

# Documenting semantic contrasts in a low-resource language

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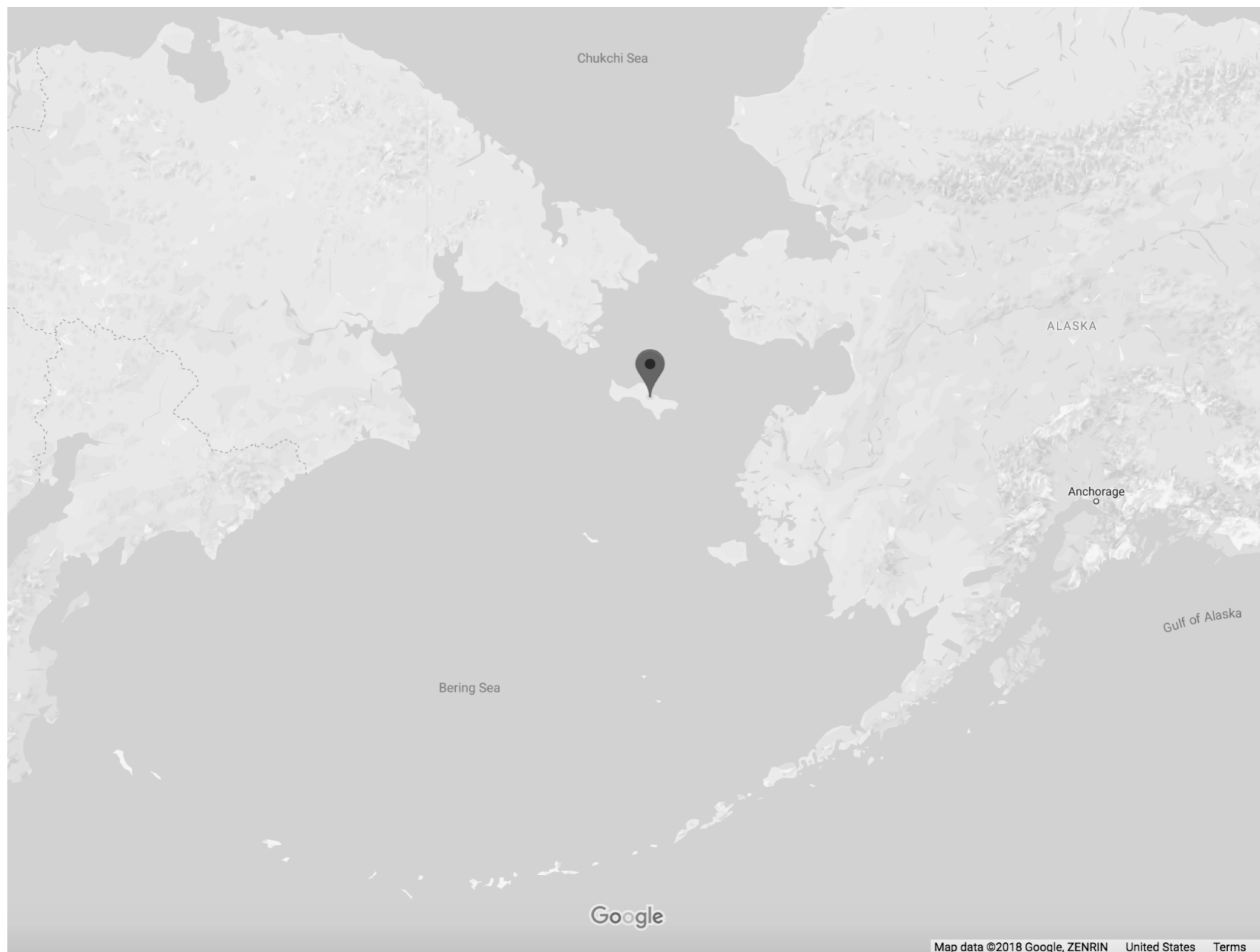


○  
Today

- St. Lawrence Island Yupik
- The project
- New data: Shedding light on the Yupik verb
- Next steps



# The Language Situation



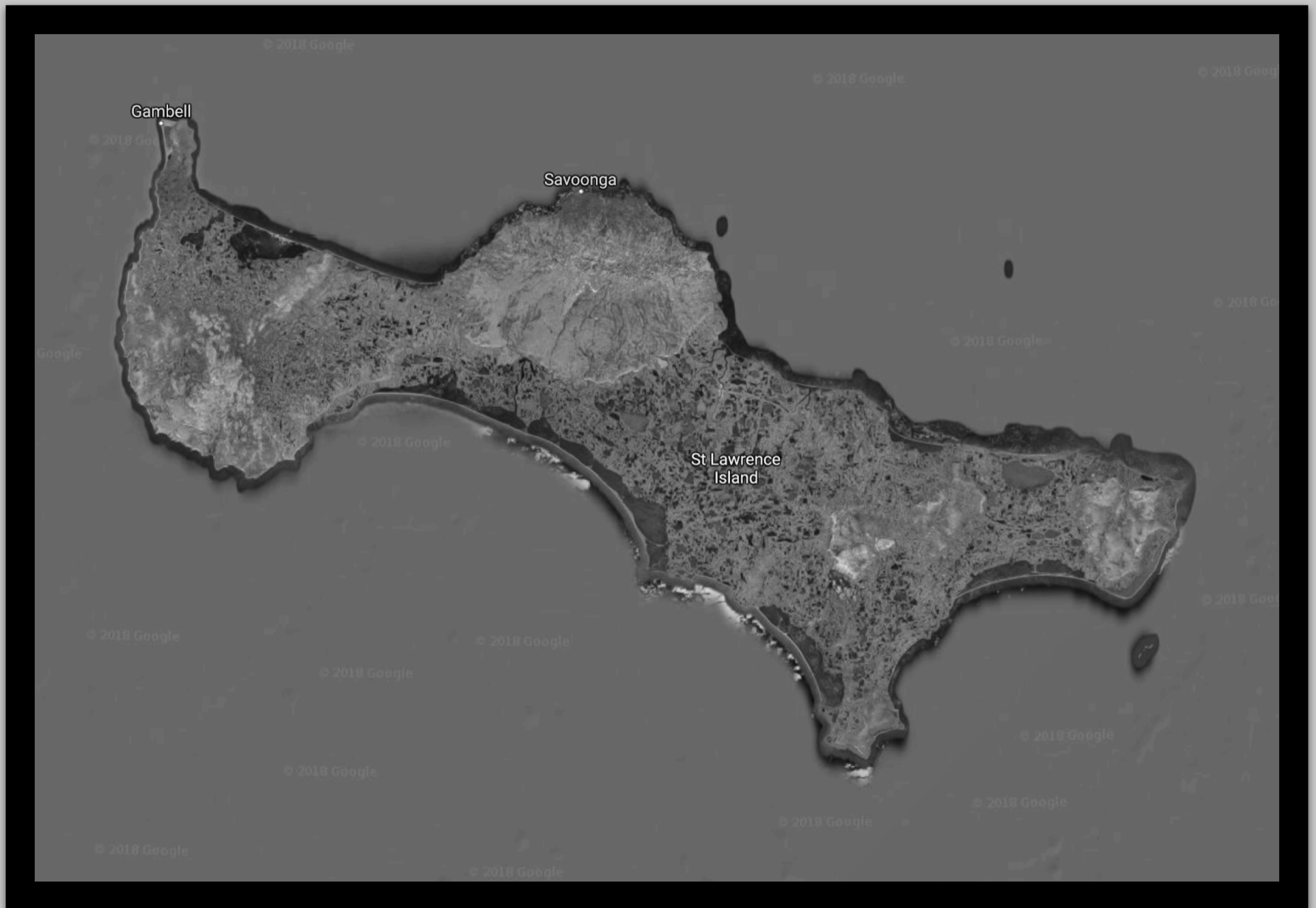


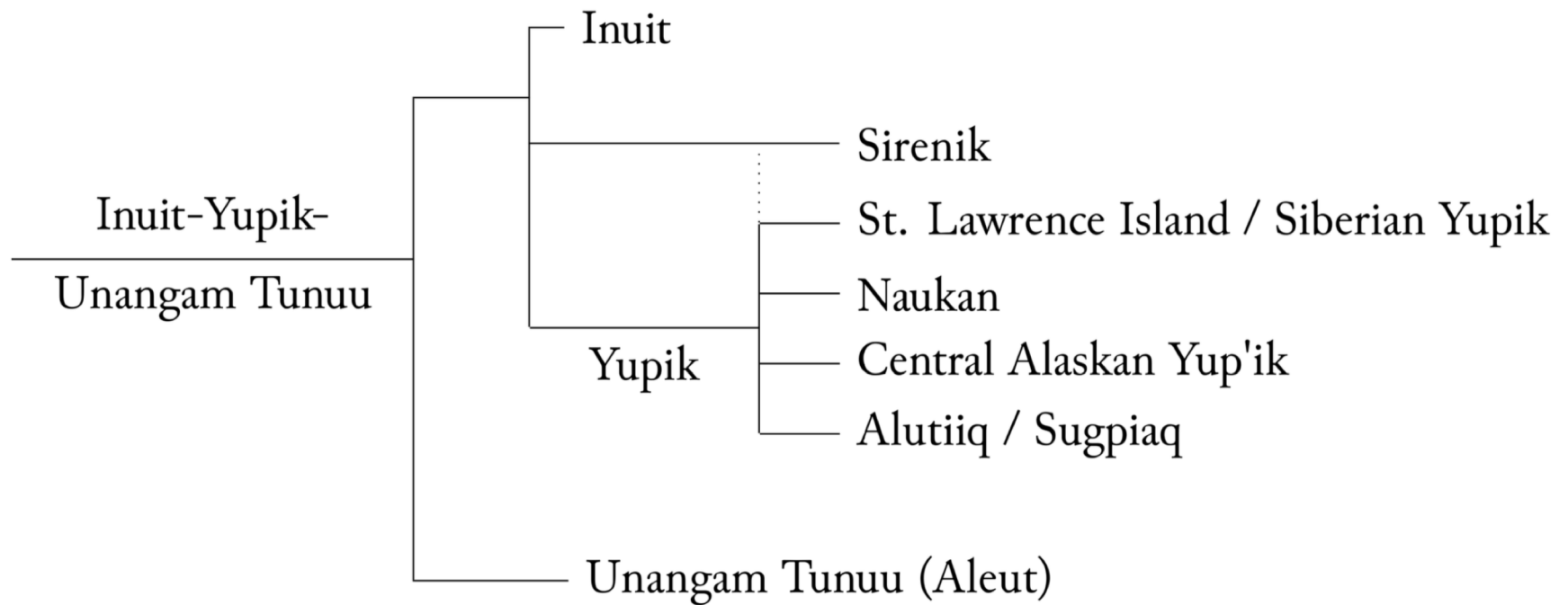




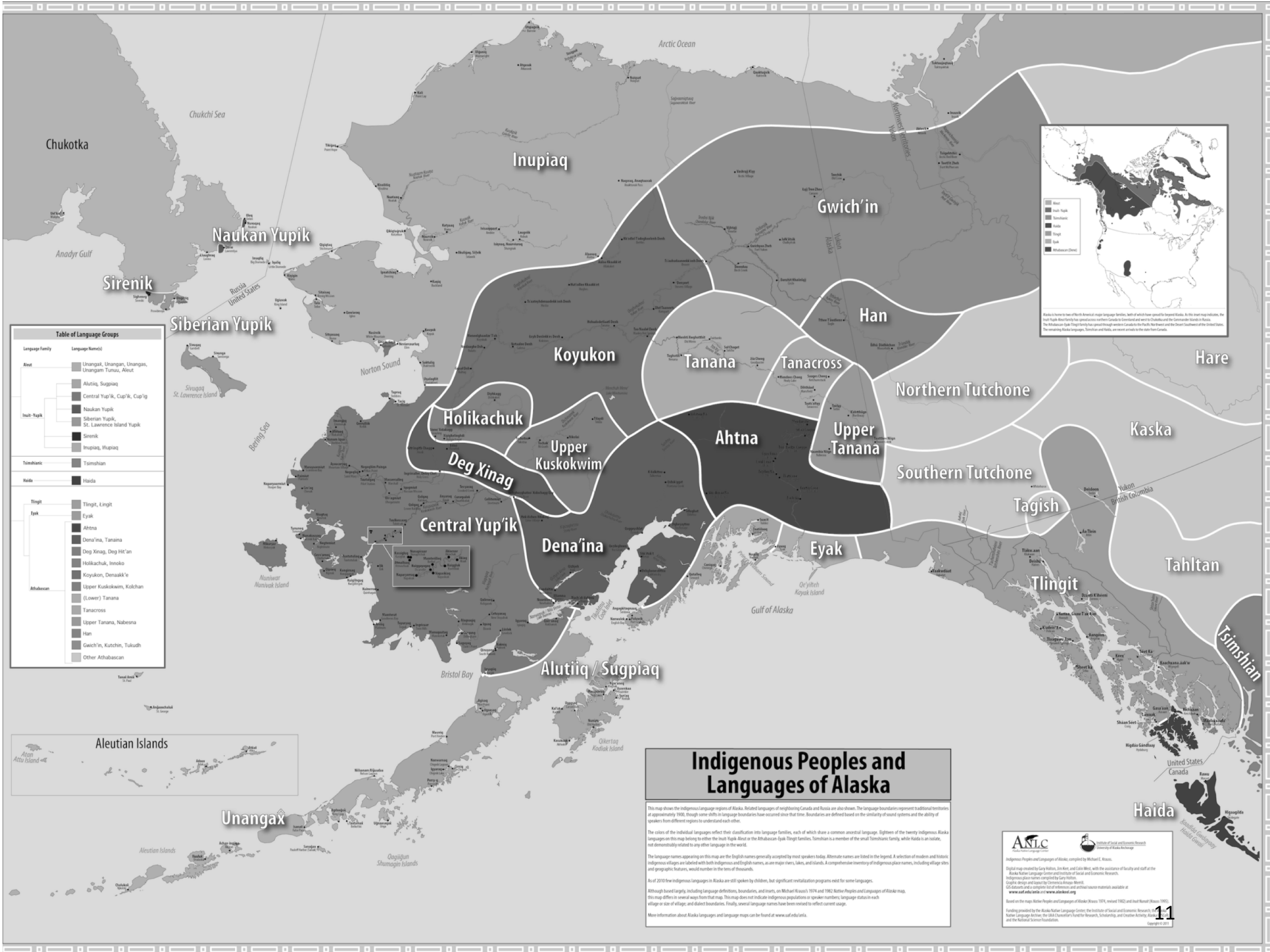




Photo courtesy Lane Schwartz



Schwartz & Chen 2017, p. 277



# 2010 Data

Alutiiq/Sugpiaq,  
~200  
speakers/3500

Yup'ik, ~19,750  
speakers/34,000

Naukan (in  
Chukotka), ~60  
speakers/450

Sirenik last  
fluent speaker d.  
1997



# The Yupik (-speaking) Community

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- Chukotka (~800-1200 Yupiget, ~200 speakers in several villages)
- Sivuqaq (St. Lawrence Island) (~1300 Yupiget, ~500-1000 speakers in two villages)
  - SLI populated for about 2000 years, on and off
  - 1878 famine; 1894 Gambells
  - Gambell (Sivuqaq, incorporated 1963)
  - Savoonga (Sivunga, incorporated 1969)
- Alaskan mainland (~300-400)



# Yupik Language Situation

- Yupik materials developed in Russia, 1930s-1950s
  - After this, shift away from Yupik
  - Youngest speakers in Russia ~70 years old
- Yupik materials developed in Alaska, 1970s-1990s
  - Bilingual-bicultural curriculum
  - ~1980, nearly all SLI Yupiget speaking Yupik at home
  - Dramatic shift starting in mid-1990s
  - Now: < half? of children speaking/learning Yupik at home

# Existing English-language Scholarship

- Dictionary (Badten, et al. 2008)
- Pedagogical grammar (Jacobson 2001→)

4.2.6 The nouns **mekestaaghhaq** 'small thing', **takestaaghhaq** 'short thing', and **seghleq** 'bad thing', and the postbase **-lek** can be combined with the preceding postbases to make the following useful verb bases and verbalizing postbase:

|                       |               |
|-----------------------|---------------|
| <b>mekestaaghhaa-</b> | 'to be small' |
| <b>takestaaghhaa-</b> | 'to be short' |
| <b>seghleghu-</b>     | 'to be bad'   |
| <b>-lgu-</b>          | 'to have N'   |

## 4.3 Discussion of grammatical topics

### 1st and 2nd person possessor possessed absolutive

The following endings are all absolutive case:

|                    |                                     |
|--------------------|-------------------------------------|
| <b>~-ka</b>        | my N                                |
| <b>~sfw(e)nka</b>  | my N-s <sub>p1</sub>                |
| <b>~sfw(e)gka</b>  | my N-s <sub>2</sub>                 |
| <b>~sfw(e)n</b>    | your <sub>1</sub> N                 |
| <b>+ten</b>        | your <sub>1</sub> N-s <sub>p1</sub> |
| <b>~sfw(e)gken</b> | your <sub>1</sub> N-s <sub>2</sub>  |

The meaning of each of the symbols used in these endings has already been explained. Except for the first and the fifth endings on the list above, these endings attach just like the simple plural ending, **~sfw:(e)t**, does (see 2.2.2). The first ending, **~-ka**, drops final and semi-final **e** when possible (and hops them when that is possible); otherwise it attaches like the postbase **-ghllak** does. That is, it drops all final consonants, but if the dropped final consonant is uvular, then this ending takes the form **qa** for that word, and if the dropped final consonant is rounded, then

# Existing English-language Scholarship

- Work on phonology, prosody, and orthography (Jacobson 1985, Krauss et al. 1985, Jacobson 1990);
- Syntax and language contact (Jacobson 1977, 1994, 2001, 2006; de Reuse 1994);
- Syntax and historical morphology (de Reuse 1992);
- Semantics (de Reuse 2001);
- Morphology and morphophonemics (Vakhtin 2009);
- Polysynthesis (de Reuse 2009); and
- Comparison with Alaskan Yup'ik (Jacobson 2012).

# Existing Scholarship

- Some foundational and largely descriptive literature in Russian also exists
- As well as a healthy number of Yupik-language texts, and curricular materials (developed in the 1970s-1990s, largely not in use).



# Grammar Basics

|                         | Labial    | Alveolar  | Palatal  | Retroflex | Velar       | Velar (rounded)       | Uvular               | Uvular (rounded)     | Glottal              |          |
|-------------------------|-----------|-----------|----------|-----------|-------------|-----------------------|----------------------|----------------------|----------------------|----------|
| Unvoiced<br>Stops       | <b>p</b>  | <b>t</b>  |          |           | <b>k</b>    | <b>kw</b>             | <b>q</b>             | <b>qw</b>            |                      | Latin    |
|                         | <b>p</b>  | <b>t</b>  |          |           | <b>k</b>    | <b>k<sup>w</sup></b>  | <b>q</b>             | <b>q<sup>w</sup></b> |                      | IPA      |
|                         | <b>п</b>  | <b>т</b>  |          |           | <b>к</b>    | <b>кӱ</b>             | <b>к</b>             | <b>кӱ</b>            |                      | Cyrillic |
| Voiced<br>Continuants   | <b>v</b>  | <b>l</b>  | <b>z</b> | <b>y</b>  | <b>r</b>    | <b>g</b>              | <b>w</b>             | <b>gh</b>            | <b>ghw</b>           | Latin    |
|                         | <b>v</b>  | <b>l</b>  | <b>z</b> | <b>j</b>  | <b>ɻ</b>    | <b>ɣ</b>              | <b>ɣ<sup>w</sup></b> | <b>ɣ</b>             | <b>ɣ<sup>w</sup></b> | IPA      |
|                         | <b>в</b>  | <b>л</b>  | <b>з</b> | <b>й</b>  | <b>р</b>    | <b>г</b>              | <b>(r)ӱ</b>          | <b>г</b>             | <b>гӱ</b>            | Cyrillic |
| Unvoiced<br>Continuants | <b>f</b>  | <b>ll</b> | <b>s</b> | <b>rr</b> | <b>gg</b>   | <b>wh</b>             | <b>ghh</b>           | <b>ghhw</b>          | <b>h</b>             | Latin    |
|                         | <b>f</b>  | <b>ɬ</b>  | <b>s</b> | <b>ʂ</b>  | <b>x</b>    | <b>x<sup>w</sup></b>  | <b>χ</b>             | <b>χ<sup>w</sup></b> | <b>h</b>             | IPA      |
|                         | <b>ф</b>  | <b>ль</b> | <b>c</b> | <b>ш</b>  | <b>x</b>    | <b>xӱ</b>             | <b>χ</b>             | <b>χӱ</b>            | <b>г</b>             | Cyrillic |
| Voiced<br>Nasals        | <b>m</b>  | <b>n</b>  |          |           | <b>ng</b>   | <b>ngw</b>            |                      |                      |                      | Latin    |
|                         | <b>m</b>  | <b>n</b>  |          |           | <b>ŋ</b>    | <b>ŋ<sup>w</sup></b>  |                      |                      |                      | IPA      |
|                         | <b>м</b>  | <b>н</b>  |          |           | <b>н</b>    | <b>нӱ</b>             |                      |                      |                      | Cyrillic |
| Unvoiced<br>Nasals      | <b>mm</b> | <b>nn</b> |          |           | <b>ngng</b> | <b>ngngw</b>          |                      |                      |                      | Latin    |
|                         | <b>m̥</b> | <b>n̥</b> |          |           | <b>ŋ̥</b>   | <b>ŋ̥<sup>w</sup></b> |                      |                      |                      | IPA      |
|                         | <b>мь</b> | <b>нь</b> |          |           | <b>н̥</b>   | <b>н̥ӱ</b>            |                      |                      |                      | Cyrillic |

**Table 1.** Yupik consonant chart Krauss (1975), Badten et al. (2008), Jacobson (2001) in St. Lawrence Island (Latin) orthography, International Phonetic Alphabet (IPA), and Chukotkan (Cyrillic) orthography. Some authors (Nagai 2001: for example) use an Americanist phonetic notation, which we omit from this table, but include in our conversion utilities

# Phonology

- /e a i u ə/ and various undocumented allophones
- Syllable structure: CV(C)
  - Word-initial (C)V(C)
- “Full” Vs show length distinction
  - /e a a: i i: u u:/ (phonetic realizations unstudied)
- No clusters
- Voicing assimilation of consonants across syllable boundaries
- A great deal of morphophonological change at morpheme boundaries

# Phonology

(1) Es**gh**agh-yug-aqenghisiki?

/əs.'χɑ:ɸ.ju.'χɑ:qən.'ɸi:si.ki/

esghagh-yug          aqe      nghi          siki?

esghagh-   @~<sub>f</sub>yug-      ~(g)aqe-   @-nghite-      ~<sub>f</sub>(t)ziki

see              want.to.V      PROG      NEG              INT(2s-3p)

‘Do you not want to see them?’ (Rhetorical)

(2) Qep**gh**aamangituq ‘it did not work’ (HEN-24)

/qəp.'χɑ:ɸ.ma.'ɸi:tuq/

## YUPIK BASES

**Aghqitaghangha** Аҕқитаҕанҕа  
southern part of Troutman Lake which is  
next to Gambell

*literally 'the shallow area'; see Map 7 in  
Appendices*

< aghqitaghaq-neq<sup>R</sup>-possessed ending

**aghqitaghaq** аҕқитаҕақ  
shallow water

< aghqe<sup>2</sup>-?

**aghqiiwhtagh-** аҕқй̄ўхтаҕ-  
to make a crunching sound  
aghqiiwhtaghtuq 'he made a crunching sound'

< aghqiikw

**aghquugte-** аҕқ̄ўхты-  
to be pale from illness  
*cf.* aghsugh-

**aghqutite-** аҕқутиты-  
to make sacrifices  
*Chukotkan (R)*

< aghqe<sup>1</sup>-?

**aghquutke-** аҕқуткы-  
to cause disaster or hardship  
ulevelleghmeng aghquutkaqii yuget  
aangelghiimeng ikfiqmeng 'the flood is causing  
the people hardship' (?)

**aghquvlug-** аҕқувлуг-  
to make a depression or dent; to hollow  
out

**aghquvluk** аҕқувлук  
depression; hollow; dent  
qulmesiin aghquvlukegtepigtuq 'the cooking pot  
has a big dent'



## POSTBASES

**-lqwaaq** -лъкъѣақ

old N

*non-productive*; aghnalqwaaq 'old woman' (*from* aghnaq 'woman'); = -rqwaaq, -sqwaaq  
+pb PY -lquaq 'old'

**@+lugh-** -люг-

to V a little; little one V-s

piyuglughtuq 'he walked a little; the little one walked' (*from* piyug- 'to walk'); kaallughtuq 'the little one arrived' (*from* kaate- 'to arrive')

**-lugpigaq** -люхпигақ

fine old N

angyalugpigaq 'fine old boat' (*from* angyaq 'boat')  
< luk-pigaq; pb PY luypiyaq

**-luk** -люк

old (in age) N

angyaluk 'old boat' (*from* angyaq 'boat'); qikmiluk 'old dog' (*from* qikmiq 'dog'); Kiigmi enraq temkaluget aghvigluku, satangi kavighlluki piiqiit kamengllaghaqiit. 'In the summer they would wash the **old** sealskin pants, color their skin side re, and make them into boots.' (*from* temka(k) 'sealskin pant(s), trouser(s)') (SIVUQ. NANGAGH. 1:114)

### Derivational Symbol Key

(From Steven A. Jacobson's *A Practical Grammar of the St. Lawrence Island/Siberian Yupik Eskimo Language*)

| Symbol | Meaning   | Notes  |
|--------|---|--|
| ~f     | drop final <b>e</b> <sup>1</sup>                | triggers <b>e</b> -hopping when possible   |
| ~sf    | drop semi-final <b>e</b> <sup>1</sup>           | 'semi-final <b>e</b> ' is followed by another letter (always <b>gh</b> or <b>g</b> ) on a base; triggers <b>e</b> -hopping when possible   |
| ~      | drop final and semi-final <b>e</b> <sup>1</sup> | triggers <b>e</b> -hopping when possible   |
| ~w     | drop weak final Cs; keep strong final Cs        | Strong: <b>g</b> , <b>ghw</b> , <b>w</b><br>Either: <b>gh</b> <sup>2</sup>   |
| —      | drop all final Cs (strong and weak)             |  |
| +      | add ending as presented                         |  |
| :      | uvular dropping                                 | after suffixation, if <b>gh</b> is between a single full vowel and <b>e</b> , drop <b>gh</b> and assimilate <b>e</b> to previous full vowel<br><br>V/ <b>gh</b> / <b>e</b> -> VV |
| @      | modification of base-final <b>te</b>            |  |

# Morphology and Syntax

- N and V “bases”,
- Extensive system of demonstratives
- “Particles”/adverbs (many borrowed from Chukchi)
- 600+ (largely) derivational suffixes (“postbases”)
- Fairly fusional inflectional suffixes
- Enclitics
- Generally ROOT-derivation-Neg-TMMA-Person/Number Infl.

# Morphology and Syntax

- Ergative-absolutive, largely free word order, polysynthetic, noun incorporation
- 4 persons, 3 numbers, no gender

# The Project

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# The Project

## (1) Digitization

- Ethnographies, folksongs and stories, papers resulting from fieldwork in the 1970s (Alaska Native Language Archives, Fairbanks)
- Bilingual-bicultural pedagogical materials

LESSON PLAN

Grade 5 Unit 1 Lesson 4

(Code = 5-1-4)

UNIT: SEA MAMMALS: WHALES

THEME: Hunting the Bowhead

Language Arts Objective

Students will learn to take notes and to identify Yupik whale hunting equipment.

Cultural Values Objective

METHODS (Always review and connect with previous lesson)

1. Discuss how the bowhead whale has been an important part of Yupik subsistence from time immemorial, how and when the whale was traditionally hunted. What is different about whale hunting today? (Whaling Commission, regulations). Why is there a quota of the number of whales which can be taken nowadays?
2. Bring some whale-hunting equipment to class (harpoon, pokes, rawhide ropes). Teach the students the names and parts of this equipment in Yupik. Have the students take notes.
3. What happens when the whale is harpooned? Why is there a flag waving and a poke up on the mast?
4. How is the huge whale brought home?
5. Who butchers the whale? How? How is the mangtak and meat distributed?

ATEQ ANSWER SHEET

AGHVEPIK

1. Whanga (esghaghii - esghaghaqa) aghvepik.
2. Ellngan (esghaghaa - esghaghtuq) aghvepik.
3. Whangkuta (esghaghiinkut - esghaghagput) aghvepik.
4. Elpek (esghaghaqa - esghaghaten) aghvepiget.

# The Project

- (2) Computational tools
  - Spellcheck
  - Dictionary
  - Parser (x2)
  - E-books
  - (sample:  
angyaghllak/angyagh/-q)



Kulusiq.  
Whani whaa Kulusiq.



# The Project

## (3) Documentation

- Current priorities:
  - Un(der)documented morpheme attachment rules, lexical items (→parser errors)
  - Conflicting information in existing literature
  - Un(der)documented syntactic and morphological phenomena
  - Detailed positional and semantic work with derivational morphology

# Challenges for Documentation and Analysis

- Dialects/varieties
  - Chukotka vs. SLI
  - Clans
  - Generational differences
  - Inter-speaker variation
- Scholarly work
  - Varying theoretical assumptions (not always explicit)



# Bidirectional Leveraging

- Digitization → larger corpus → more accurate morphological analyzer
- Accurate morphological analyzer → efficient corpus searching
- → ability to locate existing documentation of phenomena, and their contexts

= better morphosyntactic *and* semantic fieldwork;  
ability to build more complex tools for community members



# A Question

# Case Study: -ma vs. -kaa

- -ma: (@~:(i/u)ma) Proto-Inuit-Yupik past/perfective etc.; remnants across the language family
- -kaa: (@~–(g)kaa) Innovation on the Proto-Yupik-Sirenki side; active in Yupik, possible remnant in Yup'ik

# The “Past” in Yupik

- Unmarked form generally implies past time

(3) kayaalistepaglukek

kayaali            -(te)stepag            -lukek

get.weak        -cause.to.V.a.lot        -APO(1p-3d)

‘we allowed it (the stove) to get too weak’

(SI-54, DR p. 85 ex. 24)

# The “Past” in Yupik

- - ∅ :
  - Vakhtin 1989/2000 “neutral” or “non-future” or “recent past”
  - Translates with ‘have’ or simple past
  - Our speakers translate with simple past

(4) aglaataqa

aglaat -∅ -aqa

walk -PRF -TR.1s.A+3s.O

‘I have carried it.’ (Vakhtin 2000: 71, ex. 1)

‘I brought it over’ x3, ‘I took it over’

# The “Past” in Yupik

- @~:(i/u)ma-
  - Vakhtin 1989 “past”, translates with simple past
  - Dictionary, Jacobson (2001), De Reuse (1994) define as ‘to have V-ed or been V-ed’
  - De Reuse (1994) glosses PST and translates mostly with simple past, some with ‘have’



# The “Past” in Yupik

(5) aglaasimaaqa

aglaat -ima -aqa

walk -PST -TR.1sA+3s.O

‘I carried it.’ (Vakhtin 2000: 71, ex. 2)

‘I have already brought it over’, ‘I have brought it (over)’, ‘I already took it over’, ‘I already brought it over’

# The “Past” in Yupik

- @~–(g)kaa (intrans)/ @~–(g)kaqe (trans)
  - Dictionary, Jacobson, De Reuse: same as -ma- (define as perfect, gloss as perfect or simple past)

# The “Past” in Yupik

(6) neghegkaaguq

neghe @~–(g)kaa -uq

eat -PST -IND(3s)

‘He has eaten’ (Badten et al. 2008)

- One of our speakers:
  - neghegkaaguq → ‘he ate’
  - neghumaaq → ‘he has eaten’

# Vakhtin's "Double Tense Forms"

(7) Tagimanaaghtuq.

|               |            |                        |         |
|---------------|------------|------------------------|---------|
| tagi          | @~:(i/u)ma | @~ <sub>f</sub> +naagh | -uq     |
| come -PST     |            | -FUT                   | -IND.3s |
| (V2000:73:10) |            |                        |         |

By that time, it will be so that he will have come. Speaker's translation: He will surely have come by that time

- Our speaker: 'He will have came'

# Vakhtin's "Double Tense Forms"

- Combinations of past + future?!
- Vakhtin:
  - One possibility: They're not members of the same category
  - Other: these single words are diachronically from two words
- "To conclude, let me say that while all the facts described here are accurate, all interpretations are impressionistic and disconnected" (2000: 78)

# TMMA

- De Reuse (1994)'s analysis:

ROOT-Modal-**Past**-Prog-

**Future**/frustrative-

Evidential/imputative-

Mood-Person/number

# One Possibility

- If -ma (or -kaa) is an English-like perfect, appearing with the future is not so strange
- While both sometimes seem to carry perfect-like meaning, they don't behave like English perfects
  - No consistency in perfect vs. perfective meaning (including trying different readings of perfects)
  - No infelicity with past positional adverbials or others

# Perfecthood?

- No obvious adverbial infelicity

(8) Aa aghulakaaguq (maaten)

Yes, he (has/had) danced ([as of] now)

(9) Aghulamaaq maaten

He (had) danced yesterday

(10) Aghulakaaguq ighivgaq

He (had) danced last night



## -ma vs. -kaa

- Both -ma and -kaa are translated with English perfects or simple pasts in the existing literature
- Out of context, our speakers do the same (without a clear pattern as to which gets which translation)
  - Though tend to get more 'already' etc. with -kaa

# What distinguishes them?

- De Reuse notes:
- “The difference between the past tense postbases *-kaqe-* / *-kau-* and *@:(i/u)ma-* is subtle; they certainly have different epistemic modal connotations:
- *-kaqe-* / *-kau-* means that the past event is reported as a matter of **shared historical knowledge** for which the speaker need **not take total responsibility**; it is often, but not necessarily, used in *ungipamsuget* (historical accounts) and always in the phrase “I was born...”;
- *@:(i/u)ma-* means that the speaker **takes some responsibility for the past event reported, regardless of whether it was actually witnessed by him**” (1994: 168)

# New Data

(11) neghumaaq “he indicated himself that he has, that he ate, um, like they’re about to eat, and they’re waiting for him, and another person in the house didn’t know, and he had already told another person, and that person said this—he himself has eaten”

(12) neghegkaaguq “more like already, already has eaten, he has already eaten...indicating all of a sudden they got a case of candy bars, kind of like saying “he doesn’t have to eat, he’s eaten already, let’s all eat”—he already had his hidden candy bar”

# New Data: -ma vs. -kaa

- 1<sup>st</sup> scenario      In a house with people, one has eaten
- 2<sup>nd</sup> scenario      Talking about a girl, down at the playground, among her friends

Neghumaaq      he/she/it 1<sup>st</sup> or 2<sup>nd</sup> scenario

Neghegkaaguq      he/she/it 2<sup>nd</sup> scenario

# The Gathering

- Scenario: A party, you're making plates for people.
- "What about him? Why didn't you make him a plate?"

# The Gathering

- Neghumaaq
- “Could have just happened, or earlier today, or whatever.”

# The Gathering

- **Neghegkaaguq**
- “If somebody’s asking you if someone else ate, you could say neghegkaaguq. You’ll most likely answer with this.”
- “It seems farther in the past? Seems like ‘it’s done, it’s already done’”
- “Someone walks up to you and says “should I make a plate for Sugri?” You say, nakaa, neghegkaaguq.”

# The Gathering

- “At the party—someone asks about my son. I’ll tell the first people that ask I’ll say Ighneqa neghegkaaguq aghneq. If someone else asks, I say Ighneqa neghumaaq.”



# Stealing a Boat

- Scenario: Sugri is seen taking someone's boat!

# Stealing a Boat

- Version a: You are standing near the beach and see movement. What?! Sugri is stealing my brother's boat! You call your brother to tell him.

(13) Teglegumaa. He stole/took it.

- Version b: The next day, someone asks you what happened to your brother's boat.

(14) Teglekaqaa. He (already) stole it. He (has) (already) taken it.

# Stealing a Boat

- Version c: Apa's boat gets stolen by Sugri and he sees it happen, next day he finds his sister...

(15) Sugri teglegumaa OR Sugri teglekaqaa

- Version d: Apa has heard that his boat got stolen by Sugri; his sister looks and sees that the boat is gone, calls Apa—where's your boat?

(16) Sugri teglegkaqaa.

# Stealing a Boat

- Teglekaqaa
  - It's a fact, it's stolen, he's done, definite, it happened
  - You walk in to the store, it happened yesterday
  - On the beach, you saw it yesterday, someone walks up to you
- Teglegumaa
  - One single person, you know who you're accusing or talking about, one item
  - Walk into the store, just watched him
  - On beach, watched him steal it, person drives up

# Stealing a Boat

- “I was wondering if like it happened a long time ago (maybe an elder was talking--back when I was young, my boat got stolen)--he saw it happen, they stole it right in front of him, but it was a long time ago.”

(17) Qavngaq      ima      teglekaqaa manumni

some time ago

oh no/too bad

he stole it

in front of me

‘He stole it a while back, in front of me.’

- (Contra the responsibility idea)

# Rover on the Moon

- What happened to the [imaginary] rover they left on the moon in 1969?

- Teaching the students in class in 2019:

(18) Naaveg**ka**aguk. It broke.

- You've just come back from a time machine to 1969:

(19) Taaqumaak. It broke(!)

-ma and -kaa

- What semantic or morphosyntactic category could account for the inconsistencies we see as well as the subtle differences in meaning?

# Past Tense?

- + Both seem to carry past time reference
- 0 Ability to appear with future "tense" markers
- Optional
- Both seem to carry some kind of additional aspectual? meaning
- Related languages have been argued not to have Tense



# Aspect?

- + Both come before (inside) mood markers
- + Perfect-like meaning when combined with future
- 0 Both come before (inside) future (tense? modality?)
- 0 Both come before (inside) progressive

# Evidentiality?

- It's well-known that tense/aspect distinctions can develop into, or from, evidentiality and related meanings (see e.g. Aikhenvald 2004 ch. 4, Botne 2012)
  - E.g. Bantu (Ewondo, Rugciriku, Kesukuma): future forms that differ in terms of probability, expectedness, certainty of occurrence (Redden 1979, Möhlig 2005, Batibo 1985)

# Evidentiality?

+ Distinction seems to involve “distance” of knowledge somehow

0/- Can be a question of time or [knowledge]

- Both appear before (inside) progressive, future, etc.

# Salience?

- “Cognitive salience”
  - The playground
  - The gathering
  - The boat
  - The rover

# Some mysteries...

(xx) ✓ Neghumallequnga

I will have (already) eaten

- (Contra de Reuse's (1994) assertion that -ma is incompatible with this (and other) future markers)

(xx) ✓ Neghe-gkaa-**ma**-lleq-unga

I will have (already) eaten (by then)

- (Contra de Reuse's (1994) assertion that -ma and -kaa are members of the same category)

(xx) \*Neghuma kallequnga

# Some mysteries...

- -ma with the “participial” mood yields evidential reading:

(xx) Neghumalghii  
neghe                    @~:(i/u)ma @-lghii  
eat                      -ma                      -INP  
‘Apparently/it turned out he ate.’

(xx) Neghegkaalghii  
‘Apparently/it turned out he ate.’

Photo courtesy Lane Schwartz

# What's Next

# Summing up

- New data from speakers in Gambell indicate that we don't have the full story about the “past” morphemes @~:(i/u)ma and @~–(g)kaa
- The morphemes seem to distinguish salient and non-salient past time reference
- Understanding the categorial status of these pieces is key to the analysis of the wider TMMA system in Yupik (and beyond)



# Next steps

- Continued in-depth morphosyntactic and semantic elicitation
  - Effects of Aktionsart/situation type?
    - -ma supposed to show change-of-state effects; have not seen
  - Transitivity?
  - Lexical items?
- Formalization

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