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Contact-induced lexical development in Yupik and Inuit languages

Anna Berge and Lawrence Kaplan*

Résumé: Changement lexical des langues yupik et inuit provoqué par le contact

Le changement lexical des langues yupik et inuit a été relativement lent jusqu'à la période des vastes changements culturels engendrés par le contact avec les Européens au cours de ces derniers siècles, sans doute parce qu'il n'y avait eu, jusque là, que peu de contacts avec d'autres langues. La période coloniale a amené plusieurs groupes dans l'Arctique et différentes vagues de contacts de langues, principalement avec le danois, le français, l'anglais et le russe. L'emprunt lexical a été considérable et les premiers emprunts, souvent le résultat des tous premiers trocs, peuvent se distinguer des suivants et se rapportent souvent à la nourriture, au tabac, aux outils, aux tissus et aux autres domaines où de nouvelles denrées étaient introduites. Les emprunts plus tardifs sont apparus en grand nombre avec la mise en place des structures politiques européennes, et d'un point de vue phonologique, sont peut-être moins entièrement intégrés que les premiers. Nombre d'emprunts peuvent être présentés en tant que reflet de l'étendu du contact avec l'étranger comme c'est clairement le cas des langues d'Alaska qui contiennent des mots russes; les plus nombreux sont dans l'aléoute, langue parlée dans la région qui a connu une présence russe des plus importantes. De nouveaux termes religieux pour décrire le christianisme ont été introduits pendant la période coloniale, parfois comme emprunts mais aussi comme des relexicalisations de mots précédemment liés au chamanisme. Le néologisme est la troisième voie d'expansion lexicale où de nouveaux termes sont inventés, fondés sur les racines et les suffixes de la langue d'origine. Par conséquent, les langues et les dialectes peuvent développer des mots pour le même objet ou le même concept en empruntant aux langues européennes, en relexicalisant un mot ancien ou en créant un mot nouveau avec à chaque fois un résultat différent. Les différentes sources de ces nouveaux items lexicaux ont eu pour résultat un important niveau de différenciation parmi les langues et cette dernière se doit d'être identifiée.

Abstract: Contact-induced lexical development in Yupik and Inuit languages

Lexical change in Yupik and Inuit languages was relatively slow until the period of widespread cultural change brought about by contact with Europeans over the past few centuries, probably because there had been little earlier contact with other language families. The colonial period brought various groups to the Arctic and different waves of language contact, primarily with Danish, French, English, and Russian. Lexical borrowing has been significant, and old borrowings, often the result of early trade, can be distinguished from later ones and often pertain to food, tobacco, tools, fabric and other areas where new goods were introduced. Later borrowings came about largely when European political structures were set up and may be less thoroughly integrated phonologically than older borrowings. Numbers of borrowings can be taken to reflect the extent of the foreign contact, as is clearly the case with Russian words in Alaskan languages, most numerous in Aleut, which had the most sustained Russian presence.

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New religious terms to describe Christianity came into the languages during the colonial period, sometimes as borrowings, but also as relexicalizations of old words pertaining to shamanism. A third means of lexical expansion is coinage, where new terms are invented based on native roots and suffixes. The languages and dialects may thus develop words for the same object or concept by borrowing from different European languages, by relexicalizing an old word, or by coining a new one, with a different result in each case. Different sources for new lexical items have resulted in an important level of differentiation among the languages, and this differentiation needs to be recognized.

Introduction

The Yupik and Inuit languages appear to have been relatively conservative in terms of their rate of lexical change prior to contact with Europeans (Dorais 1996)¹. For example, it is estimated that the Thule Inuit started migrating eastward about 1000 years ago, yet to this day, we speak of Inuit dialects from Alaska to Greenland, rather than distinct languages (compare this to developments in any of the European languages during this time period). Certainly, internal lexical developments took place within each language or dialect during this time; but extensive changes are dated to the period of contact. One possible reason for this was the relative isolation of these languages from other language families. All Eskimo languages underwent several waves of contact-induced lexical expansion and change, resulting from different sources of contact. Factors which influenced the outcome of these changes included different political motivations (uncontrolled exploitation of resources, trade, colonial expansion), different political ideologies and attitudes toward the indigenous peoples (protection, isolation, exploitation, subjugation, integration), different colonial languages (Danish, French, English, and Russian), different religious missions (Catholic, Russian Orthodox, Lutheran, Moravian, and other Protestant denominations), and different cultural traditions (*e.g.*, tea vs. coffee). As a result, the Yupik and Inuit languages today are diverging much more rapidly, and the changes affect all areas of language use (*e.g.*, Petersen 1979 and Fortescue 1986 for contact-induced syntactic changes. This divergence, of course, is no great surprise; it is interesting, however, that even though we can find similarities in lexical expansion strategies used in the languages, the resulting lexical items are often different from each other. In this paper, we will look at the contact experiences and resulting categories of lexical expansion of the YUPIIT and Inuit across the Arctic, the options exercised for lexical expansion, the general tendencies, and the resulting differences in today's languages. The findings

¹ Yupik languages are Central Alaskan Yupik, in Southwest Alaska, Sugpiaq in Southcentral Alaska, Central Siberian Yupik on St. Lawrence Island, Alaska, and on the Chukchi Peninsula in Siberia, as well as Naukan Yupik on the western shore of Bering Strait in Siberia. Inuit is a dialect continuum stretching from Northwest Alaska east across the Alaskan and Canadian Arctic to Greenland. Aleut is spoken on the Aleutian and Pribilof Islands of Alaska, as well as in the Commander Islands of Russia. Sireniki is an extinct Eskimo language spoken formerly in Sireniki, Chukotka.

presented here are descriptive; while no particularly new theoretical points are introduced, we offer the first pan-Eskimo comparative study of lexical expansion that looks specifically at the effects of these changes rather than at the predominant similarities between the languages.

While there are as yet no studies which treat the entire Eskimo-Aleut language family from a comparative point of view and there is particularly little concerning Alaska and the Western Arctic, there are a number of very useful sources on Inuit lexicon, treating mostly eastern dialects in Eastern Canada and Greenland. These include Robert Petersen's discussion of lexical development in Greenlandic (1976), Elizabeth Harnum's M.A. thesis (1989), *Lexical Innovation in Inuktitut*, and Dorais's (1983, 1990) accounts of modern terms in different Inuktitut dialects. In addition to these are numerous dictionaries which prove useful in assessing the impact of other languages on Inuit and Yupik vocabulary. These include especially comparative works such as the *Comparative Eskimo Dictionary* by Fortescue, Jacobson and Kaplan (1994) and Fortescue's *Comparative Manual of Affixes for the Inuit dialects of Greenland, Canada and Alaska* (1983). Language specific dictionaries include Badten *et al.* (1987) for Siberian Yupik, MacLean *et al.* (n.d.) for North Slope Inupiaq, Berthelsen *et al.* (1997) for West Greenlandic, Robbe and Dorais (1986) for East Greenlandic, and Schneider (1985) for Inuktitut. For early loans in West Greenlandic, there are several sources including Kleinschmidt (1871). There are also a number of articles which refer to the addition of vocabulary from foreign sources, notably Krauss (1973) "Eskimo-Aleut" and Krauss (1980) *Alaska Native Languages: Past, Present, and Future*, both of which discuss the presence of Russian borrowings in Aleut and Alaskan Inuit and Yupik languages. Numerous other articles and grammars touch on the subject of language contact and lexicon and provide relevant data for this study.

Brief background on contact

External factors in language change come from outside a language or dialect itself and amount to contact with other languages and cultures. In considering external influence, we shall look primarily at contact with languages from outside the Eskimo-Aleut family, although contact with related languages has also been a source of lexical change. Thus, borrowings among Eskimo-Aleut languages have of course occurred; they are harder to detect than borrowings from non-related languages, and the extent to which borrowing within Eskimo has occurred is unknown. These borrowings are perhaps more obvious in Alaska, where Yupik and Inuit languages were in contact. For example, a number of words, particularly in the Seward Peninsula border area appear to have been borrowed from Central Alaskan Yupik (CAY)² into Seward Peninsula Inupiaq (SPI), *e.g.*, Wales *piliqpiliq* 'frog' (CAY *peleqpeleraq*), King Island *tagugaq* 'polar bear' (CAY *taqukaq* 'bear' and note the metathesis of the medial velar and

² Abreviation used in this article are: AI - Alaskan Inupiaq; BSI - Bering Strait Inupiaq; CAY - Central Alaskan Yupik; CED - Comparative Eskimo Dictionary; CSY - Central Siberian Yupik; ECI - Eastern Canadian Inuktitut; NSY - Naukanski Siberian Yupik; PE - Proto Eskimo; SPI - Seward Peninsula Inupiaq; WG - West Greenlandic; Chuk. - Chukchi; Dan. - Danish; Engl. - English; Germ. - German; Port. - Portuguese; Rus. - Russian; lit. - literally; unpubl. - unpublished.

uvular)³. A number of words from Diomedean Inupiaq in the middle of Bering Strait may be borrowed from or influenced by Naukanski just to the west, with which there was once much bilingualism, e.g., *qipmiq* 'dog,' where SPI would otherwise use *qimukti* or a related form. An interesting word which is used throughout Alaskan Inupiaq (AI) is *agaayu-* 'to pray,' where the medial long vowel suggests Yupik rhythmic vowel length and may indicate a loan. In the Norton Sound area where the linguistic border between Inupiaq and Yupik is found, there is much CAY influence on the Inupiaq, in terms of lexicon, phonology, and morphology, e.g., Unalakleet *waaga* 'I' (cf. CAY *wiinga* and AI *uvaga*). Such borrowings would have served to unify the languages rather than further their differentiation. They will therefore not be the subject of this paper.

The various regions have had quite different experiences of contact (see Figures 1 and 2 for maps locating the dialects/languages and the languages of influence). In the east, Greenland was primarily influenced by Danish colonization, although Dutch, Scots, and English whalers and explorers left their mark, as may have early Norse settlers. In Eastern Canada, including Baffin Island, Quebec, and Labrador, English and French have been particularly important, and German, Scots, and perhaps also Norse influences have also been felt. In Central and Western Canada, English has been the main source of linguistic contact, although some American Indian loanwords are present as well. In Inland Alaska and the South Central Coast, Athabaskan and English are most important; in Coastal Alaska, it is Russian and English; and in Siberia and St. Lawrence Island, the major influences have been from Chukchi and English, with a little Russian from more recent contact. In most cases, aside from Chukchi, contact with other native groups such as the Athabascans produced surprisingly few documented borrowings. Given the proximity of Indian languages, it is amazing how little evidence there is of language contact between the Indian and Inuit or Yupik languages on the North American continent. In Canada, there has been fairly limited contact with Indian languages such as Montagnais-Naskapi, Cree, and Ojibway. For example, in Arctic Quebec *kuukusi* 'pig' is thought to be an Ojibway loan from *gooshgoosh*, which could itself be originally from French *cochon* (Harnum 1989: 87). In northern Alaska, contacts were with the immediately neighbouring Athabaskan languages Koyukon and Gwich'in, where there has been close contact only in the fairly recent past. *Tiniika(q)* 'moose' is from Koyukon, and *naagaayiq* 'frog' may be from Gwich'in but is certainly Athabaskan in origin. Surprisingly, this word extends from North Alaska east, found in Western Canadian Inuit (WCI), Labrador (*narayi*), and even West Greenlandic (WG, *narasiq*), where it is said to have been taken from Labrador by Kleinschmidt to use in Bible translation. CAY shows some early borrowing from non-European languages, principally Athabaskan, Aleut, and Siberian languages. Along the upper Kuskokwim River is found the borderland with Athabaskan, and there is still limited bilingualism today. Athabaskan loans include *nuuniq* 'porcupine' and *luqruuyak* 'northern pike,' located in northern dialects not

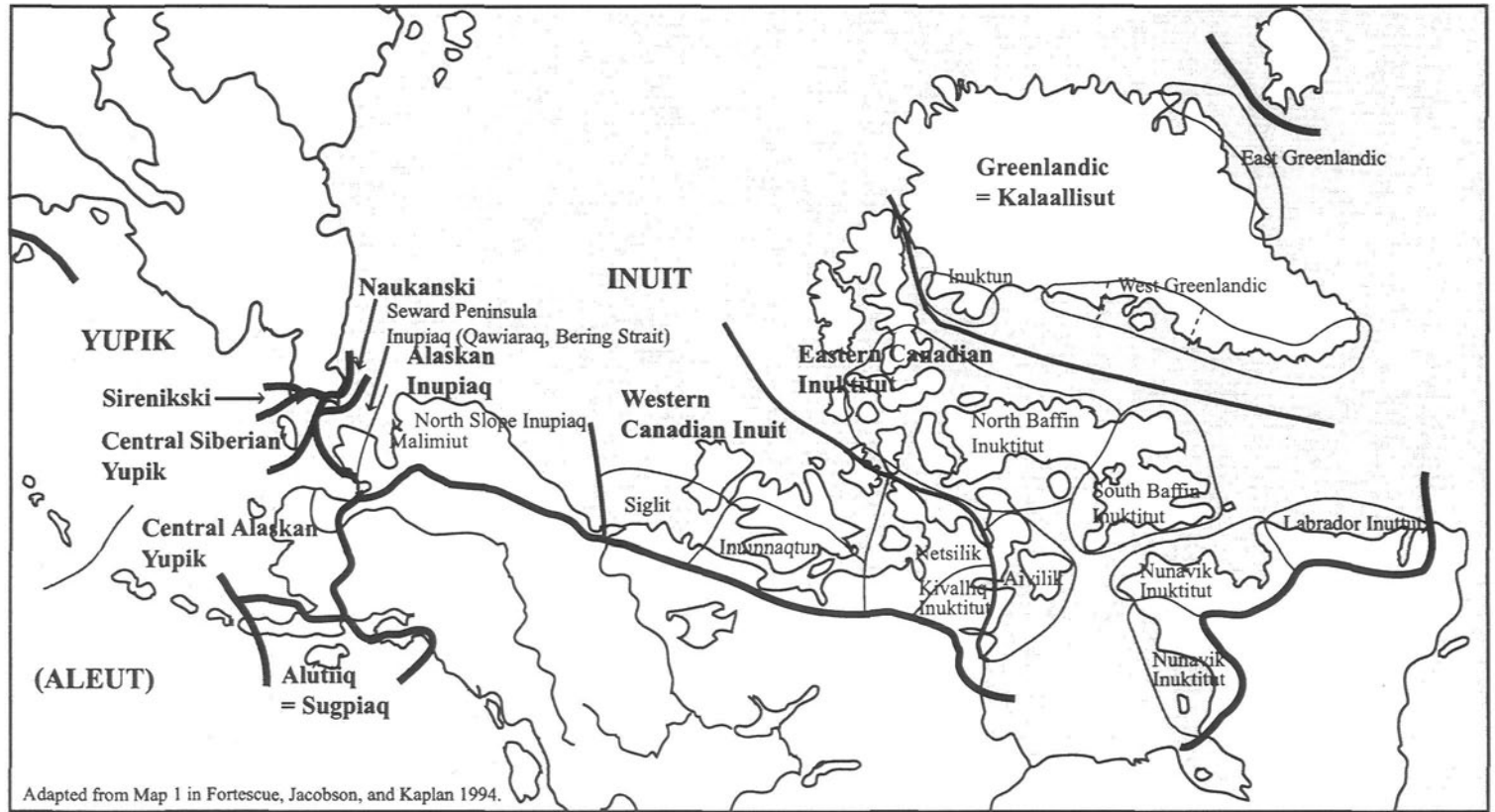
³ Eskimo language data are represented using the standard orthography for each language. Symbols should be clear, with the following notes: <g> is a velar fricative, <gh> represents a uvular fricative in Inupiaq, <gh> represents a uvular fricative in Central Siberian Yupik, <r> represents a retroflex in Inupiaq and Central Siberian Yupik but a uvular fricative in all other Eskimo languages and dialects, Inupiaq <lj> is a palatal liquid, double vowels and consonants are long, except in CAY and CSY where double consonants are voiceless. For further information on orthography and phonology, see www.uaf.edu/anlc and/or appropriate references listed here.

immediately adjacent to Athabaskan-speaking areas. A number of Aleut borrowings include words for fish and sea mammals, e.g., *cagiq* 'halibut,' *uginaq* 'sea lion,' and *issuriq* 'hair seal' in addition to the aforementioned *taangaq* 'alcohol' (from Aleut *taangax̂* 'water,' but they were probably brought to CAY by Russians). Given the limited nature of these contacts, this paper does not address further these pre-European contact loans.

In the far east (Greenland, Baffin Island) and the far west (especially the southern Bering Sea regions), there have been different degrees of contact for centuries; in some cases, there has been some form of sustained contact since the 16th century (excluding from consideration the Greenlandic Norse settlements, where contact is thought to date at least to the 13th century). Northwestern Alaska and Central Canada were relatively isolated until the 19th and in some rare cases 20th centuries. In most cases, the first waves of linguistic contact with European languages were typically with whalers, fur traders, or explorers, and often produced trade languages or pidgins which are known today from old word lists. Thus, words used in Greenland included *cuna* 'woman' from Old Norse and *pickaninny* 'child' from Portuguese. The usual WG words for 'woman' and 'child' are of course *arnaq* and *meeraq* or *qitornaq*. Traces of these simplified trade languages are found on both sides of the Arctic (cf. Jahr and Bloch 1996); for example, a trade language from whaling days (late 19th and early 20th centuries) has been documented in northern Alaska and was used by Hawaiians and Portuguese-speaking Africans in addition to Inupiaq and English speakers. Here, too, we find the Portuguese-based Inupiaq *mickaninny* 'child' (Port. *pequenino* 'little one' but influenced by AI *miki*- 'be small' and/or *miq̄tiqtuq* 'child'). Few words have survived to the present, and there is otherwise little effect of the trade languages on the modern language⁴. Some of the few survivors probably include *purgiq* or *pusrkhiq* 'black person' (from *portugee*, nickname for Portuguese speakers, many of whom were from the Cape Verde Islands off West Africa; this word is also found in the Eastern Arctic, e.g., South Baffin *puutugi*), *taaqsipak* 'black person' (composed of Inupiaq root *taaqs̄i*- 'grow dark' and the postbase *-qpak* 'big' but combined in an ungrammatical fashion, suggesting a trade language source). Old English loans showing major phonological adaptation, e.g., *palauvak* 'flour,' *sīlaavyak* 'pancake' (Engl. *slapjack*), *kaliku* 'fabric' (Engl. *calico*), probably date to this period.

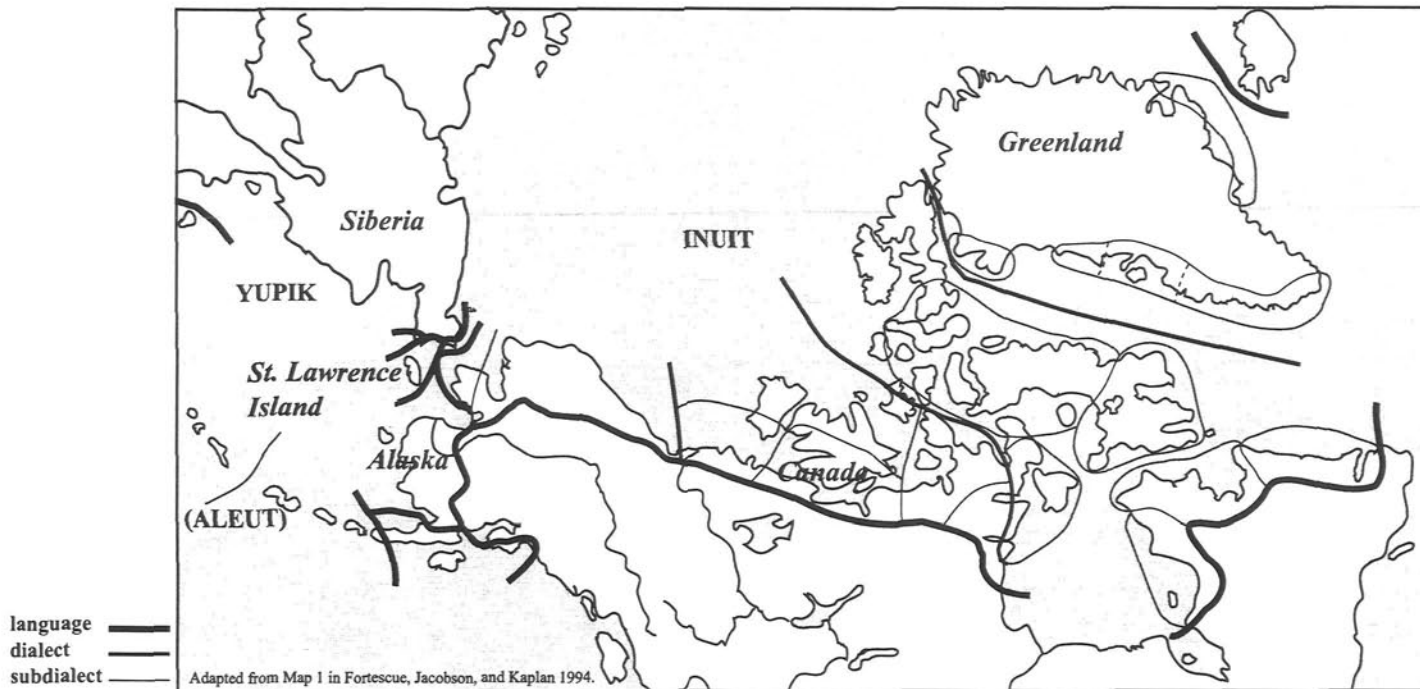
A second stage of contact arose from formal colonization. It is in this period that we begin to see lasting and far-reaching changes in the lexica of the various languages and dialects. For example, Russian control in Alaska began in the 1740s and continued until Alaska was sold to the United States in 1867, although Russian speakers remained, along with the Russian Orthodox Church, where Russian was also used. Borrowing from Russian into Alaska's Native languages was fairly extensive in the cases where the contact was greatest, and numbers of Russian loans in the different

⁴ One exception appears to be Copper Island Aleut, which is the result of a mix of Russian inflection and Attuan Aleut stems, possibly resulting from trade-induced contact (see Golovko 1994). It is left out of the discussion here since it is not one of the languages under consideration in this study.



language ———
 dialect ———
 subdialect ———

Figure 1. Yupik and Inuit Languages and major dialects.



Contact Languages

Siberia and St. Lawrence Island	Alaska	Central and Western Canada	Eastern Canada	Greenland
Chukchi	English	English	English	Danish
English	Russian	(Athabaskan)	French	English
Russian	(Athabaskan)		German	Dutch
			(Norse?)	(Scots)
			(Scots?)	(Norse)

(Parentheses indicate lesser contact.)

Figure 2. Arctic regions and contact languages.

languages can be taken as an indication of the degree of contact, as Krauss (1980) points out. Thus, we find over 350 Russian loans in Sugpiaq, nearly 200 in CAY, and only 15 in Inupiaq, with only about three having reached Alaska's Arctic coast, the northeasternmost point where Russian loans are found. In the Inupiaq area, Russian loans were transmitted most likely through contact with Central Yupik speakers in the Seward Peninsula and Norton Sound regions and perhaps also by Inupiat who traveled to the Russian-influenced Yupik area. Surprisingly, perhaps, CSY on St. Lawrence Island has only a few Russian loans, while those found in CSY spoken in Siberia date from more recent contact. Up until the early 1920s the primary foreign presence in this area was American traders and not Russians, who arrived somewhat after the formation of the Soviet Union. Old loans in Siberian Yupik are therefore from English and not Russian.

Colonization resulted in areas of lexical influence which include especially those involving governance, religion, and culture. Once again, the eastern and western edges of the Inuit and Yupik areas were the earliest to be colonized, in both cases in the 18th century. There are isolated exceptions, like East Greenland which was first contacted in the late 19th century and colonized at the beginning of the 20th century. Under Danish control, a policy of isolation from outside influences, preservation of traditional methods of livelihood, and gradual political integration was practiced. Education and religion were largely dominated by Lutheran and Moravian missionaries. No important systematic efforts to replace Greenlandic with the colonial language were undertaken, and literacy in the native language dates from the 18th century. In the Aleutian Islands, under the earliest Russian contact, colonization was characterized by exploitation and forced labor; this brutal treatment gave way to more beneficent policies once the Russian Orthodox Church established itself, and its influence soon spread to other parts of Alaska. Along with religion, the Church also controlled education, and although knowledge of Russian by indigenous peoples is attested, no systematic effort was made to replace the native languages. In 1867, the Russians sold Alaska to the United States but maintained control over Siberia and the Far East. Over the last century, close contact with far bigger Siberian groups such as the Chukchi in addition to Russians have led to language endangerment among Siberian Yupik speakers today. In America and Canada, a policy of *laissez-faire* was in effect until the 20th century in many places, and legal and educational influences were felt late, but their effects were quick and harsh. Education was variously the domain of private religious groups, including both Protestants and Catholics, or under governmental control. In either case, a policy of education in English-only was instituted, and in most communities, the language is in various stages of endangerment today.

One may also speak rather loosely of a period of modernization, not in and of itself a separate period, as it overlaps with both initial contact and colonization. With modernization, however, there is a distinct increase in new and deliberate word formation to deal with rapid changes in governance, technology and lifestyle. The regions have once again differed in how they dealt linguistically with this change. In Greenland, where change was forcibly slowed by explicit Danish policies, new vocabulary was created and added over a period of 300 years. In much of the rest of the Arctic, there have been delays in the creation of new vocabulary. In Eastern Canada,

there has been a program at least for the last decade to create new legal, medical, and scientific terms. In the Western regions, this type of activity is often still lacking, although there have been recent localized efforts to create medical terminology. As a consequence, the Western dialects or languages are often seen as lexically more conservative, but also more moribund than their eastern relatives.

As in many other situations involving modernization, the choices available for lexical expansion, such as borrowing from contact languages, reusing native words in new ways, or new word formations can have political implications. When looked at in the light of language planning, national organizations and political groups strongly prefer to see their language minimize borrowing—seen as foreign influence that 'dilutes' the language—and would maximize use of native vocabulary. However, there appears to be a long-standing tradition within all regional Inuit and Yupik groups to prefer native word formations over calques, borrowings, and so forth, regardless of the existence of organized attempts to create new vocabulary.

Lexical expansion

Lexical expansion has typically taken place to deal with the new political, religious, technological, and cultural experiences of each group. For example, the introduction of Christianity, with its Bible translations, new religious practices, and new religious concepts, led to important early changes involving everything from relexicalization of old words, to borrowing and coinage. This is because missionaries were typically the first Europeans who had long-standing and profound contacts with Inuit. Thus, WG *toornaq*, AI *tuunŋaq* 'shaman's familiar spirit' was relexicalized to mean 'devil' all across the Arctic (including the Aleut area). Direct borrowings were often taken from Latin, German, Danish, or English to stand for concepts or objects not easily translatable in the native languages; thus, in Greenlandic, Danish *synd* 'sin' was used, and Danish *præst* 'priest' became *palasi*. In some cases these old borrowings were retained, and in others they were replaced by later coinages, so 'sin' became *ajortulliaq* 'bad that is done' and later *ajorti* 'what makes one bad' (Petersen 1976; for a more in-depth survey of religious terminology in the Inuit and Yupik languages, see Berge and Kaplan 2002).

In the following section, we will not focus on any single subject category for lexical expansion; rather, we will show the effects of three different lexical expansion strategies on the different languages. The three primary means for adding new words to the lexicon which we will discuss in this context are relexicalization (using old, native words in new ways or with new meanings), borrowing (taking words from another language) or coinage (inventing new terms using native morphemes), as exemplified above. Further examples of each strategy may be found in Tables 1 to 4.

Table 1. Region-wide examples of relexicalization.*

modern meaning	CSY	CAY	AI	ECI	WG
devil	<i>tughneghaq</i> 'shaman's helping spirit'	<i>tuunraq</i> 'shaman's helping spirit'	<i>tuungaq</i> 'shaman's helping spirit'	<i>tuurngaq</i> 'personal spirit'	<i>toornaq</i> , <i>Tornarsuk</i> 'shaman's helping spirit'
sell	<i>akike-</i> , <i>akikegh-</i> 'to sell'	<i>naverte-</i> 'to trade'	<i>niuviq-</i> 'to trade'	<i>niuviq-</i> 'to trade'	<i>niuer-</i> 'to trade'
buy	<i>tukfigh-</i> 'to buy'	<i>iruver-</i> 'to trade' <i>kipute-</i> 'to exchange places'	<i>niuviq-</i> 'to trade'	<i>niuviq-</i> 'to trade'	<i>pisiniar-</i> 'to acquire something'

Table 2. Borrowing (new lexical item from source language; exact distinctions between pure loans and loan-blends are not made here).*

common terms	CSY (St. Lawrence)	CAY	AI	ECI	WG
coffee	<i>kufi</i> (B-Rus)	<i>kuuvviaq</i> (B-Rus)	<i>kaapi</i> (B-Eng)	<i>kaapi</i> (B-Eng)	<i>kaffi</i> (B-Dan)
apple	--	<i>atsarpak</i> (R/C-'big berry')	<i>aapu</i> (B-Eng)	<i>aapu</i> (B-Eng)	<i>iipili</i> (B-Dan)
onion	<i>laluwaay</i> (B-Chukchi 'bearded grass') <i>anyena</i> (B-Eng)	<i>luuk</i> (B-Rus) <i>anainessaaq</i> (B-Eng)		<i>uaniujaq</i> (B-Eng; C-folk ety. 'smell of armpits')	<i>uanitsog</i> (??)
wine	--	--	--	<i>vaini</i> (B-Eng)	<i>viinni</i> (B-Dan)
flour	<i>avlawā</i> (B-Eng) <i>evlawā</i> (B-Eng)	<i>mukaaq</i> (B-Rus)	<i>palauvak</i> (B-Eng)	<i>palaugaq</i> (B-Eng)	<i>qajuusat</i> (C-'like blood soup')
police	<i>puliiset</i> (pl) (B-Eng)	<i>itercista</i> (R/C-'put things in (jail)') <i>qillerqista</i> (R/C-'one who ties people up') <i>tegusta</i> (C-'one who takes (people)')	<i>tiguri</i> (C-'one who takes')	<i>paliisi</i> (B-Eng)	<i>politi</i> (B-Dan)
tobacco	<i>tawaqa</i> (B-Rus)	<i>cuyaq</i> (R-'leaf') <i>ingqaaq</i> (R-'chop') <i>taavaaqiq</i> (B-Rus)	<i>taugaaqiq</i> (B-Eng)	<i>tappaaka</i> (B-Eng) <i>tipaaq</i> (B-Eng)	<i>tupa</i> (B-Dan)
cat	<i>kiti</i> (B-Eng)	<i>ku(u)skaq</i> (B-Rus)	<i>kitiuraq</i> (B-Eng) <i>pusiuraq</i> (B-Eng)	<i>puusi</i> (B-Eng)	<i>qisuk</i> (C-'scratcher')

Table 3. Coinage (new lexical item formed from native morphemes).*

English	CSY	CAY	AI	ECI	WG
school	<i>igaghvik</i> (C-'place where one marks')	<i>elicarvik</i> (C-'place to learn/get used to/recognize') <i>naaqivik</i> (C-'place to count/read') (<i>e</i>) <i>skuulaq</i> (B-Eng)	<i>miñuaqtuǵvik</i> (C-'place where one draws') <i>aglagvik</i> (C-'place where one marks')	<i>ilinniarvik</i> (C-'place where one learns')	<i>ilinniarfik</i> (C-'place where one learns') <i>atuarfik</i> (C-'place where one follows lines [i.e. reads]')
hotel	<i>aqelqaamavik</i> , <i>aqelqaghvik</i> , <i>aqelqiqvik</i> 'place for guests'	<i>allanivik</i> (C-'place with strangers') <i>ciunirvik</i> , <i>tukirvik</i> (C-'place with guests')	<i>nullaǵvik</i> (C-'place where one spends the night')	<i>siniktarvik</i> 'place to sleep away [from home], camp' <i>tujurmivik</i> 'place to feel welcome'	<i>akunnittarfik</i> (C-'place where one settles down for the night')
translator	<i>mumigtista</i> 'one who turns things over'	<i>qanerta</i> (C-'one who speaks')	<i>mumiksiri</i> (C-'one who turns over')	<i>tusaaji</i> (C-'one who hears')	<i>oqalutsi</i> (C-'one who speaks')
priest 1 = Catholic 2 = Protestant	<i>yughaghta</i> (C-'one who does traditional dance')	1 <i>agayulirta</i> (C-'one who has the ceremony') 2 <i>qulirarta</i> (C-'one who tells a story')	<i>agaiyyuliqsi</i> (C-'one who has begun to pray')	1 <i>iksirarjuaq</i> (C-'one who writes a lot')	<i>palasi</i> (B-Dan)
airplane	<i>tenggekayuk</i> (C-'thing that takes off')	<i>tengssuun</i> (C-'thing that takes off in flight')	<i>tiññun</i> (C-'thing that takes off in flight') <i>tiñmisuun</i> (C-'thing that flies') <i>silakuaqsuun</i> (C-'thing that goes through air')	<i>tiñgmisuun</i> (C-'thing that flies') <i>qangattajuun</i> (C-'thing that takes off many times')	<i>timmisartoq</i> (C-'thing that flies')
paper	<i>igaghyaghqaaq</i> (C-'material to be used for marking')	<i>igarkaqaq</i> (C-'material for marking') <i>kalikaqaq</i> (B-Koryak via Aleut?)	<i>kaliikaqaq</i> (B-Koryak via Naukanski or Aleut?)	<i>titirarvisaqaq</i> (C-'thing to write on') <i>sikutsajaqaq</i> (C-'thin like ice')	<i>pappiara</i> (B-Dan)

Table 4. Region-wide differences in strategies.*

English	CSY	CAY	AI	ECI	WG
snow-mobile	<i>ullghitak</i> (C-'thing that rolls over') <i>pangalgusik</i> (C-'thing that runs on all fours')	<i>ikamraq</i> (R-'sled') <i>snuukuuq</i> (B-Eng 'snow-go')	<i>aputikuagun</i> (C-'thing that goes through snow')	<i>sikiitu</i> (B-Eng 'skidoo')	<i>snescooteri</i> (B-Dan)
money	<i>mani</i> (B-Eng)	<i>aki</i> (R-value, cost)	<i>manik</i> (B-Eng)	<i>kiinaujaq</i> (C-'what is like a face')	<i>anigaassat</i> (R-old word for 'moon')
Sunday	<i>Santi</i> (B-Eng)	<i>Agayuneq</i> (R-'praying')	<i>Savaiññiq</i> (C-'work is not done') <i>Minguiqsigvik</i> (C-'day/time of rest')	<i>sanattaili</i> , <i>sanaktaili</i> (C-'work is not allowed') <i>natsingujaq</i> (C-'waiting for a long time for something to be over') <i>sunataak</i> (B-Germ)	<i>sapaat</i> (B-Dan)

* In Tables 1-4: borrowings = (B-source language); relexicalization = (R); coinage = (C); dashes represent words unattested in the available sources of lexical information. Many of the words are only one or some of a number of dialectal variants; not all variants are presented. Most AI examples are from the North Slope; most ECI examples are from South Baffin.

Relexicalization

Relexicalization is commonly found in cases where native terms were restricted in use, as in old shamanic terms, or became obsolete as a result of modernization or technological changes. Thus, in West Greenlandic, an old shamanic term *agiaq* 'rubbing stone' has become 'violin.' Similarly, the names of old items that may have gone out of use get reused for modern technology, e.g., *issat* 'snow goggles' now means 'eyeglasses' (Petersen 1976). *Anigaasaq* 'money, change' is from an old word for 'moon.' In Inupiaq, *qaġruq* 'arrow' now means 'bullet,' and *kutchuq* 'tree sap' has come to mean 'chewing gum.' Another interesting source of relexicalization is the introduction of new concepts. In many Inuit dialects, the word for 'to sell' is some variation of *niuviq-*, originally meaning simply 'to trade'; as in WG *niuer-*, East Canadian Inuktitut (ECI) *niuviq-* (most ECI examples are from Baffin Island Inuktitut unless otherwise indicated). In many cases, the same word is also used for its converse, 'to buy.' Thus, while Greenlandic uses *pisiniar-* 'to buy, lit. to acquire something,' most Canadian Inuit dialects use *niuviq-*. The comparable English meanings 'sell' and 'buy' are relatively recent. Another well-known source of relexicalization has been the reinterpretation of traditional religion and spirituality according to the needs of the newly introduced religions; hence the reinterpretation of 'shaman's familiar spirit' to mean 'devil,' as

discussed above. In Alaska, where there were more rituals associated with the native religion and consequently native terms for these rituals, many were subject to relexicalization. Thus, CAY *agayu-* 'to hold the mask ceremony' became 'to pray,' and *agayuvik* 'church, place for praying' was coined from this (Berge and Kaplan 2002). New foods, condiments, etc. also led to relexicalization. Once again, in CAY, the appearance of tobacco, both as dried leaves and as cut or chopped leaves, resembled native plants, and the terms *cuyaq* 'leaf' and *ingqaaq* 'something chopped' became associated specifically with tobacco.

Relexicalizations appear to be more random than either borrowings from the respective source languages or coinages, and the latter two appear to have had a far greater effect on the lexicon.

Borrowing

A great deal of borrowing has occurred in all the dialects and languages under consideration. A review of Fortescue *et al.* (1994) and Dorais (1990) shows how close most of the Inuit dialects are when just the inherited lexical terms are considered. In fact, Dorais (1996: 119-122) specifically emphasizes the basic identity of the Inuit language, despite small lexical differences among the dialects. When comparing terms pertaining to contact-induced lexical expansion, however, great differences emerge.

Certain terms have, for different reasons, been consistently borrowed all across the Eskimo Arctic. For example, terms for numbers above 20, and in some cases above 10, are most often borrowed from the respective source languages, very probably because of the morphophonological simplicity of the borrowed terms as well as the relatively rare use of terms denoting larger numbers in traditional communities. The Alaskan languages do have native terms for the larger numbers, but in actual speech, English borrowings have mostly replaced them. Other common sources of borrowing have been internationalized terms, such as 'police,' 'coffee,' 'bus,' and so forth. In comparing the results of borrowing in the different languages and dialects, it is especially interesting to note the effects of the source languages' phonologies on the loan. Thus, WG *politi* 'police' comes from Danish *politi* [politʃ], while ECI *paliisi* comes from English *police* [pəlɪs].

A great many borrowings entered the various languages as a result of early missionary work, through Bible translations. Lexical items included most obviously religious terminology, some of which have been retained but many of which have been replaced with native coinages. Many other items were borrowed as a result of the translation activity, however, and especially those for names of animals and plants. Other common sources of borrowing came via trading and include especially terms for food and tools. Once again, many of these borrowings are recognizably from related terms in the source languages (*e.g.*, English *apple*, Danish *æble*), but they have adapted the source languages' phonological realizations, with quite different outcomes (*e.g.*, WG *iipili*, from Danish *æble* [ebl̥] vs ECI *aapu* from English *apple* [æpl]). The word for 'onion' in the southernmost Yupik areas is CAY *luuk*, from Russian *luk*, and in other

areas, it is CAY *anainessaaq*, from English, apparently from the plural *onions*. In the Yupik-speaking regions, an unusual situation exists because of the early Russian presence in Alaska and later activities by English-speaking whalers off the Siberian coast. Many of the same words were borrowed, but CAY retained the Russian loans and CSY took English loans. For example, CSY has *evlawā* for 'flour' where CAY has *mukaaq* (Russian *muka*), CSY *kaawa* 'cow' but CAY *kuluvak* (Rus. *korova*), CSY *kiti* 'cat' but CAY *kuuskaq* (Rus. *koshka*), CSY *suupaq* 'soap' but CAY *miilaq* (Rus. *mylo*), and CSY *bara* 'butter' but CAY *maaslaq* (Rus. *maslo*) (Jacobson 1990b: 271). English loans were also extensive on the Asian side through trade activities, as mentioned earlier, although they are somewhat hard to uncover since they apparently were consciously omitted from dictionaries by Soviet linguists. Some are included, however, perhaps because the compilers failed to recognize them as English loans, e.g., *ivenruutek* 'outboard motor' (from the trade name *Evinrude*) and the recently discovered *mangkeraasiq* 'monkey wrench' (Jacobson and Koonooka, pers. comm. 2002).

Many borrowings are well integrated into the respective languages' and dialects' phonologies (as in WG *palasi* 'priest,' from Danish *præst*, or AI *palauvak* 'flour,' from the English, mentioned above). It is important to note that each region has distinct phonological rules and patterns which may have affected the outcomes of these borrowings. In the eastern regions, for example, there are fewer allowable consonant clusters and diphthongs. This should be the focus of more research, but we have not as yet looked into this at any length. Later borrowings show less integration and may be the result of widespread bilingualism. The Greenlandic word for car, *biilit*, includes a non-native voiced labial, reflecting the Danish pronunciation *bil* [bil] (although many speakers would probably use a slightly devoiced labial). Some later loans are nonetheless well-integrated phonologically and may be loan blends, as in AI *tuulaiqsit* 'be late' (Engl. *too late* and AI *-tit* 'cause'). In Alaska, the latest technology is often expressed using fairly superficial loans from English, often with -q added, e.g., CAY *tiiviiq* 'television, t.v.' and *clinic-aaq* 'clinic' (with only the former listed in the dictionary, probably because it involves slightly more adaptation).

An unusual degree of borrowing appears to have taken place in CSY, the language of St. Lawrence Island, Alaska, and Novoe Chaplino and other settlements in coastal Chukotka. Speakers of this language have co-existed on the Asian continent with speakers of Chukchi over an extended period, with Yupik gradually losing ground to Chukchi. Language contact between the two has been profound, and old Chukchi loans on the Alaskan side predate the cold war period when the two Yupik groups were out of contact and when Chukchi influence increased in Asian Yupik. Most interesting for our purposes is the fact that Chukchi loans include not only the usual sorts of nouns found in other Eskimo languages but also connective particles. Nouns include *yaywaali* 'orphan' (Chuk. *yeyvel*) and *guygu* 'summer dwelling' (Chuk. *guygun*). Particles are numerous and translations are somewhat approximate, e.g., *wanlegi* 'all the same' (Chuk. *venlelgi*), *repall* 'even' (Chuk. *reper*), *wini* 'aha' (Chuk. *viin*), *iiwen* 'if' (Chuk. *ever*) (Jacobson 1990b: 269). The fact that these borrowings are structurally important in CSY suggests that there may have been true bilingualism on the part of the Yupit, who used Chukchi words in their speech. There was certainly extended trade with the Chukchis of the sort that typically provides nouns for trade goods and material culture,

but the particles suggest more extended contact. Some Chukchi particles have also entered Diomedean Inupiaq, presumably through neighbouring Nauyasanski, and Diomedean is the only Inuit language to have this sort of influence (de Reuse 1994)⁵.

Coinages

Finally, a common, if not preferred, source of lexical expansion in these languages is the practice of creating new lexical items from existing morphemes. This may be an especially fertile source of new lexical items in Eskimo languages precisely because of their highly productive agglutinative morphology. There are many productive ways of nominalizing verbs, which allows many new terms to be added which are descriptive in some way. Thus, in WG, the morphemes *-ut* 'device for,' *-ffik/-vik* 'place,' and *-ssaq* 'something to be used for,' among others, are commonly found in coinages. *Igaffik* 'kitchen' is literally 'place to cook,' *annoraassaq* 'cotton fabric' is literally 'something that will become an anorak.' These morphemes, or others which bear the same function, are present throughout the greater Eskimo region. In AI, for example, the following terms all include either *-un*, cognate with WG *-ut*, or *-vik*: *suppun* 'rifle' (lit. 'device which blows'), North Slope *tiggun* 'airplane' (lit. 'device which takes flight'), Malimiut *tingmisuun* 'airplane' (lit. 'device which flies'), *agaayyuvik* 'church' (lit. 'place to pray'), *siñigvik* 'bed' (lit. 'place to sleep'). In CAY, they are *-cuun* 'device for' and *-vik* 'place'; e.g., *iqairissuun* 'washing machine' (lit. 'device for removing dirt'). There are many other morphemes which lend themselves to descriptive word-formation (see Petersen 1976 for a greater discussion of these in WG).

What is particularly interesting about coinages is the window they provide to the different perceptions and experiences of introduced concepts and items in the various regions. These may reflect rather slight differences, such as WG *akunnittarfik* 'place where one settles down for the night' and ECI *siniktavik* 'place to sleep away from home' or *tujurmivik* 'place to feel welcome,' or North Alaskan *nullagvik* 'camping place, place to spend the night' for 'hotel.' On the other hand, they may reveal very different experiences, as in the words for 'prophet,' cf. WG *Guutip aallartitaa* literally 'God's messenger' versus ECI *nalautajuq* 'one who is good at guessing'; or as in CAY *agayulirta* 'Catholic priest,' literally 'one who does the ceremony' versus *qulirarta* 'Protestant minister,' literally 'one who tells a story.'

The different strategies for lexical expansion do not exist independently of each other, and in some cases, words created in one way may be later reintroduced in another way. Many of the older borrowings, clumsy at best, were later replaced with coinages. This is especially true where borrowings reflected unfamiliar concepts. An example of this was given above, with WG *synd* becoming *ajorti*. In some cases, however, borrowings coexist with coinages or even with borrowings from a different source language, giving rise to doublets. Thus, in CAY, early Russian loans coexist with later English loans. These words commonly double with coinages from CAY, so *liitiut* (Jacobson, pers. comm. 2004) and *niicugnissuun* are both used for 'radio' (although

⁵ Various people have speculated about the possibility of the common Yupik and Inuit connective particle (*a*)*amma* being of Chukchi origin, although this is discounted in Fortescue *et al.* (1994).

only the latter coinage is found in the dictionary). In AI, *agayu-* still means 'to dance Eskimo style,' but *agaayu-*, presumably borrowed from CAY, perhaps as a result of missionary activity (see Berge and Kaplan 2002), has come to mean *to pray*. Petersen (1976: 168) also discusses the existence of effective doublets where coinages reflect the more formal, written language or language in a well-defined formal context, but borrowings are used for everyday speech, as in *nalunaaquttap akunnera* (lit. 'the mark/sign's having reached...,' from the act of reading time from clocks or watches) versus *tiimi* (Danish *time* 'hour') for 'o'clock'⁶.

Given that related languages and dialects employ the same strategies for lexical expansion, it is not surprising that they sometimes develop identical coinages that are not borrowed. AI *siñigvik* 'bed' (lit. 'place to sleep') exists in almost all Inuit dialects, although it means 'sleeping bag' in ECI. AI *niggivik* means 'table' or 'restaurant' throughout the Inuit dialects, akin to WG *nerivik* and related forms in Yupik, all from *niri-/nere-* 'eat' plus *-vik* 'place.' These words and others like them must have arisen independently from cognate morphemes that are found throughout the Yupik and Inuit languages.

Relative importance of lexical expansion strategies

Relexicalization, borrowing, and coinage do not seem to have equal importance in the different language and dialect groups. With respect to relexicalization, while there are no available statistics, we hypothesize that this strategy is likely to be less important especially in the less endangered languages; the initial period of contact is over, and with it, the resulting need to relexicalize. In areas where the languages are severely endangered, relexicalization may actively be used as part of revitalization efforts. In Alaska, groups working on lexical planning and language revitalization have expressed a desire to reintroduce long-obsolete terms as a means of reducing foreign influence⁷.

As we have seen, all areas in question have shown a preference for coinage over borrowing. However, Petersen (1976: 199) points out that the polysynthetic nature of Greenlandic (and by extension, of all of the languages under discussion) often results in coinages which are quite long compared with the equivalent available borrowing. In these cases, many coinages eventually give way to the borrowed term. Furthermore, coinages tend to be preferred over borrowings for features of life unique to modern Greenland, whereas borrowings take precedence for designating new non-native technologies, continuing a long-attested pattern.

In addition to these general trends, there are also differences in the relative importance of lexical expansion from one language to the other. In one recent study, Dorais (1996: 159) has noted that the percentage of borrowings increases from West to East, such that there are more English borrowings in Inuktitut than in Uummarmiut, for

⁶ These types of doublets, of course, are not uncommon in languages in general, as, for example, the more formal *Fernsprecher* 'telephone' versus the more informal and common *Telefon* in German.

⁷ Members of the Aleut community, for example, have sought to replace Russian borrowings with obsolete Aleut terms with compatible meaning attested in the older literature.

example, and more Danish borrowings in Greenlandic than English borrowings in Inuktitut. Further, the longer the period of contact and sedentarization, the more borrowings there seem to be. Much of the statistical information that Dorais provides suggests that borrowing may not be a particularly important source of new lexical items; thus, for terms relating to contemporary culture, only about 3.3% are English loans in Uummarmiut, versus 6% in Inuktitut. According to Petersen (1976: 193), many borrowings in Greenlandic tend to be introduced via publications; presumably, given the rise of other forms of media in Greenlandic since then, we should also consider the importance of television, radio, and now internet sources. One should remain cautious in evaluating the importance of borrowings transmitted through these sources, however, since they may appear to be more widely used than they are.

Conclusion

To summarize, it is evident that contact-induced changes in the lexicon of each language or dialect considered here have worked to substantially differentiate each language from the others. It is true that the Inuit and Yupik languages and dialects have fundamental commonalities through the retention of native terminology, principally in core vocabulary (*e.g.*, kinship, body parts, weather, animals, etc.). At the same time, it must be admitted that a large part of the newer vocabulary does not reflect the common origins of these languages. Differences arise through a variety of strategies available for expanding the lexicon of each language, three of which we have looked at in this paper. In many cases, the different languages have created new lexical items with the same meaning but using different strategies, thus further complicating their relationships. For example, the word for 'money' involves a relexicalization in CAY (*aki* 'value'), a borrowing in AI (*manik*), and a coinage in ECI (*kiinaujaq* 'thing that is like a face'). These differences have heretofore not been systematically analyzed, yet they are becoming increasingly important and critical. They can be expected to gradually decrease mutual intelligibility between dialects, for example.

The lexical divergence pointed to by this study relates to the larger question of the state of the language today and language viability, which varies greatly from one area to another, increasing generally as one travels eastward. In Alaska and Western Canada, language shift to English is quite advanced, except for much of Central Alaskan Yupik, which still has child speakers. Inupiaq and Western Canadian Inuvialuktun are not being learned by children. In general, the percentage of native speakers relative to total population increases to the east, across Eastern Canada (except Labrador) and finally into Greenland, where the language is thoroughly viable.

What, then, is the relationship between viability and rate of lexical change? Viability means that new speakers are being created, and there is certainty that language change is in process. With large numbers of monolinguals of all ages, Eastern dialects must develop new lexical items if the language is to cope with social and technological change. In the West, only a small percentage of the population is monolingual in the Native language. Yupik has the most monolinguals, and they are nearly all elders and small children. Bilingualism with English is usual in the West

among Native language speakers, and English provides new lexical items that are not phonologically assimilated as they were in earlier times and so cannot be considered true borrowings. Monolinguals employ more thoroughly phonologically adapted borrowings; in Inupiaq, these date from a century ago, and in the Eastern Arctic, they are still being created.

The issues of language shift and viability are recognized as important by both linguists and the Inuit and Yupiit themselves. From a linguistic point of view, this issue points to the need for more comparative lexicological studies. From the point of view of the speaker communities, however, it is a possible issue of concern. The Inuit Circumpolar Conference is aware of the uncertain future faced by the language in the Western Arctic and of the need to maintain the level of viability found in the Eastern Arctic. Lexical development is an area that is often subject to language planning efforts. Purposeful lexical planning may include vocabulary modernization to accommodate new technology, systems, or culture, and typically focuses on use of native terms and coinages to reduce the amount of borrowing, as we have seen. In much of the Arctic, such efforts have been undertaken locally and sporadically. There is often a great deal of community pride in individual dialects or languages; at the same time, there have also been discussions on language standardization, both at local and regional levels across the Arctic. The question that needs to be addressed is whether speaker communities need or want standardization of new terminology as opposed to more locally-based language policy decisions. Coordinated language planning could be used to bring Yupik and Inuit languages closer together while serving the needs of individual areas for useful vocabulary to describe their changing world.

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