

How far west into Asia have Eskimo languages been spoken, and which ones?

Jusqu'où à l'ouest de l'Asie les langues eskimo ont-elles été parlées, et lesquelles?

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Article abstract

It has long been suggested by archaeologists that Eskimo-speaking groups were present along the coasts of northeastern Asia much further west than their present confinement to the tip of the Chukotkan Peninsula suggests. However, little linguistic evidence confirming this has been adduced. The pitfalls of misinterpretation of early word-list materials is illustrated with an examination of the facts and non-facts concerning the so-called Anadyr Eskimos supposed to have been met in the early 19th century far to the west, speaking what looks like the Naukanski language of East Cape. With the availability of new data on recently extinct Kerek, it is possible to put together from the hitherto sparse phonological and lexical data a plausible hypothesis that explains, among other things, certain prosodic features of coastal Chukotian languages in terms of a relatively recent Yupik Eskimo substratum all the way to the Kamchatkan isthmus. These features largely coincide with the areas where the original Chukotian vowel harmony system has broken down, in an almost contiguous coastal strip cutting across major language boundaries. This is set within a broader scenario for the spread of successive waves of Eskimo languages on the Asian side, back from their focal area around Bering Strait during successive phases of Neo-Eskimo culture. An explanation of the origin of Yupik rhythmical stress—and its relationship to peculiarities of the highly aberrant Sirenikski language and to the nature of adjacent Chukotian prosodies—will fall out from this scenario.

How far west into Asia have Eskimo languages been spoken, and which ones?

Michael Fortescue*

Résumé: Jusqu'où à l'ouest de l'Asie les langues eskimo ont-elles été parlées, et lesquelles?

Les archéologues ont depuis longtemps suggéré que les groupes parlant l'eskimo étaient présents le long des côtes du Nord-Est de l'Asie bien plus à l'ouest que ne le suggère leur confinement actuel à la pointe de la péninsule des Tchouktches. Peu de preuves linguistiques sont pourtant invoquées pour confirmer cette thèse. On illustre le piège des interprétations erronées des premières listes de mots par un examen des faits et des non-faits de ceux appelés Eskimos Anadyr, un groupe qui, on le présume, a été rencontré au début du 19^e siècle assez loin à l'ouest parlant ce qui ressemble à la langue Naukanski du Cap Est. Grâce aux nouvelles données disponibles sur le kerek, langue récemment disparue, il est possible d'établir une hypothèse plausible à partir de données phonologiques et lexicales qui jusqu'à présent étaient rares. Entre autres, cette hypothèse explique certains traits prosodiques des langues de la côte de la mer des Tchouktches, du point de vue de l'existence d'un substrat yupik eskimo relativement récent qui, géographiquement, s'étend jusqu'à l'isthme du Kamtchatka. Ces traits coïncident en grande partie avec ceux des régions, le long d'une bande côtière quasi-ininterrompue au travers des principales frontières de langue, où le système harmonique original de la voyelle tchouktche s'est effondré. Ceci prend place au sein du scénario plus large de la diffusion des langues eskimo au cours des phases successives du Néo-eskimo ; une diffusion qui, du côté asiatique, eut lieu en vagues successives en arrière d'un foyer d'origine autour du détroit de Béring. Tomberont hors de ce scénario l'explication de l'origine du stress rythmique yupik ainsi que sa relation à la fois aux particularités de la langue Sireniki, elle-même hautement aberrante, et à la nature des prosodies tchouktches voisines.

Abstract: How far west into Asia have Eskimo languages been spoken, and which ones?

It has long been suggested by archaeologists that Eskimo-speaking groups were present along the coasts of northeastern Asia much further west than their present confinement to the tip of the Chukotkan Peninsula suggests. However, little linguistic evidence confirming this has been adduced. The pitfalls of misinterpretation of early word-list materials is illustrated with an examination of the facts and non-facts concerning the so-called Anadyr Eskimos supposed to have been met in the early 19th century far to the west, speaking what looks like the Naukanski language of East Cape. With the availability of new data on recently extinct Kerek, it is possible to put together from the hitherto sparse phonological and lexical data a plausible hypothesis that explains, among other things, certain prosodic features of coastal Chukotian languages in terms of a relatively recent Yupik Eskimo substratum all the way to the Kamchatkan isthmus. These features largely coincide with the areas where the original Chukotian vowel harmony system has

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broken down, in an almost contiguous coastal strip cutting across major language boundaries. This is set within a broader scenario for the spread of successive waves of Eskimo languages on the Asian side, back from their focal area around Bering Strait during successive phases of Neo-Eskimo culture. An explanation of the origin of Yupik rhythmical stress—and its relationship to peculiarities of the highly aberrant Sireniksi language and to the nature of adjacent Chukotian prosodies—will fall out from this scenario.

The mystery of the “Anadyr Eskimos”

Every now and then philological rooting around will bring up some overlooked tit-bit that seems to undermine the currently accepted picture. Thus in the course of a search for early attestations of Chukotko-Kamchatkan words for my forthcoming comparative dictionary of these languages (Fortescue, forthcoming) I came upon a column in the comparative appendix (*Sprachatlas*) appended to Julius Klaproth’s *Asia Polyglotta* from 1823 that immediately caused my eyebrows to rise. The column in question comprises information on two separate varieties of the language spoken by what Klaproth quaintly dubs *Polar-Amerikaner in Asien*. In other words, Eskimos. More specifically—and reflecting the ignorance of his times as regards the distinction between “coastal” or “sedentary” Chukchis and Yupik Eskimos—he calls the speakers of the first of the two varieties *Tschuktschen am Tschuktschen-Vorbirge*, which is clearly Central Siberian Yupik (otherwise known as “Chaplinski”), and those of the second—the one that caused the raised eyebrows—he calls *Tschuktschen Aiwanmija am Anadyr*, i.e. the *Aiwanmija* at the mouth of the Anadyr river, far to the west of any historically attested Eskimo group in Chukotka. This second variety appears to be Naukanski Siberian Yupik. It should be pointed out at once that the Chukchi term *Aiwan* was traditionally used by the coastal Chukchis about the Eskimos (especially, but not exclusively, the Chaplinsky or Central Siberian Yupiget), and by the inland, “reindeer” Chukchis about their coastal kinsmen.¹ Bogoraz (1937: 3) further gives the

¹ The stem *ajwan(a)* is probably a loan from Eskimo (cf. CSY *ajvaanəŋ* ‘from the north,’ from stem **ajyuR-* ‘go against the wind’), but influenced in meaning by native Chukchi *ajwal* meaning ‘lee side,’ which refers to the ‘east’ from the Arctic coast of the Chukotkan peninsula, but ‘south’ from the Pacific coast according to Bogoraz (1937) (and note the derived form *ajwatlan* below). Neither word anywhere means ‘north’ in Chukotian, however (and among the Kerek *ajwana-* is ‘south’): the meaning of *ajwan(a)* is simply ‘easterner.’ The notion that this word is a direct Chukchi borrowing from the Eskimo, as claimed by Bogoraz (1937) and Vdovin (1961) is oversimplified—the specifically Siberian Yupik meaning of *ajyuq*, ‘north,’ from **ajyuR-*, is probably due to Chukchi *ejyəcqəŋ* ‘north’ (from a stem meaning ‘wind side,’ which may or may not ultimately be cognate with the Eskimo). The ending *-mija* looks like the purely Eskimo ethnonymic ending, singular CSY/ NSY *-mii*, Sireniksi *-məra*, but could be the result of a misreading (see the quote from Adelung in Krusenstern [1810-1812] later in this article).

related form *ajwatlan* ‘reindeer Chukchi living to the east of the upper reaches of the Anadyr’ (lit. “easterner”). The area between the Anadyr river and the coast to the east is in fact marked as inhabited by Chukchis on the earliest ethnic map reconstructed by Dolgix (1967) for the end of the 17th century, but it could of course have referred to Eskimos, given the prevailing terminological confusion.² Physically and culturally there is indeed rather little difference between coastal Chukchis and Eskimos (or Kereks for that matter)—in fact there is reason to believe that the not too distant ancestors of many if not most coastal Chukchis were ethnic Eskimos who shifted language. That Klaproth himself was certain the word list concerned was indeed from this area—or just south of it—is confirmed in the text of his book, where he explains that:

Two tribes of these Chukchis are known to us through Lieutenant Košev, brother of General Košev, the erstwhile commander of Kamchatka. The first of them lives in the region of the Chukchi Peninsula [Russian *ČukčoiNos*] and the second, which is called Aiwanski, or better Aiwannmija, lives on the ocean shore around the mouth of the Anadyr (Klaproth 1823: 322).

Now much progress has been made in recent decades in sorting out the family-internal genetic relations among the different branches and languages of the Eskimo-Aleut family and in relating this to plausible hypotheses of population movements around the Bering Strait region. Yet if the finding described above is taken at its face value, one of the keystones of the picture now generally accepted by linguists is threatened: Naukanski is believed to be the most recent Eskimo language to have arrived in Chukotka from Alaska, and the highly aberrant Sirenikski language, much affected by neighbouring Chukchi and hypothesized to be a third branch of the family beside Yupik and Inuit, is supposed to form the extreme western periphery of the family, possibly representing a remnant of the original Eskimo population before the influx of specifically Yupik-speaking people from the other side of Bering Strait (Fortescue *et al.* 1994: x). Arguments raised in support of the idea of the relatively late arrival of the Naukantsy at East Cape include their geographical location at the crossroads between the old and new worlds, the general degree of conservatism of the language—intermediate in some respects between Alaskan and other Siberian Yupik—and its plausible position on the continuum of Yupik dialects once connecting Alaska and Chukotka that acted as a substratum affecting the more recently arrived Seward Peninsula Inuit dialects opposite East Cape (on the unusual consonant gradation phenomenon they display, see Kaplan [1985]). I should reiterate that Klaproth’s *Aiwannmija* is most decidedly *not* Sirenikski, which displays—besides some very archaic features—widespread reduction of short full vowels to schwa outside of word-initial syllables. The question of age and relative conservatism is crucial, however, and I shall return to it below.

² There is in fact an Eskimo group designated “Anadyrs” on Dolgix’s original map due in part to Merck, who participated as naturalist in the Billings expedition at the end of the 18th century (Vdovin 1961: 13). However, this is not in the right place for Naukanski since the East Cape area was marked as occupied by “Peveks”—probably referring to Cape Peek, *i.e.* East Cape itself—and it corresponds better in fact to Central Siberian or Chaplinski (*i.e.* those usually referred to as *Aiwan* by the Chukchi!). Nor is it in the right place for the Anadyr river. It (and the other three ethnic terms “Uelens,” “Peveks,” and “Vutevens”) was later corrected in Leontjev and Novikova (1989), who replaced the terms with the “correct” modern ones: Naukantsy, Čaplintsy and Sireniksy respectively.

A glance at the map will reveal that the mouth of the Anadyr river lies far to the southwest of the maximal extent assumed for Sireniksi (the artificial introduction to the settlement of Uelkal in between of Central Siberian Yupik speakers was a recent event—in the twenties of the last century). Two candidate explanations for this enigma (apart from gross error of some sort) come to mind: perhaps Klapproth's *Aiwanmija* represents a language community native to that area, or, alternatively, perhaps it represents a group of Naukantsy temporarily in the area when recorded by Košelev. That the first possibility is somewhat more likely than the second is supported by certain archaeological and toponymic facts: there is indeed evidence of the presence of an Eskimo population in this area just before the time in question. Vdovin (1961: 52) states that remnants of Eskimo groups were still roaming on the south bank of the Anadyr estuary in the first half of the 18th century, eventually to be assimilated by Chukchis settling in the area in the second half of the century.³ Note that ivory labrets have always typified traditional Eskimos (and Aleuts) but not Chukchis, in fact the latter refer to the Eskimos of Alaska (specifically the Diomed Islander) as *ǰakǰrpavǰlʔǰt*, lit. 'those with holes in their mouths' (Leontjev and Novikova 1989: 177). In fact the spit at the mouth of the Anadyr is called in Chukchi *Ajwanqǰtrǰn*, lit. 'spit of the Ajwans,' though Leontjev and Novikova (1989: 56) translate it as 'spit in shelter from the wind,' as if it came directly from related *ajwal* given in the note above.⁴ The second possibility suggested above is weakened by the unlikelihood that Naukantsy from East Cape—some 400 miles away—should for some reason have been present in an area remote from other Eskimo groups, in fact in what *prime facie* appears to have constituted a shifting war zone at the time between Chukchis, Koryaks, Yukagirs and Russians (Vdovin 1987: 45f.). Moreover, it just does not happen in the Arctic that homogenous linguistic populations (or "tribes") split up and leap-frog each other in this fashion along narrow land between cliffs and sea (e.g., past CSY and Sireniksi)—at least not without leaving traces of their passage (and intermingling) on the intervening dialects or languages. What on earth would their business have been in this area?

That Košelev, should have mistaken the mouth of the Anadyr for Bering Strait seems most unlikely. What exactly he might have been doing around either Bering Strait or the Anadyr estuary I have not been able to determine for certain, but we know that he joined Krusenstern's voyage round the world (1803-1806) at Petropavlovsk on Kamchatka, going with him to Japan and back (but nowhere near Chukotka); being of a "weak and restless" nature, he apparently died soon thereafter (Krusenstern 1810-1812: VIIIf.). His brother, as mentioned in the Klapproth quote above, was governor of

³ He quotes the following passage (translation mine) from manuscript material left by Miller (TsGADA, Portf. Millera, No. 539, tetr. 13, ll. 25 ob. i 26):

Then to the northwest [after the coast inhabited by people similar to the coastal Koryak, *i.e.* Kereks?], up to the mouth of the Anadyr stretches an area, not large, where people called Chukchis or "foot people" live at frequent sites along the sea, similar to the peoples living on the Pacific Ocean and on the islands there, called Aleuts [...]. These people [*i.e.* the "foot people" or "coastal Chukchis"] have holes pierced in their cheeks from childhood in which they insert plugs of walrus ivory as decoration (Miller in Vdovin 1961: 52).

⁴ Perhaps coincidentally, the same word for 'spit' is used in the name of a settlement at the entrance of St. Lawrence Bay (Katrytkino) where NSY is/was recently spoken, and the Chukchi word itself has in fact been borrowed in NSY (as *ǰǰlʔǰn*): it is used in both Chukchi and Naukanski also of the village of Lavrentija itself (Leontjev and Novikova 1989: 184). The place-name Anadyr, by the way, is of Yukagir origin.

Kamchatka during this period, and he played a role in a certain matter of litigation that occurred at this stage of the voyage (in which he took Krusenstern's side against the representative of the Russian-American Company, Rezanov). This was a period of ongoing hostilities in the Anadyr region between the *yasak*-paying Koryaks (and Yukagir) and the rebellious Chukchi.⁵ According to Krusenstern, Košelev, had been many times "into the interior" and had been sent by his brother to the Chukchis on unspecified business (presumably military) in 1807, and it was from that trip he must have made the CSY list which Krusenstern published in the appendix to his book. The list is specifically reported by Vdovin (1954: 78) to have been "gathered on the spot [that is on the *Čukotskij nos*, the Chukotkan Peninsula] [...] by the late Lt. Dmitri Ivanovič Košelev." It is also apparent from Krusenstern's account (though expressed in a rather roundabout fashion) that it was Krusenstern's friend, historian and philologist Friederich von Adelung, who edited the linguistic material brought back by Krusenstern and added the second (NSY) list, apparently copying the comparable words (along with a third column of Chukchi words) from a handwritten manuscript gathered by the Dr. Merck mentioned in the quote above at the instigation of his fellow St. Petersburg academician Pallas.

So the mysterious *Aiwanmija* list may not have been gathered by Košelev at all, this error (or misreading) having been introduced by Klaproth. Note, however, that Adelung specifically attributed the source of the second list—corresponding to "No. I" in Merck's manuscript—to the Aiwans "from the mouth of the Anadyr" so this at least was *not* a further error on Klaproth's part. But was it Adelung's or Merck's?—or could there have been some other explanation entirely? It is worth giving Adelung's words as quoted by Krusenstern (1810-1812: IX, my translation) in full:

The Chukchi dictionary gathered by the deceased Košelev is taken from the tribe of these people living on the extreme coast of eastern Asia, the Chukchi Peninsula. The words he collected are here compared to a still unused manuscript which Dr. Merck, the surgeon and naturalist who accompanied Captain Billings on his expedition, put together at the request of Pallas. This collection, a gift of the immortal Pallas, contains a rich comparative dictionary of seven dialects from the languages of the Chukchis, the Kamchadals, and the Kuriles. The Chukchi words used here from that source fall into two dialects: that set up as No. 1 refers to the Aiwanski, or rather Aiwanschia [for Aiwanskija or Aiwanisch?], who live on the coast of the eastern ocean around the mouth of the Anadyr, while the other, set up as No. 2, refers to the nomadic reindeer Chukchis.

⁵ The Russian fortress further up the river (*Anadyrski ostrog*), the only imperial Russian foothold in the whole vast region of central and northern Chukotka would only recently have been abandoned as economically unviable (in 1771). A small trading post was set up in the area in 1788 according to Vdovin (1987: 130). This was the period when Chukchis started moving south of the Anadyr, taking over more and more territory from the Koryaks. Vdovin states that following an earlier period of relative calm, with Yukagirs wedged between the Koryaks and Chukchi in the Anadyr basin, the 18th century in the region was characterized by skirmishes and raids between the two rival reindeer herding populations—though interestingly enough one group of "sedentary Chukchi" was paying tribute (*yasak*) to the Anadyr authorities in 1733 already—could they have been Košelev's Anadyr Eskimos? Matters were finally settled (after repeated official intervention) by the 19th century and "in the first decades" of that century Chukchis and Koryaks began to meet peaceably at the Gižigin and Anadyr trade fairs (Eskimos are not mentioned—their trading contact with both Chukchis and Alaskan Eskimos lay at that time farther to the north and east).

Does Adelung mean that Merck himself stated that the *Aiwans* of his list came from the Anadyr estuary, or was it Adelung himself who added that qualification? In fact the *Aiwanmija* language (the name is perhaps a misinterpretation of Adelung's *Aiwanschija*) turns out to be virtually identical to that of Rohbeck's list for "sedentary Chukchis" gathered during the Billings expedition and published in Saryčev (1802), which is recognized today as Naukanski (Krauss 1985: 182). The other two columns there are for reindeer Chukchi and reindeer Koryak respectively (Adelung does not mention the latter). So perhaps Adelung somehow confused the provenance of the first (Eskimo) and the second (Chukchi) columns. There is no exact indication of where Rohbeck gathered his NSY list, and no explanation of why Rohbeck rather than Merck should have been acknowledged as its compiler. However, from the published reports of the Billings expedition, it is known that the expedition split up in St. Lawrence Bay (on the north side of which Naukanski would have been spoken), whence Rohbeck and Saryčev returned to Okhotsk by sea with the majority of the expedition while Billings and Merck proceeded on foot across Chukotka.⁶ The *Aiwanmija* list is not exactly the same as Rohbeck's; the number of entries being far less (102 as opposed to 275); some items are not in the Rohbeck list at all; and the forms, where coinciding, are not always quite the same in all details (due partly to different orthographies). But before I return to the possible explanation of all this, we need to look in more detail at the data itself and see if it really does contain "pure" Naukanski.

Comparison of the word-lists and some preliminary speculations as to origins

I shall now present briefly the entries in Klaproth's *Sprachatlas* under *Polar-Amerikaner* for which there are pairs of words given in both of the Eskimo languages that are not just orthographic variants of the same word or common forms found in most Eskimo languages.⁷ It will be seen that the distinction between specifically CSY and NSY forms not only holds up, it holds up in almost 100% of the cases where there is a difference to compare. Of course one cannot expect great accuracy in these early word lists, but it is surprisingly easy to recognize the modern correlates today (as in Jacobson 1983 and Menovščikov 1975). The latter are put in parentheses (using the orthographical conventions of the *Comparative Eskimo Dictionary* from Fortescue *et al.* [1994]) after the individual forms found in the *Sprachatlas*; where a word appears only in the one column it can be taken as attested only for that modern language, not for both (at least in the sense given). The corresponding forms from the Rohbeck list have also been added within the brackets in the righthand column (after "R").

⁶ Sauer (1802) contains the only surviving account of the journey on foot undertaken by Billings and Merck (accompanied by Kobylev and Chukchi interpreter Daurkin). Sauer (1802: 319 ff) mysteriously states he received it "from the journal of one of the party." He mentions that the "sedentary Chukchi" at the time occupied the territory from the Anadyr River to the easternmost promontory, with main concentrations around Serdtse-Kamen' and Mečigmen at Bering Strait respectively. Billings and Merck headed initially, it seems, from St. Lawrence Bay (near Lavrentija) to Mečigmen, whence reindeer Chukchis guided them further.

⁷ There are in all 218 word meanings compared in the section of Klaproth's *Sprachatlas* called *Nordöstlichen Sprachen Asiens*" (Klaproth 1823: 49-57), which also covers Yukagir, Koryak, Chukchi, and Itelmen. They are arranged alphabetically there according to the German head word. Eskimo equivalents are provided for about two thirds of them.

Table 1. Items from Klaproth's lists.

	CSY (<i>am Tschuktschen-Vorgebirge</i>)	NSY (<i>Aiwanmija am Anadyr</i>)
'evening'	rüb-ga (<i>iRivyaq</i> 'yesterday, evening')	intlwakatah (<i>inʔəvaq</i> 'yesterday'; R intlvakatag)
'eyebrow'	wallamak (?)	chublutl (<i>qavluq</i> - not in CSY; R pl. xablut)
'brown bear'	kainga (<i>kayŋa</i>)	akliak (<i>aklaq</i> ; R akljak)
'beard'	tamljutuman (cf. <i>tamlu</i> 'chin')	<i>uika</i> (<i>uŋjak</i> 'whisker' + <i>-nka</i> 'my pl.');
'mountain'	naigak (<i>naayRaq</i>)	R ujnka)
'bow'	olebak (<i>uRlulvəq</i>)	ingrit (<i>iŋRiq</i> , pl. <i>iŋRit</i> ; R idem)
'brother'	kamgojak (?)	čaikak (<i>saku</i> - only NSY)
'rain'	nepčuh (<i>nəpsuk</i>)	anechluktik (<i>anəʔxutə</i> ; R idem)
'ice'	illjilikuk (<i>iluliRaq</i> 'drift ice'? - not NSY)	imagnachta (<i>imaRnaq</i> ; R idem)
'fire'	annak (<i>anəq</i> 'glowing embers')	čikuta (<i>siku</i> ; R idem)
'meat'	naka (<i>nəqa</i>)	eknök (<i>əknəq</i> ; R eknek)
		kümüka (<i>kəmək</i> 'skin, flesh'; R kymyka)
'river'	kiuk (<i>kiik^w</i>)	kuigütt (<i>kuik</i> ; R kujgyt)
'spring'	pochlachta (<i>puqla</i> - not NSY)	anctohta (cf. <i>anə</i> 'come out'?; R anxtoga)
'god'	istla (cf. CSY <i>ulimaRista</i> 'creator'?)	aghak (<i>aRat</i> ; Raggat)
'give'	annak (?)	tunni (<i>tuni</i> -; R tunni)
'goose'	lach-lach (<i>ləXʔaq</i>)	eitut (cf. Ch. <i>ʔitu ʔit</i> 'goose')
'grass'	wük (<i>vək</i>)	ewuk (<i>əvək</i> ; R evuk)
'throat'	igliak (<i>iŋlak</i>)	jaak (<i>iŋyaRaq</i> ; R idem)
'good'	itainoktok (<i>itaŋnaR-</i> 'enough, OK'; R mjačinka)	mačinka (cf. Ch. <i>macinka</i>)
'hail'	kannik (<i>qanik</i> 'falling snow'?)	čikutaurachta (cf. <i>sikutauŋrak</i> 'icing'; R: idem.)
'house'	mantaak (<i>mantəRaq</i>)	ennit (<i>ənə</i> , pl. <i>ənət</i> ; R ennet 'hut')
'I'	wanga (<i>aŋa</i>)	wü (<i>wi</i> ; R vy) ¹
'year'	ajumiko (<i>ayumiq</i> 'long ago')	aipagni (cf. <i>aypii</i> , stem <i>aypaR-</i> 'second, other'?; R idem)
'yes'	aa (<i>aa</i>)	i (<i>ii</i> ; R idem)
'cold'	čapchünak (<i>sapəXXaaq</i> - not NSY)	ninglichtu (<i>nəŋli-</i> 'be cold'; R idem)
'war'	pilluak (<i>pilluŋaR-</i> 'fight')	čugat (<i>suaŋ-</i> 'scold') ²
'water'	mok (<i>məq</i>)	emak (<i>əməq</i> ; R idem)
'moon'	tankük (<i>tanqiq</i>)	irallük (<i>iRaluq</i> ; R iraljluk)
'fingernail'	ištuk (<i>əstuk</i>)	setunka (<i>situk</i> + <i>-nka</i> 'my'; R situnka)
'sneeze'	akučjek (<i>aqəʔŋiiR-</i>)	tagiga (<i>taŋiiR^w</i> - R tagagka)
'north'	anjuka (?)	nighak (<i>nəŋəq</i> ; R niggak) ³ , 'sand'
	kannäk (<i>qənaaq</i>)	kaujak (<i>qaŋ^wyaq</i> ; R idem)
'snow'	annn (?) (<i>aniŋu</i>)	anighu (<i>anii</i> ; R aniggu)
'sun'	šekenak (<i>siqinəq</i>)	mačak (<i>masaq</i> ; R idem)
'winter'	ukčok (<i>uksuq</i>)	ukjumi (<i>ukuq</i> ; R idem)
'wolf'	amma (<i>amaa</i>)	keilunak (<i>kəŋlunəq</i> ; R kejlunak)

Notes for table 1.

1. This word, from proto-Eskimo **uvarŋa* (preserved as such in Inuit), is a useful shibboleth for distinguishing the different varieties of Eskimo. Note that the CSY form is in some respects more archaic than the NSY since it retains the original medial VCV sequence, but is more advanced in the sense that initial */*uv(a)-* has passed beyond the NSY stage of /*w(a)-* to the corresponding unvoiced sound. Sirenikski has innovated in another direction, namely nasalizing the /*w*/ to /*m*/ in *məŋa*—CAY has *ii* (or *iirŋa*) as well as *wii(ŋa)* and *kwii(ŋa)*, depending on dialect. These sound changes affect very few other words.

2. Rohbeck has '*pixlutakuk* fight,' going rather with the CSY. The word may not be genuine NSY at all (see under Conclusions below).

3. This word (NSY only) is interesting since it refers to the direction from which the cold arctic wind blows down through Bering Strait (see Fortescue [1988] for how the term's absolute geographical reference varies according to locality along the coasts of the Arctic). It is unlikely that it could have been gathered anywhere on the Asian side but East Cape, where it is used in just this sense.

It should be clear by now that the two dialects on Klaproth's word lists are indeed respectively CSY and NSY. How on earth could that be so, given the geographical designations attributed to Merck? Merck, after all, was responsible for the first precise description of the distribution of the three (or possibly four) main varieties of Siberian Yupik (though he did not give them their modern names), and the westernmost one along the south coast of the Chukotkan peninsula (presumably Sirenikski) extended according to him no further than to Serdtse-Kamen', identifiable as the cape not far west of Enmyl'yn (Vdovin 1954: 75f.). According to the now "standard" picture, Yupik is supposed to have spread from Alaska into Chukotka somewhere between 500 and 1000 years ago. This means between the projected time of the Yupik/Inuit split—and the pushing south of Eskimo speakers to southern Alaska—and the movement down from further north of Inuit speaking groups onto Seward Peninsula, disrupting an earlier Yupik continuum. This would have occurred long after Proto-Eskimo was spoken in Chukotka during Neo-Eskimo times some 2,000 years ago. Sirenikski could represent a direct local development from that base, though it could also have moved across later—some time prior to the arrival of "real" Yupiget in Chukotka. Speakers of (future) Central Siberian Yupik formed the advance guard within that later movement, eventually reaching St. Lawrence Island from the Asian mainland, with Naukanski following close behind to take up its present position around East Cape, the sentinel cliff on the Asian side facing Alaska. Whether the Central Siberian (Chaplinski) Yupik speakers at some subsequent stage became entrenched on St. Lawrence Island, facing hostile tribes on the mainland—with whom there was indeed much fighting and rivalry—is a more contentious question. Some researchers have held the opinion that this was so, and that the present spread of CSY on the mainland represents a return—with a vengeance—from the island, while others see the island as just part of a homogenous linguistic region covering both mainland and island (see Krauss 1985: 182). What is certain is that the language varieties spoken today on the island and on the Russian mainland opposite are extremely close (virtually identical), and many clan names and place names are the same on both side of the intervening water. I shall return below briefly to the matter (only slightly less controversial) of the varieties of Eskimo earlier spoken along the *north* side of the Chukotkan peninsula.

A hypothetical alternative suggested by the “*Aiwanmija*” NSY list—in so far as we can credit its geographic specificity—is that early Yupik, developing in Alaska, may initially only have attained a geographically limited presence on the Chukotkan peninsula at East Cape, from whence it later (perhaps during the burgeoning of Puduk culture times, say by 1200 at the latest) would have been borne further south and west by speakers of a conservative form of Yupik closer to Naukanski than to CSY (let alone Sireniski). From this base CSY could have developed its own idiosyncrasies in relative isolation on St. Lawrence Island before returning at some stage to the mainland, pushing back both Naukanski and remnant Sireniski speakers. This form of the language, carried all the way to the Anadyr estuary, would perhaps still have preserved /ɣ/ between full vowels (its loss being one of the few innovative aspects of NSY *vis-à-vis* CSY). Forms from both the languages on Klaproth’s list show the preservation of */c/ (> /s/ in recent times throughout Siberian Yupik). Sireniski, on the other hand, must (as in the “standard” picture) have been there on Chukotka already, as evidenced by a few—but crucial—archaic features in its phonology and lexicon (notably the preservation of */ǝ/ as /r/ or /tʰ/), also by the very strong evidence of influence from Chukotian on it—not just lexically as in CSY and NSY but also phonologically (I shall return to this below).⁸

However, no one seems really to have considered just how long this Chukchi influence on Sireniski might have persisted. Taking the recent archaeological and early historical evidence at face value it seems that the contact assumed could not have been of very great duration, since the Chukchis themselves apparently did not intrude upon the southern side of the peninsula until rather late. Ackerman (1984: 115), for example, places the expansion of the Chukchis into the Anadyr lowlands around the 4th or 5th century AD, with armed confrontation with the Eskimo (further north and east) in the 12th to 16th centuries, after which the Chukchis gradually adapted to a maritime economy on the coast (*i.e.* at the dawn of historical times). That first period of “armed confrontation” could correspond to the Yupik-speaking (Puduk culture) phase hypothesized above—it certainly reached as far south as the Anadyr estuary and also included St. Lawrence Island and as far as Uelen in the north (but may only have extended still further south through indirect cultural influence—*ibid.*: 110f.). It was essentially an Asian phenomenon, borne by a specialized whaling people corresponding at its outset to the roughly contemporaneous Birnik culture in Alaska, but persisting during the flourishing of the Thule whaling culture that developed from that base on the American side under Puduk influence. The size of settlements from this period reflects a considerable population growth and increasing social complexity, with plate armour suggesting warfare as well as trade relationships with neighbouring people. Dikov (1979: 62ff.) states that the Puduk culture arose out of the earlier Old

⁸ Individual phonological archaisms such as the Sireniski retention of reflexes of */ǝ/ can of course occur in the most “advanced” of dialects—witness the retention in East Greenlandic of proto-Eskimo */c/ and of the old */ǝ/ vs. */s/ distinction in certain positions (merged in otherwise more conservative West Greenlandic). Actually there are plenty of traces, though somewhat sporadic, of */ǝ/ also in CSY and NSY, namely as /ʒ/ (orthographic ‘r’), both intervocally and in clusters. In this and a number of other traits such as the retention of original */iv-/, all varieties of Siberian Yupik are more conservative than Central Alaskan Yupik. Lexically, note that CSY and NSY have been almost as strongly affected by Chukchi influence as Sireniski was (notably in the area of adverbial and conjunctive particles), but not phonologically.

Bering Sea and Okvik cultures of the Bering Strait region between the 6th and 8th centuries AD and finally pushed back Birnik encroachments in the area in the 9th century, thereafter persisting until the beginning of the 16th century and the “Little Ice Age” which was dominated by the Thule (Inuit) Culture in North America and Greenland. Influence from the latter is in turn attested in late Punuk archaeological finds as far south as the Anadyr estuary from the end of that period. In particular, toggle harpoons of the Thule type have been found all the way to the Okhotsk Sea coast to the west of the Kamchatkan isthmus (not on Kamchatka itself).

So perhaps the Sireniski of today (or rather yesterday, alas) is the later result of a rather local period of intense contact between Chukchis adapting to a coastal way of life side by side with sedentary Eskimos speaking a conservative form of Eskimo from before the split between Yupik and Inuit. This could have happened as late as the 17th century, mid-way along the south coast of the Chukotkan peninsula, where the land between the sea and the steep cliffs of the peninsula behind is at its narrowest, namely between Sireniki and Enmyl’yn—significantly, the latter Chukchi name means ‘place with cliffs.’ The presence of Eskimos at the mouth of the Anadyr at the beginning of the 19th century would thus represent the point where the western expansion of the Eskimos back into Asia petered out, and could in theory explain the presence of relatively conservative (but not Sireniski-speaking) Siberian Yupiget there. The distinct dialect of Chukchi spoken in Enmyl’yn displays not only some lexical borrowing from Eskimo—like all Chukchi—but also some phonological influence from Eskimo (see below on the undermining of the original vowel harmony system).⁹

However, the fact remains that both the lexicon and the phonology of Sireniski have been far more strongly influenced by Chukchi than the reverse, and, as mentioned, there are at least two layers of prosodic “disturbance”—the older stressed initial syllable “prototonic” pattern roughly reflecting Chukchi stem stress patterns (which resulted in the reduction of non-stressed vowels to schwa) and the recent overlay of the CSY rhythmic pattern. This alone suggests a much longer period of contact. There is also the ubiquity of /tʰ/ from PE /ǝ/ before schwa rather than expected /r/, reminiscent of women’s pronunciation of men’s /r/ in Chukchi (and in no other Chukotian language). So the Sireniktsy could nevertheless represent the remnant of an earlier population, bearers of a partially blended Old Bering Sea/Okvik Neo-Eskimo culture of the Bering Strait region some two millennia ago, that never extended much further west. They must in that case have become established in their present location well before the period of recent Chukchi-Eskimo contact.

But does this “explanation” not beg the question raised earlier as to how newcomers speaking “real” Yupik could later have leap-frogged over the Sireniktsy

⁹ Symptomatically, the name of another village between Sireniki and Enmyl’yn, Nunligran, where Sireniski is believed to have been spoken earlier but which is now Chukchi-speaking, is etymologically a blend of Eskimo *nunalək* ‘place with land/settlement’ with Chukchi *-ran* ‘dwelling’ (cf. Leontjev and Novikova 1989: 279). Menovščikov (1964: 8) estimates that Nunligran shifted from Eskimo to Chukchi speaking about 200 years earlier. Note that present-day Sireniki lies to the extreme east of the original territory where Sireniski was spoken, protected, as it were, from still further engulfment by Chukchi by the immediate adjacency of the numerically more powerful Central Siberian Yupiget.

along this narrow coast to reach the Anadyr estuary (and stayed put there just long enough to have been recorded somehow by Merck and/or Rohbeck)? Not really. If the basis of Sireniski was an ancient form of Eskimo not yet differentiated into Yupik and Inuit, this means that it was at first probably not much like the Sireniski of recent times—it could have remained in one or two villages along the southern Chukotkan coast and survived a certain amount of “traffic” back and forth around it during the time of the western expansion of Punuk, but not for long, and not without increasing influence from “incoming” Yupik and, later, from the interior of the land, Chukchi.¹⁰ For the Yupik newcomers this would not have made communication with speakers of this conservative form of Eskimo particularly difficult, and at all events there would presumably have been greater solidarity between the two Eskimo-speaking populations than between either of them and the alien people inland. In a culturally expansive phase such as the Punuk one, one might expect such remnant groups to be absorbed eventually by the newcomers passing through and beyond their original territory. The massive lexical influence from Chukchi could have come relatively late (not starting before the 16th century) as more and more inland Chukchis joined their coastal kinsmen around Sireniki, where the interior impinged on the coast.

What must remain seriously in doubt, however, is whether more distant and phonologically somewhat more advanced Naukanski—as opposed to CSY—could have leap-frogged Sireniki to the Anadyr estuary in this fashion, without leaving any specific trace on Sireniski (or on Kerek) that could not also be attributed to CSY.¹¹ Thus the most egregious development in NSY not shared with CSY, the loss of */ɣ/ between full vowels, is not in evidence in Klaproth’s “*Aiwanmija*” list, where at least two words show the preservation of intervocalic /ɣ/ in positions where it has subsequently been lost in NSY, namely *suap-* (< **cuyay-*) under ‘war’ (not found on Rohbeck’s list) and *anipu* under ‘snow.’ At best such items could be said to represent an archaic form of common Siberian Yupik (I shall return to this below).

As regards the north coast of Chukotka, the situation is somewhat different: here it would seem *a priori* more likely that NSY could have advanced far beyond the extent it is known historically to have been spoken (*i.e.* as far as but no further than Uelen). It is at all events uncertain what kind of Eskimo was originally spoken in Uelen (today solidly Chukchi-speaking) despite the handful of parallel Chukchi and Eskimo words gathered from that settlement by Merck during Billings’ expedition (Vdovin 1954: 76).

10 It is instructive to compare the situation in southern Greenland, where small bands of mobile East Greenlanders regularly travelled along the outer skerries of the land from the east all the way to the deep fjords of the west to trade for baleen and other items from the more sedentary West Greenlanders. The linguistic effect of this traffic is quite apparent today still in the southernmost dialects of West Greenlandic, which show numerous East Greenlandic phonological and prosodic traits. They generally stayed underway at traditional sites of their own (the trips took up to two years at a time), though there obviously was contact with the West Greenlandic settlements they passed before returning to the east.

11 NSY does have a few archaic aspects of its own, note, preserving */ə/ both word-initially and word-finally (respectively to Ø and /a/ in CSY, as also most Alaskan Yupik—even Sireniski follows the latter innovation), and */i/ does not develop to /ə/ between alveolar consonants (as it does in all other Yupik). Moreover, although NSY has developed long monophthongs out of diphthongs, this involves less radical shifts than has affected CSY (and is arguably very recent, shallow diphthongs still being a possible realization); in both cases the influence of Chukchi (which lacks diphthongs) is evident. But Siberian Yupik as a whole is more advanced phonologically than Alaskan Yupik in a number of respects—the notion of “conservative” is, after all, a relative one.

The problem is that the words concerned—though mostly recognizable—could all be common (Siberian) Yupik. But there are a few potentially telling details—for example the form *turtu* for ‘reindeer’ reflects the CSY rather than NSY (and proto-Eskimo) *tuntu* (but this is a natural development found also—independently—in eastern forms of Inuit). Moreover, his *niguchach* ‘fish net’ seems to correspond to CSY *nθγαΧρακ* of that meaning (not attested for NSY). But the distance between the CSY area today and Uelen is not far, so the evidence is by no means indicative of an earlier CSY presence all along the coast to the west (a group of expanding Chaplinsky could easily have cut across behind East Cape to the Uelen area at a relatively late period). Perhaps, as Vdovin (1961: 52) suggests, there were forms of Eskimo spoken earlier as far west along the arctic coast as the Kolyma delta (for the extent of Birnik finds, see map in Dikov [1979: 61]). There is at all events no knowing how many dialects—or even languages—may have been represented there (since the focus of Birnik expansion was in North Alaska one might be justified in expecting some link with incipient Inuit rather than Yupik, for instance). All such remnant groups had by the 19th century been pressed back to East Cape (or been absorbed) by Chukchis according to Ackerman (1984: 115). Possibly they included one or more archaic pockets from a still earlier Eskimo-speaking population, like at Sireniki.

Linguistic evidence of an Eskimo-speaking presence south of the Anadyr

Let us leave aside for a while the peripatetic vicissitudes of these early word lists and their successive (mis)interpretations and turn to more solid linguistic evidence for an Eskimo presence as far south as the Anadyr estuary and beyond. For a long time it has been recognized that certain phonological features of the coastal varieties of Chukotian all the way to the Kamchatkan peninsula are likely to reflect Eskimo influence. This goes back to Bogoraz’ (1922: 666) remarks pointing out the replacement of */e/ by /i/ in Kerek and the same phenomenon in the pronunciation of Chukchi by Eskimos—see de Reuse (1994: 336f) for the history of the interpretation of the systematic reduction of the Chukotian 6 full-vowel system to the Eskimo-like 3 full-vowel system in Kerek and Alutor (and the concomitant loss of vowel harmony) as indicating an Eskimo substratum in the region.¹² It is significant that this reduction does not occur in the western Palana sub-dialect of Alutor facing the Okhotsk Sea or in the Karaga one further south into Kamchatka. It does occur in the Apuka dialect of Koryak on the coast between Alutor and Kerek, which is particularly interesting in the light of the comment made by Vdovin (1961:40) that Koryak folklore speaks of the Apuka estuary as the last area where the Eskimos who had settled on the coast were driven away by the Chukotians. Moreover, a similar incipient phenomenon (resulting in a partial merger of */æ/ and */a/) is seen in the Enmyl’yn dialect of Chukchi, adjacent to the predominantly Eskimo settlement of Sireniki (as also in the coastal Kamen dialect of Koryak on Penžina Bay to the west, and to some degree also impinging on the main Čavčūven dialect).

¹²

Alutor has developed secondary /e/ and /o/ again (mostly long, from vowel plus /w/ or /j/), but may never have lost them entirely, for example in particles of an exclamatory nature, which still have them. This is indicative of the somewhat less intense influence of Eskimo on Alutor than on Kerek.

These (sub)dialects form a coherent coastal strip stretching from the Anadyr estuary to the northernmost Okhotsk Sea and cutting across the major Chukotian languages borders (see the heavy line on the map in Figure 1). Other more local phonological influence from Eskimo on Chukchi in particular concerns the voiceless pronunciation of Chukotian */l/ and the pronunciation of */c/ as a sibilant, in the manner of Siberian Yupik, in at least the eastern dialects of that language (CSY has also been claimed to be the source of the same change in Alutor in Vdovin [1961: 43]). Note that Kerek also has /s/, but from */t/ before /i/—a combination absent in Yupik generally (as opposed to /ci/ or /si/). The fact that Kerek has initial voiceless /X/ and /x/ where other Chukotian has voiced fricatives might also be considered due to CSY influence (that language is distinct within Eskimo for having such initial fricatives); Karaga Alutor also has them, but this is generally considered to be due to Itelmen influence. Claims have also been made for the existence of Eskimo words and place names in these same coastal Chukotian languages all the way to Kamchatka (Vdovin 1961). This is somewhat less convincing of an actual Eskimo presence since the number of loans involved is restricted by and large to a small number of items relating to sea-mammal hunting and dwindles rapidly after immediately adjacent coastal Chukchi (and many of those suggested by Vdovin, especially the place names, have since turned out to be unrelated after all).¹³ I shall return to these below. More recently, after Asinovsky's (2003) manuscript dictionary of Kerek became available to me, it has become apparent that there is yet one more important kind of evidence for an Eskimo presence in precisely the same coastal stretch, namely the phenomenon of rhythmical stress in that recently extinct language (and partial reflections of it elsewhere in the same area). This came to light when integrating the material into the forthcoming comparative Chukotko-Kamchatkan dictionary: certain etymologically unexpected lengthened vowels (a few of which have been cited in earlier sketches of the language) appear in just those positions where applying the rhythmic stress rules of Central Siberian Yupik would be expected to lengthen them.

When one looks in detail at the “rhythmic stress” in different varieties of Yupik, a phenomenon sharply distinguishing this branch of the family from Inuit (see Krauss 1985), one finds that the pattern in Central Siberian Yupik (CSY) is the simplest—Alaskan varieties of Yupik have developed more complex patterns from the same basic principle of alternating stressed and non-stressed syllables (*e.g.*, by retraction or skipping over syllables and the gemination of consonants or contraction of long vowels in certain positions). This reaches its extreme in Pacific Coast Alutiiq. NSY is intermediate between CSY and CAY in this respect (Krauss 1985). In Sireniki the CSY system was imposed upon an earlier principle of prototonic first-syllable stress, probably traceable to early Chukotian influence (see below). It is definitely the CSY distribution—and not an Alaskan variant—that is relevant on Chukotka. Here are the details as regards the prosody of CSY (Jacobson 1985). First, there is inherent stress on heavy syllables (*i.e.* ones with double/long vowel); a syllable following an unstressed syllable is stressed (except final syllables); a full vowel in a stressed open light syllable

13

For instance Tarya Bay in the south of Kamchatka, which he relates to Eskimo *tarjuq* ‘sea (water)’ on Table 3. As Leontjev and Novikova (1989) show, this is actually from the name of a person.

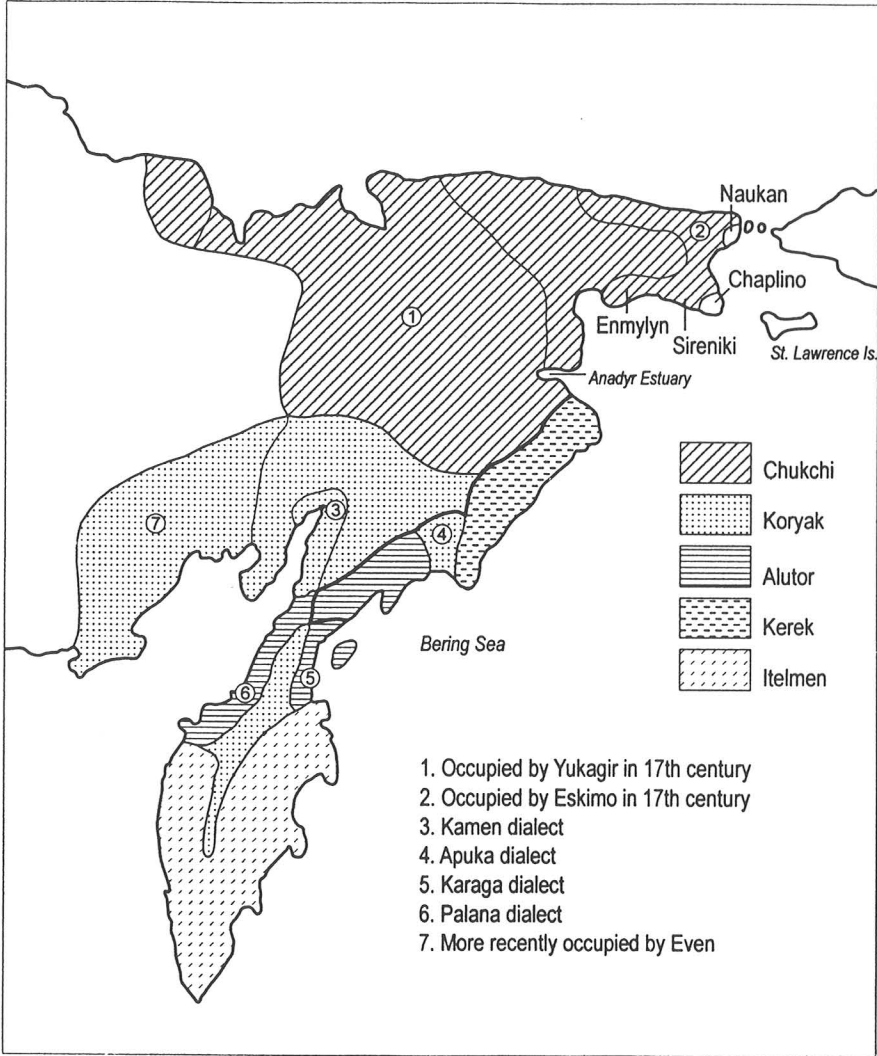


Figure 1. Chukotko-Kamchatkan languages.

is lengthened (and a heavy one is “overlengthened”). Whenever an inherently long vowel is hit in a long word, the rhythmical principle is “reset” and starts again by assigning stress to the next syllable but one after the long vowel. Thus the following long words from Jacobson (1985): *áarjqaXǫáXǫarjǰxtuq* ‘he wants to make a big ball’ (stem *aarjqaq* ‘ball’), as opposed to *arjǰáXǫaXǫáXǰxtuq* ‘he wants to make a big boat’ (stem *arjǰaq* ‘boat’).

Secondly, there is a “stem-stress” principle which keeps the (initial) stress of a word on the stem of a word with suffixes whenever possible (this is always at the beginning of words since Eskimo languages lack the prefixes of Chukotian). The initial full vowel of a word with suffixes will then be lengthened to keep the stress on the stem rather than a suffix (with only minor exceptions, not relevant to Chukotian morphology). This rule affects in particular a good many disyllabic verb stems with schwa as their second vowel (which is dropped under inflection)—thus *kuuvuq* ‘it spills’ from stem **kuvǫ-* (the same effect is produced by gemination of the second consonant in CAY, which has an initial closed syllable stress rule, rather than by lengthening).

These are by and large the same generalizations that also apply to vowel lengthening in Kerek. However, stress is not the most obvious correlate in Kerek, it is vowel lengthening as such—this is what is visible in Asinovsky’s files at least. He describes the phenomenon as “word accent harmony,” contrasting it with the vowel harmony system of Chukchi and Koryak, and maintains that the rhythmical principle this refers to covers not just lengthened open syllables, but is discernible on alternate syllables in all words of more than one syllable (Asinovsky 2003). This he has been investigating instrumentally in St. Petersburg. His preliminary finding is that (a) in two-syllable words the first syllable is stressed; (b) in 3-syllable words the second is stressed; and (c) in longer words rhythmic stress starts from the first syllable (and only stressed full vowels in open syllables are lengthened—but clearly not all initial open syllables are lengthened so it is doubtful that this part of the rule will stand up to closer scrutiny). An inherent long vowel will “restart” the rhythmical stress assignment as in CSY. The lengthening in Kerek of initial syllables is according to Asinovsky not so pronounced as with other (inherent and lengthened) long vowels, *i.e.* it is half-long. Note too that a word-initial schwa cannot be stressed (and thus lengthened) in either Kerek or CSY (where it is usually dropped). Schwa is rarely stressed in Chukotian languages (though it can be double/geminate if an intervening fricative has dropped in Kerek).

At first sight it appears that Alutor as described by Muravyova (1976) also shares at least the stem-stress part of these rules. The generalization here is that there is secondary lengthening of initial syllable full vowels in a number of disyllabic stems with /ǫ/ in the second syllable (such as *qitǫ-* ‘freeze,’ apparently from **qitǫ-*), which looks similar to the conditions causing lengthening in forms like Kerek *mimǫl* from **mimǫl*. However, such long vowels may be original (lost in other Chukotian), and vowel lengthening and stress at all events do not always coincide in Alutor in the way they do in Kerek, thus Muravyova (1976: 40) states that there is both initial vowel lengthening and stress on the *second* syllable in such forms as *luuvǫtkǫn* ‘sucks’ from

stem **luvə*-. In fact there is a strong tendency to keep the stress on the stem in all Chukotian languages, and these exceptions in Alutor may be innovatory (they are explained by Muaravyova as due to the fact that lengthened vowels do not count as “heavy” but that closed syllables of any kind are heavy). In Koryak and Palana, as in Chukchi, the schwa would not be stressed in such forms.

Of the other dialects with Eskimo-like vowel system reductions, nothing is known as regards rhythmic lengthening or stem-stress retention in the Apuka dialect of Koryak, but there is additional information concerning the southern (Telqep) variety of Chukchi as described by Dunn (1999) that appears to be relevant. Dunn describes a form of rhythmical stress assignment for this dialect (historically adjacent to Kerek) that is quite different from the conservative system described by Skorik (1961), which is essentially the same as for inland Koryak. In the Telqep dialect primary stress apparently falls on the first full vowel in a word following a consonant, with alternating secondary stress thereafter. Apart from the stipulation about an initial consonant (which may not be correct—stress is somewhat fluctuating as well as non-distinctive here acc. Dunn, pers. comm. 2003), this is highly suggestive of the situation in CSY. A shift in that direction among certain dialects would at least explain the conflicting accounts of stress assignment in different treatments of Chukchi.

In Table 2 follow some typical examples from Asinovsky’s files which illustrate the rules given above. It should be borne in mind that there are items in his data (words read in isolation) which do not fit the pattern; however, he was unaware of the (potential) relationship of the pattern to Yupik when gathering it and may have overgeneralized a bit. Typically such divergences involve certain derivational suffixes like *-at-* that may well be lengthened rhythmically by suitable preceding stems but appear also to be lengthened sometimes following long syllables. Luckily most of his material is recorded on tape and will, it is hoped, be acoustically investigated in greater detail in the near future. By far the majority of his lexical forms do have vowels lengthened where expected, although his written data, being in the form of an extensive lexical list, does not contain many words long enough to really test the rhythmical principle beyond a few syllables (the recordings do apparently confirm it, however).

Table 2. Vowel lengthening in Kerek.

<i>Kerek</i>	<i>Koryak</i>
<i>cawaatəttu-</i> ‘lassoo’ (vs. noun <i>cawat</i>)	<i>cawatətku-</i>
<i>paniinatu-</i> ‘speak’	<i>panenatvə-</i> ‘tell, relate’
<i>qamaana</i> ‘bowl’	<i>qamaNa</i> ‘dish, bowl’
<i>ləmaalau-</i> ‘believe’	<i>ləmalav-</i>
<i>XituuRit</i> ‘goose’	<i>RitURit</i>
<i>jalii-</i> ‘ride on sledge’	<i>jale-</i> ‘slide down’
<i>miiməl</i> ‘bearded seal’	<i>meməl</i>
<i>kmiiNən</i> ‘child’	<i>kəmiNən</i> ‘child, son’
<i>ipaaip</i> ‘hammer’ (redup.)	<i>jəpeNa</i> (with singulative <i>-Na</i>)
<i>picriiNat-</i> ‘have a cold’ (and nom. <i>picriiN</i>)	<i>pətReNarʧəjNən</i> ‘cold’

The position of the stress in corresponding Koryak forms (usually penultimate unless the vowel is schwa and the preceding syllable has a full vowel) often, but not always, corresponds to a lengthened vowel in Kerek—compare Kerek *paXəttu-* (no lengthening presumably since there is no need to keep stress on the stem) with Koryak *paqəku-* ‘gallop,’ with stress on the first syllable. In Koryak there is moreover only one primary stressed syllable per word). In longer forms there may well be several lengthened vowels in Kerek, as in *aNqaakəmyaaNa* ‘water snake’ (from **aNqa* ‘sea’ and **kəmyaNa* ‘snake’), and in forms like *amnuuNəjyaat-* ‘blow from the north’ (from **amnuN* ‘tundra’ and *jəγ* ‘blow’ and suffix **-at-*) one can observe phonotactic adjustment of the position of schwa but the rhythmic principle still lengthens the vowels of the second and fourth syllables as predicted. With *qamaaNa* above contrast cases like *malawjan* ‘hospital,’ the same in Kerek and Koryak (with penultimate stress), where the second syllable is closed so cannot be lengthened. Cases of “resetting” of the rhythmical alternation are rare (only showing up if a rhythmically lengthened single vowel is followed at once by an inherently long one, of which there are not so many), but a case like *NujmaaliinaN* ‘broom,’ from *Nuj* ‘dirt,’ *maali-* ‘sweep’ (from **male-*) and *-inaN* ‘instrument for’ may be an instance. Contrast cases like *pəəlRiniiniNNu-* ‘go up (sun)’ with an inherent long initial syllable and expected rhythmical stress on the third.

As regards loan-words, there are surprisingly few; Table 3 contains all those borrowings from Eskimo into Chukotian languages attested in the published sources (in particular de Reuse 1994 and Vdovin 1961) that have borne up to closer scrutiny in connection with the comparative CK dictionary (see also the note about *ajvan(a)* ‘Eskimo,’ already discussed above). In general this has been less well studied than the (more extensive) lexical influence in the other direction, from Chukchi to Siberian Yupik. The Chukotian is limited to Chukchi except as indicated, and the Eskimo is reconstructible for Proto-Eskimo (PE), except as indicated.

Note also Kerek *sikakkaarja* ‘ground squirrel’ from CSY *sikik*, and *makə* ‘flap in bottom of baby’s costume, pants’ (Kerek *ma(a)ka* ‘fur diaper’)—perhaps from CSY *maka* ‘moss diaper,’ though the direction of borrowing was probably the reverse, the word being not only widespread in Eskimo as far as the Mackenzie delta but also in Chukotian as far as the Kamchatkan isthmus (and has indeed been taken up in local Russian and Even). There is also the isolated form *əəllqaq* ‘cormorant’ in Kerek, which is a direct loan from the CSY word of this form and meaning. Since CSY is the only Eskimo language that has it in this meaning, this is a particularly telling link between the two languages.¹⁴

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In fact the word is used by the Saint Lawrence Islanders—and by them alone—to refer not only to cormorants but also (in legends) to mainland Alaskan Eskimos (Jacobson 1983). The word appears to be cognate with the Central Alaskan Yup’ik word of this shape meaning ‘one that resembles (*i.e.* us?).’ Did the whale-hunters of St. Lawrence Island see not only Alaskan Eskimos but also the cormorants plunging from their cliffs into the ocean as “like themselves”?

Table 3. Loan-words from Eskimo to Chukotian

Chukchi	CSY
<i>epləqətet</i> 'bolas'	<i>avləqartaq</i> (CSY only, from PE <i>avləR-</i> 'spread legs')
<i>kaməyaləən</i> 'knee boot'	<i>kamək</i> 'boot'
<i>kanajoləən</i> 'sculpin (fish)'	Inuit <i>kanajuq</i> (CSY <i>kaju</i>)
<i>kupren</i> 'net, seine'	Sir. <i>kuvran</i> 'seal net' (PE <i>*kuvšar</i> 'net')
<i>menemen</i> 'bait'	<i>manaq</i> 'lure, bait'
<i>məcuməc</i> 'juice, sap' (and Ker. <i>miccaamic</i> 'saliva')	<i>məsuaq</i> 'liquid, juice'
<i>nikləjen</i> 'east wind' (also Al. and Kor.; Ker. <i>nikləjaN</i> 'east')	<i>nakarja(q)</i> 'east wind' (Yupik only, but PE source)
<i>lətleq</i> 'sea lion'	<i>ulraaq</i> ¹
<i>pelləuten</i> 'beaver' (also Kor. & Al.)	CAY <i>paluqtaq</i> 'beaver' (CSY supposedly 'sea otter')
<i>puture-</i> 'dance (of women)'	<i>putu-</i> 'dance woman's dance' ²
<i>pu(u)req</i> 'beluga'	<i>pušəaq</i> (Yupik only, from PE <i>puə-</i> float up')
<i>qatjeq</i> 'small seal' (also K; Al.)	<i>qazišəaq</i> 'spotted seal'
<i>qarəa(qar)</i> 'young of seal'	
<i>qelunəyiN</i> 'dipnet, bird net'	<i>qalu</i> 'dipnet'
<i>qipuk</i> 'humpback whale' (also Al.)	<i>qipuaq</i>
<i>qəmtən</i> 'ceiling'	<i>qəmtaq</i>
<i>taqlə</i> 'provisions for journey'	<i>taquaq</i>
<i>tukken</i> 'harpoon tip'	<i>tuuxkaq</i> (PE <i>tuəkaR</i>)
<i>tutlik</i> 'snipe, plover' (also Ker.)	Sir. <i>tulix</i> 'snipe,' Qaw. Inuit <i>tullik</i> 'golden plover' (PE <i>tušiy</i>)
<i>tukwen</i> (< <i>*tuwwen?</i>) 'ice edge at shore'	<i>tuvaq</i>
<i>tutməqəən</i> 'gangplank'	<i>tutməqaq</i> 'stairs, ladder' (CAY also 'bridge')
<i>tələjutləj</i> 'salt, brine' (also Ke and Al.)	<i>taRjuq</i> 'salt'
<i>ukəmləu-</i> 'tow (boat) (also Ker.)'	<i>ukamaR-</i>

1. From **ulRuaq*; Sireniki *urəəX* 'sea lion' is a loan back from the Chukchi apparently. Note also Koryak *uluul*, Palana (*ləululəul* 'sea lion.')
2. Also Alaskan Inupiaq, apparently from *putu* 'hole,' as verb 'make hole through,' referring to (women) dancing with their upper bodies protruding through a hole in the floor or a partition.

It has also been suggested that the extinct variety of Chukotian spoken on Karaga Island off the Alutor coast (strongly influenced by Itelmen) showed some influence from Eskimo, but I have only found two lexical items in that dialect possibly indicative of this, namely the words for 'sea' (*imeijok* in Klapproth (1825), like PE *imaR*), and '10,' *tamalgaša*, which looks like a derivative of the Eskimo stem *tama(R)-* 'all' (*i.e.* 'all the fingers of both hands?'), though Stebnitsky (1939) gives the western Itelmen form *togussa* as the possible source (and the first could be related to general Chukotian (*m*)*iməl* 'water').

Conclusions

The best scenario accounting for the new linguistic data from Kerek in the light of what is known of the archaeology of the region would seem to be the following. During the overlapping Old Bering Sea/Okvik period of the burgeoning of Neo-Eskimo culture around Bering Strait some two millennia ago, a form of common Eskimo not too far removed from its local Proto-Eskimo source was spoken along the southern coast of the Chukotkan peninsula not much further west than the present village of Sireniki, probably side by side with a form of Proto-Chukotian spoken also further to the west along the Arctic coast (see map in Dikov 1979: 61). The Okvik phase (which extended not much further along the Arctic coast than Uelen, where Yupik was still spoken until recently) may reflect labret-wearing Eskimo speakers, while the Old Bering Sea phase (which extended further west along the Arctic coast) may predominantly reflect Chukotian speakers (who have never worn labrets), though the two coexisted on Saint Lawrence Island and the easternmost tip of Chukotka (Dikov 1979: 211).¹⁵ Highly divergent Sirenikski, spoken at the peripheral extreme of this area where maximal contact with Chukotians could be expected, may represent all that remained of that original spread of Proto-Eskimo around Bering Strait and down into coastal Alaska. The place name Ungaziq (Chaplino), in the middle of mainland CSY territory today, could well be a Sirenikski form taken over by arriving CSY speakers (*urjacəX* = *urjaliq* ‘outermost place’ in CSY and PE, a place name also found elsewhere in the Arctic).

Much later, during warmer Punuk times, a new whale hunting culture developed into Punuk on the Asian side under particularly favourable marine hunting conditions, and it was from a late stage of this cultural phase, when certain technological features deriving from the new Thule culture on the Alaskan side were being integrated, that a second movement westwards from St. Lawrence Island and the adjacent mainland was initiated, reaching as far as the Kamchatkan isthmus by the 15th century. Somehow the old Sirenikski speaking pocket remained where it was, but not unchanged—it was in turn massively influenced by the newcomers from closer to Bering Strait (and St. Lawrence Island), *i.e.* by speakers of Central Siberian Yupik. The Naukantsi, under pressure from the Thule Inuit encroaching on Seward Peninsula from the north, followed close behind them, just gaining a foothold on the Asian side and leaving a breach in the erstwhile Yupik continuum from the Old to the New World to be filled by Inuit dialects. What the prosodic data discussed in this paper shows, is that this new wave was indeed borne by speakers of a language displaying the typical (Central Siberian) Yupik prosody, not by earlier speakers of (until then) westernmost Sirenikski. The latter language reflects then both the earliest result of contact with Chukotian

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The Chukchis themselves are associated with the preceding Ust-Belaya Culture of the second and first millennium BC (its major site being at the natural crossing point of the Anadyr of this name). This has many elements in common with Old Bering Sea Culture and the Ust-Belyans are believed to have moved out to the coasts towards the end of the first millennium BC, thus coming into contact with Eskimos already on the coasts (gaining, amongst other technological items relevant to coastal hunting, the toggle harpoon). At an earlier stage, Ust-Belaya is seen as an extension of the ceramic Ymyiakhtakh Neolithic of the Lena valley (Dikov 1979). The Koryaks share the same basis but must have spread in a more southerly direction to the northern coast of the Okhotsk Sea and developed there a mixed interior/coastal culture. They may have acquired the domestic reindeer (slightly before the Chukchi) around the 8th or 9th century AD (though large-scale herding only developed as late as the 18th century). Both the Chukotians and (a major component of) the Itelmens are believed to derive from a still earlier Siberian Mesolithic population.

prosody—namely prototonic stress, actually the same as the stem stress-retaining principle found throughout both Chukotian and Yupik—and a later specifically CSY overlay (rhythmic stress throughout the word). Incidentally, the data also supports the idea that CSY was spoken on St. Lawrence Island during Penuk times, and since that culture is known to have developed on the island from a local Neo-Eskimo basis (Okvik/Old Bering Sea) the source of the language must also go back to these still earlier times in the same location. A large part of the population may at some stage (possibly during late Penuk expansions) have moved to the mainland and then back again, as some investigators have suggested, but this does not alter the general conclusion that CSY probably did not, like NSY, develop on the Alaskan side of Bering Strait.

One can go further and speculate that the initial intense contact between Sirenikski and Chukotian (produced perhaps by an actual blend of populations dating back to Old Bering Sea times) represents in fact the indirect source of the later full-blown Yupik prosodic system. Krauss (1985: 190) was sceptical about this possibility based on Chukchi prosody alone, but if one splits off the stem-stress retaining part of the complex, a good case can be made for regarding this as earlier and indeed influenced by Chukotian. The later extension to rhythmical stress (and lengthening) in Yupik must have developed further east and only come back to overlay Sirenikski at the same time as it swept further to influence distant Kerek. Recall that stress falls essentially on the first syllable of *stems* in conservative inland Chukchi and Koryak and stems there are predominantly disyllabic (though it may fall on the second or even later syllable in longer stems). In Sirenikski the first vowel of a word may or may not be stressed, but as Krauss (1985) argues, words with deuterotonic (second syllable) stress probably reflect the importation of the CSY system—what really counts as evidence of the earlier prototonic system (apart from the surviving prototonic words in conflict with the CSY pattern) is the possibility of the reduction to schwa of full vowels anywhere in the word apart from the first. The main exceptions are certain fixed forms of productive affixes. Sometimes prototonic words in Sirenikski correspond to words in CSY with initial vowel lengthened to maintain stress on the stem (e.g., *kámǎxtǎqǎXtǎRa* ‘put boots on him’ with stress on the first, third and fifth syllables—cf. CSY *kaamyǎqaa*, from **kamǎγ*), but at other times they do not (e.g., *úǎqǎXtǎqǎXtǎRa* ‘pierces’—cf. CSY *ukiquXtǎRaqaa*). Since virtually all Eskimo words start with a stem (and there are no productive prefixes) obviously the prototonic principle keeps stress on them (even when they are monosyllabic), but variation with second syllable stress on disyllabic stems (as on inflected Chukotian words) would not have disrupted this function.¹⁶ Another factor that is relevant here is the status of schwa in the Chukotian vowel harmony system. Schwa (in which Sirenikski, like Chukchi, abounds) is the one vowel that falls outside vowel harmony alternations in Chukchi. So it would be a good compromise in cases of doubt when Chukchi words with complicated allomorphy were spoken by native speakers of languages like Eskimo that do not display vowel harmony at all—or, more to the point here, if speakers of a Chukotian language shifted to Eskimo to communicate with their Eskimo-speaking neighbours in Neo-Eskimo times.

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Note that Sirenikski has no inherent long vowels since intervocalic fricatives whose loss produced them elsewhere are preserved (one of its archaic aspects), so simply lengthening an initial vowel as in CSY was not an option.

One can easily envisage them maintaining their own stem-stress principle and reducing any vowels after the first stressed one whose status in their own vowel harmony system would be ambiguous.

And what can all this tell us of the mysterious “Anadyr” Eskimos with which this paper started out? Only that if there *were* Eskimos around the mouth of the Anadyr and even further south just before the arrival of the Russians there (as both the archaeology and the folklore indicate that there indeed were), then they were speakers neither of Naukanski nor of Sirenikski, but of something close to Central Siberian Yupik, which must have displayed the same prosody as today in that language. They would have got to where they did relatively late, in connection with the Puduk expansion in this direction. The specific affect of their presence down the Kerek coast on the Chukotian population there can be seen most clearly in the phonological traces they left behind in the Kerek language. This—plus the surprising paucity of loan words (even when compared with the situation in coastal Chukchi further north)—suggest a substratum relationship rather than simple contact involving lexical borrowing (see Thomason and Kaufman 1988). The variety of Kerek that has survived (the northern, not the southern dialect, of which we know next to nothing) may thus have been in large part the result of Puduk Eskimos shifting language as they mixed with the Chukotian population already occupying the coast—or at least the result of intense mixing between two such groups, much as in the better known case of the coastal Chukchis *vis-à-vis* the Chukotkan peninsula. All we know for sure is that Eskimos traded “in earlier times” (Bogoraz 1904-1909: 12) as far south as Cape Navarin, where the northernmost Kereks lived. Could relatively small numbers of powerful CSY-speaking whale-hunters thus have settled along the northern part of the Kerek coast of the Bering Sea, intermarried with and subsequently been absorbed linguistically by autochthonous Kereks such that only their distinctive (and prestigious) accent remained in the manner in which Kerek came widely to be spoken?

As for that autochthonous population itself, its origin is a more complex matter: the archaeology of the area tells of an unbroken tradition from the Old Kerek (“Laxtina”) culture some 4000 years ago up to modern times, so it could hardly have been “Eskimo” in any direct ethnic or linguistic sense (Orexov 1987: 166ff). This population was during long periods isolated from events further inland and its roots seem to be shared with those of the bearers of the Kamchatkan Tarya Neolithic culture (believed by Dikov and others to represent the ancestors of the Itelmen), with a later overlay of Koryak from further west breaking their connections with the south around 500 BC (cf. the Apuka and Alutor dialects of “coastal Koryak”). These newcomers may have brought the basis of the language that developed into Kerek since it is far closer to Koryak than to Itelmen. Much later, in the far north of their territory, Orexov (1987: 166ff) notes strong influence from the technologically more advanced Puduk culture, enough to suggest a mixed (presumably Kerek-Eskimo) population to him. It should be added that the Kereks, inhabiting their steep, rugged coast, were almost as thoroughly orientated towards marine mammal hunting in their subsistence patterns as the Eskimos and coastal Chukchis of the far north (they apparently hunted whales by beaching them and killing them with poisoned spears, like on Kamchatka, rather than with harpoons, however). The Alutors (and probably other coastal Koryaks) were more

combining seasonal fishing (both marine and riverine) with small-scale reindeer herding. The last chapter in their history, leading up to the final extinction of the language a year or so ago, was the encroachment on their territory by inland Chukchi from the north and west. The numerous Chukchi loans in the language (and some superficial phonological influence) testify to that late phase—for example cultural borrowings like *tinej* ‘pole for urging reindeer on with’ (from Chukchi *tinə*), which breaks with the normal phonological constraints on Kerek word shape.

The enigma presented by the Klaproth word-lists could itself be explained if the material on the *Aiwanmiya* list is the result of a series of misunderstandings and misreadings by successive editorial hands. Perhaps Košelev did manage in his wanderings to obtain some words not on the Rohbeck list—such as *čugat* for ‘war’ mentioned above—from a Yupik-speaking (*Aiwanmiya*) group in the Anadyr estuary area, but these would hardly have been NSY, as opposed to a somewhat archaic form of CSY. He may have handed them over to Krusenstern separately from his lengthier CSY list (genuinely acquired from the CSY area of the Chukchi Peninsula). Adelung in turn, misinterpreting the reference of the term “*Aiwanmija*” used by Krusenstern (if not Košelev himself) and recognizing that some of these words were virtually identical with those on the Rohbeck/Merck manuscript, may have added them to selected forms taken from there (those corresponding to the Russian lexical items used by Pallas and others as a kind of standard Swadesh list of the time) to produce the second (NSY) list—thus perpetuating the misunderstanding (compounded by Klaproth) of the role Košelev played in acquiring the lists attributed to him. The notion that the entire list represented the speech of Eskimos from the mouth of the Anadyr could thus ultimately stem from Adelung and Krusenstern between them, and not from Merck. Why should Merck have located the speakers “at the mouth of the Anadyr” in his manuscript if Rohbeck did not do so in his published list? In fact, given the almost perfect match between most forms on the Rohbeck and *Aiwanmija* lists (many of them idiosyncratic—*e.g.*, plural or possessed forms understood as singular or unpossessed), Merck could only have obtained his list from Rohbeck (unless Rohbeck actually got it from him, or they gathered it jointly before their ways parted). Completely independent early word lists for the same language do not usually correspond as closely as these two do (contrast the considerable variation there is in the various old sources—including Sauer, Saryčev and Klaproth—for the extinct varieties of Kamchadal/Itelmen). Of course, the grueling and hazardous nature of the overland journey undertaken by Billings and Merck between Bering Strait and the mouth of the Kolyma (following the north, not the south coast of Chukotka, by the way) was such that the handwritten manuscript of Merck’s that survived (unlike Billings’ own journal) may have been in a fairly illegible state in places—or have been damaged. A meticulous examination of the original manuscript material (*Beschreibung der Tschuktschen*) in the archives of the Salytkov-Ščedrin library in St. Petersburg (see Vdovin 1954), would help resolve this.

Observe, finally, that the earliest detailed maps of the Chukotkan peninsula (made by Kobylev and the bilingual Chukchi interpreter Daurkin attached to the Billings expedition) show the cape at Serdtse-Kamen’ as much closer to the mouth of the Anadyr than it is in fact, so perhaps an overly broad interpretation of the designation “Anadyr estuary” also played a role in the confusion. Even on modern maps “Anadyr

Bay” covers the whole Bering Sea coast from Chaplino to Cape Navarin (from Eskimo to Kerek territory), *i.e.* virtually the whole area with which we have been concerned, so it would not have been so illogical to call at least the inhabitants of Chaplino “Anadyr Bay” (as opposed to “Anadyr Estuary”) Eskimos. One thing is clear: local inland Chukchis would have referred to any group of Eskimos that Košelev may have met by the Anadyr estuary as *Aiwans*, the term already used to refer to the Bering Strait Eskimos—presumably also by the interpreter accompanying Merck and Billings. They may thus unwittingly have bolstered the misunderstanding.

References

ACKERMAN, Robert

1984 Prehistory of the Asian Eskimo zone, in David Damas (ed.), *Handbook of North American Indians, vol. 5 (Arctic)*, Washington, Smithsonian Institution: 106-118.

ASINOVSKY, Alexander

2003 A typology of prosodic word-accent in the Chukotko-Kamchatkan languages, unpublished paper presented at the 16th International Conference on Historical Linguistics, University of Copenhagen, August 2003.

BOGORAZ, V.G.

1904- *The Chukchee*, Leiden, E.J. Brill, The Jesup North Pacific
1909 Expedition, 7.

1922 Chukchee, in Franz Boas (ed.), *Handbook of North American Indians Languages*, Washington, Bureau of American Ethnology Bulletin, 40: 631-903.

1937 *Luoravetlansko-russkij slovar'*, Moskva/Leningrad, Gosudarstvennoje učebno-pedagogičeskoje izdatel'stvo.

DIKOV, Nikolai N.

1979 *Drevnie kultury severo-vostočnoj Azii*, Moskva, Nauka.

DOLGIX, B.O.

1967 *Obrazovanie sovremennyx narodnostej severa SSSR, Sovetskaja etnografija*, 3, s.13.

DUNN, Michael

1999 *A grammar of Chukchi*, Ph.D. dissertation, Canberra, Australian National University.

FORTESCUE, Michael

1988 *Eskimo orientation systems*, Copenhagen, Meddelelser om Grønland, Man and Society, 11.

forthcoming *Comparative Chukotko-Kamchatkan dictionary*, unpublished manuscript, Copenhagen, IAAS, University of Copenhagen.

FORTESCUE, Michael, Lawrence KAPLAN and Steven JACOBSON
1994 *Comparative Eskimo dictionary*, Fairbanks, Alaska Native Language Center.

JACOBSON, Steven
1983 *A dictionary of the St. Lawrence Island Yupik Eskimo language* (prelim. version), Fairbanks, Alaska Native Language Center.

1985 Siberian Yupik and Central Yupik prosody, in Michael Krauss (ed.), *Yupik Eskimo prosodic systems: descriptive and comparative studies*, Fairbanks, ANLC research papers, 7: 25-45.

KAPLAN, Lawrence
1985 Seward Peninsula Inupiaq consonant gradation and its relationship to prosody, in Michael Krauss (ed.), *Yupik Eskimo prosodic systems: descriptive and comparative studies*, Fairbanks, ANLC research papers, 7: 191-216.

KLAPROTH, Julius
1823 *Asia polyglotta*, Paris, bei A. Schubert.

KRAUSS, Michael
1985 Sirenikski and Naukanski, in Michael Krauss (ed.), *Yupik Eskimo prosodic systems: descriptive and comparative studies*, Fairbanks, ANLC research papers, 7: 175-190.

von KRUSENSTERN, Adam J.
1810- *Reise um die Welt in den Jahren 1803, 1804, 1805 und 1806*, St. Petersburg,
1812 published privately.

LEONTJEV, V.V. and K.A. NOVIKOVA
1989 *Toponomičeskij slovar' severo-vostoka SSSR*, Magadan, Magadanskoe knižnoe izdatel'stvo.

MENOVŠČIKOV, G.A.
1964 *Jazyk sirenikskix eskimosov*, Moskva/Leningrad, Nauka.

1975 *Jazyk naukanskih eskimosov*, Leningrad, Nauka.

MURAVYOVA, Irina A.
1976 *Sopostavitel'noe issledovanie morfologii čukotskogo, korjaksckogo i alutorskogo jazykov*, Dissertacija kand. fil. nauk, Moskva, Moskovskij universitet.

- OREXOV, A.A.
1987 *Drevnjaja kul' tura severo-zapadnogo Beringomorja*, Moskva, Nauka.
- de REUSE, Willem J.
1994 *Siberian Yupik Eskimo, the language and its contact with Chukchi*, Salt Lake City, University of Utah Press.
- SARYČEV, G.A.
1802 *Putešestvie flota kapitana Saryčeva po severovostočnoj časti Sibiri, ledovitomu morju i vostočnomu okeanu*, St. Petersburg, published privately.
- SAUER, Martin
1802 *An account of a geographical and astronomical expedition to the northern parts of Russia, performed in the years 1785 to 1794 by Commodore Joseph Billings*, London, published privately.
- SKORIK, P.J.
1961 *Grammatika čukotskogo jazyka, čast' 1*, Leningrad, Nauka.
- STEBNITSKY, S.N.
1939 Nymylany-karagintsy po materialam S.P. Krašeninnikova, *Sovetsky sever*, 1939, 2: 129-170.
- THOMASON, Sarah Grey and Terrence KAUFMAN
1988 *Language contact, creolization, and genetic linguistics*, Berkeley, Los Angeles and Oxford, University of California Press.
- VDOVIN, I.S.
1954 *Istorija izučenija paleoaziatskix jazykov*, Moskva/Leningrad, Izdatel'stvo Akademii Nauk SSSR.
- 1961 Eskimoskie elementy v kul'ture čukčej i korjakov, in *Sibirskij etnografičeskij sbornik* 3, Moskva/Leningrad, Nauka, Trudy instituta etnografii, nov. serija 63: 29-63.
- 1987 *Istorija i kul' tura čukčej*, Leningrad, Nauka.