

Dene-Yeniseic in past and future perspective

by Edward J. Vajda

As preface to this volume and postscript to my conference presentation, "The Siberian origins of Na-Dene languages", which presented evidence supporting a genetic link between the Siberian family Yeniseic and the widespread North American family Na-Dene (Athabaskan-Eyak-Tlingit), this essay addresses two goals. The first half assesses how my linguistic findings match up against those of archeologists and anthropologists presented at the same conference, some of which also appear in this volume. The second half redresses a few omissions from my original draft article and provides a comprehensive history of Dene-Yeniseic studies. The original article, like the final version published in the present volume, focused mainly on what Yeniseic can contribute to Na-Dene historical linguistics. It therefore highlights specific work by Michael Krauss, Jeff Leer, Jim Kari and other Athabaskanists who have spent decades reconstructing Proto-Athabaskan and comparing it with Eyak and Tlingit. The original article did not attempt a full assessment of previous claims linking Yeniseic with other families – a task undertaken in my book "Yeniseian peoples and languages (Vajda 2001c), which is nearly 400 pages long. Nor did it cite past reconstruction work on Proto-Yeniseic with the same attention given to Krauss and Leer's Proto-Na-Dene and Proto-Athabaskan forms. This perhaps left the impression that little work had been done in this area. In fact, a comprehensive system of proto-Yeniseic reconstructions was developed by the celebrated Moscow linguist Sergei Starostin already decades ago (S. Starostin 1982, 1984; cf. the discussion in Vajda 2001c:15-16). Proto-Yeniseic forms based on the most recent published work of Sergei Starostin (1995) and his son George Starostin (1995) have been included in this published version. The patterns of sound correspondences evident between Starostin's original Proto-Yeniseic reconstructions and the Proto-Na-Dene or Proto-Athabaskan reconstructions of Krauss, Leer and Kari – neither having been devised with Dene-Yeniseic comparisons in mind – lends additional support to the claim of genetic relatedness argued for in my article.

The broad attention the conference results have received in the past month requires these omissions to be rectified quickly. The second half of this essay also attempts a more balanced assessment of my claims in light of long-standing differences between linguists who recognize several hundred genetically unrelated language families, each derivable from a separate proto-language, and so-called long-range linguists, who have further classified these families into a couple dozen superfamilies presumed to represent a single original proto language. In the latter classification, Yeniseic and Na-Dene already belong, with several other languages and families, to the Dene-Caucasian family. My own research confirms only a genetic relationship specifically between Yeniseic and Athabaskan-Eyak-Tlingit, though I regard Dene-Caucasian as an interesting hypothesis of language classification, parts of which seem particularly promising for further historical-comparative investigation (I go into this toward the end of my essay). It is important to emphasize that the idea of Dene-Yeniseic is far from new. A genetic link between Yeniseic and Na-Dene was claimed as early as 1923 by Italian linguist Alfredo Trombetti (1923), then again by Merritt Ruhlen (1998) and other linguists working within the context of Dene-Caucasian (cf. Blazhek & Bengtson 1995). Though none of these proposals garnered broad acceptance, they nevertheless represent, in my opinion, hitherto

unsung milestones in the long and interesting history of work on the Dene-Yeniseic question.

The second half of this preface thus attempts to explain the entire story of Dene-Yeniseic, in light of the often starkly different methodologies and assumptions of linguists who have studied these languages, of which I am merely the most recent. In attempting to demonstrate a relationship between two established language families, I share a goal with the so-called long-range linguists. Yet my insistence on finding a system of grammatical and lexical parallels that would leave little doubt about the proposed relationship places my work squarely within the traditional mainstream of historical linguistics. Few linguists have yet seriously attempted to connect long established language families by expending the vast time and effort needed to uncover extensive grammatical homologies as well as cognate vocabulary sufficient to reveal a system of sound correspondences. The last portion of my essay explains how Dene-Yeniseic exemplifies future challenges in establishing claims of language relatedness.

Before returning to these purely linguistic matters, I would first like to assess my findings in light of what other disciplines have revealed about trans-Beringian prehistory¹. My original draft was posted on Feb. 24, 2008, written from start to finish in three weeks and barely in advance of the Dene-Yeniseic Symposium meetings held by the Alaska Native Language Center in Fairbanks on Feb. 26-27, 2008 and at the 2008 Meeting of the Alaskan Anthropological Society on Feb. 29, 2008, where I presented this material (Vajda 2008). I have since changed the title to "A Siberian link with Na-Dene languages" to avoid the impression that linguistic evidence alone can determine how peoples as geographically dispersed as today's Ket and Athabaskan populations came to speak related languages. Although I regard it as overwhelmingly likely the Ket represent the last remnant of a formerly diverse mosaic of hunter-gatherer cultures and languages across North Asia – the rest of which, outside the North Pacific Rim, were replaced by reindeer breeders during the past two millennia – I would not want to preempt possible answers to questions of migration, homeland, and time depth involving the ancestral speakers of Dene-Yeniseic. These questions certainly cannot be answered using linguistic data alone, if they can be answered at all.

If anything, a Dene-Yeniseic language link only deepens a number of already deep mysteries surrounding the peopling of the New World. Archeological research has so far not yielded compelling evidence for the arrival of new colonists from North Asia into Alaska in the millennia between the foundering of the Bering land bridge at the end of the Pleistocene 10,000 years ago and the arrival across Bering Strait by the ancestral Eskimo-Aleut about 4,500 years ago. The intricate linguistic homologies described in my article would seem to suggest an arrival by ancestral speakers of Na-Dene during this intervening period – perhaps millennia after the first Paleo-Indian group(s) entered Alaska yet before the Eskimo-Aleut – a hypothesis earlier proposed for the Na-Dene by Joseph Greenberg (1987). The evidence presented by Ben Potter (this volume) on the temporal succession of prehistoric tool assemblages in Siberia and Alaska, however, reveals no clear evidence for new migrations into Alaska between 10,000 and 4,500 years ago. So far, there is no archeological evidence that ancestors of the Na-Dene peoples

¹ I am indebted to Ben Potter (archeologist, University of Alaska, Fairbanks) and to other conference participants, as well as to Victor Golla (Athabaskan linguist, Humboldt State College, Arcata, CA) for their insights into how to begin assessing the real-world implications of this language link.

(Athabaskans, Eyak, Tlingit) entered the New World during the interval between 10,000 and 4,500BP, despite the fact that the historically attested locations of these peoples also suggest their arrival after other Paleo-Indian groups. If one accepts Dene-Yeniseic, the incongruence between the archeological and linguistic facts only widens, since the lexical and grammatical homologies between Na-Dene and Yeniseic suggest a separation younger than 10,000 years, given what is generally assumed about rates of language change over time. At present, no compelling reason exists to assume languages changed more slowly in prehistory than in the recent past, though I will return to this possibility below.

Nor does a Dene-Yeniseic language connection concur with what has so far been discovered by population geneticists. Research on human DNA in North Asian and New World populations have so far yielded no evidence that Yeniseic groups and modern Na-Dene speakers share a specially close genetic affinity when compared to other peoples of these regions. It is theoretically possible that some modern Siberians represent a back migration out of Alaska during the Early Holocene, prior to the establishment of the Eskimo-Aleut on both sides of Bering Strait. Recently published evidence from population genetics indicates something like this may indeed have occurred (Tamm et al. 2007), though markers linking Yeniseic speakers specifically to the Na-Dene were not detected. A back migration of ancestral Yeniseic speakers into Siberia could, in theory, explain why the linguistic evidence for Dene-Yeniseic appears younger than 10,000 years. Once again, however, what would seem plausible to linguists is incongruent with findings from other scientific fields. So far, no genetic markers have been found linking Yeniseic speakers specifically with speakers of modern Na-Dene languages. There is likewise no evidence that the Ket or Athabaskans adopted their present languages from outsiders, a shift that might likewise offer an explanation for the seeming incongruity between language and genes. In fact, both language groups could be characterized as unusually conservative, with clearly identifiable loanwords forming an inconsequential percent of the vocabulary. Linguistic conservatism is well attested in the case of Athabaskans, and the same can also be argued for Ket (Vajda, in preparation).

Moving from physical to cultural anthropology, traditional Yeniseic and Na-Dene communities actually share less affinity in their original economic lifeways than might seem at first glance, though the linguistic and folkloric evidence is not at variance with the real facts. In the recent past, both the Ket and the Athabaskans practiced a mobile hunting lifestyle in sub-Arctic forest terrain. The traditional subsistence patterns of both groups required snow sleds, canoes, footgear designed for traversing snowy terrain, and a variety of hunting, trapping and fishing techniques. The Athabaskans subsisted primarily as inland mobile hunters for millennia, with fishing acquiring its current economic significance relatively late (Ives, this volume). By contrast, the Yeniseic peoples entered the sub-Arctic boreal forest (taiga) from the south only during the past two millennia through pressure from animal-breeding groups (Vajda, in press 2). Judging from substrate river names, ancestral Yeniseic speakers moved northward from areas west of Lake Baikal and northeast of present-day Tuva, where their original economy appears to have been more fundamentally tied to fishing than overland hunting. Toponymic and archeological evidence suggests the ancient Yeniseicians occupied the margins of rivers and streams in more southerly areas of mixed forests, developing a sub-Arctic hunting economy only during the past two millennia (Aleksenko 1967). Yeniseic folklore

portrays southern forests and mountains as the ancestral home. In seasonal rituals, encampments beside rivers and lakes take primacy, with inland hunting during colder months representing a departure into a less familiar and less hospitable world (Vajda, in press 1). Physical evidence attesting to the ancient link between Yeniseians and a primary lifestyle as fishers comes from a recent DNA analysis of remains from two Kitoi Culture cemeteries on the Angara, the major southeastern tributary of the Yenisei (Mooder, et al. 2006). Burials at these sites date between 5000 and 4000BC and reveal a strong genetic affinity with the Modern Ket and the Shor, a Turkic-speaking group showing notable Yeniseic substrate influence in their language and culture (Vajda 2001:xiii). These genetic markers are not shared in any quantity with other Modern Siberians (or with Native Americans). This strongly suggests the Yeniseic peoples were primarily fishers at least as early as the Middle Holocene.

So far, the semantic fields specifically represented or seemingly absent among Dene-Yeniseic cognates are not inconsistent with the geographic, temporal and cultural picture emerging from these extra-linguistic studies. Cognates tree names are limited to species shared across Late Pleistocene North Asia and Alaska: birch, alder, willow, as well as (probably) generic words for conifer needles and resin. Specific terms for conifer genera such as larch, fir, spruce, pine, etc. – species that remained in South Siberia through the Ice Age but which re-colonized interior Alaska only after 6,000 years ago (William Workman, personal communication) do not match up between Ket and Athabaskan. Cognates in the realm of material culture are also limited to items and practices present on both sides of Bering Strait already many thousands of years ago: snow sled, snow-sled runner, canoe, crosspiece, holding hook, tool handle, verb roots denoting specific types of striking motions ('hit endwise with a long object', 'slash') or object deformations ('bend into a hook shape', 'bend less than 180°', 'twist into a spiral'). Predictably, the cognates do not include words for technologies of Late Holocene acquisition, such as the bow and arrow, elaborate storage techniques, or the characteristic North American snowshoes. Perhaps the most fascinating cognate from a cultural angle is a root meaning 'cure by magic, sing shamanically', which is represented in every branch of both language families, except for the sparsely documented Arin and Pumpokol on the Yeniseic side. While shamanism as a North Asian institution is thought to be a relatively late development, the tradition of healing through magical singing was likely inherited from Paleolithic times.

Finally, the pioneering global comparison of traditional myth motifs by Yuri Berezkin (this volume) does reveal a few tantalizing parallels between Yeniseic peoples and Native North America. These include the motif of twin brothers who travel to the sky and the origin of mosquitoes and other blood-sucking insects from the burnt ashes of a malevolent female monster's blood. But these parallels attest more to the distinctiveness of Ket folklore vis-à-vis other North Asian peoples than to any specific connection with the Na-Dene, since some of these motifs are found more widely in North America. Specific parallels between the Ket and Athabaskans are few, but possibly include the Navajo motif of Big Fly and the Ket figure of Dragonfly (cf. Kim, this volume); perhaps significant here is the fact that Ket/Yugh and Athabaskan words for 'fly' and 'dragonfly' appear to be partial cognates. Even if more such parallels can be discovered, it remains unclear how they should be assessed in dating human prehistory, as no one has yet

developed a means of measuring the time depth of shared myth motifs across geographically disparate aboriginal populations.

Future discoveries by anthropologists, archeologists and population geneticists may bring this emerging picture into sharper relief. Perhaps the linguistic findings offered in the present volume will stimulate new avenues of inquiry in these fields. Important at this juncture is that linguistics can now provide a more convincing demonstration of a language link between an American Indian language and an Asian language than was previously thought possible – the first such claim to garner the beginnings of what may become general acceptance by the linguistic community. My study thus offers an additional scientific vantage for considering trans-Beringian prehistory. Judging from the parallel findings of archeologists, it is conceivable that Dene-Yeniseic could prove to be a language family older than 10,000 years. If so, then the linguistic evidence from Dene-Yeniseic would suggest that the apparent incongruity between the Dene-Yeniseic linguistic facts and currently assumed dates for prehistoric trans-Bering migrations could be due to an over-estimation of how quickly languages change on average over time. Unless hard evidence of migrations into Alaska from North Asia between 10,000 and 4,500BP can be found, my personal preference would be to at least entertain the ramifications of the latter possibility. A combination of evidence from Dene-Yeniseic cognates and archeological dates for tool assemblage shifts in Alaska may yield the first glimmering of suggestion that rates of language change among aboriginal populations in the Early Holocene were slower on average than traditionally assumed based on observed rates of language change during the historic period. Perhaps the seemingly unusual linguistic conservatism of, say, Lithuanian, during the past two thousand years, rather than the faster change observed among Romance languages during the same period, better approximates the average rate of language change among northern hunter-gatherers in prehistory. If so, then widely accepted language families already held to be ancient, such as Uralic, Algic, and Uto-Aztecan, or even Na-Dene itself, may be considerably older than previously assumed, perhaps dating to the first peopling of their respective areas in North Asia and the Americas.

However, all of this remains untestable conjecture. Also, placing the oldest accepted language families even farther back in time than commonly assumed would only further vex the most perplexing conundrum of all: how to reconcile the documented linguistic diversity of the Americas with a presumed first entry date younger than 15,000 years. A solution could conceivably be forthcoming from: 1) solid evidence of a much earlier first entry date; 2) evidence of multiple entries in the Late Paleolithic by a linguistically already highly diverse population; 3) more extensive and compelling evidence in support of Greenberg's Amerind; or 4) some alternate genetic classification that drastically reduces the 150 or so generally recognized first-level language families in the Americas to a much smaller number. Unfortunately, none of these prospects appears imminent.

The second half of this preface elaborates on how my work on Dene-Yeniseic straddles two different positions in contemporary historical-comparative linguistics: one focused on validating proposals of genetic relationship by applying high standards of proof, the other on providing the most plausible genetic classification of the world's languages as a whole. The first, exemplified best in the writings of Lyle Campbell (cf. Campbell 1997), might be called the "conservative" or "mainstream" position in

historical-comparative linguistics, with its focus on the quantity and quality of evidence needed to establish a language family. This tradition is cautious in accepting new proposals, with the perhaps unintended consequence of discouraging work on establishing new language links. "Conservative" historical linguists, and I would include myself firmly in this group in terms of the standards I attempt to meet, insist that validation of a hypothesis of genetic relationship requires a system of homologies in grammatical morphology as well as a body of lexical cognates extensive enough to reveal systematic sound correspondences. The conservative position thus emphasizes the degree to which the purported evidence readily lends itself to reconstruction and to the identification of sound correspondences on the basis of the putative cognate vocabulary and morphemes. This tradition is typically concerned not with proposing a global taxonomy of language relatedness, but rather with defining which among the world's languages can irrefutably be shown as related through descent from an ancestral proto-language and which cannot. More conservative assessments place the number of first-level language families well into the hundreds (Lyovin 1997) and express, at best, a determined agnosticism regarding the possibility of establishing more remote connections between these families.

The second tradition, exemplified perhaps most prominently in the work of Joseph Greenberg (cf. Ruhlen 1987), is primarily concerned with classifying the world's languages into the most plausible genetic groupings, given the data currently available. This tradition examines all of the world's languages based on the presupposition that all human languages derive from a common mother tongue and therefore should be ultimately classifiable using general taxonomic principles analogous to the techniques geneticists employ to classify the relative closeness and distance of different human populations, all of which are likewise assumed to share a common origin. Membership in the resultant superfamilies – which number no more than two dozen – is typically based on a few morphological or lexical commonalities, such as the striking *m/t* contrast in 1st and 2nd singular pronouns shared across much of Northern Eurasia and the American Arctic. In most cases, the similarities cited as the basis for classification are present only in a subset of the languages grouped together. For example, only a minority of languages in Greenberg's Amerind classification actually shows the famous *n/m* contrast in 1st and 2nd singular pronouns taken as diagnostic for the family as a whole; in such cases the remaining languages or language groups are linked transitively to one another by other shared traits, each likewise present in only a subset of the member branches.

My interest in linking previously established language families places me in the category of long ranger, though I insist on more conservative standards of assessing potential evidence. In this sense, I see myself as beholden to each of these historical-linguistic positions. I also see the goal of producing a plausible overall hypothesis of genetic classification as partly distinct from the goal of verifying which languages can unambiguously be shown to have derived from a common proto-language. In other words, I would distinguish between the concept of classification hypothesis and established language family. The chief disagreements in contemporary historical-comparative linguistics have originated, in my opinion, from a blurring of these two concepts and the methods needed to achieve them. This blurring can perhaps be attributed to the nature of the original discovery of Indo-European over 200 years ago.

Both long-rangers and mainstream linguists trace the founding of historical-comparative linguistics as a discipline to a single event: the "discourse" presented in 1786 by Sir William Jones to the Royal Asiatic Society which irrefutably demonstrated the existence of Indo-European. At one stroke, Jones established the world's first widely recognized language family. He also brought to scientific attention the more general notion that languages can be classified through descent from a common ancestor which itself no longer exists and that this descent is deducible scientifically from comparing words and grammatical elements still present in the descendent languages. The contribution to science of the language family as a concept is unique to Sir William Jones, but his discovery of Indo-European became a general model for proposing and demonstrating new language families. All of the various contemporary positions in historical-comparative linguistics would probably reference the discovery of Indo-European as a model for their own acceptance of language families. Long rangers emphasize that the founding of Indo-European stemmed from the moment Sir William Jones proposed the family and did not require vindication from the decades of subsequent comparisons and reconstructions to establish its validity. More traditional linguists point to the sheer quantity of evidence alluded to in Jones's original proposal, which included whole systems of grammatical homologies as well as numerous cognates. Although none of the sound correspondences evident in these resemblances were actually worked out until much later, the evidence Jones cited easily lent itself to these subsequent investigations. Consequently, this tradition is apt to reject new proposals of genetic relationships unless they contain a reasonably analogous quantity and quality of evidence – comparanda obviously amenable to at least partial reconstruction of a proto-language through the presence of systematic sound correspondences. Long-range linguists, on the other hand, emphasize the goal of genetic classification itself and deemphasize the threshold of evidence needed to validate that the languages in question unambiguously derive from a shared proto-language. In other words, linguists from both traditions in one way or another base their acceptance of language families and their rejection of new claims of genetic relatedness to the original discovery of Indo-European.

I think that modern disagreements about language classification could be moderated by reexamining what Sir William Jones actually accomplished in 1786. The founding of Indo-European was not a single event but three simultaneous events. As far as I know, no one has argued this before, because Sir William Jones accomplished all three at a single stroke. Yet each represents a distinct intellectual triumph. First, Jones made a claim of genetic relatedness entailing a new language classification. Second, he cited comparative data in support of his claim that genuinely reflected inheritance from a common ancestral tongue. Third, although his evidence predated modern conceptions of sound laws and linguistic reconstruction, the entire vocabularies and grammatical paradigms he cited as evidence obviously formed a *system* that easily lent itself to future comparative analysis. This third part of his triumph – the founding of a language family and not simply a proposal of genetic language classification – went far beyond a mere claim of language relatedness to provide evidence sufficient to initiate an entire linguistic tradition. The linguists who later began work on Indo-European reconstruction and sound laws basically knew what to compare, since the data cited in the original proposal was so extensive and involved both lexical and grammatical homologies. Because one person accomplished all three tasks simultaneously - making the initial claim, citing the first

genuine lexical and grammatical homologies, and amassing evidence sufficient to establish a productive linguistic tradition that eventually served, in turn, to further validate the proposed claim of genetic relationship - the question of who "discovered" or "founded" or "demonstrated" or "proved" Indo-European has rarely arisen.

The events leading to future acceptance of language families will almost certainly differ from the founding of Indo-European. One reason is that the concept of language family has been established for centuries, and different standards, goals, and expectations have arisen with regard to claiming, demonstrating, and accepting language relatedness. As mentioned above, a few linguists have already classified the world's 6,000 or so languages into a small number of superfamilies (cf. Ruhlen 1987). Others recognize several hundred unrelated families and have so far rejected most attempts to classify them into larger genetic units (cf. Lyovin 1997; Campbell 1997). Anyone working on establishing a language family today, unlike Sir William Jones, will find themselves grappling with the demands of two different and often antagonistic traditions, intellectually beholden to both yet perhaps seen as belonging faithfully to neither. One tradition will have already classified the languages into some superfamily and may question why the issue of genetic relatedness is being resurrected at all; the other may regard the entire undertaking as patently impossible from the start.

The historiography of work on Dene-Yeniseic may provide the first clear example of what the future holds for anyone wishing to tackle today's challenges and controversies in genetic linguistics. The original claim that Yeniseic and Na-Dene represent a genetic unit was made by the Italian linguist Alfredo Trombetti in 1923. Yet Trombetti did not cite a single valid piece of evidence in support of his claim, as far as I can determine. The first unambiguously genuine Dene-Yeniseic cognates appear to have been discovered by Merritt Ruhlen (1989a,b, 1998) and perhaps other of his long-ranger colleagues in the 1980s and 90s (Blazhek & Bengtson 1995), but their actual validity becomes clear only in retrospect. Finally, up till now no one had amassed the quantity and quality of evidence for Dene-Yeniseic sufficient to garner general acceptance and establish a new linguistic tradition - evidence that readily lends itself to fruitful work on internal reconstruction and the establishment of a system of sound correspondences. This third task is what I am claiming to have done in my article.

First, I need to provide a more detailed description of the context of Ruhlen's work, before returning to this comparison of Dene-Yeniseic with Indo-European. At the time of his discovery of Dene-Yeniseic cognates, Ruhlen was working with materials gathered by Moscow linguist Sergei Starostin (cf. Ruhlen 1989a,b), who had earlier linked Yeniseic to Sino-Tibetan and North Caucasian languages (cf. S. Starostin 1982, 1984). He noticed a number of lexical similarities between Starostin's Yeniseic reconstructions and Na-Dene vocabulary. The most striking, in my opinion, were words for 'birchbark': Modern Ket *qu'j*, Proto-Athabaskan **q'əj*. Another Soviet linguist, Sergei Nikolaev, was already exploring the idea that North Caucasian languages could be genetically related to Na-Dene (Nikolaev 1991). Ruhlen published a subset of his Yeniseic/Na-Dene lexical comparisons a decade later (Ruhlen 1998). By the time of this article, which created a brief stir in the general press but never caught on with the broader linguistic community, Ruhlen and his colleagues had linked Yeniseic not only to Sino-Tibetan, North Caucasian and Na-Dene, but also to Basque, Burushaski, and sometimes other isolates such as Sumerian into a superfamily called Dene-Caucasian. All of these

connections had been proposed earlier, in one form or another, notably by Alfredo Trombetti in the early 20th century (cf. Vajda 2001c for a complete discussion). Blazhek & Bengtson (1995) explain how Dene-Caucasian accrued from a combination of the earlier proposed Sino-Tibetan + Yeniseic + North Caucasian (S. Starostin 1982) with Caucasian + Na-Dene (Nikolaev 1991), linked transitively through the shared member of North Caucasian. Other scholars later added Basque, Burushaski, and sometimes additional language isolates and families. I will return to the topic of Dene-Caucasian again toward the end of this essay to give my own assessment.

Returning to Sir William Jones and Indo-European, if one accepts Dene-Yeniseic, then Trombetti's original linkage of Ket and Kott to Athabaskan and Tlingit (Eyak as a Na-Dene language was unrecognized at the time) represents the first valid claim of genetic relationship between an American Indian family and a family of the Old World. Yet it cited no valid evidence whatsoever, as far as I can yet determine. Sir William Jones's claim in 1786 would have been no less correct without evidence, however, so if one accepts my arguments for Dene-Yeniseic, then, in a sense, my comparative work is simply validating, or vindicating, Alfredo Trombetti's earlier claim, which has long since been forgotten by most linguistics.

But let us move on to the second of the three accomplishments made by Sir William Jones in his famous discourse: the identification of genuine homologies inherited from a common proto-language – of valid evidence supporting the claim of genetic relationship. Merritt Ruhlen and other long-range linguists who compared Yeniseic and Na-Dene within the broader context of the Dene-Caucasian hypothesis during the 1980s and 1990s are definitely to be credited, in my estimation, for discovering and publishing genuine cognates between Yeniseic and Athabaskan-Eyak-Tlingit. The partial system of sound correspondences I propose in my article can confirm that Ruhlen (1998) presented at least eight valid cognates. These are his Yeniseic and Athabaskan, Eyak, or Tlingit comparanda meaning: head, stone, foot, breast, shoulder/arm, birch/birchbark, old, and burn/cook, and possibly a few others. Ruhlen's discovery of these cognates appears to date back to the 1980s, before anyone else was comparing Yeniseic specifically to Na-Dene, as attested by his original unpublished manuscripts (Ruhlen 1989a, 1989b). In the intervening years between the identification of these cognates and his publication of a subset of his original comparanda, a handful of other valid Dene-Yeniseic cognates appeared in the publications of other long-range linguists. Blazhek & Bengtson (1995), combining data taken from Ruhlen (1989a,b) and Starostin (1982, 1984), published what my research can confirm as valid Dene-Yeniseic cognates for 'liver', 'navel', 'stomach', 'conifer resin', 'finger', a perfective verb affix, and possibly a few others among their broader Dene-Caucasian comparisons. Unless new evidence emerges from the published or unpublished writings of earlier linguists like Trombetti, it was Merritt Ruhlen and his long ranger colleagues who discovered and published the first genuine Dene-Yeniseic cognates. To my mind, the discovery of the first cognates between an American Indian and an Old World language family represents a linguistic milestone.

Unlike Indo-European, however, neither the first claim of genetic relationship, nor the first publication of cognates established Dene-Yeniseic as an accepted language family. The historiographic significance of Trombetti's claim or Ruhlen's 'birchbark' becomes evident only in retrospect. Most linguists coming to my conference presentations on Yeniseic, the earliest being Vajda (2000a,b,c), remained skeptical that

any connection between American Indian and Asian language families could be demonstrated at all, given the probable time depth involved. Ruhlen's 1998 article was well on its way to joining Trombetti's earlier writings in linguistic oblivion.

The reason for this persistent skepticism is that there is no way to distinguish a brilliantly correct deduction from a wrong guess in language classification unless the evidence cited is systematic and substantial, though linguists may differ on exactly how substantial. A list of lexical or grammatical similarities can be compiled between any languages. If the languages in question are later shown convincingly to be genetically related, then such a list is likely to include some genuine cognates; if not, the status of such words remains impossible to verify with any confidence. If there were some way of being certain that pairs like Ket and Athabaskan 'birchbark' were genuine cognates, then no one would have to do anything more to demonstrate the genetic relationship. Unless the proposed similarities can be expanded into a discernable *system* in the most basic layers of the vocabulary and grammar, however, they are simply not sufficient to remove reasonable doubt as to the validity of the proposed genetic classification. Perhaps most important, a list of look-alike words, even if one assumes them to be cognates, provides no insight into what else should be compared or how. This is what I meant in my original article when I said that such lists are not "useful", in and of themselves. Even if one accepts a claim of genetic classification based on such evidence, it is impossible even to begin to integrate it into the historical-comparative traditions of each member family without enormous additional work. Establishing a language family goes far beyond staking a claim of genetic relationship.

In this sense, the evidence previously cited in support of a genetic link between Yeniseic and Na-Dene contrasts sharply with the scope of evidence for Indo-European available at the moment Sir William Jones's proposal was made, which ultimately lent itself to a host of valuable avenues of comparative work, including internal reconstruction and determination of sound laws. The Dene-Yeniseic materials published prior to my study, as far as I can determine, contain only about a dozen genuine cognates, almost no valid grammatical homologues, and no correctly identified sound laws. I elaborate on a few of these points in my article, though the topic of assessing the full corpus of earlier proposed evidence for Dene-Yeniseic deserves a separate article in its own right.

In other words, the third accomplishment by Sir William Jones at the announcement of his discovery – the citation of evidence sufficient to remove reasonable doubt about the claim of genetic relationship and to found a new historical-linguistic tradition going beyond the assertion of language classification itself – has hitherto been lacking in Dene-Yeniseic studies. I attempt with my contribution to the present volume to accomplish this final task. I was not the first linguist to claim a genetic link between Na-Dene and Yeniseic, and I certainly did not propose the first cognates. In cases such as Dene-Yeniseic, where one person proposes the initial classification, another identifies the first genuine commonalities reflecting descent from a shared proto-language, and a third amasses and demonstrates evidence sufficient to garner general acceptance of the family as "established" or "proven" and to found a new comparative tradition, historical linguists may need to devise a new vocabulary for describing these events. Any simple statement that a single person "discovered" Dene-Yeniseic in the same way Sir William Jones discovered Indo-European must somehow be qualified by all of the historiographic complexities I have recounted above. Because Sir William Jones's initial claim of

language relationship was so obviously self-validating, the founding of Indo-European can be described in a single sound bite. The founding of Dene-Yeniseic cannot.

Regardless of methodological considerations, I would argue that the contributions of Alfredo Trombetti and of more recent long-range linguists bear great historiographic significance. At the same time, the importance of gaining broader acceptance of a language family through the demonstration of overwhelming evidence should not be dismissed as the subjective whim of historical linguists. If Sir William Jones had made his claim without the evidence to generate wide acceptance, or even with no valid evidence at all, he would certainly have been just as correct. But he could never have impacted the course of linguistic science as he did, or generate the historical-comparative traditions that followed in the wake of his discovery, only one of which was language classification. The citation of systematic evidence sufficient to support internal reconstruction and other comparative work is perhaps the most significant legacy of his discovery of Indo-European.

Taking Dene-Yeniseic to the point where linguists can envision new avenues of comparative research has been an arduous journey. My own contribution to this complex process should be included here to complete the historiography of Dene-Yeniseic studies up to the present day.

My interest in Russia and its diverse native languages grew from the fact that my mother's native language was Carpatho-Rusyn (eastern Slovakia, northern Hungary), which resembles Russian and was the first language I heard as a child. My interest in Native America also stems from my background, since family lore holds we have some Cherokee ancestry on my father's side. This led me to study such Native American languages as Cherokee and Navajo before becoming a professional linguist. Though trained as a Slavist in the 1980s, I eventually became more interested in the "exotic" and less studied languages of Eurasia, so that the fluent Russian I acquired as a student in Moscow and Leningrad became a research tool rather than my topic of scholarship. I first became aware of Ket in the early 1980s from reading Bernard Comrie's (1981) seminal treatment of the languages of the Soviet Union. The challenges Ket had to offer fascinated me. Whole horizons lay ahead, awaiting exploration. The system of tones and the bewilderingly complex prefixing verb morphology seemed utterly out of place in North Asia, making the language's status as an isolate all the more intriguing in a region otherwise occupied by suffixing, toneless families such as Uralic and Turkic.

I eventually made a detailed study of all three problems – the Ket tones, the verb morphology, and the persistent enigma of genetic relations – first from a historiographic perspective, later to help solve each of them myself. My first attempts to learn Ket from grammars and articles authored by Soviet linguists convinced me that more work was needed to produce an observationally adequate description of the phonology and verb morphology. But the general inaccessibility of the published data and the geographic diaspora of the scholars studying the Ket people or their language led me first to write a general history and bibliography of Yeniseic studies (Vajda 2001c). While researching this book I traveled to Tomsk, Siberia in January 1998 at the invitation of Alexandra Kim, whose has contributed one of the articles in the present volume. There I became the first American linguist to work in the Siberian Languages Laboratory established at Tomsk State Teacher Training College by Andreas Dulson, founder of Yeniseic studies in Siberia and author of the first monograph-length grammar of Ket (Dul'zon 1968). One

night in Tomsk, when the temperature fell to -42°C , the heating in my room failed and I awoke to find my ear freezing painfully. I spent the next three days and nights bundled in a fur hat, gloves and a heavy coat until the problem was fixed. I lost all hearing in my right ear for a period of time, yet this simple Virginia country boy survived while the cockroaches in his room did not. My first Siberia trip was well worth any hardship, since it allowed me to meet in person most of the scholars studying Ket, either in Tomsk or Novosibirsk, or later in Moscow, St. Petersburg and Bonn, Germany during the same year. In Bonn, at the apartment of Heinrich and Isolde Werner, I became the first English-speaking linguist ever to work with a native Ket speaker, Zoya Maksunova, who was also visiting the Werners at that time. The various trips I made in 1998 also furnished a vast trove of research materials. My six huge pieces of luggage on the flight home from Siberia may have broken all records of baggage weight by a single passenger. Today I possess the most complete archive of published and unpublished Ket linguistic and ethnographic materials in the world. Upon my return home I began a serious program of daily morning exercise topped off with an ice cold shower. There was to be no more of this nonsense of almost freezing to death or having trouble moving 100-pound suitcases, if science was at stake. The hardiness of Siberians had impressed me. Maybe everyone in Siberia was so healthy because everyone else was already dead. I resolved to stay in the first group.

During the next several years I published a small grammar of Ket (2004) as well as new analyses of the tones (Vajda 2003b) and verb morphology (Vajda 2003a). These studies would prove crucial to my work on the question of whether Ket and its extinct Yeniseic relatives (Yugh, Kott, Arin, Assan, Pumpokol) are genetically related to other languages, the problem that fascinated me most. During the early 1990s, even before becoming aware of the claims of genetic relationship other scholars had made, I noticed how Ket verb prefixes bore an uncanny resemblance to those of Navajo, a language I had studied earlier. During the research for my first book (Vajda 2001), I made a complete historiographic study of the many previous proposals linking Ket with such languages as Basque, Burushaski, Sino-Tibetan, Na-Dene, various Caucasian languages, Sumerian, and others. The link with Na-Dene continued to strike me as particularly promising. But researching this possibility myself required mastering all potentially relevant patterns in the Yeniseic tones and verb morphology. Without a deep knowledge of Modern Ket language structure, a principled comparison with the equally complex systems of Athabaskan, Eyak, and Tlingit appeared utterly beyond reach.

During this period I met Bernard Comrie and Johanna Nichols, both of whom, like me, were first trained as Slavicists and later became specialists in the non-Slavic languages of the Soviet Union. That these accomplished and world-renowned scholars would be interested in my fledgling work on Ket tones and verb morphology was very encouraging. Johanna Nichols attended my first talk on Modern Ket tones, given at the 1997 Non-Slavic Languages Conference held in Chicago (Vajda 1997). Bernard Comrie invited me to Leipzig in fall, 1998, where I gave the first ever invited talk at his newly established Linguistics Section of Max Planck Institute for Evolutionary Anthropology. During these years I met nearly every living scholar who had worked on Ket, including Sergei Starostin in Moscow and Heinrich Werner in Bonn. Werner and I would begin a long collaboration that continues unabated to this day. We are currently in the process of writing a comprehensive etymological dictionary of Yeniseic (Vajda & Werner, in

preparation), which we plan to dedicate to Sergei Starostin in recognition of his pioneering work on Proto-Yeniseic.

In spring 1997 I managed to get my university to invite Merritt Ruhlen (Palo Alto, CA) to present a talk. I was impressed that Ruhlen was actively working on the problem of Yeniseic genetic linguistics. His position that Yeniseic was related to Na-Dene as part of a larger Dene-Caucasian language family seemed to confirm my own long-held suspicions that homologies among Ket and Athabaskan verb prefixes might be more than typological coincidence. Ruhlen proved to be an exceptionally engaging speaker, a style matching his talents as a writer; I particularly appreciated the passion he brought to his study of language relationships, and greeted his subsequent publication of 36 putative cognate sets linking Yeniseic and Na-Dene (Ruhlen 1998) as an important event, though most linguists took at best only cursory notice. I also corresponded at this time with long ranger John Bengtson (Minneapolis), and became familiar with his genetic comparisons of Yeniseic words with other languages.

The one proposed cognate in Ruhlen's materials that struck me most was 'birchbark', which I reproduce here once more: Modern Ket *qu'j*, Proto-Athabaskan **q'əj*. I couldn't get the resemblance out of my mind. It seemed to taunt me. But when I attempted to use comparanda published by long rangers in an effort to develop some method for finding additional potential cognates, it proved impossible to do. Everything seemed like random coincidence rather than a system. I was not satisfied simply believing on faith that these words were genuine evidence of descent from a common proto-language. For me, a language family was more than a taxonomic unit, a name in an index, or a shared color of shading on a map in a linguistics atlas. I wanted evidence that revealed something unique about the lexical and morphological development of each language involved. As I pondered how to pursue this study further, I found my interest in Yeniseic historical linguistics suspended between the simple dismissal with which most linguists had greeted Trombetti, Ruhlen and earlier proposals, and the equally categorical position by long rangers that the problem of Yeniseic genetic linguistics had already been solved. The only thing both groups seemed to share in common was that neither appeared interested in working further on the problem. For most linguists, it remained unsolvable; for a few others, it had already been solved to satisfaction. I found myself partly sympathetic, partly frustrated with both positions. The prospect of ever making Yeniseic comparative data relevant to Na-Dene historical linguistics continued to appear as daunting as ever. When I drove over 1000 miles in my car to attend an Athabaskan conference in central British Columbia, where I presented some of my comparisons of Yeniseic and Athabaskan verb morphology, the Athabaskanists in attendance were extremely interested but ultimately unimpressed with the meager findings I had to offer (Vajda 2000c). This conference would mark the beginnings of an invaluable collaboration with Michael Krauss and Jeff Leer, who generously took the time to read my early work probably more out of collegiality than with any serious expectation it would ever yield anything of concrete value to the already highly developed field of Na-Dene historical linguistics.

During the years between 2000 and 2005 I vacillated between two polar-opposite attitudes toward my own investigation. Sometimes I believed further work could demonstrate the long-suspected connection between Yeniseic and Na-Dene. Sometimes I utterly doubted this was possible. I was also influenced by my über-skeptical friend and

colleague Stefan Georg (Bonn). His view was that any work toward demonstrating distant language relationships was likely to remain fruitless. Stefan is the first westerner to have done original fieldwork with Native Ket speakers in the Yenisei basin and is the author of the most impressive English-language grammar of Ket to date (Georg 2007). He is also one of the world's most erudite authorities on North Asian languages and I have always respected and sought his opinions. Yet he and I are temperamental antipodes. I couldn't accept that the historical linguist of the future is destined to be no more than student of the past and critic of the present. No matter how much Stefan's skepticism tempered and reigned in my idealism, I continued to be tormented by 'birchbark' and verb affixes whenever I tried to set Dene-Yeniseic aside.

Two books proved especially helpful during this period. One was Johanna Nichols's (1992) *Linguistic diversity in space and time*, which offered an innovative geographical perspective on assessing deep genetic links. When the book first came out, I did not see how the general traits she discussed were relevant to my work on Ket. But her global perspective on language families has proven invaluable in helping me frame the typological uniqueness of Ket amid the other languages of North Asia. Michael Fortescue's (1998) book *Language relations across Bering Strait* was also significant for its identification of a specific inventory of unusual morphological features shared between Yeniseic and Na-Dene, but not by other Northern Hemisphere languages. I believe that both books will become only more appreciated as time progresses.

Using all of these sources as guidelines and examining both structural and lexical features, I slowly gathered potential evidence for Dene-Yeniseic, some of which I presented at various conferences (Vajda 2000a,b,c, 2001a,b). At these gatherings, certain of my comparisons caught the eye of individual linguists. My treatment of Yeniseic tones as deriving from consonant reflexes attestable in Na-Dene (Vajda 2001a) led Eric Hamp (University of Chicago) to conclude that the connection was likely valid. He was the first traditional linguist to take that view and state it publicly. Now 87 years young, Eric is the most erudite linguist I have ever met; he has probably forgotten more about Albanian dialectology than most of us will ever learn about historical linguistics in a lifetime. In a sense, it was Eric who discovered the first systematic evidence of Dene-Yeniseic sound correspondences by accepting a conclusion I myself remained unprepared to accept. At another talk a few months later in Santa Barbara (Vajda 2001b), my synchronic comparison of Modern Ket and Athabaskan tense/mood markers, notably the /s/-prefix, which had become a vestigial structural element in Yeniseic but remains productive in Na-Dene, led Athabaskanist Jim Kari (University of Alaska, Fairbanks) to the same conclusion. In retrospect, everything Jim Kari tagged as important in my Dene-Yeniseic comparisons over the years has proven presciently accurate. At the time, I myself remained far less convinced. No real system was emerging across the entire phonology and verb morphology and I couldn't be sure if the striking similarities I was discovering were isolated coincidence or part of a larger pattern as yet invisible to me. By this time I had come to feel somewhat distanced from "mainstream" long rangers by my conclusion that Haida was likely not a member of Na-Dene, and also by the persistent skepticism with which I regarded not only their conclusions, but also my own efforts toward establishing a connection between Yeniseic and the remainder of Na-Dene (Athabaskan-Eyak-Tlingit).

During the period from 2002 to 2004 I largely abandoned the genetic comparison of Yeniseic and Na-Dene, devoting all my energies instead to synchronic descriptions of Ket tones and verb morphology. I would revisit Dene-Yeniseic at the Max Planck Institute for Evolutionary Anthropology, Leipzig, where I spent most of 2005 and 2006 at the invitation of the Linguistics Section director Bernard Comrie. Only on one occasion, near the end of my first stay, did Bernard ask me if I was continuing my work on Yeniseic and Na-Dene. This question is the reason I resumed Dene-Yeniseic studies at that time. In retrospect, I think Bernard Comrie has done more to unify the scientific study of languages across the continents than any other linguist. Also important for me was the fact that during my presentations of research on Modern Ket verb morphology, Juliette Blevins of the MPI Linguistics Division, who had recently published the enormously useful book *Evolutionary phonology* (Blevins 2004), enthusiastically encouraged me to return to serious work on the possibility that Yeniseic was related to Na-Dene. During the second half of my stay in Leipzig in 2005, among the numerous other tasks I set before myself and after traveling to Siberia from Germany to work with Native Ket informants, I methodically worked through every Yeniseic and Athabaskan dictionary I could find in the magnificent Max Planck library, leafing through them carefully page by page and compiling long lists of lexical similarities. Most of these turned out to be fruitless coincidences, in the end, and there were times I might have tossed Young and Morgan's (1992) magnificent Navajo dictionary right out my office window had the tome not been so heavy. I also redoubled my comparisons of Yeniseic and Athabaskan verb prefixes, but this was hampered by the lack of any published reconstruction of Proto-Athabaskan verb morphology. In the end, I had to attempt a crude model of the Proto-Athabaskan verb string myself, with crucial suggestions from Michael Krauss, Jeff Leer and Jim Kari yielding a respectable finished product, which appears in my contribution to the present volume.

In resuming lexical comparisons between Yeniseic and Na-Dene, I set aside the comparanda published by Trombetti, Ruhlen and other long rangers and started from scratch. Later, after convincing myself of the genetic relationship by gathering sufficient evidence to propose systematic sound correspondences, I returned to these lists and picked out which of the comparanda I could validate as genuine cognates. These included not only Ruhlen's 'birchbark' and several others, but also what I believe may be the earliest proposed genuine grammatical cognate: the N-perfective cited in Yeniseic and Athabaskan by Blazhek & Bengtson (1995:41). At the time, however, because I had no scientific way of determining which of these resemblances might be cognates and which were merely chance resemblances, I decided to start over and form my own opinions (though I could never quite get 'birchbark' out of my head). The first real glimmerings that my lexical comparisons might yield more than random coincidences came one afternoon in my office at Max Planck when I realized not only that roots meaning 'sled' and 'canoe' resembled one another, but words for their component parts, such as 'prow', 'crosspiece', and 'snow-sled runner' also looked plausibly cognate. Finally, here was the beginning of a *system* that struck me as beyond the realm of chance. For the first time in over a decade of off-and-on research into the question of Yeniseic and Na-Dene genetic relations, I became irrevocably convinced that demonstrating the connection was actually possible. At that moment I think I realized how an archeologist must feel who peers inside a freshly opened Egyptian tomb and witnesses what no one has seen for thousands

of years. That brief feeling of discovery was so overwhelming I had to leave my office and walk around in the beautiful park near the Max Planck Institute building for half an hour to take it in.

From these and other putative cognates representing lexical subsystems, including a pair of cognate roots for 'dark' and 'light', I began to construct the beginnings of a sound correspondence theory. This was difficult going and many of my initial assumptions proved wrong-headed. If I ever write an article describing all of my false starts and fruitless first assumptions, it would easily exceed in length my contribution to the present volume. In a number of cases, however, a correspondence suggested by the Yeniseic forms led me almost like magic to find a cognate in Na-Dene I would not otherwise have known existed. Phonological patterns among the Na-Dene and Yeniseic forms began to suggest explanations for irregular Yeniseic plurals and the distribution of certain vowel and consonant sounds in Modern Ket.

I presented some of these results at Max Planck in December 2005 (Vajda 2005), after which the Linguistics Section director Bernard Comrie, who had invited me in the first place and who remained quietly but persistently interested in my slow progress, funded a "Na-Dene Workshop" to be held at Max Planck in August 2006. The purpose of this meeting was to bring together specialists on Na-Dene reconstruction such as Michael Krauss and Jeff Leer, as well as noted Haida expert John Enrico, to examine whether Yeniseic or Haida comparanda could contribute anything to the historical picture emerging from progress made in reconstructing Proto-Athabaskan-Eyak-Tlingit. The results of this meeting, a summary of which appeared in the SSILA News Bulletin for Fall, 2006 (find citation!!!), were three-fold. First, Leer's advances in understanding Na-Dene phonology and vocabulary (cf. Leer, this volume) yielded no evidence that Haida belonged to Na-Dene; in fact, some of the new patterns he found rendered previously proposed Haida cognates implausible, and Enrico's study of loanwords between Tlingit and Haida removed others from consideration, though John in the end continued to voice support that the Haida link would eventually be validated. Second, advances in Na-Dene reconstruction also demonstrated that the already established relationship of Tlingit to Athabaskan-Eyak involved a larger number of systematic sound correspondences than previously assumed, with possibly up to a quarter of the basic roots showing cognancy. Finally, the guarded consensus of the participants was that the possibility of Yeniseic being demonstrably relatable to Athabaskan-Eyak-Tlingit using conservative standards of proof was now a serious prospect.

With this possibility in mind, we also discussed the issue of language family names. Michael Krauss somewhat jokingly suggested "Deniseic", but I stuck with the "Dene-Yeniseic" label I had been using already for the past year. The name "Dene-Deng", which combined both families' words for 'people' was also considered, but rejected. Trombetti's (1923) citation of Ket *de'ŋ* 'people' and Athabaskan *diné* ~ *dene* 'people' as cognate is probably not correct, since Athabaskanists derive *dine* 'people' from the thematic prefix *də* added to the verb root *ne*: 'move nomadically'. The Modern Yeniseic word for 'people' - Ket *de'ŋ*, Yugh *d'e'ŋ*, Kott *čeəŋ* – was originally a singular term and is probably cognate with the Eyak *də-χunh* 'person' rather than with the Athabaskan deverbal collective *diné* ~ *dene* 'people'. Whether to keep the name "Na-Dene" was a thornier problem, since it appeared overwhelmingly likely that Haida was

not a member of this family. This term was first coined by Edward Sapir in 1915 by combining Tlingit *na* 'people' with Athabaskan *dene*. But it had since come to include Haida, as well, not only by Sapir but also other scholars, notably Greenberg (1987). Lyle Campbell (1997) and others who wanted to underscore the exclusion of Haida had replaced "Na-Dene" with the rather cumbersome "Athabaskan-Eyak-Tlingit" or "AET". Jeff Leer coined the ingenious "Tlina-Dine" by combining the Eyak and Athabaskan collective words for 'people'; the Eyak *ʔina* 'people' also contained, and thus represented, the Tlingit syllable *na* 'people'. In the end, the established term Na-Dene will probably remain, despite its differing interpretations with regard to the membership of Haida.

For me, in retrospect, two results from the Leipzig Na-Dene Workshop stand out. First, Jeff Leer's novel application of Tlingit data in reconstructing Proto-Na-Dene opened several unexpected possibilities for Yeniseic comparison (some of these are explicitly discussed in my contribution to the present volume). Second, the reception of my two talks (Vajda 2006a, 2006b) at that meeting showed that demonstrating a genetic connection with Yeniseic would require me to gain a much more sophisticated knowledge of Na-Dene forms and patterns. Paging through dictionaries or skimming grammatical descriptions was insufficient for accomplishing the task I had set before me. Much time during my presentations at the Na-Dene Workshop was expended correcting or clarifying the Na-Dene forms I was attempting to use in my comparisons. In retrospect, this sort of critical input proved more valuable than anything else to make the case for Dene-Yeniseic. Even though Michael Krauss and Jeff Leer were probably more skeptical that I was over these years about demonstrating this language link, their generous sharing of knowledge and unpublished materials was absolutely invaluable, and I consider the demonstration of Dene-Yeniseic to their credit as much as anyone else's. I simply do not understand linguists who are not grateful for constructive criticism. Anyone hoping to conclusively demonstrate a language family must become a serious student of, if not an expert in all of the languages under consideration. The language links that are obvious from casual inspection have all long ago been established. It is easy to forget that Sir William Jones was, first and foremost, an accomplished scholar of the languages that came to be classified as Indo-European. Long before announcing his conclusion, Jones probably noted many striking similarities between these languages, the full significance of which he himself may have doubted for many years. In future investigations of potential language links, it will be essential for specialists with different bases of knowledge to collaborate closely and respectfully, as I have managed to do with Yeniseic and Na-Dene scholars. I myself have never met a linguist I didn't personally like or whose work I didn't think was important in some way. In turn, I am grateful for the extreme goodwill and helpfulness I received from linguists of all traditions during my long work on Yeniseic.

Thanks largely to crucial input from Michael Krauss and Jeff Leer, after the Aug. 2006 Na-Dene Workshop I was able to make a number of immediate advances in understanding how Yeniseic and Na-Dene vocabulary and verb affixes might represent a homologous system. These included a new understanding of the function of what I call the L-progressive and the N-perfective affix, which are suffixed in Na-Dene to the final verb root, but in Yeniseic appear after the old auxiliary verb, a morpheme that became a tense/mood prefix in both families; consequently, these morphemes appear as prefixes in Modern Yeniseic, but remained suffixes in Na-Dene. I discussed this with Jeff after the

workshop and he found the idea plausible. Krauss and Leer were also impressed by a few morphologically complex nouns that seemed unmistakably composed of cognate morphemes, such as the distinctive compound 'head-fur', meaning 'human head hair', and 'holding hook', derive from an instrumental noun suffix and a root meaning 'hook-shaped' or 'bent back 180 degrees'. Not only were each of the morphemes in these complex words likely cognate, they also appeared separately with the same meaning in each family, independent of the combinations in question. During the month immediately following the conference, Leer's advances in Proto-Na-Dene reconstruction (cf. Leer, this volume) led me to detect a number of striking phonological patterns among my putative Dene-Yeniseic cognates (cf. Vajda, this volume). I first presented these findings at a Max Planck Institute Seminar talk on September 15, 2006 (Vajda 2006c). This presentation was sandwiched into a 36-hour stopover in Leipzig between my attendance of a conference in St. Petersburg, Russia and my flight home to Washington State the next morning. The St. Petersburg event was held to honor the 100th anniversary of the birth of E. A. Krejnovich, seminal scholar of Ket and pioneer in describing the verb morphology (Krejnovich 1968). His work, like that of every scholar who has performed original fieldwork documenting Yeniseic or Na-Dene languages, is at least as important as anyone else's in ultimately leading to a demonstration of genetic relationship.

One of the facts I became convinced of during my comparative work was that the urgent task of describing the world's disappearing languages and the seemingly not so urgent task of studying their historical interconnections are, in fact, intimately intertwined. The importance of documentation work on individual Yeniseic and Na-Dene languages, begun hundreds of years ago and far from complete today, could receive an important stimulus from the unexpected demonstration of genetic relationship involving an obscure Siberian language and a well-known and widespread Native American language family. Conversely, it was my earlier interest in studying Ket linguistic prehistory that led me to describe Modern Ket tones and verb morphology. To my mind, the potential for cross-pollination between the task of acquiring the materials vital to historical-comparative linguists and the synchronic task of achieving observationally adequate descriptions of languages under imminent threat of extinction should be emphasized more broadly. This is another reason I have always been grateful for anyone else's contribution to Ket studies, regardless of their differences with me in interpreting the data. Any human language is so dauntingly complex that, even if all the world's linguists were to study it, there would still be work left to do. This is all the more poignantly true for a language on the verge of taking with it into oblivion an entire universe of human experience and all it might reveal about linguistic structure and human prehistory.

Interest in the possibility of demonstrating a language connection across Bering Strait stemming from these various 2006 meetings and presentations culminated in Jim Kari organizing the Dene-Yeniseic Symposium in Fairbanks and Anchorage during the last week of February 2008 – the event out of which the present volume grew. The symposium opened in Fairbanks with a serious debate over whether there was any convincing evidence at all to support Dene-Yeniseic. It ended three days later in Anchorage with anthropologists, archeologists and linguists debating what the Dene-Yeniseic cognates – yes, cognate! – for 'birchbark' revealed about the original Na-Dene migration into Alaska. Pollen studies indicate that the birch growing in coastal Alaska

during the Late Pleistocene and Early Holocene was apparently a dwarf variety too small for practical utilization of its bark. Perhaps 'birchbark' – Merrit Ruhlen's most captivating cognate – can provide evidence that the ancestors of the Na-Dene established themselves first inland, where tree-sized paper birch grew even during the Pleistocene, and not first along the coast. This would concur with other abundant Na-Dene internal evidence of an interior homeland (Jim Kari, personal communication).

In the three weeks since Alaska I have taken a brief respite from Dene-Yeniseic studies to address an even more intractable challenge: how to convince my three teenage children that historical linguistics is "cool". So far, neither traditional methods nor long-ranger goals have provided assistance here.

This is my account of how Dene-Yeniseic came to be accepted as a language family, at least by some linguists, including myself. To me, the Alaska Symposium of February 2008 marks the beginning, not the culmination, of Dene-Yeniseic historical linguistics. The body of data supporting Dene-Yeniseic is now such that critical attention is likely to prove more beneficial than ever. Criticism can now be directed at perceived internal contradictions in the system presented, and need not be delivered or taken in terms of a wholesale rejection. Future progress holds the promise of contributing valuable data useful for the internal reconstruction of both Proto-Yeniseic and Proto-Na-Dene, as well as improving our understanding of trans-Beringian prehistory.

Dene-Yeniseic was founded on a volatile mix of inspired belief and determined skepticism, unscientific intuition and rigorous methodology. Anyone hoping to demonstrate a new (or a long suspected) language family must learn how to agree with people who don't agree with each other, to assume that what others know is more valuable than what you know, and above all to challenge your own assumptions again and again without abandoning them prematurely. Unlike Indo-European, Dene-Yeniseic was not established at a single moment in time. It arrived in stages over many decades through the individual contributions of diverse scholars working toward different goals and following different methodologies and assumptions. I have tried to explain how and why a large number of individuals – past and present – deserve credit for the founding of Dene-Yeniseic as a family. I myself have studied these language not out of desire for personal recognition but simply because I love them and want others realize their unique potential to contribute to a better understanding of human prehistory.

The story of how two language families located thousands of miles apart were recognized as genetically related offers a sorely needed model for inspiring and assessing future comparative research in other geographic regions. Future research toward establishing language families is more likely to resemble Dene-Yeniseic than Indo-European. The initial proposal, the first discovery of what is ultimately validated as genuine evidence of descent from a common proto-language, and the first presentation of systematic evidence that gains broad acceptance and yield insights into the structure of the member languages, are each likely to represent separate contributions made at different times by different people. Most likely, someone will have already made the proposal or some approximation of it within the context of the small number of superfamilies already posited by long rangers; perhaps fragments of genuine evidence will already have been published. What I want to emphasize once more is that the amassing of comparative evidence extensive enough to remove reasonable doubt and achieve broad acceptance of an already suspected language connection – in other words,

evidence that matches the third triumph of Sir William Jones's contribution – is the most demanding task of all. The painstaking work required for convincing a majority of linguists of the validity of a language family involves things far more important than the mere filling in of details to support an already proposed taxonomy. Nor should it be regarded as unachievable. Otherwise, who would undertake any of the tasks still needed for language classification? The demonstration of Dene-Yeniseic provides the first indication in a long time that some of the most interesting work in historical-comparative linguistics may yet lie ahead of us.

At this point I want to add my own broader assessment of Dene-Caucasian. To omit it would leave my historiography of Dene-Yeniseic incomplete. I have limited my serious investigation specifically to Yeniseic and Na-Dene primarily because I have found a system of grammatical homologies in verb morphology linking Yeniseic specifically with Athabaskan-Eyak-Tlingit. This system is rather striking and does not appear to be shared by other members of Dene-Caucasian, including Haida, nor by other languages of the world. Second, even if one were to accept, for the sake of argument, all past proposals of cognate vocabulary between Yeniseic and other putative Dene-Caucasian languages, these would not exceed, in my opinion, what I have established between Yeniseic and Na-Dene vocabulary. On the basis of this combination of grammatical and lexical evidence, I conclude that Dene-Yeniseic is a valid family (or a valid subgroup, if one accepts Dene-Caucasian). Because neither the grammatical nor the lexical patterns I have identified for Yeniseic and Athabaskan-Eyak-Tlingit are represented in Haida, I concur with Krauss and Leer that Haida does not belong within Na-Dene. I remain non-committal on whether other putative Dene-Caucasian languages can be shown to be demonstrably relatable to Dene-Yeniseic at some deeper time depth. A key problem for me in pursuing this further is that I do not find the proposal by Starostin & Nikolaev (1994) linking Abkhaz-Adygh (the Northwest Caucasian family) and Nakh-Daghestanian (the Northeast Caucasian family) into a single North Caucasian family to be convincing; at the very least, I would need to see morphological evidence of the type I present for Dene-Yeniseic. This is one reason my article does not explore Nikolaev's (1991) proposed connection between North Caucasian and Na-Dene.² Another problem for me is that Nikolaev's inventory of Proto-Na-Dene obstruents, (shown most accessibly in Blazhek & Bengtson (1995:13), who add comparisons from other putative Dene-Caucasian branches, differs significantly from what Jeff Leer (this volume) has proposed for Proto-Na-Dene based on more than 30 years of meticulous research. If Nikolaev's materials contain any genuine Eurasian/Native American cognates, they might predate those discovered by Ruhlen, but at present I am not in a position to evaluate them as such.

Among the long-range proposals involving Yeniseic, a small number of the lexical comparisons proposed by Starostin (1982) linking Yeniseic to Sino-Tibetan seem very promising to me in light of what I have found for Dene-Yeniseic. Note the following proto-forms for 'liver' in Sino-Tibetan, Yeniseic, and Na-Dene, the specific triple comparison of which first appeared, to my knowledge, in Blazhek & Bengtson (1995:18).

² It is unclear to me whether Sergei Starostin ever fully accepted Nikolaev's (1991) original connection of Na-Dene to North Caucasian, and consequently the implicit transitive linkage of Na-Dene to Yeniseic through Starostin's own earlier Sino-Caucasian proposal; at any rate, his last mention of a broader Sino-Caucasian family placed a question mark after the inclusion of Na-Dene (Burlak & Starostin 2001).

	Yeniseic	Na-Dene	Sino-Tibetan
'liver'	* <i>seŋ</i>	* <i>sənt'</i>	* <i>sin</i>

The Yeniseic and Sino-Tibetan proto-forms are from Starostin (1982), the Na-Dene from Leer (this volume). Blazhek & Bengtson (1995:19) originally cited Proto-Athabaskan **səd*, 'liver' and Eyak *sahd*, and suggested, apparently following Nikolaev (1991), an original coda form something like **nt* by analogy to the correspondence between Proto-Athabaskan **gand* 'knee' and Eyak *gahnd*. Significantly, Leer (this volume) has now, working independently, demonstrated this reasoning to be completely valid within Na-Dene. Vajda (this volume) also shows how the final /ŋ/ of the Yeniseic word can be derived from the glottalized coda **nt'* posited by Leer. This triple resemblance in proto-forms for 'liver' across Yeniseic, Na-Dene, and Sino-Tibetan therefore seems striking to me. Additional comparanda from other putative Dene-Caucasian languages included by Blazhek and Bengtson, such as Starostin's Proto-North-Caucasian **čwäjme* 'bile', exhibit a more tenuous semantic and phonological resemblance. As in all cases where North Caucasian proto-forms are compared to both Sino-Tibetan and Yeniseic, the North Caucasian shows a weaker phonological and semantic match, at least in my estimation. Even if one accepts them, for the sake of argument, as cognate, they would nevertheless suggest that Sino-Tibetan is more closely related to Yeniseic than either family is to North Caucasian languages.

My intuition would suggest that further research could very well validate Starostin's (1982) linkage of Sino-Tibetan with Yeniseic,³ though probably without North Caucasian. I would also anticipate that such research could validate some of the specific Sino-Yeniseic cognates he or his long-ranger colleagues have proposed. Although I excluded Sino-Tibetan from the present study due to the difficulty in assessing diachronic data about Tibeto-Burman verb morphology, I would single it out as the most promising potential relative of Dene-Yeniseic. Future testing of this hypothesis would require, at the very least, a fundamental comparison involving all that is known about historical Tibeto-Burman verb structure, analogous to what I have undertaken here for Yeniseic and Na-Dene. In general, as I have already stated, I am very sympathetic to the goal of demonstrating genetic links between established language families. But, unlike "mainstream" long rangers, I insist on amassing evidence of a quantity and quality amenable for internal reconstruction work and the establishment of sound correspondences and am not satisfied by accepting what seems like the most plausible (or least implausible) language classification. I suspect that other long distance proposals, in part or in their entirety, could ultimately be vindicated - or shown, by contrast, to be increasingly implausible, as appears to be happening with Haida - through the application

³ The claim that Yeniseic was related to Sino-Tibetan was first made in 1892 by James Byrne (Byrne 1892:472-8) in a discussion of the world's language families that included the first description of Ket and Kott data in English (cf. Vajda 2001c:74-75). Claims that Yeniseic was related to Sino-Tibetan were repeated by many other scholars during the past century, as were suggestions that Sino-Tibetan might be related to Na-Dene (on the latter historiography, cf. Blazhek & Bengtson (1995). Trombetti was the first to explicitly connect Sino-Tibetan, Yeniseic and Athabaskan-Tlingit; cf. annotations of Trombetti's publications in Vajda (2001:280-1). Triple comparisons of Sino-Tibetan, Yeniseic and Na-Dene words appear first in recent work on Dene-Caucasian, notably Blazhek & Bengtson (1995).

of research geared toward amassing potential evidence that meets generally accepted historical-comparative standards of proof. The general issues surrounding the question of demonstrating genetic relationship are treated at length in the present volume by Bernard Comrie, Johanna Nichols, and Eric Hamp in their respective contributions.

To summarize my own current position on Dene-Caucasian, I accept only Dene-Yeniseic as a demonstrated family. This genetic unit contains two distinct branches: Yeniseic and Athabaskan/Eyak + Tlingit. The Yeniseic branch consists of several documented languages related at a fairly shallow time depth; Vajda (in press 2) estimates the breakup of Common Yeniseic occurred less than 2,500 years ago in conjunction with the spread of pastoral peoples into South Siberia. Na-Dene consists of Athabaskan-Eyak, which is linked as a coordinate branch to Tlingit at some much greater time depth. Because all Na-Dene languages share a large number of cognates (Leer puts the total at perhaps as much as one quarter of the vocabulary), as well as extensive homologies in grammar, most notably an intricate system of pre-verb root "classifiers" unique to Na-Dene, it is obvious that Yeniseic is related to all of Na-Dene at some greater time depth, and not more closely with either Tlingit or Athabaskan/Eyak. Yeniseic-Na-Dene cognates are probably no more than ten percent of the basic vocabulary, while cognate roots shared by Tlingit with Athabaskan/Eyak are more than twice that percentage (Jeff Leer, personal communication). Most conspicuously, Yeniseic lacks the famous Na-Dene classifiers, a system of morphemes developed from a partial merger of three distinct position classes, though I argue that some of the components involved are also detectable in Yeniseic. I suspect the separation of Yeniseic and Na-Dene dates back to a migration of ancestral speakers of Na-Dene from North Asia into Alaska; the question of the timing of that separation remains completely open at present (cf. the discussion above). The Na-Dene branch, at least in my interpretation, excludes Haida because the latter language lacks all of the intricate morphological homologies, cognates, and sound correspondences I claim to demonstrate for Dene-Yeniseic. Of the other languages claimed in previous proposals as relatives to Yeniseic, my intuition suggests that Sino-Tibetan shows the most promise of being related to Dene-Yeniseic. If such a relationship can be established, I would expect it to be with Dene-Yeniseic as a whole, in view of the extensive morphological homologies shared between Yeniseic and Athabaskan-Eyak-Tlingit. It is conceivable that a more extensive set of lexical homologies might be found between Yeniseic and Sino-Tibetan or some other family, or that future research on the verb morphologies of ancient Sino-Tibetan or other Eurasian languages could turn up unexpectedly close parallels with Yeniseic. However, the more evidence that accrues for Dene-Yeniseic (and my research in this direction is far from complete), the less likely these possibilities will appear.

I have gone on at some length about broader proposals of genetic relationship involving Yeniseic because I wish my article to be received as a constructive contribution to long-range as well as mainstream historical linguistics. I also want to be very clear on acknowledging prior contributions to Dene-Yeniseic studies, regardless of differing interpretations of what represents merely a language classification hypothesis in contrast to an established language family.

During the past fifteen years I have nearly frozen in Siberia, grappled with the most extraordinary morphological structures imaginable, and enjoyed the privilege and challenges of working with some of the most brilliant and diverse minds in linguistics.

The gulf between linguistic traditions has sometimes seemed more daunting than the temporal and geographic divide separating Yeniseic from Na-Dene. I think that future scholarship will fully vindicate Lyle Campbell's judgments on linguistic methodology as well as Greenberg's goal of a comprehensive genetic classification. My article is offered up not as the novel discovery of a language family, but more as an affirmation that today's seemingly irreconcilable linguistic positions can be bridged. Though there will continue to be "conservative" linguists and "long rangers", there is only one science of historical linguistics.

To Lyle Campbell and Joseph Greenberg

Easter Sunday, March 23, 2008
Ferndale, Washington State

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