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The Dene-Yeniseian Connection (Henceforth *DYC*) has eighteen articles and two appendices, based on papers most of which were presented at the Dene-Yeniseian Symposium held Feb. 26-27, 2008, University of Alaska Fairbanks. The cornerstone of *DYC* is Edward Vajda's "A Siberian link with Na-Dene languages" (pp. 33-99) in which he proposes a connection between the Yeniseian language family of central Siberia and "Na-Dené" (Athabaskan-Eyak-Tlingit, minus Haida of the traditional Na-Dené hypothesis). The other articles deal mostly with Vajda's hypothesis, presenting a range of opinion about it and matters related to it. Given both the distance and time depth separating Yeniseian and Na-Dene, this would seem an implausible relationship. Nevertheless, several well-known linguists have declared their support, though often with caution, for example in *DYC* Hamp, Comrie, Fortescue, Kari, and Nichols. This being the case, this proposal merits careful attention. There are noteworthy ideas, as well as a few dramatic errors, in the other papers in *DYC* well worth discussion. However, most of the limited space for this review is dedicated to an evaluation of Vajda's paper given the importance of the hypothesis it proposes, though the other papers of the volume are also referenced here in connection with Vajda's.

Factors that scholars have thought support or oppose Vajda's hypothesis offer perspective. **Pro** factors include: Vajda is a respected, serious linguist. He attempts to deploy appropriate methods judiciously, presenting as evidence: proposed cognates, several from basic

vocabulary; regular recurring sound correspondences, not all of them nearly identical; and morphological matchings. Several scholars are convinced by this evidence; several are animated by the prospect of a relationship linking languages across the Bering Strait. **Con** factors include: “implausible on geographical grounds” (Nichols p. 299), with a great distance separating Yeniseian and Na-Dene territories; great time depth separating the two; grammaticalizations which weaken seeming similarities in verb affix patterns; some typological mismatches; limited amount of overall evidence; lack of non-linguistic corroborating evidence, with little or no support from archaeology (Ives, Dumond, Potter *DYC*), human genetics (Scott and O’Rourke *DYC*), and folklore (Berezkin *DYC*, but cf. Kim-Maloney *DYC*); lack for the most part of matchings in pronouns (Vajda *DYC*) and in basic kinship terms (Ives, Rice, and Vajda *DYC*); problems with phonological and semantic matches in the assumed cognates (Kibrik, Nichols *DYC*); and non-fit with areal neighbors (De Reuse *DYC*, Nichols p. 307).

Vajda presents two principal kinds of evidence – lexical and morphological. Some scholars view the lexical cognates with associated sound correspondences as stronger, finding the verb morphological evidence wanting; others hold that the morphological support is better, with doubts about the sufficiency of the lexical evidence. It is important to scrutinize both.

Lexical and phonological evidence. Several *DYC* papers express discomfort at the limited amount of lexical evidence, c.100 proposed cognates between Yeniseian and Na-Dene. More importantly, several of these comparisons would be questioned on the basis of standard criteria – semantic latitude, onomatopoeia, shortness of compared forms, borrowing, etc. (Campbell 2003, Campbell and Poser 2008).

Of Vajda’s c.100 cognate sets, some 27 – about a quarter of them – involve **permissive semantic differences**, examples identified here by their principal glosses (Na-Dene first,

Yeniseian second): black / blue, green, grey, brown; cloud / dark, darkness; day / light; distributional plural proclitic / collective suffix; eat (animate object) / swallow; fire / day, daytime; fly / dragonfly; go in a herd / in a row, small fish, vee (of birds); handle / kettle; hem, hanging end of garment, breechcloth / sews; hill / cliff, concave edge of riverbank; hook-shaped, hook / back, return, half; hot / molten fat, summer; jump (also fire ignites, burns, blazes; shine) / by moonlight, moonlit night, flare up; king salmon / burbot; knee / waist seam of dress, up to the edge; lower leg, shin / thigh, base of tree; point, end / fishhook barb; poke / dig; rear, back end, rump, buttocks / under; ridge, hill / pile of small fragments, small pile; robin / color, paint; sharp / claw, fingernail; shrub, plant / willow; stone / mountain; thorn / penis; undergo pangs / die. As Ringe (1992:67) showed, “admitting comparisons between non-synonyms cannot make it easier to demonstrate the relationship of two languages ... it can only make it more difficult to do so” (see also Nichols *DYC*, 1997:362, Campbell and Poser 2008:195-6). When semantically non-equivalent forms are compared, the possibility that chance accounts for the phonetic similarity is greatly increased.

In several of these cases, Vajda attempts to bridge the gaps between meanings, though not always compellingly. For example, for the ‘thorn’ / ‘penis’ set, Vajda believes that the root for ‘penis’ is also found in Ket and Yugh words involving ‘insect sting’, i.e. ‘wasp’ and ‘to sting’ (p. 91). However, this raises new questions: What evidence is there that these forms actually contain the ‘penis’ root and are not just accidentally similar to it? Is ‘insect sting’ itself an appropriate semantic match for ‘thorn’?

Several other matchings also have semantic differences but with more plausible associations, though this could affect the probability of whether they are true cognates (Nichols

p. 301), (e.g. ‘belt’ / ‘suede, rawhide strap’; ‘ice’ / ‘snow frozen on the ground’; ‘stretch, spread out’ / ‘pull’; ‘sun’ / ‘sunlight’; etc.).

More than ten of the sets appear to involve **onomatopoeia**: breast, teat, milk; breath, breathe, shadow, shade, safety, health, life / soul, vapor; cry; eagle; laugh; medicine song, cure by singing, shaman / shaman; merganser / common golden eye (duck); robin; spit; spruce hen, spruce grouse; wind blows / wind; wolf (?). That is, c.10% of the lexical comparisons would be challenged on this basis. Onomatopoeic forms are typically eliminated from proposals of distant genetic relationship because the similarity may be explained by mimicry of sounds in nature rather than inheritance from a common ancestor. (See Campbell 1997:225-6.)

The sets are also not entirely free of the problem of **borrowings**. For example: Ket *qu’j* (Yugh *qu’j*) ‘birch bark’ (p. 89) is a loan from Selkup, a Uralic language of the Samoyedic branch, recorded variously and in different varieties of Selkup as *kṽwā̄*, *kṽöä*, *qṽwä*, *küe köe*, *kṽöe*, *kä*, *kṽä*, *qä* (Janhunen 1977:73, Kulonen 1992:386, Rédei 1986-1988:169, Toivonen et al. 1955-1981:208), from Proto-Uralic **koxji* ‘birch’ (Sammallahti 1988; cf. Campbell 1990) -- Vajda (p. 89) acknowledges “the alternative possibility that this is a loanword.” The ‘wart’ example is also acknowledged as perhaps a Selkup loan (Vajda p. 90). The sets for ‘name’, ‘shaman’ (i.e. ‘medicine song, cure by singing, shaman’ / ‘shaman’), ‘son-in-law’, and ‘canoe’ involve terms identified as loans in other Eurasian languages (Campbell 1998).

About 30 of the comparison sets involve very **short forms**, of the shape V or CV. The length of proposed cognates is important, since the greater the number of matched segments in a proposed cognate set, the less likely it is that accident may account for the similarity; with short forms such as these, it is difficult to show that it is not accidental similarity rather than shared

history which explains the similarity in the sets (cf. Nichols *DYC*, Campbell 2003). Some 30% of the forms would be challenged on this criterion alone.

Another problem involves the cases where a single form in one family is assumed to be cognate to **multiple forms** in the other family. A single form/etymon in one language cannot be cognate with multiple forms in another language, unless the two or more from the language with multiple forms are derived from a single original linguistic element, meaning that in reality only one cognate set is involved (Campbell and Poser 2008:210-11). For example, one case here involves three cognates sets, all presented as though independent, and thus as independent evidence for the hypothesis: (1) PPA [Pre-Proto-Athabaskan] **g^weʀn* ‘day’ paired with Yeniseian Ket *diʀn*, Yugh *dʲiʀn*, *č̣in* ‘daylight, light of day’ to illustrate PY [Proto-Yeniseian] initial **ʒ*, and (2) also paired with Yeniseian Ket / Yugh *kʌʀn* ‘light’, Kott *kinix* ~ *knix* ‘dawn’ to illustrate PY initial **g*, while (3) Ket *diʀn* is listed as a cognate not only of the first of these two sets, but also in the comparison of PAE [Proto-Athabaskan-Eyak] **deʀñ* ‘emit light’ / Ket *diʀn* ‘emit light, blink’. See also ‘hook-shaped’ (with or without ‘instrumental suffix’) matched with PY ‘back, return’ and with ‘holding hook, cradle hook’.

Most of the sound correspondences presented occur in only a **few cognate sets**. Thus there is only one cognate set to support **ts*, **g* before front vowels, **t* before front vowels, and **y* in onset position and in coda position; and only two for “glottalized nasals”, **tʰ*, **tsʰ*, **gʷ*, **kʷ* and **kʷʰ* before front vowels, **g*, **k* and **kʰ*, **G^w* and **q^w*, **kʷʰ*, **x*, and **q* or **χ*. When the proposed cognate sets which are challenged because of excessive semantic latitude, onomatopoeia, possible borrowing, etc. are eliminated, too few remain to support the sound correspondences proposed. Moreover, several proposed cognates do not fit the sound correspondences which Vajda expects – Vajda points out some of these (pp. 56, 72, 94). Also,

the Proto-Yeniseian phonological inventory, with 20 consonants – Ket’s with only 13 – is considerably smaller than that of Proto-Na-Dene, with 43 consonants (Kari p. 12). There are multiple targets in Na-Dene from which seek matchings in Yeniseian for individual consonants, again increasing the possibility of chance rather than inheritance from a common ancestor as the explanation (cf. Nichols *DYC*). Thus, it is easy to concur with Vajda that “in general, more cognates must be sought to test the sound correspondence system laid out here” (p. 94).

In sum, the majority of the proposed cognates are problematic, challenged on the basis of standard criteria for investigating proposals of distant genetic relationship. The remaining forms are not sufficient in number to support conclusions about sound correspondences. The lexical comparisons do not warrant the assumption of a genetic relationship between Yeniseian and Na-Dene.

Morphological evidence. The verbal affix templates appear similar in the two families, making the comparison both impressive to some and suspicious to others. Since complex verb morphologies are constantly changing, it would be astounding if both Yeniseian and Na-Dene had managed to retain so much of the original morphology from which the two families are assumed to have developed in such strikingly similar form over such a long time span. In older language families, the morphology has changed much, resulting in different typological profiles for related languages, as seen in branches of Algonquian, Indo-European, Niger-Congo, Uralic, Uto-Aztecan, etc. Kari (p. 217) believes “linguistic conservatism and delayed language change have contributed to the assembly of considerable numbers of cognate roots and morphemes for Dene-Yeniseian,” but in fact Vajda (pp. 36-7) points out considerable change in Yeniseian due to foreign influences, with possibly “a steady effect on realigning Yeniseian morphological typology” (p. 36). Thus modern Ket verbs have eight prefix slots (the first actually a clitic) and

one suffix slot (p. 36) in contrast to only four prefix slots for Proto-Yeniseian (p. 37), refined to five prefix slots and a suffix slot, plus an “obj[ect] agr[reement] proclitic or independent word” at the beginning and a verb base which itself has a “verb-deriving prefix” and a “perf[ective]-stative suffix” in it (p. 40). Many of these compared verbal affixes are very short, composed of mostly unmarked consonants, some with very general meanings, others with functions/meanings that do not match that well.

The biggest problem in the morphological evidence is the recognition that a number of the affixes and their slots are not original, but came about through grammaticalization of formerly independent items. As Vajda (p. 40) says, “one must start by considering that the elaborate prefixal strings typical of the modern [Yeniseian and Na-Dene] languages developed out of a more analytic structure. Evidence suggests a bipartite phrasal verb consisting of an auxiliary followed by a lexical verb root, each of which hosted its own prefixes and suffixes.” He adds, “Leer’s analysis ... suggested that at least some Athabaskan tense/mood prefixes originated as auxiliary verbs.” And again (p. 47), “the fact that aspect suffixes **ɬ* and **-ñi* attach to the auxiliary complex in Yeniseian but not in Na-Dene further supports the view that the prefixing verb complexes in both families developed on the basis of a common pattern of auxiliary content verb roots, with each hosting its own affixes.” Some of Vajda’s examples pair suffixes with prefixes, or clitics with bound morphemes (p. 40, 46, 47), which in order to be cognate would almost certainly have to be the results of grammaticalizations that attached formerly independent elements to verbs. As Kibrik (p. 318) cogently expresses it, “given Vajda’s suggestion that these morphemes are originally auxiliary stems, their cognacy does not tell anything about the relatedness of the verb templates per se.”

Much in the morphological comparison hinges on the **bipartite** nature of verb in the two families – a morphology template in which one or more stem-like “prefixes” and a genuine stem at or near the end of the word are interspersed with inflectional and derivational prefixes. Yeniseian and Na-Dene are not the only families with such a bipartite verb structure, known for example also in Algic, Wakashan, Salishan, Washo, Klamath, Sahaptian, Molala, Maiduan, Pomoan, Numic, Yana, Atsugewi-Achumawi, Shasta, Siouan, Kutenai, Caddoan, Nakh-Daghestanian, Kuot, Skou, Gooniyandi, Kewa, Paiwan, Dumo, several Sino-Tibetan languages, and Yoruba (Bickel and Nichols 2007, DeLancey 1996, Hildebrandt 2005, Jacobsen 1980, Mithun 2001:56, Nichols 2003, Rice 2000). Willem De Reuse points out (personal communication) that what Na-Dene and Yeniseian share is unusual, as it is actually “multipartite” whereas in the other languages it is limited to strictly bipartite (stems with two distinct parts for certain morphological operations, with interposition of distinct prefixes between the parts of the stem), not multipartite. Nonetheless, the grammaticalization problem holds and is serious for the comparison of the multipartite verb stems.

Comparisons of Aux+TAM PND [Proto-Na-Dene] **x^yi-* : Yeniseian **si-* ‘telic?’ and of **Ga* : Navajo *yi-*, Eyak *s-*, Tlingit *yu-* ‘atelic?’ (p. 42) initially look appealing, until one looks at the detail. **Ga* is only “a relic in Yeniseian, occurring in [only] a handful of past-tense forms ... the opposition ... **x^yi-* vs. **Ga* is transparent in only a tiny handful of Modern Ket verbs meaning ‘kill’ ... elsewhere **Ga-* is reduced to *o-*” (p. 43). For **x^yi-*, the Yeniseian compared forms are Ket/Yugh **s-*, Kott *š-* or *č-* “in something like a third of present-tense forms,” but *j*, *i*, *ʌ*, *a*, or *∅* “in the remaining present-tense forms, and in all past and imperative forms” (p44). These auxiliary comparisons look similar to and are no more compelling than Sapir’s comparison of causative or transitive verbs with *s-* prefixed in Tibetan, *si-* and *ʃi-* in Tlingit, and *ʃ-* in

Athabaskan as evidence for a relationship between Na-Dene and Sino-Tibetan (cited in Golla 1984:350), now discounted by most linguists.

The comparison of the shape prefixes seems tenuous. Vajda (p. 53) acknowledges the need for caution about assigning original meanings to the Yeniseian thematic consonants, to which the Na-Dene shape prefixes are compared and that “they are not the best evidence of genetic relatedness” (p. 55).

Na-Dene verbs have a morphological slot for “classifiers,” morphemes placed directly before the verb stem to signal changes in valency. However, there is no comparable classifier morpheme slot in the Yeniseian verb complex. Kibrik (p. 317) finds this strange, since given its adjacency to the verb root, most would assume it is older than other prefix slots that must have been added later. Vajda (pp. 56-60, 80) does attempt some comparisons of Yeniseian morphemes with these. For example, he compares the Na-Dene *d*-component with a similar looking Yeniseian morpheme, but strains to connect their meanings/functions, where the Na-Dene *d*-component comes from **də-*, signaling valency decrease, but the Yeniseian **ǰ* (Ket *d-*, Yugh *dʲ-*, Kott *č-*) to which it is compared is an imperative prefix. Kibrik (p. 318) concludes that “as long as the status of the immediately pre-root TIs [transitivity indicators, i.e. “classifiers”] is not clarified, [the] morphological argument for the relationship largely fails.”

If in the end what is compared turns out to be only things that originally were just very short independent lexical items of general meaning which then later grammaticalized, which have ordinary phonological shapes, with strained meaning/function associations, then the edifice ceases to be impressive.

In **summary**, the proposed Dene-Yeniseian connection cannot be embraced at present. The hypothesis is indeed stimulating, advanced by a serious scholar trying to use appropriate

procedures. Unfortunately, neither the lexical evidence (with putative sound correspondences) nor the morphological evidence adduced is sufficient to support a distant genetic relationship between Na-Dene and Yeniseian. However, regardless of the ultimate status of the proposal, the work has made information on Yeniseian, especially on Ket, more available and better known, and has led to insightful analyses (e.g. Vajda's treatment of Ket tones, pp. 68-71), and to solid reconstruction in Yeniseian. Leer's work reported in *DYC* settles positively the question of whether Tlingit is related to Eyak-Athabaskan and presents new discoveries in the reconstruction of the AET [Na-Dene] sound system (Leer *DYC*). Vajda's and the other papers of *DYC* are fun to read and to contemplate, and the hypothesis undoubtedly will continue to stimulate much discussion about proposals of distant genetic relationships and appropriate means and methods for assessing them.

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