Complex predicates and activity incorporates in Athapaskan languages

Keren Rice, University of Toronto　　　　　Workshop on Complex Predicates
rice@chass.utoronto.ca　　　　　Rice University
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I.　Introduction

1.　Complex predicate
'The term complex predicate is used to designate a construction that involves two or more predicational elements (such as nouns, verbs and adjectives) which predicate as a single element, i.e., their arguments map onto a monoclausal syntactic structure.' (Butt 2003: 1-2)
In complex predicates, each component contributes information normally associated with the head.

2.　The verb word in Athapaskan languages
The verb word of an Athapaskan language is morphologically complex:
preverb-incorporate-quantifier-pronominal-qualifier-aspect-subject-voice/valence-stem

3.　Complex predicates in Athapaskan languages: some examples

a.　Causatives: The addition of an argument (ł)
Koyukon (All Koyukon material is from Jetté and Jones 2000)
too daadle-tsʉhtl
water
'Water made a splashing sound.' 650
too de-ł-tsʉhtl
'S/he caused water to make a splashing sound.'

Ahtna (All Ahtna material is from Kari 1990)
nen' ghighi-na'
earth
'The earth is shaking.' 288
łts'ii ts'abaeli dghe-ł-naa
wind tree
'Wind is moving the trees.' 288

b.　Middle voice: low elaboration (d, l)
Koyukon
yalaatl-ghaanh
'He killed it/him, he beat him up.' 227
laa-l-ghaanh
'He got killed; he is aching all over from overexertion.' 227

Ahtna
ighi-ghaan
'S/he made them.' 130

a-d-ghaan
'They were made.' 130

c. Quantifiers (distributive, customary): An interaction with situation aspect
Koyukon distributive
heneeno
'They made camp.' achievement n- 460
neeneenehelno'
'They made, set up camps.' accomplishment s- 460

Ahtna customary
nic'anikaen   'S/he paddled away from shore.' achievement n- 672
nic'aghikaes   'S/he padded away from shore customarily.' activity gh- 673

d. Preverbs and secondary aspect: An interaction with situation aspect
Koyukon
no-ghee-'onh 'S/he handled, moved, carried compact O down.' activity gh- 780
no-ghee-yo 'S/he came down (from upstairs, down off something).' activity gh- 476
ho-le-'onh 'S/he carried compact O up a slope.' accomplishment l- 782
ho-l-yo 'S/he went up (to the top of) the bank.' accomplishment l- 251
no-nee-'onh 'S/he carried compact O across. achievement n- 783
no-nee-yo 'S/he walked across.' achievement n- 476

Ahtna
ni-kaen 'S/he went by boat, paddling.' achievement n- 671
te-z-kaen 'S/he started out by boat.' inceptive accomplishment s- 671
ke-z-kaen 'S/he paddled ashore.' accomplishment s- 673

4. Evidence that the above enter into complex predicates with the verb stem
a. Two (or more) predicational elements are involved.
• The functor predicates (causative, middle) have an effect on argument structure.
• Preverbs, quantifiers, and secondary aspect have an effect on event structure.
b. The elements are involved in a monoclausal structure.
• There is a single set of arguments within the verb word.
• There is a single marking for situation and viewpoint aspect within the verb prefixes.

5. The current topic: activity incorporates
A few examples
a, Koyukon
sel-ghe-z-ol-deł
cry-qualifier-1plS-progressive-l voice/valence-plural go
'We are going along shouting.' 730

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b. Ahtna
ɬu-sel-d-a-l-deɬ
around-shout-qualifier-progressive-l voice/valence-plural go
sel 'shouting' 455
'They (mosquitoes) are whining about' 145

6. Questions
   a. What is the morphology and syntax of activity incorporates?
   b. Do they contribute to a complex predicate?

7. Findings
   a. Unlike the pieces of complex predicates illustrated in (3), activity incorporates do not contribute information about argument structure or event structure independently.
   b. Activity incorporates appear to pose a problem for the identification of the verbal head of the complex predicate, creating problems for uniquely identifying the verb stem and for determining morpheme order.
   c. However, activity incorporates are morphologically noun stems rather that verb stems.
   d. Thus, the positioning of activity incorporates does not pose a problem for the ordering of morphemes, but is predictable based on phonological and semantic principles
   e. Activity incorporates pattern parallel to body part incorporates in requiring middle voice marking.

8. Structure of the talk
   a. The morphosyntax of activity incorporates
   b. The ordering problem posed by activity incorporates
   c. The category of activity incorporates
   d. A solution to the ordering problem
   e. The structure of a verb word with an activity incorporate: activity incorporates and middle voice

II.   Activity incorporates illustrated
9. Incorporation of activities is possible into verbs of going, verbs of location/position, and some verbs of saying.

10. Verbs of motion
    Koyukon (Jetté and Jones 2000)
    k'eleek-ghe-do-l-kkaaɬ
    song-qualifier-qualifier-progressive-l voice/valence-paddle
    k'eleek 'sing, song'
    'He is paddling along singing' 321

    he-**k'eleek**-ghe-daa-ghe-ge-kkaaɬ
    upstream-song-qualifier-qualifier-progressive-1sgS-paddle
    k'eleek 'sing, song'
    'I sing while canoeing upstream.' 385

sel-ghe-z-ol-deł
cry-qualifier-1plS-progressive-l voice/valence-plural go
'We are going along shouting.' 730

ggʉhtl-h-oł-dełtl
running-3plS-progressive-pl. go
ggʉyhtl 'running' (only in derivatives of this theme)
'They are running along, racing' 211

Ahtna (Kari 1990)

na-**c'udyiis**-de-l-yaa
back-whistle-qualifier-l voice/valence-singular go
c'u-d-yiis 'whistle'
'He returned whistling.' 439

łu-**hdogh**-d-a-l-yaał
around-potlatch speech-qualifier-progressive-l valence-singular go
kołdogh 'he is making a potlatch speech' 156
'He is walking around while making a potlatch speech' 424

i'dliis-h-d-a-l-deł
song-3plS-qualifier-progresive-l voice/valence-plural go
i'dliis 'song'
'they are going along singing' 1990, 145

łu-**duut**-d-a-l-deł
around-chatter-qualifier-progressive-l voice/valence-plural go
duut- 'chattering sound, call of sandhill crane' 158
'They (flock of geese, cranes) are going about honking, chattering' 145

neke-**duut**-d-a-l-deł
circle-chatter-qualifier-progressive-l voice/valence-plural go
duut 'chattering sound, call of sandhill crane'
'They (cranes) are flying in a circle calling' 158

łu-**sel**-d-a-l-deł
around-shout-qualifier-progressive-l voice/valence-plural go
sel 'shout, shouting' 455
'They (mosquitoes) are whining about' 145

dzuuggi ti-**seł**-d-ghe-l-ggaac
princess out-shout-qualifier-aspect-l voice/valence-singular go
seł 'shout, shouting'
'The princess ran out shouting.' 455

Slave (Rice 1989)

k'ína-**shine**-de-da
around-song-qualifier-singular go
shin 'sing, song'
'S/he walks around singing' 656

ní-**dloe**-d-ę́-tlah
terminative-laugh-qualifier-aspect-singular/dual go
dlo 'laugh'
'S/he arrived laughing' 656

k'ína-**'uyi**-de-da
around-whistle-qualifier-singular go
'uyi 'whistle'
'S/he walks around whistling' 657

k'ína-'eji-**sele**-d-a-ɬe
around-run-shout-qualifier-perfective-singular/dual go
seh, -zélé 'shout'
'S/he ran around shouting' 656
[Note that 'eji is also an incorporate, 'running']

k'e-**jíe**-ts'e-t-'oh
preverb-hook-unspecified subject-voice/valence-go by water
jí 'hook'
 'S/he trolls with line and hook.' Howard 1990: 41

Carrier (Morice 1932 II)
ne-**tlo**-d-ez-ya
preverb-laugh-qualifier-aspect/1sgS-sg. go
tlo 'laugh'
'I laugh walking' 143

ne-**cen**-d-es-.aih
preverb-sing-qualifier-aspect-1sgS-go
cen 'sing, song'
'to walk singing, to sing walking' 131

11.   Verbs of saying (only a few verbs appear to occur incorporates)
Koyukon
ɬeekaa **yetlaa**-de-l-ghus
dog   bark-qualifier-3S-l voice/valence-holler
yetlaa 'barking' 564
'The dogs are barking, are making a clamor barking.' 259, 564

tseghe-he-d-o-l-ghos
cry-3plS-qualifier-perfective-l voice/valence-holler
tseghe 'cry'
'They cried.' 259

Ahtna
tsax-do-l-ghos
cry-2plS-l voice/valence-make noise
tsax 'cry'
'You pl. are crying' 207
cf. del-ghos 'They are having fun, shouting' 206

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da-**ts'uux**-gh-a-l-yaeł
above-shriek-qualifier-aspect-l valence-talk
ts'uux shriek
'They baby birds) are sitting up above shrieking.'

nee-**dlugge**-he-d-aa-l-ghos
terminative-laugh-3plS-qualifier-perfective-l voice/valence-holler
'They went there laughing.' 259

Slave

    see-de-gha
    cry-qualifier-3S-make noise
    see 'cry'
    'They are howling.'

12.   Verbs of position/location
    Koyukon

    taa-**gełtl'**-etl-do
    in water-fish hook-3S-perfective-singular sit
    gełtl' 'fish hook, jigging hook'
    'He is angling for fish, sits fishing with a hook.' JJ 2000, 143

    dlukk-ghe-daa-dle-do
    laugh-qualifier-qualifier-l voice/valence-singular sit
    dlukk 'laugh'
    'He is sitting down laughing.' JJ 2000, 143

    tsegh-ghe-daa-dle-do
    tsegh 'cry'
    'She is sitting down crying.' JJ 2000, 143

Ahtna

    dzii-d-ghe-s-daa
    dzii- 'inner ear' 167, whisper 173
    'He is sitting listening.' 133

Slave

    ná-**tse**-de-we
    ?-cry-qualifier-? [ná-we 'singular stand']
    tse 'cry'
    'S/he stands crying' (Rice 1989, 656)

Carrier

    cen-di-z-ta
    cen 'sing, song'
    'to sit singing, to sing while sitting' (Morice 1932 II: 130)

    tso-di-z-yin
    tso 'cry'
    'to weep while standing up, to stand up weeping' (Morice 1932 II: 130)

urwe-**tlo**-uzez-ta
tlo 'laugh, laughter'
'to mock while sitting by' (Morice 1932 II: 143)

13. Properties of activiy incorporates: Relationship with the verb stem
    a. The verb stem and the activity incorporate share a subject.
       *I walked in while you were singing.

    b. The verb stem and the activity incorporate are simultaneous events.
       'Combined-Action Verbs. These express the simultaneous
       performing of two actions: that of going, rendered by the verb,
       and another performed while going, and rendered by an
       accidental [i.e. incorporate] prefix.' Jules Jetté, JJ 2000: 703.

       *I walked in after I sang.   *I sang after I walked in.

14. A brief introduction to aspect
    a. Aspect is marked in several places in the verb of Athapaskan languages.

    b. Stem forms change depending on aspect. (Ahtna)
       durative imperfective   tsah   'he is crying' 374
       durative perfective   ghi-tsaex   'he was crying'
       durative customary   'es-tsiix   'I customarily cry'

    c. Activity incorporates do not vary in form depending upon aspect, but are
       constant.

    d. Situation aspect is marked by prefixes. (Ahtna)
       activity   **gh**i-tsaex   'he was crying' 374
       accomplishment   **ze**-ł-t'aes   'I roasted it' 347
       achievement   **n**i-yaa   'he arrived' 422

    e. Viewpoint aspect (imperfective, perfective, [optative]) is marked by
       prefixes.

15. Properties of activity incorporates: Aspect
    a. Situation aspect is determined by the verb stem and not by an incorporate.
       Slave
       tse-the-da
       tse 'cry'; cf. the-da 's/he sits'; yį-tse 's/he cries'
       's/he sits crying'
       'sit' has s- situation aspect; 'cry' has gh-; 'sit crying' has s-

    b. Preverbs are part of the situation aspect system; activity incorporates are
       not.
       Ahtna
       ti-**seł**-dghelggaac
       'She ran out shouting.' 455
              ti- 'out' requires n- situation aspect
              'shout' occurs with gh- situation aspect
              This verb has n- situation aspect.

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Slave

ní-**dloe**-dę́tla

'S/he arrived laughing.' 656

> ní- terminative requires n- situation aspect
> laugh occurs gh- situation aspect
> This verb has n- situation aspect.

16. Properties of activity incorporates: relationship to preverbs and quantifiers
    a. 'Whenever it is necessary to add thereto the iterative *na-*, pluralitive or continuative *ne-*, progressive *le-*, or any such particle, these are placed not immediately before the conjugable part of the compound, as happens with other verbs, but invariably before the incorporated word.' (Morice 1932 II: 130)

       Carrier

       > na-**cen**-diz-yal
       > back-song-qualifier-1sgS-singular go
       > cen 'sing, song'
       > 'to be returning while singing' 131

       > hwe-**cen**-dez-yaih
       > away-song-qualifier-1sgS-singular go
       > 'to go away singing' 131

       > ekha.-**cen**-dethez-yaih
       > out-song-qualifier-1sgS-singular go
       > 'to set out for the hunt singing' 131

       > ne-**cen**-diz-kuh
       > terminative-song-qualifier-drive
       > 'to stop driving while singing' 131

       Ahtna

       > na-**c'udyiis**-del-yaa
       > 'He returned whistling.' 439

    b. The iterative ('back' reading) affects the event defined by the preverb and the verb stem, not the event defined by the activity incorporate.

    c. Preverbs and the verb stem form a unit together semantically to the exclusion of the activity incorporate.

17. Summary
    a. Activity incorporates do not introduce argument structure.
    b. Activity incorporates do not play a role in the aspect system.

III.   A problem: the predictability of morpheme ordering

18. Ordering of morphemes
    preverb – quantifier – **incorporate** – direct object – deictic subject – qualifier – situation aspect – viewpoint aspect – subject – voice/valence – stem [root-aspect]

19. Predicting morpheme order
   a. Core idea: The verb stem is essentially linearized in the wrong place, and forms a syntactic and semantic constituent with preverbs. Morphemes to the right have scope over those to their left.

   b. Three major factors play a role in achieving the surface order of morphemes:
   i. Phonological: Affixes are grouped together by phonological shape. Phonologically incomplete/subminimal affixes (direct object-voice/valence) attach to the head; phonologically complete affixes (preverb-incorporate) are further from the head. This creates two major phonological zones of prefixes.
   ii. Semantic/Syntactic: Within a phonological zone, ordering relations are overall semantically/syntactically based.
   iii. Templatic: Within a phonological zone, ordering is idiosyncratic if no relationship, semantic or syntactic, exists between morphemes.

20. The problem
   If both the verb stem and the activity incorporate are verb stems, what is the head for purposes of affixation?

IV. Properties of activity incorporates: category
21. The verb stem
   Verb stems include templates and suffixes that indicate aspectual classes of various sorts (e.g., Leer 1979)

   Koyukon kkaa 'to paddle, dig' (root) 320

	imperfective	perfective	future	optative
neuter	kkaanh	kkaa'	kkaa'	kkaa'
momentaneous	kkayh, kkaa'	kkaanh	kkaał	kkaał
perambulative	kkaayh	kkaanh	kkaak	kkaak
distributive	kkaa'	kkaanh	kkaał	kkaał
continuative	kkaa	kkaanh	kkaał	kkaał
multiple	kkaayh	kkaanh	kkaayh	kkaayh
customary	kkaayh	kkaak	kkaak	kkaak
persistive	kkaah			
progressive	kkaał			
durative (dialects differ)	kkaah	kkaanh	kkaał	kkaał

22. Activity incorporates and verb stems
   a. Activity incorporates are not necessarily identical to roots.

   b. Activity incorporates are not identical to any particular verb stem form. These incorporates are, by and large, activities (as opposed to accomplishments and achievements); they are often identical to the stem called the durative imperfective, but not all verbs for which there is an incorporated form have such a stem form.

c. Examples from Koyukon: incorporates, roots, and verb stem forms
'cry'
incorporate: tseh; tseghe- (with sit, holler)
root: tsaah 617
verb stems with same form as incorporate: durative imperfective, future, optative; semelfactive imperfective; persistive future, optative; neuter
independent noun form: tseh

'laugh'
incorporate: dlukk; dlugge- (with holler, no examples with positionals)
root: dlukk 158
verb stems with same form as incorporate: neuter imperfective, durative imperfective, conclusive imperfective, momentaneous perfective, persistive perfective
independent noun form: dlukk 159

'shout'
incorporate: zel-, sel-, zele' (with holler, no examples with positionals)
root: zeeł 729
verb stems with same form as incorporate: reversative imperfective, future, optative; neuter imperfective
independent noun form: no independent noun given

'sing'
incorporate: k'eleek 385
root: lee
verb stems with same form as incorporate: (leek) multiple future, optative, customary perfective, future, optative
independent noun form: k'eleek, -k'eleege'

'eat'
incorporate: k'onh 'eating' 327
  A derived root from k'e+onh 'eat' 316 (k'e- unspecified object)
root: on 285
verb stems with same form as incorporate: none [vowel-initial in verb]
noun form: k'onh [k'onh aade dzaan k'egheeyo 'he went all day without eating.']

'running'
incorporate: gguyhtl 211
root: ggok 'sg., du. runs' 211
verb stems with same form as incorporate: progressive
noun form: no independent noun form

'hook'
incorporate: geɫtl 187
root: geɫtl 186
verb stems with same form as incorporate: neuter, semelfactive,
consecutive, durative imperfective; momentaneous perfective, future
independent noun form: geɫtl, -geɫdle'

'whistle'
incorporate: yooyeesk; also yooleesk, yoozeek 685
root: yeesk 'whistle'; cf. yeek 'spirit, health; yeets 'breath'
verb stems with same form as incorporate: onomatopoetic
noun: yooyesk (no examples given)

   d.   Ahtna
'cry'
incorporate: tsax-, tsagh- 374
root: tsaex, tsagh
verb stems with same form as incorporate: tsagh - durative imperfective,
future, optative; tsax- momentaneous future
independent noun form: no independent noun listed

'laugh'
incorporate: dlo', dlok (depends on dialect) 164
root: dlok' 163
verb stems with same form as incorporate: none
independent noun form: dlo'
      its'e' **dlo'** gha naniltsiis 'he is smiling at him' 164

'shout'
incorporate: seɫ 455
      root: zel 'shout'
verb stems with same form as incorporate: durative imperfective,
momentaneous perfective
independent noun form: no independent noun form listed

'whistle'
incorporate: c'udyiis 439
root: yiits' 'breath'
verb stems with same form as incorporate: momentaneous imperfective,
durative imperfective, optative, future
independent noun form: no independent noun form listed

'potlatch speech'
incorporate hdogh, dogh 156
root: dogh
verb stems with same form as incorporate: durative imperfective,
onomatopoetic, neuter imperfective, momentaneous perfective
independent noun form: no independent noun form

'sing'
incorporate: c'eliis, i'dliis, -c'elige' 279
root: lii
verb stems with same form as incorporate: none
     e.g.   c'e-de-d-lii 'He is singing' 279
             c'e-ł-de-s-d-le' 'he was singing'
independent noun form: c'eliis, i'dliis, -c'eliige'

23.   Activity incorporates are not roots.
       Activity incorporates are not consistently identical to a particular verb stem form.

24.   Activity incorporates include most prefixes that are part of the lexical entry.
       'whistle'
           Ahtna: c'u-de-ł-yiis 'he is whistling.' 439
               c'udyiis incorporate
           Koyukon:
               yoo#de+ł+yeesk 'whistle' (onomatopoetic) 685
               yooyeesk incorporate

       'sing'
           Ahtna: P+e#d+D+lii 'sg, dual sing P' 279
               c'ededlii 'he is singing'
               c'eliis, i'dliis incorporate

       'potlatch speech'
           Ahtna: ko+ł+dogh   'he is making a potlatch speech' 156
              dogh, hdogh incorporate
              'They will surround it [in a line].' 189

25.   Activity incorporates do not usually include lexicalized voice/valence.
          whistle, sing (lii form), potlatch speech

26.   Activity incorporates are not themselves complex predicates, although they may be morphologically complex.

27.   Suffixes
     While there are differences between languages, in some activity incorporates can occur with a suffix -e. Based on Kari 1990 and Jetté and Jones 200, it is what JJ (Koyukon) label -e general suffix (JJ 10; -bet 'abdomen, belly, paunch, stomach' 98, -bede 'front of the body, underbelly, belly' where it forms areal nouns ; saanh 'summer' 10, saane 'in the summer' where it forms adverbs of time). Kari 1990 (Ahtna) recognizes a noun suffix -e which occurs in some areal nouns and postpositions. He also has a -e suffix which occurs with some adverbs. I set these aside for the moment.

28.   Morphologically, activity incorporates are neither roots nor verbs.
       a.   Activity incorporates are larger than roots (suffixes, prefixes)
       b.   Activity incorporates are smaller than verbs (absence of voice/valence).

29. Activity incorporates are nouns
   a. The form is that of an independent noun when one exists, although there are not always independent nouns.

   b. There are a few forms that have the distribution of activity incorporates but occur only as nouns, and not as verb forms.
      Ahtna
      > hnae 'word' (from the verb theme k+n+(y)aa 'sg. talks') 296
      > ti-**hnae**-de-l-yaa
      > out-word-qualifier-3S-l voice/valence-singular go
      > 'He went out talking' (Kari 1990, 424)

      > -naegge' 'eye' 297
      > naex- incorporated form
      > hw-naex-d-ghe-s-daa
      > area-eye-qualifier-qualifier-aspect-sg. sit
      > 'He is sitting watching'

      Koyukon
      > kkenaa 'word, talking, speech' ('this is a unique noun from the verb theme he+ne+Ø+(y)o sg. talks with the ne prefix appearing as a stem-initial consonant') 428
      > **kkenaa**-ghe-d-o-l-hoł
      > word-qualifier-qualifier-progressive-l voice/valence-singular go
      > 'He is walking and talking' JJ 2000, 703

      > k'onh eating ('a derived root from k'e+onh') 316
      > **k'onh**-ghe-daa-dle-do
      > eating-qualifier-qualifier-qualifier-l voice/valence-singular sit
      > 'She is staying and eating' JJ 2000, 143

   c. Activity incorporates can be arguments: subjects.
      Koyukon
      > no-**tseh**-d-aal-a-'onh
      > tseh 'cry'
      > 'It howled once [cry is located]' 55

      Ahtna
      > łu-**nghel**-y-a-ł-taeł
      > around-drunkenness-3O-aspect-causative-animate O go
      > ngheł 'be crazy, insane, out of one's mind; be drunk' 219
      > 'He goes around drunk (drunkenness takes him around)'

      > ts'e-**hwnic**-de-l-ts'et
      > out-news-qualifier-l valence-animate, compact object move independently
      > 'The news came out.' 312
      > na#ko+l+nic tell, narrate, recount
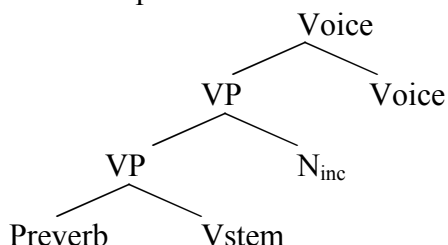   > hwnic, -konige' news, information 312

c.   Activity incorporates can be arguments: direct objects.
Carrier
urwe-**tlo**-nes-.ih
3 object/preverb-laugh-qualifier/1 sg. subject-steal
dlo 'laugh'
'I steal a laugh at' 143; translation from Bill Poser, 2002
(Morice: I stealthily laugh at' 143)

30.   Activity incorporates are nouns in terms of lexical category.

V.   A return to the problem of morpheme ordering
31.   The problem: How is the host of affixation determined?
Activity incorporates appear to present a problem in determining the host: which
verb stem is the base for affixation.

32.   If activity incorporates are nouns rather than verb stem, then a verb word contains
a single verb stem, and it is the host for affixation in the linearization of
morphemes.

VI.   Activity incorporates and complex predicates
33.   Activity incorporates occur with intransitive verbs.
'sg. sit'
Koyukon   Ø+do 'sit, stay'140
INC+ghe+de+**le**+do 'sit, stay doing activity of INC' 143
Ahtna   Ø+da 'sit, stay'
INC+d+**d**+daa 'sit. stay doing activity of INC' 131

'pl. holler'
Koyukon   de+le+ghos 'holler' 258
INC#de+le+ghos 'pl. make noise denoted by INC' 259
Ahtna   de+l+ghaas 'holler'
INC#d+l+ghaas 'pl. make noise denoted by INC' 207

'pl. go'
Koyukon   Ø+daatl 'pl. walk, go by foot, pl. go in vehicle' 116
INC#ghe+de+**le**+daatl 'pl. go making INC verbal noise' 117
Ahtna   Ø+daetl' 'pl. walk, go by foot, pl. go in vehicle'
INC#d+**l**+daetl' pl. go making INC verbal noise' 145

'paddle'
Koyukon   Ø+kkaa 'paddle' 320
INC#ghe+de+**le**+kkaa 'paddle, travel in boat while making oral
sound denoted by INC' 321

34.   Activity incorporates occur with middle voice (d/l voice valence; bolded in (33)).

35.   Activity incorporates show parallel patterning to incorporated body parts,
requiring middle voice (d or l voice/valence)

14

Koyukon   INC#d derived intransitive with incorporate

                gesekk kk'e ne-**tlool**-ode-kk'eyh
                white person like
                'He speaks English fluently, articulately.' [glides by the tongue] 103

INC#**d** derived transitive with incorporate 103
        nelo'e-**t**-'oh   'she is waving her hand'
        kkaaghe-**t**-'oł   'he has his foot raised.'

INC#**le** derived transitive with incorporated body part object 391
        INC#**le**+'o 'keep INC body part in position' 391

INC#**le** derived intransitive with incorporated body part 391
        INC#**le**+yo 'be in position in manner of INC body part'

Ahtna   INC#**d** derived intransitive with incorporate 130
                tl'a#d+**d**=daa 'move on one's buttocks'

INC#d+gh+**d** derived intransitive with incorporated body part 131
        INC#d+gh+**d**+daa 'sit using incorporated body part'
        INC#d+gh+**d**+yaa 'sg. goes using incorporated body part'

INC#**d** derived transitive with incorporated body part 131
        INC#**d**+'aa   'move incorporated body part'

INC#l derived transitive with incorporated body part object 261
        INC#G+**l**+laa   'keep pl. inc body parts in position'

36.   Parallels between activity incorporates and body part incorporates
      a.   Both appear with intransitive verb.
      b.   Both contribute information about manner.
      c.   Both require d/l voice/valence, or middle voice marking.

37.   On d/l voice/valence
      a.   d/l voice/valence markers are characterized in the Athapaskan literature as marking middle voice (e.g., Arce-Aranales, Axelrod, and Fox 1994, Thompson 1989, 1996, Rice 2000; based on Kemmer 1993), or as detransivizers (Kibrik 1996)
      b.   d/l can be analyzed as functor predicates, contributing to the interpretation of their propositional complement, requiring 'low elaboration' of an entity involved in the event that serves as its complement or of the event itself (e.g., Rice 2000).
      c.   Middles typically involve two participants that are not differentiated or an aspect that is not clearly divided into an initiation and an endpoint.

38.   A possible structure

                      Voice
                /   \
           VP   Voice
        / \
    VP   N$_{inc}$
  / \
Preverb   Vstem

39. Activity incorporates, like body part incorporates, are only possible in the context of a complex predicate, stem + middle voice

40. This requirement of middle voice is perhaps not surprising, given that the activity incorporate and the verb stem share arguments (same subjects) and do not have differentiated event structure.

VI.   Summary

41.   Some conclusions

   a.   Activity incorporates are lexically nouns, solving the morpheme order problem.

   b.   Activity incorporates show parallel patterning to body part. Semantically they indicate manner (in intransitives). Morphosyntactically they require middle voice.

   c.   While the activity incorporate does not itself contribute to the argument or event structure of the verb complex, it nevertheless involves a complex predicate, namely middle voice.

   d.   This use of middle voice can be understood in that the arguments and event structure of the activity incorporate are shared with those of the verb stem.

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