Urbanization and incipient morphosyntactic change in Kalaallisut (West Greenlandic)

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Workshop: Language change in the Arctic

Greenland in the Arctic context

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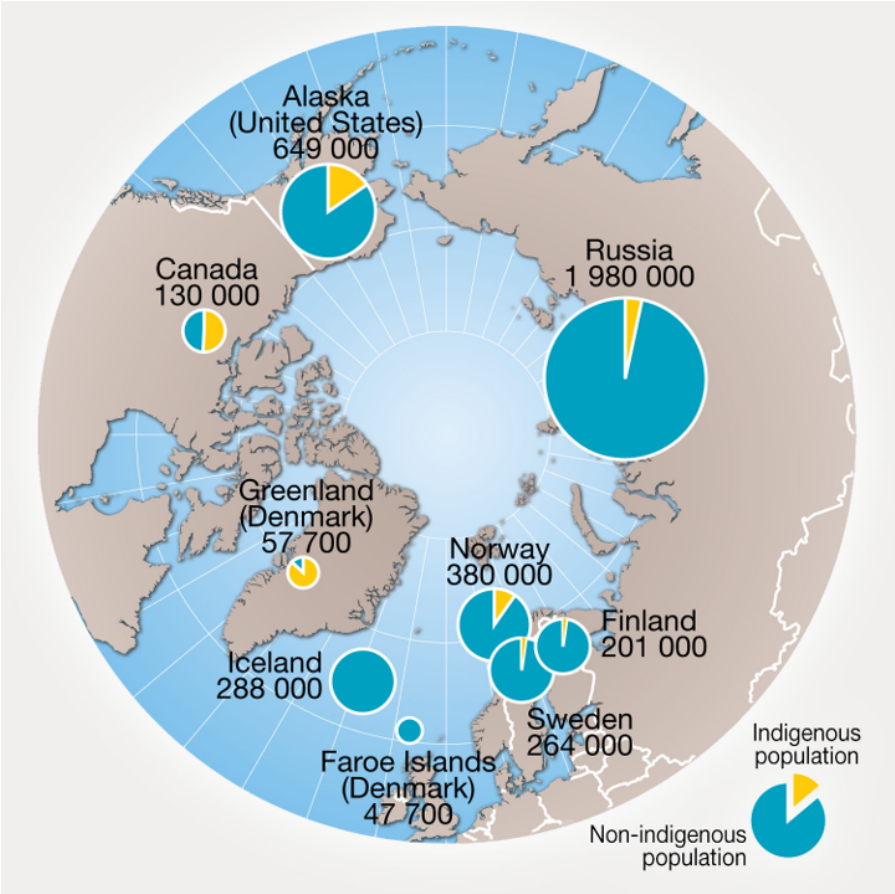
Greenland stands out in the Arctic as the only Indigenous-majority nation –



Also stands out linguistically: Greenlandic (Kalaallisut) is *not* endangered, it is a majority language of Greenland, and it is actively being transmitted to and used by children

Morphology of Kalaallisut (West Greenlandic)

Greenlandic has received considerable attention from linguists interested in morphosyntax, especially in the grammatical status of incorporation (Sadock 1980, Mithun 1984, Sadock 1986, Mithun 1986)

Morphosyntax characterized by:

- Polysynthesis – extreme elaboration of the verb
- Fusional morphology (Ratio of formative to semantic features is 1 to many)
- Flexible word order (SOV is considered unmarked)
- Case marking, with ergative-absolutive alignment (in addition to an elaborate system of demonstratives/relational nouns)

Linguistic variation in Greenland

- Existing descriptions (esp. recent ones) of Kalaallisut tend to focus on the complexity of the morphosyntax (Fortescue 1984; Sadock 2003)
- Robustly spoken, yet language *use* is underdescribed (morphosyntactic variation, pragmatics, sociolinguistic variation – Berge 2011)
- Dialectal differences across Greenland (considered in some cases to produce entirely different languages)
  - Standard (Sisimiut dialect) differs significantly from varieties spoken in South and East Greenland

Linguistic implications of colonization in Greenland

Colonized by Denmark beginning in the early 1700s:

- Danish was the language of colonial rule until the 20th century
- Language policy wrt to Greenlandic changed several times – period where Danish was the dominant language of education (1959-1979)
- 2009: Greenland moves to Self Rule
  - Kalaallisut becomes sole official language
  - Greenland has more of a role in policy (=education, environment, climate, health, fisheries)

The role of Danish

In practice: Danish is still extremely dominant, with many Danes holding positions in government

Danish continues to dominate in educational settings

- Kalaallisut is official language of instruction, but many subjects are taught in Danish
- Shortage of teachers for all subjects – many teachers are brought in from Denmark
- Danish children (virtually without exception) do not learn Kalaallisut – when they are present in a majority-Inuit classroom, instruction switches to Danish

Ongoing urbanization and globalization of Greenland

Linguistic ecology of Greenland is evolving at a rapid rate, especially in Nuuk (the capital city)

Table 1: Greenland population by ethnicity (2022 estimate)

Kalaalit (Inuit)	89.1%
Danish	7.5%
Other Nordic peoples	0.9%
Other ethnic groups	2.5%

Source: https://www.cia.gov/the-world-factbook/countries/greenland/#people-and-society

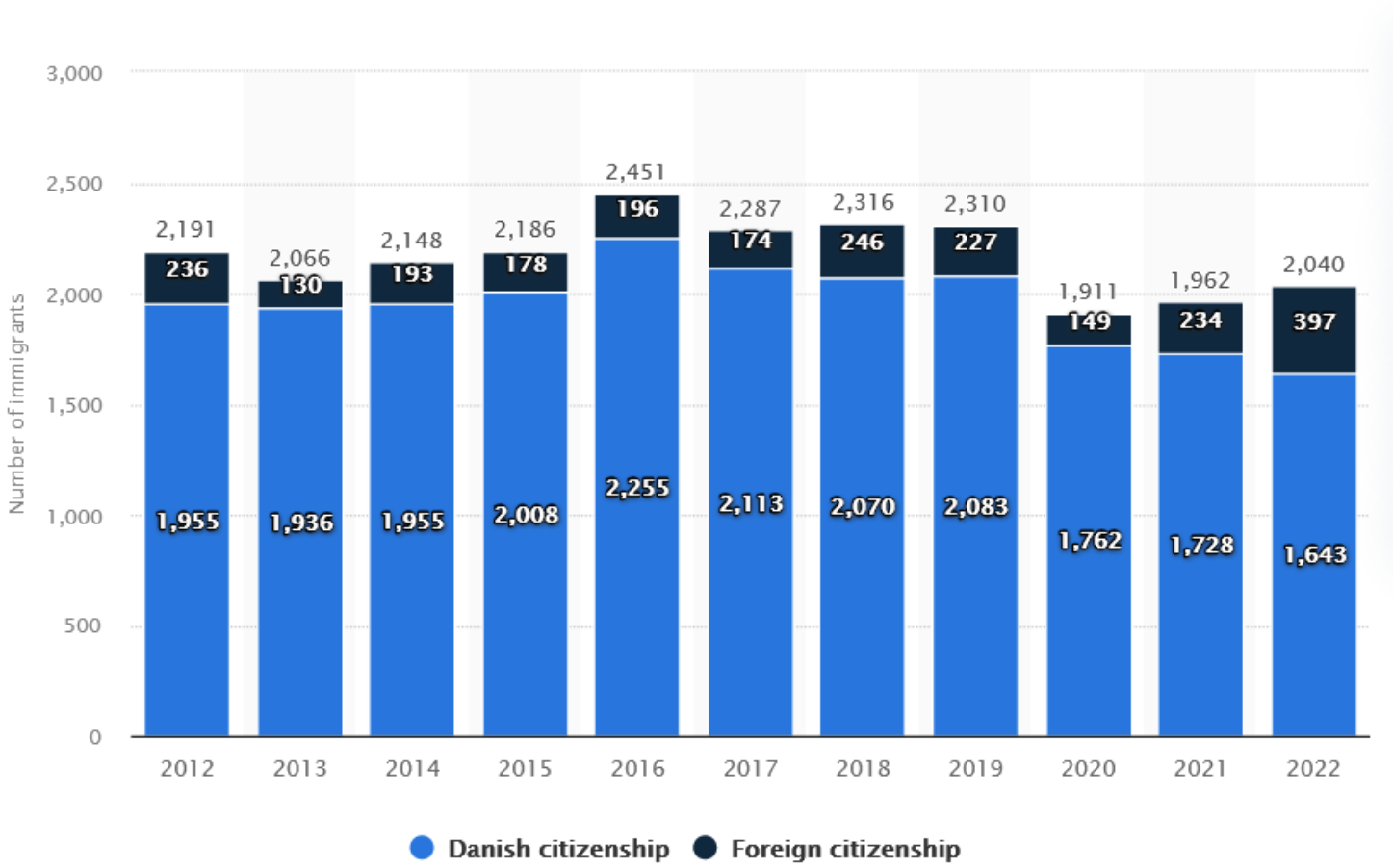
Table 2: Population by birthplace (January 2023)

Population	Number	%
total, Greenland	56,609	100.0%
born in Greenland	50,160	88.6%
outside of Greenland	6,449	11.4%
total, Nuuk	19,604	100.0%
born in Greenland	15,540	79.3%
outside of Greenland	4,064	20.7%

Source: Statistics Greenland 2023

Immigration to Greenland

Expect the percentage of non-Danish and non-Kalaalit residents to grow:



Source: Statistics Greenland 2003,
`https://www.statista.com/statistics/1112213/immigration-to-greenland-by-citizenship/`

Changing linguistic ecology of Nuuk

Statistics do not capture the volume of visitors to Greenland – massive (eco-)tourism industry

New airport in Nuuk – expected to be completed in 2024

English is already used widely in Nuuk (especially by young people, who learn it in school or even earlier online)

- Non-Greenlanders increasingly greeted in English, not Danish
- Service industry employees often only speak in English

➠ The context in which Kalaallisut is spoken is no longer a "society of intimates" (Trudgill 2011); this is a rapidly modernizing society with considerable intercultural contact and access to a global world

English in Nuuk: examples

Expectations for changes to (polysynthetic) morphology

Given the long-standing dominance of Danish and the recent growth of English – both comparatively more analytic languages – we expect contact-induced changes to Kalaallisut morphology

Polysynthetic languages in contact tend to show an increase in analytic features and a decrease in quantitative morphological complexity (Inuktitut – Sherkina-Lieber & Murasugi 2015; Chukchi – Kantarovich 2020; 2022; Kantarovich et al. 2021; borrowing of particles from Chukchi by Siberian Yupik – de Reuse 1994)

Expectations for changes to (polysynthetic) morphology

But individual experiences with multilingualism (and population structure; Mufwene 2001) will play a significant role in conditioning different linguistic patterns at the individual level, especially because:

Derivational morphology is known to be acquired incrementally by children (for their L1 & L2) (Tilstra & McMaster 2007; Montrul 2001; Nicoladis 2005; Clahsen & Neubauer 2010)

Inflectional (and esp. irregular) morphology also known to have variable acquisition in situations of unstable or unequal bilingualism (e.g., heritage languages) (Polinsky 2018)

➠ Today: zoomed-in look at several speakers (who pattern alike based on age, i.e. Gen Z vs. older speakers)

Methodology: Experimental production tasks

Continuation of joint research with Lenore Grenoble (NSF BCS #1761551) that began in Siberia, examining the linguistic effects of shift through experimental field tasks

Adapted production tasks for use in the Greenlandic context:

- Sociolinguistic interview
- Picture production task (35PPE)
- Controlled narrative elicitation ("Bridge Story")
- Metalinguistic ethnography with experts

Target: Morphosyntactic variation in the construction of basic transitive and intransitive clauses

Clausal structure in Kalaallisut

Canonically-polysynthetic language:

- Noun incorporation (multiple roots per word)
- Extreme head marking (verbal agreement with subject and object)
- Argument drop
- Adverbial and adjectival modification through suffixation
- Valency-changing verbal derivation

Optionality in Greenlandic morphosyntax

Kalaallisut picture is further complicated by the pragmatic rules that govern morphosyntax (optionality)

Even in basic clauses, speakers must resolve a set of options for the most felicitous morphological configuration in a given context:

- Different available word orders
- Choice of suffixal vs. free-standing modification
- Availability of noun incorporation
- Availability of antipassive ("half-transitive") voice
- (Re)arrangement of argument encoding following the selection of an option

The resolution of this optionality (when/why certain configurations are preferred) is underdescribed in existing grammars

Options for the expression of a canonically-transitive event

Examples adapted from Kahn & Valijärvi 2021:

(1) **Transitive clause**

alussaam-mik neri-vaa
spoon-INST eat-3sg>3sg

'She is eating it with a spoon'

(2) **"Half-transitive"/antipassive**

iipili-mik neri-vutit
apple-INST eat-2sg

'You are eating an apple'

(3) **Incorporated object**

siku-tor-punga
ice-consume-1sg

'I am eating ice cream'

(4) **Transitive without arg. drop**

qimmi-p neqi neri-vaa
dog-REL meat.ABS eat-3sg>3sg

'The dog is eating the meat'

35PPE

niviarsiaraq
kaffi

Based on methodology used in Siberia – designed to target simple clauses across a range of verbal valency and argument/event structures

- Series of 35 images with lexical items for nouns in ABS case
- Verbs not provided to test for preferences for incorporating suffixes vs. non-incorporating verb stems
- Variety of events depicted
  - Argument animacy – semantic role
  - Argument number
  - Argument specificity not controlled – testing for all possible options or the existence of a default

Metalinguistic interviews with experts

In addition to sociolinguistic questionnaire, directly language specialists (and teachers) asking about perceived changes in Kalaallisut among young people

Clockwise from top left: Tikaajaat Geraae Kristensen, Alliaq Kleist Petrussen, Camilla Kleemann-Andersen, Ivalu Mathiassen

Baseline patterns: transitive vs. antipassive

Antipassive reading was generally possible if a transitive reading was possible:

niviarsiaraq
iffiaq/timiusaq/
tiggaliaq
savik

(5) Transitive

niviarsiarqa-p iffiaq savim-mik kili-paa
girl-REL bread.ABS knife-INST.SG cut-3sg>3sg

'The girl cuts the bread with a knife'

(6) Antipassive (in this case, the preferred option is a derived antipassive)

niviarsiaraq iffia-mik kili-tsi-voq
girl.ABS.SG bread-INST.SG cut-ANTIP-3sg

'The girl cuts some bread (or: the girl is cutting bread)'

Baseline patterns: transitive vs. antipassive

Another example, with different semantic roles/case marking:

nukappiaqqat
orpik
naatsivik

(7) Transitive:

Nukappiaqqa-t naatsivi-mi orpik naatip-paat
boys-(REL).PL garden-LOC.SG tree.ABS.SG plant-3plA.3sgO

'The boys plant the tree in the garden'

(8) Derived antipassive:

Nukappiaqqa-t naatsivi-mi orpim-mik naati-tsip-put
boy-(ABS).PL garden-LOC.SG tree-INST.SG plant-ANTIP-3plS

'The boys plant a tree in the garden'

Baseline patterns: transitive vs. antipassive

In other cases, the "half-transitive" (underived) antipassive is preferred:

niviarsiaraq
inuusaq

(9) Transitive

niviarsiaqqa-p inuusaq pinnguari-vaa
girl-REL doll.ABS.SG play-3sg>3sg

'The girl plays with the doll'

(10) Antipassive

niviarsiaraq inuusa-mik pinnguar-poq
girl.ABS.SG doll-INST.SG play-3sg

'The girl is playing with a doll'

Baseline patterns: noun incorporation

Incorporation is often a possible strategy; i.e., there is an incorporating suffixal verb that speakers suggested

qeerlertuuaqqat
anaana

(11) qeerlertuuaqqat anaana-rtik malip-pat
ducklings.REL mother-4pl>3sg follow-3pl
'The ducklings follow their mother'

(12) anaana-mukar-put
mother-move.toward-3pl
'They move towards their mother (=They follow their mother)'

Baseline patterns: noun incorporation

Strong preferences expressed for when incorporation *must* be used – when it is the only felicitous way to express the event

Generally, includes:

- eating, drinking (both humans and animals)
- possession
- hunting and fishing

(13) qimmeq saane-tor-poq
dog.ABS bone-consume-3sg
'The dog eats a bone'

qimmeq
saaneq

Who are the conservative Kalaallisut speakers?

"Baseline" examples – largely coincide with what we expect from grammars, with some added information

The speakers that produced these examples include:

- the language specialists cited earlier
- other speakers (generally in their late 20s or older)
- younger (Gen Z) speakers who exclusively used Kalaallisut within their family growing up (and continue to do so)

What about the divergent speakers?

By and large, tend to be the youngest speakers (18-25) with extensive bilingualism beginning in childhood:

- Danish at home due to a Danish parent (or younger sibling who speaks very little Kalaallisut)
- Born and raised in Nuuk, where there are few entirely monolingual spaces

Perceived incipient changes

In their teaching and general observation of the speakers in Nuuk, teachers and linguists report the following changes taking place among younger speakers (university-age):

- Declining use of relative case
- Certain case distinctions are being lost due to phonological change:
  - *-mit* ablative and *-mi* locative
- Word order is becoming more fixed: preference for SOV order more consistently
- "Words are becoming shorter" – may point to a preference for analytic rather than synthetic or polysynthetic morphology

At least some of these changes are borne out in my data 🠺

Incipient morphosyntactic change: Collapsing of cases due to final consonant dropping

(14) nukappiaqqa-t naatitsivim-mi orpi-ni (expected:orpin-nik)
boy-ABS.PL garden-LOC.SG tree-LOC.PL (tree-INST.PL)
naati-tsip-put
plant-ANTIP-3pl
'*The boys plant (in the) trees in the garden'

Incipient morphosyntactic change: Avoidance of relative case

Manifests in several ways ➠

Preference for antipassive voice:

(15) angut nukappiaqqa-mik eqalum-mik tuni-voq
man.ABS.SG boy-INST.SG fish-INST.SG give-3sg
'The man gives some boy a fish'

Innovation of a kind of intermediate voice between active transitive and antipassive, with mixed inflectional morphology:

(16) angut eqalum-mik nukappiaqqa-mut takutip-paa
man.ABS.SG fish-INST.SG boy-ALL.SG show-3sg>3sg
'The man shows a fish to the boy'

Incipient morphosyntactic change: Use of nominal participles instead of finite verbs

(17) angut aalisakka-nik piniar-toq
man.ABS.SG fishing.line-INST.PL hunt-PART.SG
'The man is one who hunts with a fishing line'

Prognosis for stability of noun incorporation

Noun incorporation remains quite frequent, even among the innovative younger speakers

An open question is whether it will continue to be fully-productive, or will be more restricted to the instances that are most common in the input:

- Experts insist that students have lost the segmentation of incorporated N-V complexes, so while they do use them, the internal structure is not transparent to them (cannot identify that it consists of a noun and a suffixal verb)

Implications of the Kalaallisut case

➠ Question as to how noun incorporation will continue to fit into the adjudication between options:

- Will incorporation simply serve as the preferred option for certain events? (e.g., eating)
- Will incorporation fill the role occupied by antipassive, if the antipassive is becoming unmarked?

Opportunity to see how a widely-used polysynthetic language (continuing to be transmitted) adapts to a contact setting

Towards a typology of contact-induced change in polysynthetic languages

Greenlandic case (especially when taken in conjunction with other examples of polysynthetic languages in contact) affords us the opportunity to investigate cycles of morphological change (synthesis > analysis > synthesis > ...)

Because Greenlandic is robustly-spoken and only beginning to change (and then only among some speakers), we can also observe contact-in-progress

Predictions about the types of changes that occur in polysynthetic languages:

- Morphological reduction/simplification (Vakhtin & Gruzdeva 2017), especially in languages whose speakers are shifting
- Decrease in synthesis arising from increased presence of outsiders (move away from a "society of intimates") (Trudgill 2011) – in this case, the contact language is less important for conditioning change than the contact setting itself

Comparison with Chukchi

Goal: test to what extent these predictions hold across different polysynthetic languages in different contact ecologies, and complexify the discourse around simplification in contact

Previous research on Chukchi morphosyntactic change (Kantarovich 2020, 2022) – argues that there is not just morphological loss, but grammatical compensation and restructuring even among heritage speakers

In Chukchi, there IS a move towards more analytic morphosyntax (less argument drop, less verbal agreement)

A typological pattern?

But there is *also* a move towards using existing resources in the language differently – shift from predominance of verbal morphology to nominal morphology

- Increased use of nominal participles instead of finite verbs (just as in Greenlandic!)
- Preservation of nominal derivation over verbal derivation
  - Conservative Chukchi speakers have a much higher ratio (3:1) of complex verbs to complex nouns compared to younger/heritage Chukchi speakers ($F(1,5) = 15.41$, $p = 0.008$ – Kantarovich 2020: 291)
  - Younger speakers also have a larger repertoire of distinct nominal derivational morphemes (than verbal derivational morphemes)

➠ Might suggest that a polysynthetic configuration (extreme head-marking and derivational elaboration of the verb) is indeed dispreferred in situations of imperfect learning/disrupted acquisition

Thank you, *qujanaq*!