

Person-inflected numerals in North Alberta Beaver (Athabaskan)

Abstract

This paper describes person-inflected numerals in Northern Alberta Beaver, a dialect of Beaver Athabaskan. Beaver numerals are frozen complex forms consisting of a numeral stem and a form of the verb ‘to be thus’. They contain a suffix which derives from the verb stem *t’yii* and, when used pronominally, contain a subject marker agreeing with the subject of the clause.

1. Introduction

This is a brief report on person marking of numerals in Northern Alberta Beaver (NAB), a dialect of Beaver Athabaskan¹. In this language, the numerals up to ‘seven’ can be inflected for person. This first became obvious during the elicitation of verbal paradigms:

- (1) OM fieldnotes, Feb-22-2005²

ʉkeet’yít’yi ɥuge asídlá.

two:1Pl. fish we.clean

‘The two of us are cleaning fish.’

- (2) ʉkeet’yaht’yi ɥuge ahlá.

two:2Pl. fish you.Pl.clean

‘The two of you are cleaning fish.’

The numerals between ‘two’ and ‘seven’ when used pronominally³, exhibit person agreement with the subject of the clause. The person-inflected numerals are present in the speech of at least

5 different speakers. I argue that these forms are (frozen) lexicalized complex expressions consisting of a numeral stem and a phonologically and morphologically reduced verb form “to be thus”.

After a brief discussion of the inventory and syntactic distribution of numerals in NAB (§2), we will address the morphological source of the person markers on numerals (§3) and the extent of the paradigm (§4).

2. Numerals 1-10

Following is a list of the numerals 1-10 elicited from a number of speakers.

Table 1: Numerals in NAB as elicited from two speakers

English	Feb-04-2006 (GM)	Mar-02-2005 (OM)	Feb-03-2006 (GM)	Feb-04-2006 (GM)	List elicited by D. Jung (various speakers)
‘one’	ɪláát’yi	ɪláát’yi	ɪláát’yi	ɪláát’yi	ɪláát’yi
‘two’	ʊkeet’yi	ʊkeet’yi	ʊkéét’yi	ʊkeet’yi	ókeet’yi
‘three’	taat’yi	taat’yi	taat’yi	taat’yi	taa
‘four’	dyéént’yi	dyéént’yi	dyéét’yi	dyéét’yi	dyet’yi
‘five’	łádzeit’yi	łádzeit’yi	łádzeet’yi	łádzeit’yi	łááts’et’yi
‘six’	ɪts’ɪtaat’yi	ɪts’ɪtaat’yi	ɪts’ɪtaat’yi	ɪts’ɪtaat’yi	ets’ɪtaat’yi
‘seven’	taayuetsí	taayuetsí	taayuetsí	taayuetsí	taayuedzí

'eight'	įts'ídyént'yi	įts'ídyéént'yi	įts'ídyéēt'yi	įts'ídyéēt'yi	ęts'įdyit'yi
'nine'	k'alak'éét'yi	k'alak'éét'yi	k'alek'éét'yi	k'alak'éét'yi	k'elak'éét'yi
'ten'	k'éneet'yi	k'éneet'yi	k'éneet'yi	k'éneet'yi	k'ééneet'yi

Comparison of the above numerals to those found in neighbouring Athabaskan languages (namely, Slave and Dëne Sųłíné), shows that they are more similar to the southern dialects of Slave than to other dialects of Slave, or to Dëne Sųłíné. This comparison is shown in Table 2; the Hay River dialect of Slave is the geographically closest dialect to NAB.

Table 2: Comparison with neighboring languages

English	Beaver Feb-04-06 (GM)	Hay River Slave Rice (1989:373)	Dëne Sųłíné Cook (2004:110)
	įłáát'yi	łie	(?)łághe
	ųkeet'yi	?qki	náke
	taat'yi	tai	taghe
	dyéént'yi	dįį	dįghį
	łádzeit'yi	sųłái	sųłághe
	įts'įtaat'yi	?ehts'ętai	(?)łk'étaghe

	taayuetsí	łáhdıgh	łáısdı/tota
	ıts'ıdyént'yi	?ehts'édıı	(?e)łk'édı
	k'alak'éét'yi	łúúli	(?e)łóta
	k'éneet'yi	honéno	honéna

Tables 1 and 2 suggest that all NAB numerals with the exception of *taayuetsí* ‘seven’ consist of a numeral stem and a suffix *-t'yi*.⁴ We will see below that an analysis of these numerals as fused forms consisting of a numeral and a partially inflected verb stem is more appropriate.

In many Athabaskan languages (cf. Dena'ina (Kari 2007:322-324), Slave (Rice 1989:380-382), or Dëne Sų́líné (Cook 2004:110)) numerals are marked for animacy, resulting in different forms for human, non-human and abstract or areal referents. In NAB, the same form is used for numerals, independent of the animacy of the referent.

(3) OM fieldnotes, Oct-08-2004

Ukeet'yi xune náághint'aats.

two older brother they returned

‘My two older brothers returned.’

(4) OM fieldnotes, Aug-08-2005

Taat'yi atóó ghas'ıh.

three flower I.see

‘I see three flowers.’

- (5) OM fieldnotes, Aug-15-2005

Taat’yi yhis ghas’ih.

three hill I.see

‘I see three hills.’

The above examples also illustrate that numerals typically precede the quantified noun. This is the typical order, but the numeral may also follow the quantified noun:

- (6) OM fieldnotes, Aug-15-2005

Éédzé’ taat’yi ghas’ih.

hill three I.see

‘I see three hills.’

Numerals can also be used without a noun phrase, acquiring a pronominal reading: the two of us, the four of you etc. When used pronominally, they are inflected for person, agreeing with the subject of the clause:

- (7) OM fieldnotes, Sep-27-2004

Taat’yít’yi dah’ítl’ets.

three.1Pl.S 1Pl.S.dance

‘The three of us are dancing.’

- (8) OM fieldnotes, Oct-08-2004

Taat'yaht'yi ahda.

three.2Pl.S 2Pl.S.eat

'The three of you are eating.'

Third person forms of numerals are rare. This may be due to the fact that third person is the default for numerals, thus making third person marking redundant. Also, there exist several forms for numerals in the third person, such as *taat'yi dane* (lit. 'three people').

3. Morphological source of numeral inflection

Systematic exploration of the inflected numerals reveals that their person markers are remarkably similar to verbal subject markers.

Table 3: Comparison of numeral and verbal person inflection.

Source	OM fieldnotes Mar-02-2005	OM fieldnotes, Sep-27-2004	OM fieldnotes Feb-17-2005	OM Fieldnotes Feb-15-2005
Person	ʊket'yi	a-ná-tsé 'sew'	n-chá	O dọ 'drink O'
First	ʊket'yít'ye	anáítsé 'we're sewing'	níchá 'we're big'	lidíí ídọ 'we're drinking tea'
Second	ʊket'yaht'yi	anáhtsé 'you guys are sewing'	nahchá 'you guys are big'	lidii ahdọ 'you guys are drinking tea'
Third	ʊkeghat'yit'yi	aghanétsé 'they are sewing'	ghíchá 'they are big'	lidii ghadọ 'they are drinking tea'

Morphological analysis of the verb forms shows that the subject prefixes (plural forms only) are:

Table 4: Subject prefixes in NAB

1 st	í-
2 nd	ah-
3 rd	gha-

The person affixes of the numerals have the same form as the verbal subject prefixes: *í*, *ah*, and *gha* respectively. If the analysis above were correct, (i.e. if numerals consist of a stem and a suffix), then the order of affix and stem could not be explained: The person affixes precede the verb stem but follow the numeral stem.

NAB verbs are heavily prefixing and usually stem-final. Pronominal subjects are marked in two ‘slots’ in the verb word. First and second person plural are marked immediately adjacent to the classifier-stem complex; third person plural is marked in a different position, to the left of the qualifier prefixes. This is demonstrated in (9):

- (9) a. n-í-chá
Qual-1Pl-big
‘we are big’
- b. n-ah-chá
Qual-2Pl-big
‘you guys are big’
- c. gh-ì-chá (underlyingly: gha-n-chá)

3Pl-Qual-big

‘they are big’

In the numeral forms, the person marker follows the numeral stem, as exemplified here:

(10) Numeral ‘four’ (OM fieldnotes, Mar-02-2005)

a. dyeen -t’yi

four -Sfx

‘four (things)’

b. dyeen -t’y -í -t’yi

four -Sfx -1Pl.S -Sfx

‘the four of us’

c. dyeen -t’y -ah -t’yi

four -Sfx -2Pl.S -Sfx

‘the four of you’

I propose that the structure of numerals in NAB is complex. We said above that numerals—with the exception of the numeral ‘seven’—could be analyzed as consisting of a numeral stem followed by a suffix *-t’yi*. I argue instead that the suffix derives from the verb stem *t’yii* ‘to be thus; to be in a certain way’. The person-marked numerals are sclerotic forms consisting of a numeral stem and an inflected verb form. Thus, the person markers originally are part of the verb, not of the numeral.

Over time, the multiword expressions (numeral+inflected verb) have fused and have undergone phonological change, somewhat obscuring the morphological structure, to the point of now appearing to be a suffix.⁵ The suffix is phonologically reduced, with a shortened and centralized vowel and for many speakers a deglottalized consonant (this deglottalization is common in the language and not specific to affixes). The suffix is now part of all numeral forms (with the exception of ‘seven’), even in the uninflected forms (cf. 11a). In the inflected forms, the suffix occurs twice, as illustrated in (11b).

(11) Numeral ‘four’ (OM fieldnotes, Mar-02-2005)

- a. dyeen -t’yi
 four -Sfx
 ‘four (things)’
- b. dyeen -t’y -í -t’yi
 four -Sfx -1Pl.S -Sfx
 ‘the four of us’

The verb is also morphologically reduced, as it has lost some of its prefixes. Compare the inflected numeral with the structure involving an uninflected numeral and an inflected verb form:

(12) Inflected numeral ‘six’ (GM, Feb-04-2006)

įts’įtaat’yít’yi ‘the six of us’

(13) Uninflected numeral ‘six’ with first person plural verb form (GM, Feb-04-2006)

įts’įtaat’yi asít’yii

six we.are

‘the six of us’

The synchronic opacity is also demonstrated by the position of the third person plural affix. We said above that subject markers occur in two different places in the verb word. Apparently, this positional difference is maintained for numerals; compare the following forms:

(12) OM fieldnotes, Mar-02-2005

a. taa -t’y -í -dye

three -Sfx -1Pl.S -Sfx

‘the three of us’

b. taa -t’y -ah -t’yi

three Sfx -2Pl.S-Sfx

‘the three of you’

c. taa -gha -t’yi -t’yi

three -3Pl.S -Sfx -Sfx

‘the three of them’

4. Extent of the paradigm

Elicitation has shown that all speakers we interviewed with respect to numerals can form person-inflected the numerals 2-4. For the numerals 5-7, speakers become less confident, and the forms exhibit greater variation. Table 5 demonstrates this, using the first person plural forms elicited from three speakers:

Table 5: Differences across speakers

	Speaker 1 (OM, Mar-02-2005)	Speaker 2 (GM, Feb-04-2006)	Speaker 3 (GM, Feb-03-2006)
‘the two of us’	ʊket’yít’yi	ʊket’yít’yi	ʊket’yít’yi
‘the three of us’	taat’yít’yi	taat’yít’yi	taat’yít’yi
‘the four of us’	dyeent’yít’yi	dyɛɛt’yít’yi	dyɛɛt’yít’yi
‘the five of us’	(not attested)	łádzet’yít’yi	łátanát’yít’yi
‘the six of us’	(not attested)	įts’ítaat’yít’yi	įts’ítaat’yít’yi
‘the seven of us’	taayuetsídít’yi	(not attested)	taayuetsí’ít’yi ~ taayuetsí éénasít’ye

While the forms for 2-4 are almost identical across speakers, the variation in the higher numbers is considerable. Speaker 2 forms *łádzet’yít’yi* ‘the five of us’ (and, in analogy *łádzet’yaht’yi* ‘the five of you’), but points out that these forms “sound funny.” This contrasts with the forms offered by speaker 3, who suggested *łátanát’yít’yi* for ‘the five of us’, which is not predicted by the present analysis.

Speaker 1 (who was not asked about the forms ‘the five of us’ and ‘the six of us’) forms *taayuetsít’yít’yi* ‘the seven of us’ after some consideration, but then claims that “this is the last one.” Speaker 3 offers two forms for ‘the seven of us’, but rejects one of them immediately:

(13) GM fieldnotes, Feb-03-2006

- a. taayuetsí

‘seven’

- b. ?? taayuetsí’ít’yi (rejected by speaker)

‘the seven of us’

- c. taayuetsí ééнасít’yii

seven we.are.that.many

‘the seven of us’

b. appears to be formed in analogy to the other numerals; note that the final syllable of *taayuetsí* is realized as *-t’yi* in order to make it fit the pattern of the other numerals.

Speakers agree on the form for ‘the six of us’. The reason for this lies presumably in the morphological make-up of ‘six’. *įtsį’taat’yi* ‘six’ is a complex form that can be analyzed as *įts’į* ‘towards each other’ and *taat’yi* ‘three’ (the same mechanism is used in the formation of *įts’įdyéent’yi* ‘eight’ which can be analyzed as *įts’į* ‘towards each other and *dyéent’yi* ‘four’.)

The person marker appears in the same position as it does in the numeral *taadi* ‘three’: *taadįdye* ‘the three of us’ and *įts’įtaat’yít’yi* ‘the six of us’. Because of the difficulty associated with obtaining the form ‘the seven of us’, and because one speaker claimed that ‘this was the last one’, nobody tried to elicit inflected numerals greater than seven.

5. Conclusion

We have looked at person-marked numerals in NAB and have shown that numerals are frozen forms consisting of a numeral stem and the suffix *-t’yi*, derived from the verb stem *t’yii* ‘to be

thus'. The subject marker of the former verb has been retained to derive the meanings 'the NUMERAL of us/you/them'. The verb stem has been re-analyzed as a suffix. As a result, the person markers of the numerals also are suffixes, whereas they are prefixes when occurring as part of a verb form.

Not all numerals can be inflected in this way. Across speakers, forms have been nearly identical for the numerals 2, 3, 4, and 6. Great variation was found in the numerals 5 and 7. Speakers were not very confident when producing those forms, and one speaker commented that 7 was "the last where you can do this" (p.c. by speaker on Mar-03-2005).

In consequence, the status of the inflected numerals in NAB is not certain. They are best regarded as frozen fused forms of a numeral stem and an inflected verb form. They possibly could be considered an incipient paradigm, but if so, the recent language shift to English (all speakers interviewed for this study were fluent in both NAB and English) means that that this pattern will never be fully paradigmaticized to include all numerals.

While the existence of this pattern is interesting in and of itself, it also demonstrates that, while the verb is undisputably the morphologically most complex lexical category in the Athabaskan languages, other categories also may acquire morphological complexities of their own, making the study of them worthwhile.

6. References

Cook, Eung-Do. 2004. A Grammar of Dēne Sų́łíné (Chipewyan). Algonquian and Iroquoian Linguistics, Memoir 17. Special Athabaskan Number. Winnipeg: Algonquian and Iroquoian Linguistics.

Dagmar Jung, Julia Colleen Miller, Patrick Moore, Gabriele Müller (now Schwiertz), Olga Müller (now Lovick) & Carolina Pasamonik, 2004-present, DoBeS Beaver Documentation, DoBeS Archive MPI Nijmegen, <http://www.mpi.nl/DOBES/>

Kari, James. 2007. Dena'ina Topical Dictionary. Fairbanks: Alaska Native Language Center.

Randoja, Tiina K. 1992. The phonology and morphology of Halfway River Beaver. Ph.D. Dissertation, University of Ottawa.

Rice, Keren. 1989. A Grammar of Slave. Berlin, New York: Mouton de Gruyter.

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¹ The language is also known as Dane-zaa. I use the term Beaver, since this is how most of the speakers I worked with refer to their language.

² All data used in this paper were collected through the documentation project “Beaver Knowledge System” (Jung, Miller, Moore, G. Müller (now Schwiertz), O. Müller (now Lovick) & Pasamonik, 2004-present). Data are cited by giving the initials of the interviewer and the date of the interview.

For most examples, only word glosses are given. Where morpheme glosses are presented, the following abbreviations are used: Pl—plural, Qual—qualifier, S—subject, Sg—singular.

Numbers in the glosses refer to first, second, and third person, respectively.

Examples are presented in practical orthography. Underscores < s > indicate post-dental consonants (in contrast to < s >, which indicates an alveolar consonant). < y > following a symbol for an alveolar consonant indicates palatalization.

³ There are no examples for a first or second person numeral plus an overt subject. It is unclear whether this is due to ingrammaticality of the resulting construction or simply coincidence.

⁴ This suffix exhibits considerable phonetic variation, surfacing as *-t'ye*, *-dye*, and *-di* in addition to *-t'yi*. This variation is common throughout the language, where ejectives are frequently not perceptible as such except in very careful speech (Schwiertz, p.c.). Similarly, vowels in unstressed syllables are frequently reduced to schwa.

⁵ Beaver is not a language with productive incorporation (see Randoja 1992 for a thorough discussion of Beaver morphology); thus, the analysis of a complex verb form containing a verbal and a numeral stem is not appropriate.