U'eł Tay'tesdedzi: The character of multi-dimensional templatic morphology in Athabaskan languages

The modeling of the aptly named "interrupted synthesis" (Edward Sapir, via Benjamin Whorf) of Athabaskan verbal morphology requires at least three descriptive dimensions; it does not reduce to the two-dimensional linearity of simple ordering relations, because it must represent both surface morpheme order and several ordered discontinuous dependencies, simultaneously recognizing transparency of morphology to syntax, and strict morphological requirements.

Recent theoretical representation of the Athabaskan verb includes Rice's (2000) use of syntactic machinery to build a model that provides semantic justification for morpheme order. Rice's model allows for a statement of verb themes containing discontinuous combinations of prefixes, stems and suffixes, but does not represent them in the derivation. This may be because this would require too complex a deep structure tree, and too many movement rules.

Kari's (1989, 1992) multi-dimensional stacking templatic model (hereafter STM) does account for complex layerings of discontinuous dependencies, while recognizing both the well-motivated and the arbitrary areas of the linear template. In Ahtna, multiple string-like derivations apply that give the verbs paths such as, for example, 'into the water,' 'off from shore,' 'downward'. Ahtna aspectual derivational strings such as **ta# gh mom.** 'into water' consist of a derivational prefix, a set of conjugation prefixes and a group of four possible suffixes that may associate with a variety of verb stems. Interdigitating or blending with such derivations are five or six inflectional patterns for tense, mode, and negativity. (See Figure 1, page 2). The derivation in Fig.1 assumes a fully specified template of all affix positions. Each derivation is distinct, though not always crucially ordered. The most striking "event" in Fig.1 is the 6-part "aspectual derivational string" that means 'back and forth': **nił+t'a#(n+ñ)+ D+suffixes**. When this string applies to the verb theme, its elements interdigitate with preceding layers of morphemes. Empirically, STM adresses the dimensions of linear order, predicate formation, discontinuous dependency, haplology, and lexical relationships better than any reductive theory of Athabaskan verb formation.

Fortescue's (1992, 2007) analysis of Koyukon Athabaskan morphology, developed in indepedently of Kari's theory, comes from a functional perspective, and offers a similar picture of word formation. Where STM has been faulted, because it has been developed without any attempt to fit Athabaskan morphology into a reductive typology that does not allow templates. However, Fortescue's typology shows that a less reductive theory of morphological types can include, and make good use of, fully described Athabaskan data.

Aspectual derivational strings apply like multi-pronged clamps that grip around and within several pieces of wood. Many such strings are often the same in other Athabascan languages. We have coined a Ahtna term for this process of clamping, as suggested by Markle Pete, **u'eł tay'tesdedzi**, which is the Ahtna term for a 'clamp, vice', literally 'with it something is twisted closed'. The "clamp-effect" is very real. If we can pinpoint just why it is that all Athabascan language have elaborate and yet highly similar morphological properties, we can offer **u'eł tay'tesdedzi** or the "clamp-effect" as the key factor.

Fig. 1. "Stacking templatic" derivation of place name 'place where water flows back and forth'

0) *Ahtna verb template*: order specified: 21 prefix slots+root+3 suffix slots
1) *abstract root:*　　　'linear extends'　　　　　　　'aa°
2) *theme formation 1*: 'currrent flows slowly'　　　ł+'aa°
　　seemingly arbitrary use of ł classifer
3) *theme formation 2:*　incorporate 'water'　　　ta#ł+'aa°
4) *aspectual string:*　　'back and forth'　　　　nił+t'a+ta#n+ñ+D+ł+'aa°+n
　"the clamp-effect": 2 disjunct prefixes, + n neu mode + D classifier + n perf suffix
5) *super-aspectual string: (distributive)* n-　　　nił+t'a+n+ta#n+ñ+D+ł+'aa°+n
　　　marks replication of event
6) *enclitic attachment* 'specific place'　　　　nił+t'a+n+ta#n+ñ+D+ł+'aa°+n+den
　　　creates proper name
7) *verb base*: full underlying verb　　/nił+t'a+ n+　ta# n+ñ+ D+ł +'aa°+ n+ den/
　　　　　　　　　　　　　　　backforth-DIST-water- M/A -　CL -　ROOT-PRF- NOM
8) *phonology*　3 rules occur simulanteously:　n+ñ→ 'i,　D+ł → l, n → 0 / °__
9) *surface form*　　　　　　　　　　　　[Niłt'anta'il'aaden]

References

Fortescue, Michael. 1992. Aspect and Superaspect in Koyukon: an Application of the Functional Grammar Model to a Polysynthetic Language. In *Layered Structure and Reference in Functional Perspective.* Ed. by M. Fortescue, P. Harder, & L. Kristoffersen. Amsterdam: John Benjamins Publishing Co. pp. 99-141.

— . 2007. The Typological Position and Theoretical Status of Polysynthesis. *Linguistic Typology*. Ed. by J. Rijkhoff. Arhus: Tidsskrift for Sprogforskning 5:1-27.

Kari, James. 1989. Affix Positions and Zones in the Athabaskan Verb Complex: Ahtna and Navajo.*International Journal of American Linguistics* 55:424-455.

—. 1990. *Ahtna Athabaskan Dictionary.* Fairbanks: Alaska Native Language Center.

__. 1992 Some Concepts in Ahtna Athabaskan Word Formation. In *Morphology Now*, ed. by Mark Aronoff; SUNY Series in Linguistics, SUNY Press, pp. 107-133.

Rice, Keren D. 2000. *Morpheme Order and Semantic Scope, Word Formation in the Athapaskan Verb.* Cambridge Studies in Linguistics 90.Cambridge University Press.