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# **Exuberant Complexity: The Interplay of Morphology, Syntax, and Prosody in Central Alaskan Yup'ik**

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*Written varieties of many languages show greater syntactic complexity than their spoken counterparts. The difference is not surprising: writers have more time to create elaborate structures than speakers, who must produce speech in a steady stream. As documentation grows of the effects of language contact in the Americas, it is becoming ever clearer that exposure to languages with strong literary traditions has often had a significant impact on syntactic structure. Complexity is, however, not always due to literacy or contact with literacy. Here it is shown that though contact can indeed result in copied markers or replicated categories, it is not a precondition for the development of complexity.*

## **1. Spoken and Written Language**

A number of works have documented the fact that overall, written language tends to show greater syntactic complexity than spoken language, such as Chafe 1985, Biber 1988, Romaine 1992, Newmeyer 2002, Karlsson 2010, and Laury and Ono 2010. (Syntactic complexity is understood here in a specific sense: the combination of multiple clauses within a single sentence.) Of course within each medium, different genres can show different degrees and types of elaboration, so the two are not discrete. Though academic prose is likely to show greater complexity than a bus stop conversation, for example, an informal email message might show less complexity than formal oratory. The two may not differ sharply in their inventories of grammatical structures, but they may differ in the relative frequencies with which particular structures are used. Nevertheless, written styles tend to be characterized by greater syntactic elaboration overall: writers have the luxury of time to compose their messages, while speakers are under certain pressures to produce a steady stream of speech in order to hold their audience. It appears that the existence of a well-developed literary tradition can in turn affect the complexity of the spoken language. At least some of the elaborated constructions developed by writers can be routinized over time: recurring patterns of expression can become conventionalized in syntactic constructions. Some of these eventually find their way into speech.

At the same time, there is growing documentation of the effects of European languages with literary traditions on unwritten languages of the Americas. Contact effects appear not only in the lexicon, but also in grammar, particularly syntax (Karttunen 1976, Campbell 1987, Mithun 1992, In press a, Aikhenvald 2002, Heine and Kuteva 2005, 2006, Gutierrez-Morales 2008, and others). In some instances, European syntactic markers and structures have replaced native ones, but in others, they have resulted in new constructions where none existed before. Such innovations do not of course indicate that complex ideas were not expressed before contact. Spoken language contains powerful resources for indicating relationships among ideas that written language lacks, such as pitch, volume, and rhythm. These innovations have simply added a certain kind of specificity to the grammar.

Such contact effects raise interesting questions concerning the extent to which the development of elaborate syntactic complexity is triggered by literacy or contact with a language that has literary traditions. The languages of the Americas provide a fruitful area for the investigation of such questions since, with certain notable exceptions, most did not have written

traditions of their own before their speakers came into contact with European colonizers. As awareness is growing of the potentially powerful role of language contact in shaping grammar, more is being discovered about the ways in which European languages are affecting languages of the New World. Here it will be shown that though contact can indeed result in copied markers and replicated categories, it is not a precondition for the development of complexity.

## 2. Replicated Markers

A large number of American languages, particularly those indigenous to Middle and South America, have copied syntactic markers directly from Spanish or Portuguese. Examples can be seen in Sierra Popoluca, a Mixe-Zoquean language indigenous to Mexico. Example (1) is from a narrative.

Sierra Popoluca: Salomé Gutierrez-Morales, speaker p.c.

(1a) 'She said, 'I have to go to the river',

*pero i'x je'm ichiixi' moongpa' ixi' ikaajtsayhoom.*

**but** she saw her baby sleeping in his hammock.

*Nimpa, "Siga anakyuspa yi'p chiixi'*

She said, "If I wake this baby up,

*ejtee puej mojpá weeje' ...*

**and then** he starts crying, ...'

(1b) 'Then the woman filled her pail

*poorke seetto'oba'm ichii' imaanik.*

**because** she wanted to get back to her baby, her son.'

These markers of complex syntactic constructions obviously have roots in Spanish: Sierra Popoluca *puej* [pweh] 'then' from Spanish *pues*, *pero* 'but' from Spanish *pero*, *si-ga* 'if' from Spanish *si*, and *poorke* 'because' from Spanish *porque*.

Speaker Salomé Gutierrez-Morales reports (p.c.) that 50 years ago, no one in his community knew any Spanish. At present, the entire younger generation speaks Spanish, most of them exclusively. It is astonishing to imagine that such transfers of syntactic markers, and perhaps syntactic complexity, could occur so quickly. As Gutierrez-Morales points out, however (2008), the story is more interesting. The conditional *siga* 'if' seen in (1), a reduction of the longer form *si'iga*, contains an element *si*, apparently from Spanish. But like many of the other copied markers, this one actually entered the language via earlier bilingualism with neighboring Nahuatl dialects, whose speakers had been the ones in contact with Spanish speakers. The element *iga* is a general complementizer in the neighboring Mecayapan Nahuatl, where it continues a form related to Classical Nahuatl *iica*. Modern Mecayapan also contains a conditional marker *si'iga*, similarly often reduced to *siga*. Sierra Popoluca apparently took its Spanish-based conditional marker, and other complex syntactic constructions, from its neighbor.

There is no clear evidence that the Spanish markers replaced existing markers with the same functions in Sierra Popoluca. Still today the constructions signalled by them compete with unmarked sequences of clauses. If the Spanish markers did not replace native ones with similar functions, it could be said that at least some of the syntactic complexity in modern Sierra Popoluca was initially triggered by contact with Spanish, though the transfer was not direct.

### 3. Replicated Categories

Language contact may have other effects which can be more difficult to identify, particularly in the absence of a lengthy written record. Bilingual speakers may seek to replicate a pattern from one of their languages in the other, using material native to that second language. Such a situation can be seen in languages of the Iroquoian family indigenous to eastern North America (Mithun 1992). The languages in this family from which we have documentation of connected speech all contain coordinating conjunctions. Most of the forms are not cognate, however.

#### (2) Iroquoian coordinating conjunctions: ‘and’

Mohawk	tánon’
Oneida	okhale’
Onondaga	ohni’
Cayuga	hni’
Seneca	khoh
Wyandot	tú:di’
Tuscarora	tisnə’
Cherokee	ale’, =hno

The positions of the conjunctions vary across the languages as well: they occur between the conjuncts, after all conjuncts, or after the first word of the second conjunct. There is thus no basis for reconstructing a coordinate construction for their common ancestor, Proto-Iroquoian, from which the modern constructions could have developed. The coordinate constructions in the modern languages also differ in their degrees of grammatical development and integration into the grammar, as well as in their frequency and obligatoriness. In Onondaga, for example, coordinate constituents are usually linked by intonation alone, while in Mohawk, they may be linked just by intonation but are more often linked overtly. In Cherokee, conjunctions are common in writing but rare in speech.

In fact the etymological sources of most of the coordinating conjunctions can still be seen: they are descended from various kinds of discourse adverbials.

#### (3) Sources in discourse adverbials

Mohawk	tah nón:we’	‘moreover, so now, now then’
Oneida	ok+ale’	‘just’ + ‘again’
Onondaga	ohni’	‘also’
Cayuga	hni’	‘also’
Seneca	khoh	‘too’
Wyandot	thu + di’	‘there’ + ‘also’

Cherokee ale' 'again'

Comparison of the modern languages with 19<sup>th</sup> century records reveals that the syntactic constructions have begun to solidify relatively recently, coinciding with the bilingualism of Iroquoian speakers in English and French.

#### 4. Central Alaskan Yup'ik

In contrast with Sierra Popoluca and the Iroquoian languages, languages of the Eskimo-Aleut family seem surprisingly devoid of coordinating and subordinating conjunctions. Examples here are drawn from Central Alaskan Yup'ik, spoken in southwestern Alaska. The sentence in (4) was uttered by someone recounting a dream. It was later translated by the speaker as 'When I saw them take you away because you had died, I ate our duck.' Despite the syntactic complexity of the English translation, the Yup'ik original contained no obvious conjunctions or complementizers. (Punctuation here reflects intonation.)

(4) Yup'ik complex sentence without conjunctions: George Charles, speaker p.c.

Tangerrluten,  
I saw you

ayauulluten, pillragni  
took you away they did

tuqullruavet,  
you died

yaqulegpuk wiinga, nerellruaqa.  
our duck I myself I ate it

The relations among these clauses are actually marked morphologically. Yup'ik verbs consist of a base plus an inflectional ending. The base consists of a root optionally followed by various suffixes. The ending consists of a mood suffix plus a pronominal suffix which identifies the core participants of the clause, one for intransitives and two for transitives.

(5) Basic Yup'ik verb morphology

Nere-llru-a-qa  
eat-PAST-TR.IND-1SG/3SG  
'I ate it.'

ROOT	(SUFFIXES)	MOOD	PRONOMINAL SUFFIX
BASE		INFLECTION	

Figure 1: Yup'ik Verb Morphology

The mood suffixes specify whether each clause is independent or dependent, and add additional information typically encoded in other languages with syntactic particles. The morphological structure of (4) can be seen in (6).

(6) Inflectional dependency marking

Tangerr- <b>lu</b> -ten,	ayaul- <b>lu</b> -ten,	pi- <b>llr</b> -agni,
see-SUB-2SG	go-SUB-2SG	do-PAST.CONTEMPORATIVE-3DU
seeing you	going away with you	when they two did

tuqu-llru-**a**-vet  
die-PAST-CONSEQUENTIAL-2SG  
**because** you died

yaquleg-puk,	wiinga,	nere-llru- <b>a</b> -qa.
duck-1DU/SG	1ERG	eat-PAST-TR.INDICATIVE-1SG/3SG
our duck	I myself	I ate it

‘When I saw them take you away because you had died, I ate our duck.’

The moods are described in further detail in the next sections.

#### 4.1 Yup’ik Independent Moods

There are three independent moods, roughly comparable in function to the mood categories of many other languages: Indicative, Interrogative, and Optative. The Indicative mood is used for statements and yes/no questions.

(7) Indicative mood: Elizabeth Ali, speaker p.c.

Elitnaurvigmi	uita <b>u</b> nga.
elitnaurvik-mi	uita- <b>u</b> -nga
school-LOC	stay-INTR.IND-1SG
‘I’m at school.’	

The Interrogative mood is used for content questions.

(8) Interrogative mood: Elizabeth Ali, speaker p.c.

Camek	neqengqerc <b>it</b> ?
ca-mek	neqe-ngqerr- <b>tsi</b> -t
what-ABL	food-have-INTERR-2SG
‘What do you have to eat?’	

The Optative is used for tentative statements and commands.

(9) Optative mood: Elena Charles, speaker p.c.

Aaniin-wa	qanrutellallrulliki,
aana-an=wa	qanrute-lar-llru- <b>li</b> -ki
mother-3SG/S.ERG=EMPH	tell-HAB-PAST- <b>TR.OPT</b> -3SG/3PL
'I guess her mother used to tell her	

ilallrin	atritnek.
ila-ller-in	ater-itnek
relative-former-3SG/PL.ERG	name-3PL/PL.ABL
the names of her deceased relatives.'	

(10) Optative mood: Elena Charles, speaker p.c.

Piqaaraa.  
 pi-qcaar-**a**-a  
 do-keep.trying.best-**OPT**-2SG  
 'Keep up the good work!'

#### 4.2 Yup'ik Dependent Moods

There are ten dependent moods. The Subordinative has a variety of uses, the most common of which is to mark a closely associated event or idea.

(11) Subordinative mood: George Charles, speaker p.c.

Utaqallruut-qaa	misvigmi
utaqa-llru-u-t=aqq	mit'e-vig-mi
wait-PAST-INTR.IND-3PL=Q	alight-place-LOC.SG
were they waiting	at the airport
'Were they waiting at the airport	

wall'u-q'	elpet	qanercuuterrarluki
wall'u=qaa	elpet	qaner-cuut-ute-rrar- <b>lu</b> -ki
or=Q	2SG	talk-device-with.another-after- <b>SUB-R</b> /3PL
or	you	having first talked with them on the telephone

taillruut?  
 tai-llru-u-t  
 come-PAST-INTR.IND-3PL  
 they came  
 or did they come **after you phoned them?**'

Participial clauses supply supplementary information, such as description or explanation. They also often serve functions comparable to those of relative clauses in other languages.

(12) Participial mood: Elizabeth Ali, speaker p.c.

Tuai-ll' taqluni  
 tuai=llu taqe-lu-ni  
 there=and stop-SUB-3SG  
 'And then he stopped,

ayarillinilria	atsanek	ukunek	ataucinek,
ayari-llini-lria	atsa-nek	uku-nek	atauciq-mek
desire-apparently-PRTC.3SG	fruit-ABL.PL	this-ABL.PL	one-ABL.PL
apparently desiring	fruits	these visible	ones

**apparently admiring the fruit.'**

There are three Contemporative moods, which contribute meanings roughly comparable to 'when in the past', 'while', and 'at the same time that'.

(13) Contemporative mood: George Charles, speaker p.c.

Ataka,	kegginaqunek	pilillrani
ata-ka	kegginaqur-nek	pi-li-ller-ani
my father	mask-ABL.PL	thing-make-PAST.CNTP-3SG
my father	masks	<b>when</b> he made

**'When my father used to make masks**

tangallruaqa  
 tanga-llru-a-qa  
 look-PAST-TR.IND-1SG/3SG  
 I would watch him.'

(14) Contemporative mood: Elizabeth Ali, speaker p.c.

Tua-i-ll' ayainanemegeni  
 tuai=llu ayag-inaner-megni  
 and=too go-CNTP-1DU  
 'And as we two were travelling,

pellaangukuk.  
 pella-nge-u-kuk  
 lose.way-begin-INTR.IND-1DU  
 we began to wander.'

The Precessive mood forms temporal adverbial clauses, setting off dependent clauses with the meaning 'before'.



(15) Precessive mood: Elena Charles, speaker p.c.

Kaigmi                uksur**pailegan**,  
 kiak-mi              uksur-**paileg**-an  
 summer-LOC        become.winter-**PRE**-3SG  
 'In the summertime, **before it became winter**,

ayunek                pit'lallruuq.  
 ayut-nek              pite-lar-llru-u-q  
 Labrador.tea-ABL.PL    hunt-HAB-PAST-INTR.IND-3SG  
 she used to pick Labrador tea.'

The Concessive forms dependent clauses, adding meanings like 'although', 'even though', and 'even if'.

(16) Concessive mood: Elena Charles, speaker p.c.

Canrituq              aninqevkenaki  
 ca-nrite-u-q          aninqe-vke-na-ki  
 do-not-INTR.IND.3SG    conserve-NEG-SUB-R/3PL  
 it is not                conserving them  
 'They don't really have to be saved,

aturameng  
 atur-a-meng  
 use-CNSQ-3R.PL  
 because they're used  
 because they're being used

nang**engrameng**        cavkenateng.  
 nange-**ngrar**-meng    ca-vke-na-teng  
 finish-CNCESS-3R.PL    do-NEG-SUB-3PL  
**even if** they run out    they're not doing anything  
**even though they may run out** it's OK.'

The Contingent mood forms temporal adverbial 'whenever' clauses.

(17) Contingent mood: George Charles, speaker p.c.

Tua-i-ll'	yaqulekit	tekita <b>qameng</b>	iciw'
tuai=llu	yaqur-lek-t	tekite- <b>aqa</b> -meng	iciwa
then=and	wing-one.with-PL	arrive-CNTGT-3PL	you.know
and then	birds	<b>when</b> they arrive	you know

'And then **when the birds arrived** you know,

kayangussurrluta      pilallruukut  
 kayangur-ssur-lu-ta      pi-la-llru-u-kut  
 bird.egg-hunt-SUB-1PL      do-HAB-PAST-INTR.IND-1PL  
 we egg hunting      we used to do  
 we used to go collect eggs

up'nerkarmi,  
 up'nerkar-mi  
 spring-LOC  
 in the spring.'

The Consequential mood forms reason adverbial clauses.

(18) Consequential mood: Elena Charles, speaker p.c.

Nutaqapiaraulliniata,  
 nutar-qapiar-aur-llini-a-ata  
 new-very-continue-apparently-CNSQ-3PL  
 'Because they were very fresh

soupiluki,      kenilaranka.  
 soup-i-lu-ki,      kenir-lar-a-nka  
 soup-make-SUB-R/3PL      cook-HAB-TR.IND-1SG/3PL  
 making them into soup      I cook them  
 I would cook them, making soup.'

The Conditional mood forms conditional clauses and future temporal adverbial clauses: 'when in the future'.

(19) Conditional mood: George Charles, Elena Charles, speakers p.c.

GC Ayakuvet,  
 ayag-ku-vet  
 go-COND-2SG  
 'If you go,

uitaqerciquten-qaa	amani?
uita-qer-ciq-u-ten=qaa	ama-ni
stay-briefly-FUT-INTR.IND-2SG=Q	over.there-LOC
will you stay there for awhile?	

EC Nani?  
 'Where?'

GC Utres**ku**vet  
 uterte-**ku**-vet  
 return-COND-2SG  
 ‘When you return,

Bobinkuni-qaa	uitaciquten?
Bob-inku-ni=qaa	uita-ciq-u-ten
Bob-group-LOC.PL=A	stay-FUT-INTR.IND-2SG
will you stay with Bob and his family?'	

The kinds of complex syntactic structures that are typical in languages with literary traditions thus have Yup'ik counterparts, but the Yup'ik constructions are in a sense more tightly integrated into the grammar, marked by verbal morphology rather than separate conjunctions and complementizers.

## 5. Deeper Morphology

The Eskimo-Aleut languages have advanced still further in the development of complex grammatical structures. Ideas that are typically expressed in complex complement constructions in European languages are often expressed within a single verb. Eskimo-Aleut languages contain verbal suffixes that correspond to matrix verbs in most other languages, such as Yup'ik *-ni-* ‘say, claim that’, *-yuke-* ‘think, believe that’, *-sqe-* ‘ask to, tell to’, *-testaili* ‘prevent oneself or another from’, and *-uciite-* ‘not know whether, how one is’. (They also contain verb roots or stems with similar meanings, such as Yup'ik *aper-* ‘say’, *ukveke-* ‘believe’, *ellimer-* ‘ask to, tell to’, and *capir-* ‘prevent from’).

Verbs formed with the suffixes can be inflected either as intransitives or transitives. When they are intransitive, what would be the subjects of the matrix and the complement clause in other languages are interpreted as coreferential. When they are transitive, the two participants are different. The kinds of constructions formed by these matrix-like suffixes can be seen by comparing the verbs in (20). (Gender is not distinguished in the Yup'ik pronominal suffixes, but it is used here to aid in the interpretation of reference.)

Derivational suffix *-ni-* ‘say, claim’: George Charles, speaker p.c.

(20a) Basic verb

Ayagtuq.  
 ayag-tu-q  
 leave-INTR.IND-3SG  
 ‘He’s leaving.’

(20b) Intransitive derived verb

Ayag**ni**uq.  
 ayag-**ni**-u-q  
 leave-**say**-INTR.IND-3SG  
 ‘He **says** he (himself) is leaving.’

## (20c) Transitive derived verb

Ayagnia.  
 ayag-**ni**-a-a  
 leave-**say**-TR.IND-3SG/3SG  
 ‘He **says** she’s leaving.’

Both components of such complex verbs can be modified by other suffixes. The going, the saying, or both can be situated in the past, for example.

Interaction with tense: George Charles, speaker p.c.

## (21a) Past claim

Agayn**ll**ruat.  
 ayag-ni-**llru**-a-at  
 leave-say-**PAST**-TR.IND-3PL/3SG  
 ‘They said he was leaving.’

## (21b) Claim about previous going

Ay**all**runiat.  
 ayag-**llru**-ni-a-at  
 leave-**PAST**-say-TR.IND-3PL/3SG  
 ‘They say he left.’

## (21c) Past claim about previous going

Ay**all**run**ill**ruat.  
 ayag-**llru**-ni-**llru**-a-at  
 leave-**PAST**-say-**PAST**-TR.IND-3PL/3SG  
 ‘They said he had left.’

An example of *-sqe-* ‘ask, tell to’ is in (22).

(22) Suffix *-sqe-* ‘ask to, tell to’: Susan Charles, speaker

Ilumun yungcaristam  
 ilumun yungcar-i-ta-m  
 truly person-become-induce-DETR.AGT.NMLZ-ERG  
 truly one who treats medically  
 ‘It’s true, the doctor

tagesqaaten.  
 tage-**sqe**-a-aten  
 go.up-**request**-TR.IND-3SG/2SG  
 he **asked** you **to** go up  
**has called for** you **to** go up (to the hospital).’

## 6. Contact-Induced Developments?

The Yup'ik derivational and inflectional constructions seen in the previous two sections show a grammatical integration of ideas at least as elaborate as those found in European languages with long literary traditions. Yup'ik has no comparable pre-contact tradition of literacy. There is no evidence that the complexity seen here developed first in writing. An obvious question is whether it could have been stimulated by contact with languages which themselves had such histories, as we saw in Sierra Popoluca and Iroquoian.

### 6.1 The Derivational (“Matrix”) Suffixes

We are fortunate to have a fine resource for investigating issues of language change in the Eskimo-Aleut family, the *Comparative Eskimo Dictionary with Aleut Cognates* by Fortescue, Jacobson, and Kaplan (2010). This work provides cognate sets across the family, which stretches from Siberia to Greenland, as well as reconstructions for both roots and suffixes. Citing Fortescue 1985 and Dumond 1987, Fortescue et al. suggest rough estimates of the time depths involved.

As a reasonable estimate, one could suggest that our reconstructed PE [Proto-Eskimoan] belongs to a period sometime around two thousand years ago, whereas hypothetical PE-A [Proto-Eskimo-Aleut] would belong to a period of around two thousand years earlier than that. (Fortescue, Jacobson, & Kaplan 2010:xi).

Significantly, the derivational suffixes comparable to matrix verbs in other languages (‘say, claim that’, ‘think, believe that’, ‘ask, tell to’, ‘prevent from’, ‘not know whether’) can all be reconstructed to at least Proto-Eskimoan, a time that predates contact with speakers of European languages by more than a millennium.

The processes by which these derivational constructions developed within this family are most likely of the same types as those by which certain kinds of matrix verbs develop into affixes all over the world. In some cases, such as with ‘think that’, they are somewhat akin to modal or evidential markers elsewhere, where the matrix verb provides epistemic qualification, and the central proposition is contained within the original complement clause. In others, such as ‘prevent from’, they may be more like causatives in Yup'ik and other languages, where two actions are integrated into a single event (as described for example in Heine & Kuteva 2002:117-118). The Yup'ik suffixes are probably descended from erstwhile lexical matrix verbs. Those matrix verbs that occurred most frequently in certain complement constructions would have gradually fused with their complements and eroded in form, until they ultimately became the suffixes we see today.

The Eskimoan “matrix-like” derivational suffixes are so old that their likely sources no longer persist in the modern languages as roots, so far as can be seen. We can, however, see the kinds of situations that would have led to their development. Verbs with meanings like ‘say that’, ‘tell to’, ‘believe that’, etc. are among the most frequently used matrix verbs in complement constructions. It is common cross-linguistically for such verbs to show reduced prosodic prominence. With verbs of saying and thinking, it is the message or thought that is the most informative, and typically the most salient prosodically (Mithun 2009, In press b). This prosodic

relationship can be seen in modern Yup'ik. Figure 2 shows a pitch trace of the sentence 'And she said, "Oh dear."' (This sentence, like most other examples here, is from spontaneous speech.)

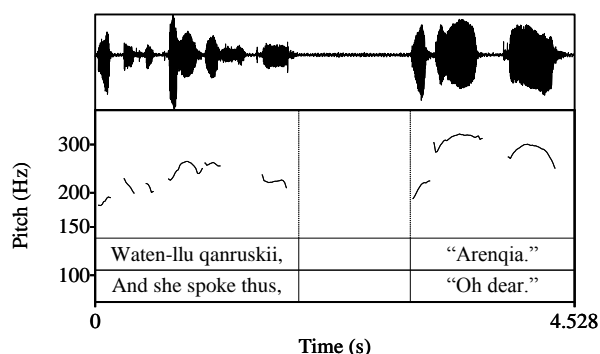


Figure 2: 'And she **said**, "Oh dear."'

Figure 3 shows a pitch trace of the sentence 'They **believed that** this land is inhabited by spirits.' Again, the matrix shows reduced prosodic prominence.

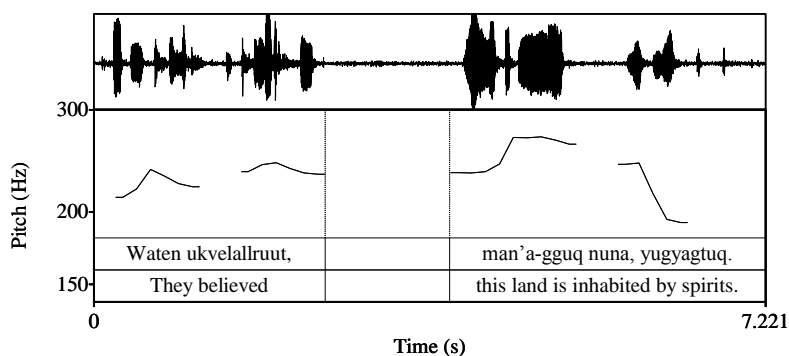


Figure 3: 'They **believed that** this land is inhabited by spirits.'

Such prosodic reduction would be a preliminary step along the path toward affix status.

Developments have gone a step further in Eskimoan languages. We know that adjacent morphemes that co-occur especially frequently can come to be interpreted as single units, and ultimately single morphemes. Eskimo-Aleut languages show numerous traces of the fusion of an original root and following suffix to what are now interpreted as single roots. The root *pite-* 'to take game', for example, can be traced to the root *pi-* 'thing' followed by the suffix *-te-* 'obtain, attain', though it is now conceived of as a single morpheme. Similar processes have also fused frequently co-occurring adjacent suffixes. One of the many causative suffixes, for example, *-narqe-* 'tend to cause', can be seen to have originated as the sequence *-nar-* 'cause' + *-rqe-* 'time after time'. Similar processes can be detected with "matrix-like" suffixes. The suffix *-squma-* 'want one to' is composed etymologically of *-sqe-* 'ask to, tell to' + *-uma-* 'be in state of having been'.

## 6.2 The Inflectional Mood Suffixes

As seen earlier, the mood suffixes that occur in every Yup'ik verb not only distinguish dependent from independent clauses, they also add meanings comparable to those of the complementizers

and conjunctions in other languages that mark dependent clauses. The histories of these Yup'ik markers also go back to a time well before contact with European languages.

Some of the mood suffixes are reconstructible to Proto-Eskimoan as mood (Fortescue, Jacobson, & Kaplan 2010). Nearly all are obviously descended from derivational suffixes.

#### Sources of Yup'ik mood dependent markers

(23a)	Participial mood	-lria		
	Derivational source	-lria	Nominalizer	'the one who'
			qavar-	'sleep'
			qava-lria	'the one sleeping'
(23b)	Subordinative mood	-lu		
	Derivational source	-lu	Nominalizer	'place/thing for'
				(non-productive)
			tamu-	'chew once'
			tam-lu	'chin'
(23c)	Past Contemporative mood	-llec-	'when in the past'	
	Derivational source	-llec-	Past nominalizer	
			ayag-	'leave'
			ayag-llecq	'having left'
(23d)	Contemporative mood	-ute-	'at the same time as'	
	Derivational source	-ute-	'with another'	
			qalarte-	'talk'
			qalar-ut-aa	'he's talking to her'
(23e)	Contingent mood	-aqa-	'whenever'	
	Derivational source	-aqe-	'usually, habitually, repeatedly'	
			qavar-	'sleep'
			qavar-aq-uq	'he would sleep'
(23f)	Consequential mood	-nga-	'because'	
	Derivational source	-nga-	'having Ved', 'having been Ved'	
			uterte-	'return'
			uter-nga-uq	'he has returned'
				(to his hometown)

Like those seen in the previous section, these developments exemplify common processes of grammatical change. Cross-linguistically, dependent clauses are often formed by nominalization. A number of the Eskimoan mood markers are transparently descended from nominalizers that still persist in the modern languages, either productively or frozen in modern forms. Immediately following the mood marker in every verb is a pronominal suffix. Many of the pronominal suffixes that occur with these moods are transparently descended from possessive suffixes, as would be expected of nominalized forms. The pronominal suffixes on Contemporatives are

actually locative possessive forms. Thus a construction meaning ‘when they left’ is descended from a locative adverbial construction ‘at their leaving’.

## 7. The Status of the Sentence

At the foundation of most theories of syntax is the recognition of the sentence as the most fundamental, universal unit of structure. But we know that speakers of English and many other languages do not always speak in the kinds of complete sentences expected of writers. Native English-speaking students must often be taught what constitutes a sentence in order to write academic prose. This difference between spontaneous speech and conventional writing raises the question of whether the sentence itself might be a unit that arises from writing, one that might not be inherent in languages without literary traditions or without contact with such languages.

In fact the sentence appears unusually robust in Yup’ik. Every clause contains overt, obligatory marking of its status as dependent or independent. The distribution of information over dependent and independent clauses seen in the examples in section 4 looks much like that in their English counterparts. Material in square brackets in (24) translates dependent clauses in the Yup’ik originals.

### (24) Formally dependent clauses

‘Did they come [after you phoned them]?’

‘He stopped, [apparently admiring the fruit].’

‘[When my father used to make masks], I would watch him.’

‘[As we were travelling], we began to wander.’

‘In the summertime, [before it became winter], she used to pick Labrador tea.’ ‘[Even though they may run out] it’s OK.’

‘[When the birds arrived], we used to go collect eggs in the spring.’

‘[Because they were very fresh], I would make soup of out them.’

‘[If you go], will you stay there for awhile?’

The situation is actually even more interesting than might first appear, however. Some of the formally dependent clause types, in particular the Subordinative and the Participial, often appear in separate sentences on their own (Mithun 2008). A number of cues converge to indicate that these should indeed be considered separate sentences.

### (25) Indications of status as separate sentences

- i Absence of an identifiable matrix
- ii Prosodic independence
- iii Interactive responses
- iv Translations as independent sentences

The phenomenon will be illustrated here with the Subordinative. The passages in (26) and (27) are from a conversation between a mother and her son. (The entire conversation was in Yup’ik, but the context is provided with just free English translations.) As a marker of syntactic dependency, the Subordinative indicates the close relationship of an associated event or idea to the matrix clause. The association may be temporal, such as close succession, or more abstract. The Subordinative marking in the first clause in Mrs. Charles’ turn, ‘going to the hotel’, serves



this function: going to the hotel was closely associated in time to staying there for two nights, and the two together comprised what could be conceived of as a larger event. The Subordinative marking in the second clause of this same turn, however, does not link that clause to some other matrix clause. It is formally dependent by virtue of its morphology, but there is no other independent clause it could be dependent on. The Subordinative marking here is functioning at a higher level of structure: it indicates that the entire sentence is closely related to the preceding discourse, a direct answer to her son's question.

(26) Subordinative sentence: George Charles, Elena Charles speakers p.c.

GC: 'And how long did you stay there?'

EC Tua-i-llu hotel-amun agluta,  
 tuai=llu hotel-mun age-lu-ta  
 and.then=also hotel-ALL go.over-SUB-1PL  
 that is to the hotel we going over  
 'We went to the hotel and

malrugnek qavarluta  
 malrug-gnek qavar-lu-ta  
 two-ABL.DU sleep-SUB-1PL  
 two we sleeping  
 stayed there two nights.'

GC 'Two.'

EC 'Yes.'

GC 'Mhm.'

The prosody of this sentence reflects the two different levels of structure. The first clause ended with a non-terminal fall in pitch, with little pitch reset for the following clause. That second clause, by contrast, ended in a full, terminal fall, characteristic of independent sentences.

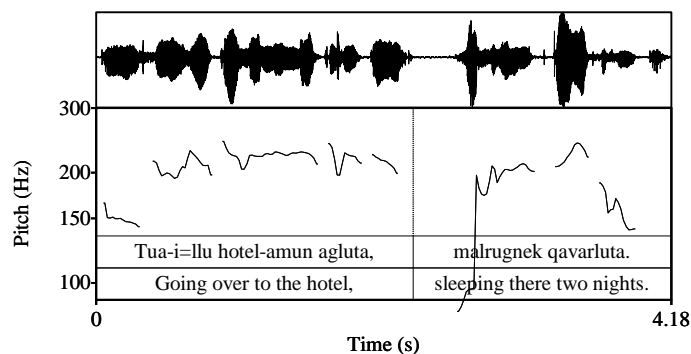


Figure 4: 'We went to the hotel and stayed there two nights.'

The response of the son, which came after a pause, indicated that he understood her utterance as complete. When he later translated the exchange into English, he rendered her turn as an independent sentence.

The extension of the original syntactic construction to a larger discourse function is robust in Yup'ik. The conversation continues in (27). This passage consists solely of formally dependent clauses (apart from a digression about relatives).

(27) Conversation continues: George Charles, Elena Charles speakers p.c.

EC   Taukuk-llu   Tommy-m   aanin,  
       tauku-k-llu   Tommy-m   aana-an  
       that-DU=too   name-ERG   mother-3SG/SG.ERG  
       ‘And she and Tommy’s mother

kalukaulluta                    unuaquani.  
 kalukar-ute-**lu**-ta            unuaqu-ani  
 have.feast-BEN-SUB-R/1PL   next.day-3SG/SG.ABL  
 making us a feast            the next day  
 gave us a feast the next day.

Tamalkumta   kelegluta            quyurrluta.  
 tamalkur-mta   keleg-**lu**-ta        quyur-**lu**-ta  
 all-1PL/3       invite-SUB-R/1PL   gather-SUB-R/1PL  
 all of us        inviting us           gathering us  
 They invited all of us, gathered us together.’

GC: ‘Who was there?’

EC: ‘Tommy’s mother and his two younger sisters, and his stepdad, his father.  
 He is not their natural father. He’s their stepfather.’

GC: ‘Yes.’

EC   Taukut                tua-i       kenekluta        cakneq,  
       tauku-t            tuai        keneke-**lu**-ta    cakneq  
       that.restricted-PL   and.then   love-SUB-R/1PL   much  
       those                that is     loving us        very much

kalukaqikut,  
 kalukar-**qe**-iikut  
 feast-PRTC-3SG/1PL  
 giving us a feast

maurluata.  
 maurlur-ata  
 grandmother-3PL/SG.ERG  
 their grandmother  
 'Their grandmother and the others, loving us very much, gave us a feast.'

GC: *Qaa.*  
 'Ah.'

EC Neqkiurluni, cakneq assirbluni  
 neqe-kiur-**lu**-ni cakneq assir-**lu**-ni  
 food-prepare-SUB-3SG very.much be.good-SUB-3SG  
 she preparing food very much it being good  
 'She prepared food, very good food.'

GC Ng.

EC Tua-i-llu utertelluta,  
 tuai=llu utere-**lu**-ta  
 and.then=too return-SUB-1PL  
 and then we returning  
 'And then we returned.'

GC 'From there did you come here?'

Though the entire passage is composed solely of formally dependent clauses, the prosody shows a clear delineation into sentence-like groupings, each of which ends in a full, terminal fall (noted in the transcription with a period). An example of this contour can be seen in the pitch trace in Figure 5.

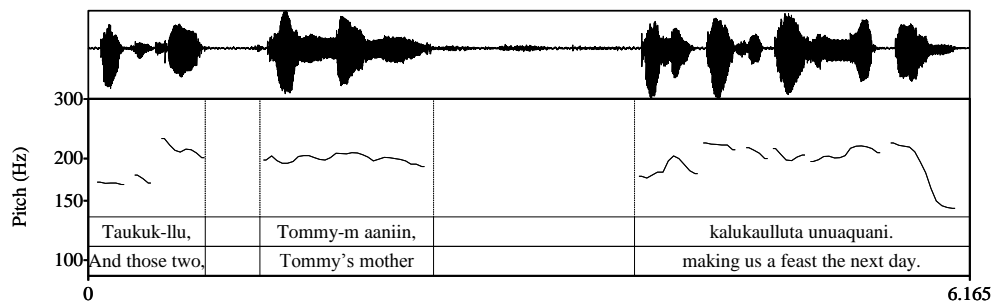


Figure 5: 'And she and Tommy's mother gave us a feast the next day.'

The first clause in Figure 6 shows a partial fall, followed by partial pitch reset, but the sentence as a whole ends in a full terminal fall.

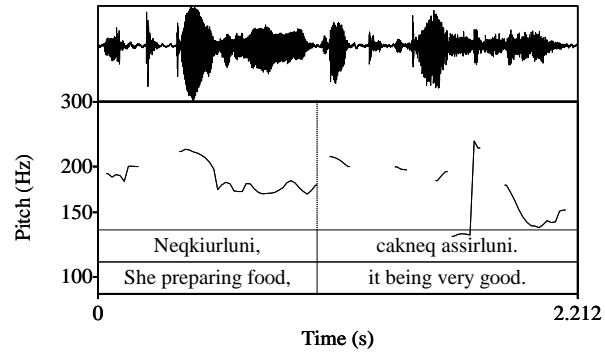


Figure 6: 'She prepared food, which was very good.'

Figure 7 shows the last sentence of that turn, a single, grammatically dependent clause, with the prosody of a complete sentence.

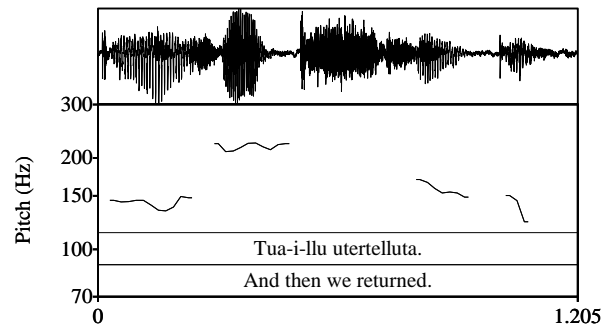


Figure 7: 'And then we returned.'

Again, evidence that these prosodic units were interpreted as complete by the listener is provided by his backchannel responses ('Oh', 'Mhm') at appropriate points, and his further questions ('Who was there?'; 'From there did you come here?').

As a whole, the passage in (26) - (27) illustrates nicely this discourse function of Subordinatives. Much as basic Subordinatives mark syntactic dependency of clauses within a sentence (as in the sentences repeated in (28) below), these Subordinatives mark the pragmatic dependency of independent sentences within discourse (29).

#### Syntactic relations

(28a) '[**Going** to the hotel] we stayed two nights'

(28b) '[**Inviting** us] they gathered us together'

(28c) '[**Loving** us so much] they gave us a feast'

(28d) 'She prepared food [it **being** good].'

#### Discourse relations

(29a) 'How long did you stay?'

'We went to the hotel and stayed two nights.'

- (29b) ‘She and Tommy’s mother gave us a feast.  
 They invited us to get together.  
 Loving us very much, their grandmother gave us a feast.  
 She prepared food, good food.  
 And then we returned.’

Returning to the question of the status of the sentence in this language, we can still say that this unit of structure is indeed robust in Yup'ik. The formal distinction between dependent and independent clauses goes back thousands of years, to at least Proto-Eskimo-Aleut, long before literacy in the language or contact with Europeans. But the system is in a sense more interesting and perhaps more complex than those well known in European languages. Yup'ik speakers have extended these complex syntactic constructions beyond the level of the sentence to the domain of discourse. Similar structures can be seen throughout the languages in the family, suggesting that this extension, too, predates contact with European languages. The syntax-discourse boundary exists, but it can be crossed in diachronic developments.

## 8. Conclusion

The Sierra Popoluca, Iroquoian, and Yup'ik material here indicates that complex syntactic constructions can develop from a variety of sources and through a variety of mechanisms: some language external, some language-internal, some a mixture of the two.

Sierra Popoluca provides examples of the replication of forms, stimulated by contact with a European language. Interestingly, the contact was not direct: the new syntactic markers were not copied directly from Spanish, but rather through the intermediary of neighboring Nahuatl dialects, from speakers who were themselves not generally literate in either Spanish or Nahuatl. The markers were not all adopted in their original forms: some underwent further processes of development within Nahuatl, such as the conditional *sigá*, a combination of the Spanish *si* and the Nahuatl complementizer *iga*. The overall result in Sierra Popoluca has been an increase in the formal marking of syntactic complexity.

The Iroquoian languages provide examples of replication of a grammatical category, in this case coordinating conjunction. All of the modern languages contain coordinating conjunctions, but neither the forms nor the structures they participate in are cognate. Around the time when bilingualism in English or French and Iroquoian languages became widespread, Iroquoian speakers began exploiting native adverbials with meanings such as ‘(and) then’, ‘moreover’, ‘also’, ‘too’, and ‘again’ for the overt marking of syntactic coordination. In some of the languages such marking was used first to link nominals, and in others it was used first to link clauses. The markers were gradually extended to new contexts, so that now, in at least some of the languages, they can serve as general conjunctions. The languages still differ in the frequency of overt grammatical specification of the syntactic structure.

In contrast, Central Alaskan Yup'ik provides ample evidence of the fact that neither a literary tradition nor exposure to a language with a literary tradition are necessary to the development of grammatical complexity. Such complexity can come about through regular processes of internally motivated grammatical development. The Yup'ik complex constructions seen here are in many ways more advanced, further developed, than their counterparts in European languages. They are primarily morphological: some derivational and some inflectional. But they are the kinds of structures that develop out of complex syntactic constructions. The derivational suffixes

with meanings such as ‘say that’, ‘believe that’, ‘not know that’, etc. are typical of the kinds of morphology that can develop out of erstwhile lexical matrix verbs. The inflectional mood suffixes, particularly those marking dependent clauses, are typical of the kinds of morphology that can develop from syntactic particles such as subordinating conjunctions and complementizers. The Yup’ik markers have evolved further, in several ways. They have fused formally with the verbs over which they have scope. They have been subject to processes of regularization typical of much grammatical change, so that they now form inflectional paradigms. And they have been extended beyond their original syntactic functions, still robustly operative in the language, to relating independent sentences in discourse. In these uses, the complexity has been extended to a higher level of structure.

External circumstances often stimulate the development of grammatical constructions, but it is clear that syntactic complexity can still develop in the absence of either literacy or contact with written language.

### Abbreviations

ABL = ABLATIVE, ALL = ALLATIVE, BEN = BENEFACTIVE APPLICATIVE, CNCSS = CONCESSIVE, CNSQ = CONSEQUENTIAL, CNTG = CONTINGENT, CNTP = CONTEMPORATIVE, COND = CONDITIONAL, DETR.AGT.NMLZ = DETRANSITIVE.AGENTIVE.NOMINALIZER, DU = DUAL, EMPH = EMPHATIC, ERG = ERGATIVE, FUT = FUTURE, HAB = HABITUAL, IND = INDICATIVE, INTERR = INTERROGATIVE, INTR = INTRANSITIVE, LOC = LOCATIVE, NEG = NEGATIVE, NMLZ = NOMINALIZER, PL = PLURAL, PRE = PRECESSIVE, PRTC = PARTICIPIAL, Q = QUESTION PARTICLE, R = COREFERENTIAL, SG = SINGULAR, SUB = SUBORDINATIVE, TR = TRANSITIVE, 1 = FIRST PERSON, 2 = SECOND PERSON, 3 = THIRD PERSON.

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