marker in suppletive verbs. It regularly occurs in the plural in conjunction with ci. Its distribution extends to some sta- tives.

Singular	Dual	Plural	
casa:-k-om	casa-s-k-om	casa-s-ka-:c-om	'be hanging'

Singular	Dual	Plural	
caka:y-om-icka	cika:,s,y-om-a:cka	aci:-k-om-a:cka	'you enter' (West 1974, 134)
ca-ba:n-om	po-ba:,s,n-om	po-ba,s,na-:c-om	'I/we want' (West 1974, 134)

Singular			
hi:ł-om	hi:,s,ł-om		'good'

Besides pluralizing the subject, s may mark plural objects of transitive verbs as well.

a:f-om	'He caught one.'
a,s,f-om	'He caught more than one.'

Parallel constructions are found in Hitchiti.

Singular	Dual	Plural		
ał-i:ki	ał-i:,s,y-i:ki	ała-:c-i:ki	'go'	(Haas
no:c-i:ki	no,s,c-i:ki	no,s,ci-:c-i:ki	'sleep'	1972)
aponi-li-s		'I speak.'		
apo,s,n-ika-s		'We two speak.'		(Swanton 1921-
albá-li-li-s		'I put (it) under my head.'		22, 16)
alba-s-lí-ci-li-s		'I put them under my head.'		

Very few examples are available from Alabama/Koasati, but the ones we do find are clearly cognate with the Hitchiti/Mikasuki pluralizer.

Alabama

Singular	Nonsingular		
ano:-li	ano-s-li		'to finish'

Koasati   (Haas 1972)

Singular	Nonsingular		
api:-li	api:-s-li		'to throw away'

Singular	Dual	Plural	
bala:-ka	bala-s-ka	bal-ka	'to lie'

The corresponding Choctaw pluralizer, š, is restricted to a very small group of predicates, a sampling of which is presented below. Notice that all verbs in this class have an incorporated noun, e.g., yoš, oš, 'head,' ok 'water,' etc.

Singular	Nonsingular		
oš-kobo:-li	os-kobo-š-li	'to have grey hair'	(Heath
yoš-kaba:-li	yoš-kaba-š-li	'to be short-haired'	1975, 28)
ok-šawa:-li	ok-šawa-š-li	'to be pale-skinned'	

	Singular	Nonsingular		
	ibak-cofan-li	ibak-cofa̧-š-li	'tapering'	⎫
	ibak-tasan-li	ibak-tasa̧-š-li	'starved in the face'	⎬ (Byington
	yoš-bono-li	yoš-bono-š̄-li	'curly-haired'	⎬ 1870, 361)
	ok-cama-li	ok-cama-š̄-li	'green'	⎭

The existence of this plural morpheme in Choctaw and in two of the three Eastern languages is sufficient for its reconstruction in PM. The precise phonological shape of the reconstructed morpheme, though, is not as obvious as it first appears. Normally, the š - s sound correspondence set is reconstructed as PM *s. The PM sibilants and their modern reflexes are listed below (after Haas 1941).

PM	Choctaw	Eastern
*č̌	c	c
*c	s	c
*š̌	š̌	c
*s	š̌	s

However, there is contextual evidence which strongly supports the reconstruction of *č̌ rather than *s.

All examples cited for this pluralizer occur in preconsonantal position. In Choctaw cC is not a permissible cluster, c always becomes š in such an environment, giving rise to such doublets as moco-li, moš-li 'to wink,' (Byington 1915, 607) and morphophonemic alternations between singular and nonsingular verbs of the sort afaca-li 'to fasten, sg.,' and afaš-li 'to fasten, pl.' (Byington 1915, 11). Neither is cC a permissible sequence in Alabama (Rand 1968, 103), so Alabama iskani corresponds to Mikasuki ickan-i 'bug.' In Mikasuki, c is abundant before k but rare before other consonants where it is found only in noncognate vocabulary. Synchronic morphophonemic alternations suggest that at one point c > s before all consonants but k, e.g. tosnapa:kin 'eight' < *toci:n-apa:k-in 'with three.' As a result you get such sibilant correspondences as exemplified below for PM 'long.'

PM $*k^w$ač̌-ka-(i) 'long'

Choctaw	baca-ya	'laid in a line, sg.' (Byington 1915, 83)
	baš̌-ka-ci	'laid in rows, pl.' (Byington 1915, 87)
Alabama	baski	'long'
Mikasuki	back-i	'long'
Creek	cápk-i:	'long'

In all likelihood PM was characterized by a context sensitive phonological rule whereby *č̌ → *s before consonants other than *k.[12]

Returning now to the distribution of reconstructed *č̌, we notice that it occurs in complementary distribution with *č̌i discussed earlier and is internally reconstructible for PM as a single morpheme; the *č̌

allomorph occurred in preconsonantal position, and *či, elsewhere.

On the Origin of Number Marking

The kinds of predicates involved in the number marking process fall into two semantic categories--those denoting location and motion.[13] Although a few verbs outside these classes do mark number, they are not typically suppletive across the entire family. For example, the intransitive verb meaning 'to sleep' distinguishes three numbers in Hitchiti/ Mikasuki and Creek, but number is not marked in this verb in Alabama/ Koasati and Choctaw. Similarly, though many transitives mark the number of the object, these are verbs involving the semantic idea of motion such as 'throw away,' 'pick up,' put in' and the like. Transitives like 'see' and 'drink' never indicate number in any of the languages.

The pattern of number marking found in Muskogean is in accord with typological evidence from other North American Indian languages. If a language expresses number by full lexical suppletion, verbs of motion and position/location will supplete before other intransitives. Transitives will not supplete unless intransitves do also (Booker 1977a).

A representative sampling of the positionals, including 'sit,' 'stand,' and 'lie,' and some basic verbs of motion, is presented in tables IV and V. Cognates among the positional auxiliaries in the various languages are difficult if not impossible to find. The few correspondences between Choctaw and Alabama on one hand and Alabama and Mikasuki on the other may be due to diffusion. Rankin (1977) traces the etymologies of these positionals and finds sources outside the strictly positional domain, e.g. among verbs of motion and location. It appears that the verbs acquired their present plural forms after the breakup of the proto-language and after the pluralizing morphology, *ho and *či, was no longer productive. The available method of marking the distinction was suppletion, i.e., the adoption of a distinct (but semantically related) lexical item to fulfill a new function, that of a dual or plural indicator.

The search for cognates among the verbs of motion is more productive. It should be emphasized that a thorough analysis of the semantics of these verbs has not yet been published for any of the languages, so no special attempt has been made to gloss the reconstructions. What is important here is the fact that the verbs obviously reconstruct, but only in the singular.[14] Plural forms are derived differently in the various languages; in some cases, pluralizing morphology is used, in others, suppletion; still others combine morphology and suppletion.

Although it is clear that number marking must have originated in locative predicates of some kind, it is impossible to be more specific at this point. Since most of the pluralizing morphology is found in verbs of motion, I am inclined to suspect this category as the original source. But until more verbs expressing static location are reconstructed, no firmer hypothesis can be advanced.[15]

Conclusion

The preceding discussion has attempted to bring to light some of

'sit'		Singular	Dual	Plural	
Choctaw	'dwell'	atta	ašwa	aša/ma:ya	
	animate	binili	ci:ya	binoh(ma:ya)	} (Watkins 1976)
	inanimate	talaya	taloha	taloh(ma:ya)	
Alabama	'dwell'	at-ta		is-a	
		coko:-ka		cik-ka	
Koasati		coko:-ka	ciki:-ka	i:sa	(Haas 1972)
Mikasuki		coko:-l-	wi:k-	i:-+-	
Creek		ley-k-	ka:-k-	apo:-k-	

'stand'	Singular	Dual	Plural	
Choctaw	hikiya	hi:li	hiyoh(ma:ya)	(Watkins 1976)
Alabama	haca:-li		loko:-li	
Koasati	haca:-li	hiki:-li	loko:-li	(Haas 1972)
Mikasuki	haca:-l-	loko:-k-	loko-ka-:c-	
Creek	hwî:+-	siho:k-	sapakl-	

'lie'	Singular	Dual	Plural	
Choctaw	ittola	kaha	kah(ma:ya)	(Watkins 1976)
Alabama	bala:-ka		bal-ka	
Koasati	bala:-ka	bala-s-ka	bal-ka	(Haas 1972)
Mikasuki	tala:-k-	sol-k-	sol-ka-:c-	
Creek	wakk-	wak-ho-k-	lomh-	

Table IV: Muskogean Positional Auxiliaries*

*The verbs 'sit,' 'stand,' and 'lie' typically take the -N- 'continuative/incomplete ' ablaut grade when used as auxiliaries.

the processes involved in the evolution of the so-called suppletive verbs in the modern Muskogean languages. The evidence presented established the existence of two PM number markers: *ho and *či, the former a dualizer, and the latter, a pluralizer.

Number marking undoubtedly originated in intransitive verbs expressing some kind of location, either static or moving. It then spread to locative transitives, and sporadically to intransitives outside the locative semantic domain.

One final remark should be made concerning the variety of etymologies found in the dual and plural forms of the modern languages. Although number marking began by the addition of *ho and *či, the morphemes were eventually bleached of their meaning and alternative methods arose to

PM		Singular	Dual	Plural	
*aya	Choctaw	ą:ya	ą:ya	itta-no:wa	'go along' (Heath 1975)
	Koasati	a:ya	aya:-ci	yomab-li	'go about' (Haas 1972)
	Mikasuki	a:y-	a:,s,y-	a:,s,ya-:c-	'pass by'
	Creek	ay-	a-hoy-	api:y-	'go' (Haas 1972)
*iya	Choctaw	iya	itt-iya-ci	aɬko:-li	'go' (Nicklas 1974)
				iɬko:-li	'go' (Heath 1975)
	Alabama	aɬɬa<aɬ-iya	ama:ka	ama:ka	'go'
	Mikasuki	aɬ-iy-	aɬ-i,s,y-	aɬa-:c-	'go'
	Creek	ia	caw-	caw-	'take'
*ala	Choctaw	ala	itt-ala:-ci	a:y-ala	'arrive here' (Heath 1975)
	Creek	ala-k-	ala:-ho-k-	yeyc-	'arrive' (Haas 1972)
*oθa	Choctaw	ona	itt-ona:-ci	a:y-ona	'arrive there' (Heath 1975)
	Creek	oɬ-	oɬ-hoy-	oɬa-ic-(ak)-	'reach' (Haas 1972)
*isi	Choctaw	iši	ayo:wa	ayo:wa	'pick up' (Heath 1975)
		iši	išwa	išwa	'take' (Byington 1915)
	Koasati	isi	pih-li	pih-li	'take' (Haas 1972)
	Mikasuki	į:s-	aw-	aw-	'take' (Boynton and Derrick 1974)

Table V: Muskogean Verbs of Motion

preserve the number distinctions. Some of the more common methods employed were full lexical suppletion and the use of other morphological markers. The end result is the highly complex evolution of Muskogean suppletive verbs, the history of which I have only begun to describe in this paper.

Notes

1. A preliminary version of this paper was presented at the XVI Conference on American Indian Languages, Annual Meeting of the American Anthropological Association, Houston (1977). I am indebted to Robert L. Rankin for his many helpful comments on earlier drafts of this paper.

2. Mikasuki and Creek examples without source citations are taken from my own field notes. All Alabama data are generously provided by Karen J. Lupardus.

3. In my data a root final -ɬ appears in future forms, ɬinit-k-a:m 'He will run,' which more closely approximates the Creek singular form, litk-ita 'to run, sg.' Why the ɬ is lost in the present, ɬini-n-k-om (root plus -N- ablaut grade) is a mystery since normally $C_1C_2C_3 \rightarrow C_2C_3$

~~not~~ $C_1 C_3$.

4. Three correspondence sets are shown, but it will be demonstrated that *či and *č are allomorphs of a single morpheme, *či.

5. For a more detailed account of the interaction of *ho and pronominal elements, see Booker (1977b).

6. Prefixes and suffixes are set off by hyphens, infixes by commas.

7. The y here is epenthetic before i.

8. In Choctaw *ho appears as ho- when prefixed and -oh when suffixed. The different forms may reflect two distinct periods in the language, or they may have developed from an alternation CV / _C and VC / _V which is still found in many of the Muskogean languages, e.g. the Creek, Mikasuki, and Alabama object pronouns. Koasati still shows this alternation of forms with ho, e.g. oh-ipá 'They ate,' but ho-hicá 'They saw.' (Haas 1946, 327)

9. The emphasis is mine.

10. Without realizing it, Heath appears to have uncovered instances in which the PM classifying suffix *ka is preserved in its complete form in Choctaw. Normally its reflex is -a (Haas 1969, 55).

11. It is impossible to retrieve the final vowel of the initial morpheme since $V_1 V_2 \rightarrow V_2$. The semantics of the verb form, however, would lead us to expect the comitative rather than the reciprocal.

12. Nicklas (1972) has suggested a similar, but context free, rule for PM.

13. Non-locative stative verbs are often marked for number in the various languages and it appears that some kind of a reduplication process may be reconstructed in these cases. The exploration of this topic is left for a later paper.

14. It will be immediately apparent that the reconstructed forms decompose further into i-, a-, -ya, -la, -θa, and -si, but no investigation of the meanings of these elements has been undertaken. Such a project is beyond the scope of this paper.

15. It has long been claimed that languages lacking the copular verb 'be' will tend to develop a positional auxiliary system (Nicklas 1972; Watkins 1976). It is my contention that PM had a copula which was subsequently lost in most of the languages. If this is true, the disappearance of the copula would explain the rise of the suppletive positional auxiliaries in Muskogean, as well as the fact that suppletion rather than fossilized pluralizing morphology predominates in these verbs.

References

Booker, Karen M. 1977a. Number suppletion in North American Indian languages: A typological survey. Paper read at the LSA winter meeting, Chicago.

_____. 1977b. Proto-Muskogean *ho and some implications for the reconstruction of certain pronominals. Proceedings of the 1976 Mid-America Linguistics Conference. Minneapolis: University of Minnesota, pp. 35-44.

Boynton, S. and M. T. Derrick. 1974. Number in Mikasuki. Paper read at the annual meeting of the American Anthropological Association, Mexico City.

Byington, Cyrus. 1870. Grammar of the Choctaw language. ed. D. G. Brinton. Proceedings of the American Philosophical Society 11: 317-67.
_____. 1915. A dictionary of the Choctaw language. eds., John R. Swanton and Henry S. Halbert. Bureau of American Ethnology Bulletin 46. Washington: U.S. Government Printing Office.

Haas, Mary R. 1941. The classification of the Muskogean languages. In Language, culture, and personality, Essays in memory of Edward Sapir. ed. Leslie Spier et al. Menasha, Wisconsin, pp. 41-56.
_____. 1946. A Proto-Muskogean paradigm. Language 22:326-32.
_____. 1947. Development of Proto-Muskogean $*k^w$. IJAL 13: 135-37.
_____. 1948. Classificatory verbs in Muskogee. IJAL 14: 244-46.
_____. 1958. A new linguistic relationship in North America: Algonkian and the Gulf languages. SJA 14: 231-64.
_____. 1969. The prehistory of languages. Janua Linguarum, series minor, 57. The Hague: Mouton.
_____. 1972. Number suppletion in Creek verbs. Handout of a paper read at the annual meeting of the American Anthropological Association, Toronto.

Heath, Jeffrey. 1975. Suppletive verbs in Choctaw. Unpublished manuscript.

Loughridge, R. M., and David M. Hodge. 1964. English and Muskokee Dictionary (and, beginning on p. 95) Dictionary of the Muskokee or Creek Language in Creek and English. Okmulgee, Oklahoma: B. Frank Belvin, General Missionary to Creek and Seminole Indians, Baptist Home Mission Board.

Nicklas, Thurston Dale. 1972. The Choctaw language and its neighbors. Unpublished manuscript.
_____. 1974. The elements of Choctaw. Ph.D. Dissertation. Ann Arbor: University of Michigan.

Rand, Earl. 1968. The structural phonology of Alabaman, A Muskogean language. IJAL 34: 94-103.

Rankin, Robert L. 1977. On the origin of the "positional" auxiliary verbs in the Muskogean languages. Unpublished manuscript.

Swanton, John R. 1921-22. A sketch of the Hitchiti language. Unpublished manuscript. National Anthropological Archives. Washington: Smithsonian Institute.

Watkins, Laurel J. 1976. Position in grammar: sit, stand, lie. Kansas Working Papers in Anthropology and Linguistics 1: 16-41.

West, John David. 1962. The phonology of Mikasuki. Studies in Linguistics 16 (3-4): 77-91. Reprinted in USF Language Quarterly 12: 2-8.
_____. 1974. Number in the Mikasuki verb stem. Work Papers, vol. 18, Summer Institute of Linguistics, University of North Dakota, pp. 133-38.
_____. 1975. Mikasuki verb suffixes. Unpublished manuscript.