

Innovation in Eskaleut dependent moods

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In Eskaleut languages, dependent clauses are a greater source of morphological and structural innovation than independent clauses are, contra claims that they are more conservative. Evidence for this comes from a comparison of the system of verb moods within the language family. Dependency in Eskaleut clauses is indicated by verbal mood and person inflection. The term ‘mood’ covers several functions connected with clause chaining: independent moods indicate speech act, and dependent moods allow different temporal and adverbial combinations and various types of dependence (embedded clauses, appositional clauses, etc.). Independent and dependent moods have different sets of person inflections, making the identification of dependency relatively straightforward. Across the languages, most innovative moods originate from dependent structures, and those that do not still result in dependent structures. These developments are partially explained as a result of usage and pragmatics: dependent clauses are statistically many times more frequent than independent clauses, most innovations allow finer distinctions in tense-aspect-modality, and dependent structures also result from sociolinguistic preferences such as indirectness.

KEYWORDS: Eskaleut languages, dependent clauses, linguistic innovation, morphological dependency, clause chaining.

1. Introduction

It has been argued that independent clauses, and more specifically, main clauses, tend to be innovative, whereas dependent or subordinate clauses may be more conservative (see section 2).¹ In Eskaleut (henceforth EA) languages (see Figures 1-2), however, it is the reverse, and in this paper, I show that the more important locus of innovation is the system of dependent clauses. Following Berge (2016a), I assume that a clause is syntactically dependent if it cannot stand alone but must modify or serve as a component of another clause. A clause is also considered semantically dependent if ‘it loses the illocutionary force that it would normally have if uttered on its own as a sentence’ (Huddleston 1999: 337). In EA, verbs are headed by an inflectional category called ‘mood’, which has multiple functions: the independent moods indicate illocutionary force, whereas the dependent moods signal different clause combinatory types.

Mood inflection interacts closely with (pronominal) person inflection, and both together are predictable indicators of dependency. Because of the link between mood/person inflection and dependency, as well as the relatively free word order in both dependent and independent clauses, I discuss conservatism and innovation specifically in relation to morphological conservatism.

There are three categories of EA moods: (i) the inherited moods, which include one independent mood and several dependent moods and share cognate inflectional morphemes; (ii) Pan-EA moods that were incipient in the proto-language but developed differently in the respective languages, with non-cognate mood morphemes, and (iii) dependent moods that developed after the major language family splits and are specific to each language group. The association between dependency and innovation in EA is a function of its clause combination strategies, the frequency of dependent clauses in EA discourse, the importance of verbal constructions to EA information structure, a pragmatic need for making finer distinctions in the expression of causal, temporal, or aspectual relationships between clauses, and sociolinguistic factors such as a preference for indirectness. These factors have led to more morphological conservatism in the independent structures, and to more expressive creativity in the dependent structures. In section 2, I summarize some previous and important typological studies of other languages suggesting that dependent clauses are more conservative, and some suggested motivations for this conservatism. In section 3, I summarize typological characteristics of the EA language family relevant to dependent clauses, particularly the verb moods and their interactions with pronominal inflection. In section 4, I present the innovative moods, and in section 5 I discuss possible reasons for the innovation of specifically dependent structures.

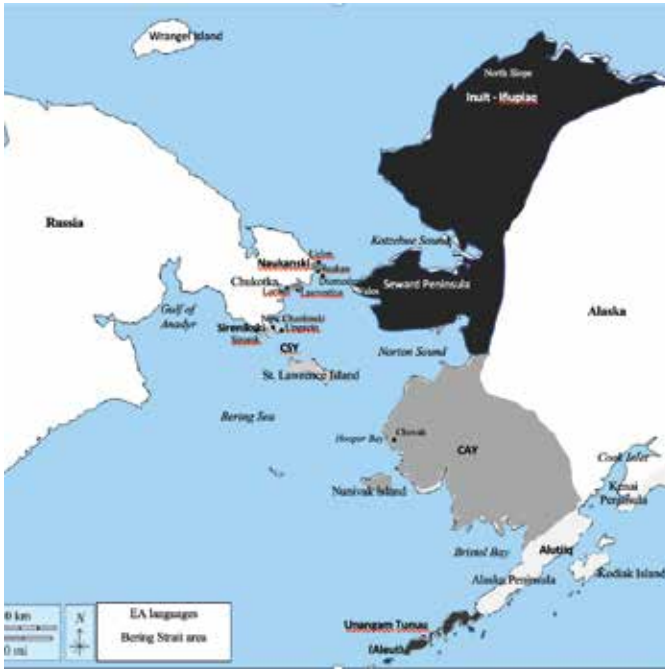


Figure 1. Bering map.



Figure 2. Inuit map.

2. *The background for viewing subordinate clauses as conservative*

From the 1970's, numerous studies of a variety of languages have shown a correlation between conservatism of subordinate clauses and innovation of main clauses with respect to word order and information structure (Vennemann 1975, Givón 1979, Hock 1986), grammaticization (Klein-Andreu 1990), and morphology (Bybee *et al.* 1994, Matsuda 1998). Subordination broadly refers to adjunct dependent clauses, such as adverbial clauses, and embedded clauses, such as object clauses of transitive verbs. Givón (1979) suggests that the greater level of complexity of subordinate clauses compared with main clauses in German, as well as distributional restrictions on their use may have led to their fixed conservative SOV word order (as opposed to the historically newer SVO order in main clauses). Matsuda (1998) finds some correlation between the conservatism of subordinate clauses in Japanese and discourse-pragmatic and processing factors. For example, backgrounded clauses may not undergo certain structural changes otherwise found in main clauses, and embedded clauses are typically processed more slowly, acquired later, and lost earlier than main clauses (Matsuda 1998: 9-10). Bybee (2002) sees innovation in main clauses as a result of the more complex pragmatic relations they entail (e.g. the indication of focus). Like Matsuda, she argues that processing factors are determinative: subordinate clauses, being pragmatically less complex, are more likely to be processed as larger units, and consequently to result in the maintenance of archaisms that must be memorized.

These observations generally do not hold in EA languages. Neither word order nor information structure are predictably differentiated; thus, dependent clauses have the same range of word order options as independent clauses, they are not necessarily backgrounded, they can introduce new topics, etc. (Berge 2011), and independent clauses can provide background information (Miyaoka 2012: 1327). The most obvious and important differences between dependent and independent clauses are to be found in the morphological requirements of the verb, and most importantly, in the verbal inflection. While there is increased complexity in some inflectional components of dependent clauses, there is also decreased complexity in others. Thus, a single, frequently lexicalized mood morpheme indicating the combinatory relationship of a dependent clause to the main clause may derive from a complex source; for example, the Alutiiq successive *-(w/p)ayt̄-* 'and then...' is a lexicalized combination of *-(w/p)ay-* 'intensifier' and a mood morpheme *-t̄-*. However, the multiple sets of numerous pronominal inflections on an EA verb require vastly greater memorization;

there is more syncretism in the dependent pronominal paradigms than in independent ones, and thus fewer forms to memorize. Further, studies of child language acquisition in Eastern Canadian Inuit suggest that dependent clauses are learned around the same time as independent clauses, and more different pronominal inflections of dependent verbs are learned and used earlier than those of independent verbs (Lee & Allen 2023).

Although structural, pragmatic, and processing factors are likely to play a role in the relative conservatism and innovation of EA clause types, they result not in conservatism, but rather in innovation in dependent clauses. What drives innovation is not dependency per se, but rather the relative frequency and importance of different clause types, and the pragmatic and social need to expand expressive opportunities within a clause chain. The importance of the clause chain in EA languages, and consequently of the statistically much more numerous dependent clauses, cannot be overstated. The structure of clause chains and the nature of dependency are explained in the following section.

3. Typology of the EA Language Family

EA is spoken from the Chukotkan Peninsula on the Siberian coast to Greenland. It includes two major branches, formerly known as ‘Eskimo’ and ‘Aleut’ (Figure 1). These terms both have unclear origins, they are not universally in use within the respective areas, and they are not ethnonyms. The language family has been known as ‘Eskimo-Aleut’ or, more recently, ‘Eskaleut’. There is a move to replace these with ‘Inuit/Yupik/Unangan’, although it is neither universally recognized nor adopted. I refer to ‘Eskimo’ as ‘Yupik/Inuit’ and to modern Aleut as ‘Unangam Tunuu’ (adjectival forms are SG ‘Unangaŋ’ and PL ‘Unangan’). Yupik/Inuit has a further subdivision into four Yupik languages, numerous Inuit dialects, and Sireniki (no longer spoken since 1997), either an early branch of Yupik or the sole representative of a third branch of Yupik/Inuit (in Berge *forthcoming-d*, I argue for the former). The typological characteristics most relevant to dependency in the language family include clause structure (3.1), verbal mood inflection (3.2), and pronominal inflection on verbs (3.3).

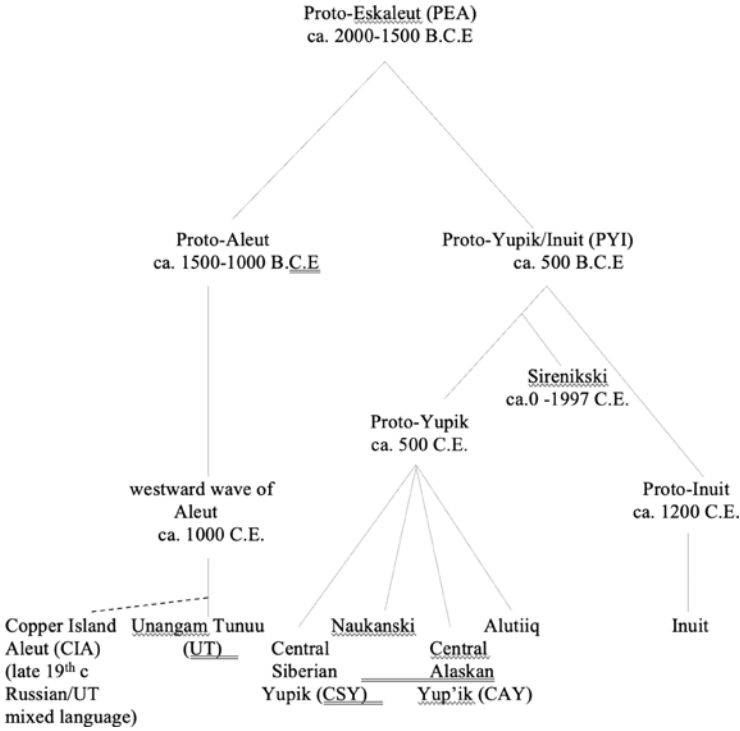


Figure 3. Eskaleut (EA) family tree.

3.1 Clause structure

The EA languages are all clause chaining. A typical clause chain consists of a series of dependent adverbial or conjunctive clauses and an independent clause, i.e. the main clause. Each clause is headed by a ‘mood’, an inflectional morpheme that identifies the role of the clause within the chain. Adverbial clauses are headed by moods establishing time relative to the main clause; for example, the anterior mood indicates that something happened before and is frequently causally related to the action of the main clause. Conjunctive clauses are canonical combinatory clauses, indicating action contemporaneous with or sequential to that of the main clause. Conjunctives in all the languages generally only index one argument and therefore have tended to be associated with subject coreference with the main clause (although the association is imperfect, Berge 2011). The structure of a clause chain is schematized in Figure 4; dependent clauses are not obligatory, and there may be multiple levels of dependency within a complex chain.

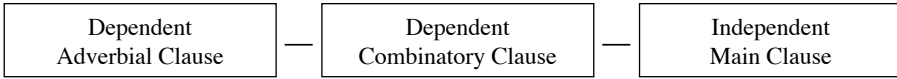


Figure 4. Clause Chain.

In the clause chain illustrated in (1), all but the last two clauses are headed by the conjunctive mood; the penultimate is an adverbial clause headed by the anterior mood; and the final clause is headed by the indicative mood, the sole independent mood and speech act of the chain.

- (1) West Greenlandic Inuit (Berge *unpublished*)
- | | | | |
|---|------------------------|----------------------------------|-------------------|
| <i>itu-p</i> | <i>qaa-ni</i> | <i>takuqqusaab-lu-ŋa</i> | |
| house-REL | surface-3C.SG.POSS.LOC | do.something.to.be.seen-CONJ-1SG | |
| 'While I was doing something to be seen on top of the house' | | | |
| <i>aŋpa-qattaab-lu-ŋa</i> | | <i>uuŋa</i> | |
| run-again.and.again/the.whole.time-CONJ-1SG | | up.there | |
| 'running the whole time up there' | | | |
| <i>qani-ti-lu-tik</i> | | | |
| come.near-more-CONJ-3C.PL | | | |
| 'while they came nearer' | | | |
| <i>suli umia-ab-toŋ-niaŋ-lu-yit</i> | | | |
| still umiak-over.and.over-use-while-CONJ-3PL | | | |
| 'while I was still shouting 'umiaq' ² over and over to them' | | | |
| <i>innasli-liv-ŋiaŋ-lu-tik</i> | | | |
| put.it.out.of.order/destroy-begin-after-CONJ-3C.PL | | | |
| 'they began to be destroyed/to break up' | | | |
| <i>qajaŋ-ta-minnut</i> | | <i>aŋaat asivov-ŋa-mik</i> | |
| kayak-person.who.does-3C.PL.POSS.TERM | | even be.broken-ANT-3C.PL | |
| 'when even to the kayaker [accompanying them] they were broken' | | | |
| <i>ilulia-mina-alu-ŋŋu-it</i> | | <i>kisi-isa</i> | <i>taku-a-ŋut</i> |
| iceberg-piece.of-not.much/rather-little-ABS.PL | | alone-3PL.ACC | see-IND-1PL/3PL |
| 'we saw only the little pieces of icebergs.' | | | |

Other typological characteristics of EA, also illustrated in (1), include preferred SOV word order, extreme polysynthesis, and agglutinating and almost exclusively suffixing morphology. Yupik/Inuit languages are morphologically ergative-absolutive and include various oblique cases that also indicate different argument roles as necessary.³ Unangam Tunuu has an anaphoric system that indexes unexpressed objects or possessors on the verb (Bergsland 1997, Berge 2009). The default case on independent arguments is absolutive, and ergative case is only used for subject noun phrases when the direct object or possessor thereof is non-overt. Oblique arguments are headed by postpositions. Ergative case is referred to as 'relative' in the EA linguistic tradition and it has both ergative and genitive functions.

Polysynthesis and clause chaining affect the expression of dependency. For example, embedded clausal objects of elocutionary verbs may be expressed as in (2), via verbal derivation (*saχ-* ‘to tell’) and inflection (*-a* ‘3SG.SUBJ/3SG.OBJ’).⁴ I will not address this type of dependency; instead, I focus on the expression of dependency via separate clauses, as with the comitative in (3) or the adverbial modification in (4), both headed by the conjunctive mood (Unangam Tunuu *-lix*, Alutiiq *-tu-*, negative conjunctive *-ykuna-*).

- (2) Sirenikski (Menovshchikov 1964: 78)
utsəmə-saχ-təqəχ-təB-a
 craft-tell-PRS-IND-3SG/3SG
 ‘he tells him to craft [something]’

- (3) Unangam Tunuu (Berge 2016a: 206)
Paavila-χ ayiita-lix qa-ku-qitj
 Paul-ABS.SG be.together.with-CONJ eat-IND-1SG
 ‘being together with Paul, I am eating’ = ‘Paul and I are eating’

- (4) Alutiiq (Leer 1990: 101)
NəBə-ykuna-ta qul-nək casaar-tu-ta pətkə-ria-kut
 eat-NEG.CONJ-1PL ten-ABL.PL hour-CONJ-1PL work-PART-1PL
 ‘We worked for ten hours without eating.’

3.2 Verbal mood inflection

The most important element of a clause, the verb, is headed by an elaborate inflectional system that indicates mood, person, number marking, and sometimes polarity. Mood is crucial in structuring clause chains. Independent moods indicate speech act and dependent moods facilitate the indication of temporal and adverbial relationships with the main verb. A simplified representation of the morphology of the verb is given below, showing the location of mood in the verbal structure. Nominalizing affixes can attach to a verb stem in place of the verb mood, turning the verb stem into a noun; they have historically been a source of verb mood morphology.⁵

	ROOT	STEM		INFLECTION	
VERB	verb root –	derivation –	(tense/aspect) –	verb mood –	person/number
NOUN	verb root –	derivation –	(tense/aspect) –	nominalizer –	person/number – case

Figure 5. EA verb and noun morphology.

There are three categories of EA moods: (i) moods inherited from Proto-Eskaleut (PEA), which have remained morphologically and semantically stable across the language family, and include the principle independent mood (the indicative) and dependent moods (the conjunctive, anterior, and conditional); (ii) a set of secondary moods not fully developed in PEA that include the participial, interrogative, and imperative/optative, that developed differently in the different branches of EA, and that are irregular, historically unstable, and show a mix of dependent and independent characteristics; and (iii) moods specific to the different EA language branches, having developed from the first two sets of moods after the major language family splits. The first two sets of moods are listed in Table 1, and their respective morphologies in Table 2 (the first set, of inherited moods, is indicated in small caps). The 3rd set of moods is discussed in section 4.3.

MOOD	DEPENDENCE	SPEECH ACT / FUNCTION	ROLE IN CLAUSE COMBINATION
INDICATIVE	Independent	Declarations	Main clause in chain
Participial	Variable	Declarations	Object, relative, appositional clauses Main clause in certain contexts
Interrogative	Independent	Questions	
Imperative	Independent	Commands, requests	
Optative	Independent (variable in Unangam Tunuu)	Wishes, requests	Object clause in Unangan verbs of elocution
CONJUNCTIVE	Dependent	Contemporaneous or sequential action in relation to main verb, adverbial modification	Combinatory clause in chain Main clause in certain contexts
ANTERIOR	Dependent	Causal / past in relation to main verb	Adverbial clause in chain
CONDITIONAL	Dependent	Irrealis / future in relation to main verb	Adverbial clause in chain

Table 1. Verb moods and their functions (inherited moods in small caps).

MOOD		UNANGAM TUNUU	ALUTHIQ	CENTRAL ALASKAN YUP'IK	CENTRAL SIBERIAN YUPIK	SIRENIKSKI	INUIT
INDICATIVE	IN	-ku-	-(t)u-	-(y/t)u-	-(y/t)uɤ-	-tə-	W -(y/t)u- E -(v/p)u-
	TR		-(y)αɤ-	-(y)a-	-(y)αɤ-	-ɤə-	-γαɤ-
Participial	IN	0 / -na- / -qa-	-lɤia-	-lɤia-	-lɤii-	-ləɤə-	W -(ɾ/t)ua- E -(y/t)u-
	TR		-kə-	-kə-	-kə-	-kə-	-yɪ ⁶
Interrogative		-liχ-	1, 2 -(t)si- 3 -(y/t)ə-	1, 2 -(t)si- 3 -(y/t)a-	1 -stə- 2 -zi- 3 -(y/t)a-	-tə-/-sə-	1, 2 -vi- 3 rd -va-
Imperative		-ðɑ ⁷	0, (-yɪ-)	0, (-yɪ-)	0	0	0, -yɪ-
Optative		-VVɤ-	1 -la- 3 -li	1 -la- 3 -li	1 -la- 3 -li	-ɬa-	1 -la- 3 -li
CONJUNCTIVE		-liχ ⁸	-lu-	-lu-	-lu-	-lə, -ɬə-	-lu-, -ɬu-
ANTERIOR		-VVŋ-	-ŋa-	-(ŋ)a-	-(j)a-	-(j/-s)a-	-(y/ŋ)a-
CONDITIONAL		-yu-	-ku-	-ku-	-(y)ku-	-qəkə-/ -kəγə-	-yu-

Table 2. Verb mood morphemes for the moods listed in Table 1 (data from Bergsland 1997, Leer 1990, Jacobson 1995, 2001, Menovshchikov 1964, Vakhtin 2000, MacLean 1986, Fortescue 1984; dark shading represents respective cognates across rows. Consonants in parentheses are phonologically conditioned on preceding voiced or voiceless phonemes, or absent in some environments). (IN = intransitive; TR = transitive; E = Eastern; W = Western)⁹

3.3 Pronominal inflection on verbs

Grammatical person marking is frequently fused with grammatical number, intimately linked with mood, and in many cases an essential indicator of dependence (Berge 2016a). For example, independent and dependent moods take different sets of pronominal inflection, with multiple points of difference, including absolutive *vs* relative marking, the distinction or lack thereof between 3rd coreferential (3C) and non-coreferential persons, and the use or lack of special 3rd person object morphemes. These are taken up below.

EA pronominal inflection on verbs closely parallels or is identical with either simple number or possessive inflection on nouns. For example, both nouns and verbs mark simple number as follows: SG 0, DU -k,

PL *-t* (allomorph *-n*), and *-ka* (Unangam Tunuu *-ŋ*) is both 1SG absolutive possessor / SG possessum on nouns and 1SG subject inflection on verbs (5). As a result, in the literature, terms applied to nominal inflection, e.g. absolutive and relative, are frequently used in reference to verbal inflection, and I follow this convention. Historically, the parallelism between nominal and verbal morphology is more than accidental (for example, verbal 1st and 2nd person inflection resulted from the cliticization of independent pronouns, cf. Hammerich 1936, Bergsland 1964, Vakhtin 1980, Fortescue 1984, Berge 2023b).

- | | | |
|-----|---------------------------------------|--------------------|
| (5) | Alutiiq (Berge <i>forthcoming-a</i>) | |
| | Absolutive possessed noun | Transitive verb |
| | <i>aana-ka</i> | <i>taŋɣ-a-n-ka</i> |
| | mother-1SG.POSS.ABS | see-IND-PL-1SG |
| | 'my mother' | 'I see them' |

Pronominal inflection on verbs is hierarchical: 1 > 2 > 3SUBJECT > 3OBJECT, with differences in how this hierarchy is manifested between verbs with independent and dependent moods. Pronominal inflection is generally ergative-absolutive with 1st and 2nd persons: intransitive independent verbs have absolutive inflection in slightly altered form (6), and transitive verbs have relative (i.e. ergative) subject inflection, absolutive object inflection, and [[VERB STEM]-SUBJECT-OBJECT] order (7).

- | | | | |
|-----|---------------------------------------|-----|-------------------------------|
| (6) | Alutiiq (Berge <i>forthcoming-a</i>) | | |
| | Independent intransitive verb | cf. | ABS noun (possessed) |
| | <i>pisuɣ-tu-a(ŋa)</i> | | <i>əŋlu-qa (q-ka > qa)</i> |
| | hunt-IND-1SG | | house-1SG.POSS.ABS |
| | 'I am hunting' | | 'my house' |
-
- | | | | |
|-----|---------------------------------------|--------------------|----------------------|
| (7) | Alutiiq (Berge <i>forthcoming-a</i>) | | |
| | Independent transitive verb | cf. REL noun | ABS noun (possessed) |
| | <i>taŋɣ-a-m-kən</i> | <i>əŋlu-ma</i> | <i>əŋlu-ɣ-kən</i> |
| | see-IND-1SG-2SG | house-1SG.POSS.REL | house-SG-2POSS.ABS |
| | 'I see you' | 'my house's...' | 'your (SG) house' |

3rd person forms do not follow an ergative-absolutive pattern. 3rd person subject inflection of independent intransitive verbs (8a) and 3rd person object inflection of transitive verbs index simple number, e.g. *-k* 'dual' (allomorph *-ɣ*) in (8b). Rules for transitive 3rd person subjects are complex and not relevant here. Independent verbs with 3rd person object have [[VERB STEM]-OBJECT-SUBJECT] ordering (8b).

- (8) Alutiiq (Berge *forthcoming-a*)
- | | | |
|----|--------------------------|------------------------|
| a. | Intransitive verb | ABS noun (unpossessed) |
| | <i>iteɣ-tu-k</i> | <i>əŋlu-k</i> |
| | enter-IND-DU | house-DU |
| | ‘they (DU) are entering’ | ‘houses (DU)’ |
| b. | Transitive verb (V-O-S) | |
| | <i>taŋɣ-a-ɣ-ka</i> | |
| | see-IND-DU-1SG | |
| | ‘I see them (DU)’ | |

In dependent moods, all intransitive verbs

- have relative inflection (compare independent (6), (8a), and dependent (9a-b))
- differentiate between 3rd and 3C persons (compare (9b) and (10a-b))
- do not reverse the affix ordering with 3rd person objects (compare (8b) and (10b)).
- have special 3rd person object morphemes in Yupik/Inuit SG *-yu* (11a) PL *-ki* (11b) (Unangam Tunuu *-(ɣ)ka(-)* / *-(ɣ)ki(-)* are cognate, but not restricted to dependent clauses, see 4.3.4)

These inflectional patterns are crucial in determining the dependent status of clauses, at least in Yupik/Inuit; the inflectional patterns are summarized in Table 3.

- (9) Alutiiq (Berge *forthcoming-a*)
- | | | | |
|----|-----------------------------------|-----|--------------------|
| a. | Dependent intransitive verb | cf. | 1SG REL noun |
| | <i>pisuɣ-ŋa-ma</i> | | <i>əŋlu-ma</i> |
| | hunt-ANT-1SG | | house-1SG.POSS.REL |
| | ‘when I am hunting/when I hunted’ | | ‘my house’s...’ |
| b. | Dependent intransitive verb | cf. | 3SG.REL noun |
| | <i>arjaya-u-ŋa-n</i> | | <i>əŋlu-an</i> |
| | girl-COP-ANT-3SG | | house-3SG.POSS.REL |
| | ‘when she was a girl’ | | ‘his house’ |
- (10) Alutiiq (Berge *forthcoming-a*)
- | | | | |
|----|--|-----|--|
| a. | 3C.SBJ dependent intransitive verb | cf. | 3C.REL noun |
| | <i>iteɣ-ŋa-mi</i> | | <i>əŋlu-mi</i> |
| | enter-ANT-3C.SG | | house-3C.SG.POSS.REL |
| | ‘when he himself entered’ | | ‘his own house’ |
| b. | 3C.SBJ dependent transitive verb | cf. | 1 st and 2 nd person forms (V-S-O) |
| | <i>niiɣ-a-mi-ki</i> | | <i>taŋɣɣ-ŋa-m-ken</i> |
| | hear-ANT-3C-3PL.OBJ | | see-ANT-1SG-2SG |
| | ‘when/because he himself heard them’ | | ‘when I saw you’ |
| c. | 3 rd person subject dependent transitive verb | | |
| | <i>niiɣ-a-ki</i> | | |
| | hear-ANT-[3/]3PL.OBJ | | (3 rd person subject not indicated) |
| | ‘when/because he heard them’ | | |

- (11) Alutiiq (Berge *forthcoming-a*)
- a. 3SG.OBJECT
taŋəʁ-ŋa-m-ku (< -*yu*)
 see-ANT-1SG-3SG.OBJ
 ‘when I saw him’
 - b. 3PL.OBJECT
taŋəʁ-ŋa-m-ki
 see-ANT-1SG-3PL.OBJ
 ‘when I saw them’

Clausal dependence	Grammatical person (Pronominal inflection)	Inflectional pattern	
Independent	Intransitive verbs		
	1, 2	SUBJECT = absolutive possessive	(cf. 6)
	3	SUBJECT = simple number	(cf. 8a)
	Transitive verbs		
	1, 2 (V-S-O)	SUBJECT = relative possessive OBJECT = absolutive possessive	(cf. 7)
Dependent	Intransitive verbs		
	all persons (incl. 3c)	SUBJECT = relative possessive	(cf. 9a-b)
	Transitive verbs		
	1, 2, 3c	SUBJECT = relative or locative possessive OBJECT = absolutive possessive	(cf. 10a-b)
	3 (V-S-O)	SUBJECT = relative or locative possessive OBJECT = 3OBJECT morpheme (- <i>yu</i> , - <i>ki</i>)	(cf. 10c, 11a-b)

Table 3. Summary of independent vs dependent pronominal inflection strategies on verbs.

4. Innovation in the EA Mood System

In section 3.2, I listed three sets of moods: fully inherited moods, moods that were incipient in PEA but developed secondarily after the languages split, and moods that are unique to a particular language group. A few innovations are based on the inherited indicative (4.1).

Innovations based on the secondarily developed moods have generally replaced rather than created moods (except in Unangam Tunuu), but they are presented for the sake of completeness in (4.2). The inherited dependent moods gave rise to families of moods in Yupik/Inuit languages, with the anterior being the basis for the Yupik connective moods, and the conjunctive the basis for the Inuit contemporative moods. Additionally, some innovations result from the grammaticization of derivational suffixes either in combination with existing moods or as new moods themselves, e.g. contemporatives in Yupik and Inuit. These are discussed in (4.3); I include Unangan optative-based moods there, as a language-specific development, although the discussion properly belongs in (4.2).

4.1 Innovations based on the independent indicative mood

The only fully independent mood inherited from PEA is the indicative mood. In both Inuit and Unangam Tunuu, it gave rise to new subordinate clause types. In Inuit, this occurred via the grammaticization of a new morphological form on the main (indicative) clause and the retention of the older form on the participial mood, lending support to claims regarding the conservative nature of non-main clauses (Bybee 2002, Klein-Andreu 1990). In Unangam Tunuu, however, the reverse is true: the indicative mood is conservative, and new dependent clauses are formed via the grammaticization of relative and locative morphology on indicative verbs.

The Inuit indicative and participial moods are morphologically closely related. In the western and presumed more conservative dialects, the indicative mood morpheme is $-(\tau/t)u-$ or $-(j/t)u-$ and the participial $-(\tau/t)ua-$ or $-(j/t)ua-$, in addition to which there is a discourse final $-(v/p)u-$ form. In the eastern dialects, the indicative mood is $-(v/p)u-$ and the participial $-(j/t)u-$ (12). (Mood initial consonant alternations are phonologically conditioned by a preceding stem-final vowel or consonant; this is illustrated with the indicative, but also applies to the participial.)

(12)	Alaskan Inuit (MacLean 1986),	West Greenlandic Inuit (Berge 2011)	
	-V# + Indicative	-C# + Indicative	Participial
Alask. Inuit	<i>nisi-ṭu-ŋa</i>	<i>nisi-niaq-tu-ŋa</i>	<i>nisi-ṭua-ŋa</i>
WGr. Inuit	<i>nisi-vu-ŋa</i>	<i>nisi-ṭav-pu-ŋa</i>	<i>nisi-ju-ŋa</i>
	eat-IND-1SG	eat-NEAR.FUT-IND-1SG	eat-PART-1SG
	'I am eating'	'I am going to eat'	'I ate'

Bergsland (1956) and Rasmussen (1979) reconstruct two separate forms and assume the labial-initial morpheme was lost in Yupik, whereas Fortescue *et al.* (2010: 489) reconstruct a Proto-Yupik/Inuit

intransitive indicative/participial mood *-ðu-. It is the indicative mood marker in the language family, but doubles as a participial only in Inuit. Proto-Yupik/Inuit *-ðu- is likely the original indicative; with nominalizing *-ɛ, it was reanalyzed as a participial (4.2). *-(v/p)u-* appears to be an Inuit innovation that has replaced the inherited indicative in the east (contra earlier assumptions about the reverse process, Bourquin 1891, Hammerich 1936, Bergsland 1989) and later spread to the interrogative mood. Miller (1976) explains it as a result of recent epenthesis and reanalysis.

Unangam Tunuu has developed subordinate constructions from an indicative verb and cliticized case inflection; these constructions replace existing dependent moods. Although they are not yet grammaticized, the process is relatively advanced in the Eastern dialects. A common construction involves an indicative verb + enclitic dative particle = (ŋ)aan instead of a verb headed by the anterior mood. Likewise, there are multiple markers for indicating dubitative or counterfactual semantics for indirectness on indicative verbs, including a derivational suffix *-amusu-* ‘maybe’, an optative-based dubitative mood *-VVχta-* (4.3.4), and relative inflection *-m* rather than simple number inflection singular *-χ* (plural *-n*) on 3rd person forms of the indicative verb. The latter creates a relationship of dependency with the main clause, despite the indicative mood. Both the dative and relative enclitics are illustrated in (13).

(13) Unangam Tunuu (Berge 2016a: 294)

<i>Kum ayal-ku-ɛ = aan</i>	<i>ula-m(in)</i>	<i>u-χt-amusu-ku-m</i>
CF be.late-IND-3SG = DAT ¹⁰	house-2SG.REL	go.to/reach-PRF-maybe-IND-REL
<i>maqax-tfχi-yu-umin = ulux</i>		
be.bad-CAUS-COND-2SG = NEG		
‘Would it be alright if we come late to your house?’ (lit. ‘Maybe when we are late reaching your house, if it would not be bad...’)		

These examples support claims that independent clauses are innovative, and dependent clauses are conservative. However, they are a distinct minority among the innovative clause types in EA.

4.2 Innovations based on the secondary moods

The participial, interrogative, and imperative/optative moods are shared by all EA languages, but they fully developed after the language family split. They share a lack of categorical definition: their inflections come from both the independent and dependent paradigms; the respective mood morphemes are different across the languages and between dialects; and the moods lack stability. This lack of stability and definition have led to rapid development and even replacement, as described below.

The participial is derived from nominalizing morphology that attaches directly to the stem. The intransitive participial is formed from the nominalizers *-ləq* in Yupik languages and Sirenikski, *-(y)tuq* alone or in combination with the passive participle *-(y)aq* in Inuit,¹¹ and *-na*, *-(y)ka* (> *-qa*) in Unangam Tunuu, summarized in Table 4; most have a final uvular, a Yupik/Inuit nominalizing element.¹² The participial is associated with the expression of past tense or perfective aspect in most languages.

LANGUAGE	NOMINALIZER	MEANING	NOMINALIZING FUNCTION
Inuit, Sirenikski	<i>-tu-q</i>	‘one who V’s’	present participle
Yupik, Alaskan Inuit	<i>-lə-q</i>	‘one who has V’d’	past participle
EA	<i>-nə-q</i> (> Unangaḅ <i>-na</i>)	‘act of V’ing’	present participle
EA	<i>-kə-</i> (> Unangaḅ <i>-(y)ka</i>)	‘someone or something V’d’	passive participle

Table 4. Nominalizing morphemes that gave rise to the participial moods in the various EA languages.

The degree to which the participial functions as a dependent mood varies between languages. In Central Alaskan Yup’ik, it is preferentially an independent mood, especially in narrative discourse; in other languages, less so (Berge 2017). It heads dependent clauses, such as appositional, relative (14), or object (15) clauses in all languages. The intransitive participial has independent mood person inflection (3SG *-q* instead of dependent inflection 3SG *-n* or 3C.SG *-ni*) (14), but like dependent moods, distinguishes between 3 and 3C in transitive clauses (15), and takes specifically dependent negation in all languages but Inuit (16).

(14) Alaskan Inuit (Lanz 2010: 90)

Putu aḵuta-u-ṛu-q umia-qaq-tua-q¹³
 Putu.ABS.SG young.man-COP-IND-3SG boat-have-PART-3SG
 ‘Putu is a man who has a boat.’

(15) older West Greenlandic Inuit (Berge 2002: 144; *-yini* ‘3C.SUBJ/3OBJ.PART’, cf. *-yaani* 3SUBJ/3C.OBJ.PART)

taanna Maliit aamma taku-yini
 that.one.SG.ABS Maliit.SG.ABS and see-3C.SG.SUBJ/3PL.OBJ.PART
unnis-pu-q
 say-IND-3SG
 ‘that Maliit also said she saw them’

- (16) Unangam Tunuu (Bergsland 1997: 90)
 negative indicative negative participial
uku-laka-ŋ *uku-qa-ŋ = ulax*
 find-NEG.IND-1SG/3SG.AN find-PART.AN-1SG/3SG.AN = NEG.PART
 'I didn't find it' 'I didn't find it'

The use of 3C transitive forms has declined in both Yupik and Inuit (Berge 2002, Berge 2017, Miyaoka 2012); in Greenlandic, the participial was subsequently reanalyzed as indicating switch reference in narrative discourse and in embedded object clauses (Berge 2002: 151), in opposition to the conjunctive mood (associated with subject coreference between clauses). In Central Siberian Yupik, the 'participial oblique' mood has developed from a combination of *jaŋ-lbi-* 'would-PART' as an alternative to the dependent anterior mood (17) (Jacobson 2006). In both these cases, the participial is expanding or changing its use from existing dependent contexts.

- (17) Central Siberian Yupik participial oblique (Jacobson 2006: 140)
Miwjaχa-u-ŋ *aqsa-lju-yalbi-m*
 vomit-IND-3SG stomach.ache-have-PART.OBL-3C.SG
 'He vomited because he had a stomachache.'

The interrogative and optative in Yupik/Inuit share features that suggest common development after the split with Unangam Tunuu. They are morphologically irregular, with splits in both mood and person inflection, syncretism, paradigmatic gaps, and distributional restrictions. For example, the respective Yupik/Inuit languages have one interrogative mood allomorph for 1st and 2nd persons (Y *-tsi-*, I *-vi-*), and another for 3rd person (Y *-(y/t)a*, I *-va*, cf. Table 2).¹⁴ In the transitive paradigm, 3rd person objects are indexed with the dependent object morphemes SG *-(y)u-* PL *-ki* (18). In Yupik languages, the interrogative is distributionally restricted: some question types are only expressed via the indicative (19); transitive interrogatives are rare, with not all forms being attested; and 2SUBJECTS are frequently unmarked (18). Similar observations can be made of the imperative/optative in Yupik/Inuit. The conjunctive mood frequently replaces imperative/optative forms in normal conversation, an act of insubordination as a means of softening command forms and being polite (Dorais 1988, Leer 1990, Mithun 2016, Berge 2016) (20a-b):

- (18) Alutiiq interrogative (Leer 1978: 236; 2SG SUBJECT unmarked)
ifakufi-t *atanə-t* *asiktab-tfi-ki?*
 what.kind-PL dry.fish.from.skeleton-PL.like-INT-[2SG/]3PL.OBJ
 'What is your favorite kind of [dry fish made from fish skeleton]?'

- (19) Alutiiq indicative + interrogative enclitic (Leer 1990: 219)

Niit-aŕ -pa-ŋa = qaa
 hear-IND-2SG-1SG = Q
 ‘Do you hear me?’

- (20) Insubordination

- a. Eastern Canadian Inuit (Dorais 1988: 64)

Qaujima-ŋŋin-na-ma
 know-NEG-CAUS-1SG
 ‘(Because) I don’t know’

- b. Central Alaskan Yup’ik (Mithun 2008: 89)

Kitaki quja-na kɔl-aŕ-lu-tən
 well be.thankful = EXCL call-LINK-CONJ-2SG
 ‘Well then, thank you for calling.’ (in answer to a question)

In Unangam Tunuu, there is no separate interrogative mood. The conjunctive *-lix* normally does not take person inflection (21); however, its function has been extended to head questions (22). In this function only, it is found with independent pronominal inflection (23). The Unangam Tunuu optative is addressed in section 3.2.4.

- (21) Unangam Tunuu (Berge 2016b: 56)

Conjunctive cf.	Indicative
<i>Paavila-χ awa-lix</i>	<i>Paavila-χ awa-ku-χ</i>
Paul-ABS.SG work-CONJ	Paul-ABS.SG work-IND-3SG
‘Paul, working’	‘Paul works / is working’

- (22) Unangaŋ conjunctive (Berge 2016b: 41)

Paavila-χ alquta-χ ma-lix?
 Paul-ABS.SG what-ABS.SG do-CONJ
 ‘What is Paul doing?’

- (23) Unangaŋ conjunctive + pronominal clitic (Berge 2016b: 41)

Alquta-χ ma-l = tɕin?
 what-ABS.SG do-CONJ = 2SG
 ‘What are you doing?’

To summarize, the secondary moods manifest both independent and dependent features and are morphologically and semantically unstable. In some cases, they are replaced by inherited dependent moods, e.g. the conjunctive for the interrogative function in Unangam Tunuu and for the imperative/optative function in Yupik/Inuit. In others, they change from one dependent structure to another, as with the replacement of the Yupik anterior with the participial observational construction in Central Siberian Yupik.

4.3 Innovation based on the dependent moods

Most new moods in EA languages are dependent: they function as dependent clauses in chains; they do not denote speech acts; they take relative or locative case-based pronominal inflection; they distinguish between 3 and 3C person inflection; and they take dependent 3OBJECT morphemes. These moods differ both semantically and morphologically between the major branches of EA, having developed independently, from either (i) a combination of existing derivational morphology and dependent mood morphemes, (ii) nominalizers, or (iii) derivational morphemes reanalyzed as mood morphemes.

4.3.1 The Yupik connective moods

The Yupik languages have developed a set of moods, collectively referred to as ‘connective moods’ in the literature, that head adverbial clauses in clause chains (Table 5). Despite the collective name, they have three different sources: combinations of (i) derivational suffixes and the anterior mood, (ii) nominalizers, and (iii) a semi-optional intensifier *-v/pay-* and a mood morpheme *-tə-* or the negation thereof. The resulting new moods create new possibilities for the expression of relative time between clauses. All moods have dependent relative or locative based pronominal inflection.

MOOD	MEANING	INFLECTION	ALUTIIQ	CENTRAL ALASKAN YUP'IK	CENTRAL SIBERIAN YUPIK
ANTERIOR	‘when, because’	relative	-ηa-	-(η)a-	-(γ)a-
contingent	‘whenever’	relative	-(γ)aga-	-(γ)aga-	-(γ)aqη(a)-
concessive	‘although, even though, even if’	relative	-ηβα(κ)-	-ηβ(ακ)-	-ηβα(ακ)-
contemporative I	‘when (in past)...’	locative		-təβ-	
contemporative II	‘while..., while just’	locative		-(η)inanəβ-	-nəβ-
precessive	‘before...’	relative	-(w/p)ailay-	-(v/p)ailəγ-	-vayily(a)
successive	‘then, after...’	absolute / relative	-(w/p)aytə-	-	-

Table 5. Yupik connective moods (data from de Reuse 1994, Jacobson 1995, Leer 1990, Miyaka 2012, Berge *forthcoming-a*).

The anterior mood, indicated by the morpheme *-ηa-*, is inherited from PEA and functions in clause combinations as the head of a causal or temporally anterior clause in a sentence (24). In combination with

the preceding aspectual suffix *-av-* ‘repeatedly’, it is the source of the contingent mood; this combination is now lexicalized as *-(y)aqqa-* ‘whenever...’ (25).¹⁵ It is also the basis of the concessive mood *-ŋba(a)v-* ‘even though’, although the source of the second half of the morpheme is obscure (26).¹⁶

- (24) Central Alaskan Yup’ik anterior (Jacobson 1995: 279)
Akwauyuq tʃəniɪtə-ʔu-nɪ-tu-a nauʔu-u-ŋa-ma
 yesterday visit-PFV-NEG-IND-1SG be.sick-COP-ANT-1SG
 ‘Yesterday, I did not visit because I was sick’
- (25) Central Alaskan Yup’ik contingent (Jacobson 1995)
nəv'-aqa-ma suupa-mək aqsi-juit-u-a
 eat-CONTING-1SG soup-MOD.SG be.full-never-IND-1SG
 ‘Whenever I eat soup, I am never full’
- (26) Central Alaskan Yup’ik concessive (Jacobson 1995: 292) (*-ŋba(a)v-* > 1st person *-ŋəv-*)
nəvə-ŋəv-məχtəχu təvjaqvək cali kaiy-tʃiq-ut
 eat-CONCES-3C.PL/3SG king.salmon.ABS.SG still hungry-FUT-3PL.IND
 ‘Even if they eat the king salmon, they will be hungry’

A combination of nominalizing suffixes and locative case gave rise to the contemporative moods, which indicate action contemporaneous with the verb of the main clause. The contemporative I *-ʔəv-* is derived from the same nominalizing suffix as the Yupik participial mood, and it specifically refers to past events, but it takes different pronominal inflection. The contemporative II *-ŋinanəv-*, derived from *-ŋinanəv-* ‘to just V’ and *-nəq* ‘activity of V’ing’, refers to action occurring at any time. The original nominalizations with possessed locative inflection (e.g. *-a-ni* ‘3SG.POSS-LOC’) were reinterpreted as 3C dependent intransitive forms (e.g. *-ani* ‘3C.SG’ (27-28), then extended to include transitive structures with dependent inflection. The locative element *-ni-* is found in 3C forms (29) but not in 3rd person (30). The contemporative I overlaps in meaning and function with the anterior mood (31) and the contemporative II with the conjunctive mood (32) (Jacobson 1995: 308). However, these moods also allow the expression of contemporaneous action without necessary causation or other connection between the actions (29).

- (27) Central Alaskan Yup’ik (Jacobson 1995: 307)
- | | | |
|-------------------------|---------------------------------|---------------------------------|
| possessed locative noun | nominalized locative phrase | Contemporative I |
| | <i>ənə-ni</i> | <i>nərə-ʔv-a-ni nərə-ʔv-ani</i> |
| house-3C.SG.POSS.LOC | eat-NMLZ-3SG.POSS.LOC | eat-CTPI-3C.SG |
| ‘in his own house’ | ‘in (during) his act of eating’ | ‘when he ate’ |

- (28) Central Alaskan Yup'ik (Jacobson 1995: 307)
 nominalized locative phrase Contemporative II
nəv-ŋinanəv-a-ni *nəv-ŋinanəv-ani*
 eat-NMLZ-3SG.POSS-LOC eat-CTPII-3C.SG
 'in (during) his activity of just eating' 'while he is/was/will be eating'
- (29) Central Alaskan Yup'ik (Jacobson 1995: 307)
 transitive contemporative I, locative *-ni-* reinterpreted as 3C in *-mini-*
atu-łəv-mini-u *miŋqəs-suutə-ka* *navə-łəu-a*
 use-CTPI-3C.SG-3SG sew-APL.NMLZ-1SG.POSS.ABS break-PFV.PART-3SG/3SG
 'when she used my sewing machine, she broke it'
 cf. anterior *atu-a-mi-u*
 use-ANT-3C.SG-3SG
 'because he himself used it'
- (30) Central Alaskan Yup'ik (Jacobson 1995: 307)
 transitive contemporative I without locative *-ni-*
nərə-łə-atki
 eat-CTPI-3PL/3PL
 'when they ate them'
- (31) Central Alaskan Yup'ik (Jacobson 1995: 308)
 Anterior Contemporative I
nəvə-ŋa-n *nərə-łə-ani*
 eat-ANT-3SG eat-CTPI-3C.SG
 'when, because he ate' 'when he ate'
- (32) Conjunctive Contemporative II
nəv-lu-ni *nəv-ŋinanəv-ani*
 eat-CONJ-3C.SG eat-CTPII-3C.SG
 'while he is/was/will be eating' while he is/was/will be eating'

Finally, the Yupik languages have a precessive mood *-pailəy-* 'before', possibly from *-(w/p)ay-ŋil(a)y* 'intensifier-lack' = 'not after' (33)¹⁷ and Alutiiq has an additional related successive mood *-paytə-* 'then, after', from *-(w/p)ay-tə-* 'intensifier-mood' (34).¹⁸

- (33) Alutiiq precessive (Nanwalek dialect *-(w/p)iila(y)-*) (Leer 1978: 217)
inav-piila-mi *ayau-ləa-a*
 go.to.sleep-PREC-3C.SG pray-PART-3SG
 'He prayed before he went to sleep.'
- (34) Alutiiq successive (Leer 1978: 269)
taumi inavquv-payt-a
 then go.to.bed-SUCC-3SG
 'then he went to bed'

4.3.2 Sirenikski connective (and irrealis) moods

Sirenikski had at least two innovative moods, similar in function to the Yupik connective moods. The first, *-məŋa-* ‘when(ever)’, is used for an action occurring at the same time as the main verb (comparable with the Yupik contingent), likely formed from a derivational morpheme and the anterior mood, and with dependent person inflection (35) (Berge *forthcoming-d*).¹⁹ It also functions as a gerund (36):

- (35) Sirenikski contemporative (Menovshchikov 1964: 93)

aftaɬax-məŋa-n
work-CTP-3SG
‘whenever he works...’

- (36) Sirenikski contemporative as gerund (Menovshchikov 1964: 93)

Aftaɬax-məŋa-ni saɣqənəpɪx-tə-tən
work-CTP-LOC age-IND-2SG
‘Work makes you age’ (lit. ‘in working, you age’)

The data suggest the existence of another mood *-βə-* with dependent person inflection and encompassing some of the functions of the anterior mood and the Yupik contingent and contemporative moods (37). It may derive from the nominalizing element **-β* that gave rise to participials; I gloss it as a consequential mood (Berge *forthcoming-d*).

- (37) Sirenikski consequential (Menovshchikov 1964: 135)

Natən naβət-inəqə-tə-ta maŋu-βə-mta taməɣ-pəna-βə-mta?
How live-NEAR.FUT-INT-1PL sit-CONSEQ-1PL eat-NEG-CONSEQ-1PL
‘How are we going to live sitting, not eating?’

Sirenikski was also grammaticizing combinations of derivational affixes and existing moods before the last speaker died (Berge *forthcoming-d*).²⁰ These combinations have irrealis semantics, as in the desiderative *-t-uwuw-yu-* ‘APPLICATIVE-IRREALIS-want’ (38). They seem to have been common in the optative and imperative moods (39), perhaps, as with other Yupik/Inuit languages, as a polite softening strategy for commands (section 5).

- (38) Sirenikski (Menovshchikov 1964: 89)

1st/2nd irrealis combination	Indicative
<i>Avavə-tuwuw-yu-kə-m-kən</i>	<i>avavə-s-əɣə-te-m-ken</i>
lead-DESID-PART-1SG-2SG	go-APL-NEG-IND-1SG-2SG
‘I will/want to lead you’	‘I am not driving you’

- (39) Sireniksi (Menovshchikov 1964: 95, 88)
 3OBJECT irrealis + optative 3OBJECT irrealis + imperative
 Аҕаҕа-туһу-а-ку Аҕаҕа-туһу-и
 lead-DESID-OPT-3SG.OBJ lead-DESID-3SG.OBJ.IMP
 ‘[We] will/want to lead him’ ‘Lead him!’

4.3.3 The Inuit conjunctive and contemporative moods

The Inuit dialects have created finer distinctions for the inherited conjunctive mood (as opposed to the anterior in Yupik languages), to make switch-reference and realized/unrealized events explicit. In Alaskan Inuit, new moods have also resulted from the grammaticization of derivational tense/aspect morphemes (Table 6). Since Inuit developed into different dialects within the past 500 years, there is no question about the late development of these moods (Dorais 2010).

MOOD	MEANING(S)	SUBCATEGORIES	MORPHEME
Conjunctive ²¹	simultaneous, sequential, adverbial	realized aspect, same subject	-vlu-
		future/unrealized, same subject	-lu-
		switch reference	-tit-lu-
Alaskan Inuit Contemporative I	simultaneous, separate actions	same subject	-las-
Alaskan Inuit Contemporative II	simultaneous, perfective action	switch reference	-ŋŋas-
Alaskan Inuit Contemporative III	simultaneous, continuous action	same subject	-mma-

Table 6. The Inuit innovative moods (data from Dorais 1988, MacLean 1986, 1995, Fortescue 1984).

Throughout Inuit, the conjunctive mood morpheme *-lu-* has split into *-lu-* for realized events and *-lu-* for unrealized events (40).

- (40) Alaskan Inuit conjunctive (Maclean 1986: 5)
- | | | | |
|------------------------|-------------------|-----------------------------|------------------------|
| Realized event | | Unrealized event | |
| <i>aquvit-lu-ni</i> | <i>atuq-tua-q</i> | <i>aquvil-lu-ni</i> | <i>atu-ŋ-niaq-tu-q</i> |
| sit.down-CONJ-3C.SG | sing-PART-3SG | sit.down-CONJ-3C.SG | sing-NEAR.FUT-IND-3SG |
| ‘he sat down and sang’ | | ‘he will sit down and sing’ | |

In Yupik/Inuit, the conjunctive *-lu-* indexes one argument, namely the subject of an intransitive clause or the object of a transitive clause.

In a clause chain, the indexed argument is frequently associated with the subject of the main verb, although this association is imperfect (Berge 2011). In Eastern Canadian Inuit, the conjunctive mood has combined with a causative morpheme *-tit-* to more explicitly indicate switch-reference (41), and some varieties have also recently developed a set of alternative transitive conjunctive endings that index both the subject and object (42) (Dorais 1988: 95-97).

- (41) Eastern Canadian Inuit conjunctive (Dorais 1988: 66)
- | | | | |
|---------------------------------------|-----------------------|--------------------------------|-------------------------|
| Same reference | Switch reference | | |
| <i>nisi-lu-ni</i> | <i>pisu-lapa-ju-q</i> | <i>nisi-ti-tu-yu</i> | <i>pisu-lapa-ju-tit</i> |
| eat-CONJ-3C.SG | walk-FUT-IND-3SG | eat-CAUS-CONJ-3SG | walk-FUT-IND-2SG |
| ‘While eating, he himself will walk.’ | | ‘While he eats, you will walk’ | |
- (42) Eastern Canadian Inuit conjunctive (Dorais 1988: 95-97)
- | | |
|----------------------------|-------------------------|
| Single argument inflection | Two argument inflection |
| <i>taku-lu-nga</i> | <i>taku-lu-ti-nga</i> |
| ‘see-CONJ-1SG’ | ‘see-CONJ-2SG-1SG’ |
| ‘while [subject] sees me’ | ‘while you (SG) see me’ |

Alaskan Inuit has developed contemporative moods that are functionally similar to the Yupik contemporative moods, but from different sources. In Alaskan Inuit, the mood morphemes arose through the relexicalization of derivational morphemes, rather than from nominalizations as in Yupik (see (28)). These morphemes are still transparently derivational in Eastern Inuit varieties. For example, the West Greenlandic Inuit intensifier *-lav-* (Proto-Inuit **-lav-* ‘narrative intensification’, Fortescue *et al.* 2010: 452), stative or inchoative stative *ηηav-* (Proto-Yupik/Inuit **ηa-* ‘be in the state of doing something’, Fortescue *et al.* 2010: 460), and *-mmaav-* ‘continually’ (Proto-Yupik/Inuit **(u)mmaav-* ‘continually (while V’ing)’ Fortescue *et al.* 2010: 454) are the Alaskan Inuit contemporative I, II, and III mood morphemes, respectively (43-45).²² All use dependent relative endings and differentiate between 3 and 3C. These moods do not replace the conjunctive *-lu-*; however, the distinction between conjunctive and contemporative moods require more investigation in Alaskan Inuit.

- (43) Alaskan Inuit contemporative I (MacLean 1995: 182)
- nisi-lav-ma*
eat-CTPI-1SG
‘while I am eating, simultaneously...’
cf. Greenlandic derivational morpheme
nisi-lav-pu-ηa
eat-INTENS-IND. 1SG
‘I am really eating’

- (44) Alaskan Inuit contemporative II (MacLean 1995: 182)
nisi-ŋŋaβ-ma
 eat-CTPII-1SG
 ‘while, when I am eating’
- (45) Alaskan Inuit contemporative III (MacLean 1995: 183)
nisi-mmaβ-ma
 eat-CTPIII-1SG
 ‘while I am intermittently eating’ (MacLean 1995: 182)

4.3.4 Optative-based moods in Unangam Tunuu

Unangam Tunuu has innovated on the basis of the optative mood for the expression of modality, specifically of ability, desire, or intention. The original optative mood marker *-VVβ-* ‘let...’ gave rise to the intentional *-VVβ-* ‘intend to...’, the dubitative *-VVχta-* ‘doubt that...’ (with *-χta-* ‘evidential’), and a gerundive *-VVβ-* (distinguished from the intentional by the pronominal endings required) (46); and since the 19th century, the optative has included the morpheme *-ta-* (Bergsland 1997: 92).²³ The defining difference between the moods lies in their pronominal requirements: the optative takes regular enclitic pronouns also found in independent moods such as the indicative and participial in Unangam Tunuu; the innovative moods take dependent pronominal inflection. The intentional, for example takes relative inflection (47) (Table 7).

MOOD	MORPHEME	SUBJECT	3 VS 3C DISTINCTION	OBJECT MORPHEMES
Optative	<i>-VVβ-</i> (modern <i>-VVχt-</i>) ‘let...’	enclitic pronouns	no	<i>-yka-</i> / <i>-yki-</i>
Dubitative	<i>-VVχta-</i> ‘doubt that...’	relative possessive	no	(not specified)
Gerundive	<i>-VVβ-</i> modifier ‘in order that’	absolute/relative possessive	yes	<i>-yka-</i> / <i>-yki-</i>
Intentional	<i>-VVβ-</i> ‘intend to...’	relative/locative possessive	no	<i>-yka-</i> / <i>-yki-</i>

Table 7. Unangan Optative-based moods (data from Bergsland 1997, Berge *forthcoming-c*).

None of these derivative moods are defective, having a full paradigmatic set of inflectional endings (note the 2nd person optative in (47), cf. imperative *yulaaja-ða* ‘walk-2SG.IMP’ = ‘go walk!’). Object morphemes

-(y)ka- and -(y)ki- (cognate with Yupik/Inuit dependent 3OBJECT inflection -(y)u- and -ki-) are found in all the moods, dependent and independent (48); Except for the gerundive (49), none distinguish between 3 and 3C.

- (46) Unangam Tunuu (Bergsland 1997: 335)
 Intentional (relative person inflection) Optative (enclitic pronoun)
yulaaja-a-min *yulaaja-aχ = txin*
 walk-INTENT-2SG walk-OPT-2SG
 ‘You intend to go walking’ ‘Go walk!’
- (47) Unangam Tunuu (Bergsland 1997: 335)
 Dubitative (relative person inflection) Optative (enclitic pronoun)
yulaaja-aχta-aj *yulaaja-a = qij*
 walk-DUB-1SG walk-OPT = 1SG
 ‘I might go walking’ ‘Let me walk!’
- (48) Unangam Tunuu (Bergsland 1997: 335)
 Intentional with anaphora Optative with anaphora
aχsaasa-a-ka-ŋan (irregular 1SG) *aχsaasa-a-qa-ŋ*
 understand-INTENT-3AN-1SG understand-OPT-3AN-1SG
 ‘I intend to understand her’ ‘Let me understand her’
- (49) Unangam Tunuu (Bergsland 1997: 335)
 Gerundive (with 3C) Optative (without 3C)
yulaaja-ab-iin *yulaaja-aχ-ta-χ*
 walk-GER-3C.SG walk-OPT-3SG-3SG (irregular)
 ‘for herself to go walking’ ‘Let him walk!’

The choice of optative as a means of expanding expressive capabilities in Unangam Tunuu is interesting, and it is not related to dependency. These moods (like most other moods in Unangam Tunuu, with the notable exception of the anterior and conditional) can head either independent or dependent clauses. Unlike Yupik/Inuit, Unangam Tunuu does not make a clear functional distinction between independent and dependent clauses in general (Berge 2016a), and the only clearly dependent morphological features are relative pronominal inflection and 3 vs 3C. The importance of the optative mood in Unangam Tunuu may, in fact, be a result of language contact: The family of optative-based moods, unlike Yupik/Inuit but much like the once-neighboring Dene languages (cf. Rice 2000: 249), describe unrealized events as well as wishes (Berge *forthcoming-b*).

To summarize section 4, with only two clear exceptions (Unangaχ indicative + clitic constructions, and Unangan optatives), innovation in the EA mood system originates from nominalizations (the participial and contemporatives), inherited dependent moods (the anterior

and conjunctive), or lexicalized combinations with derivational tense/aspect morphemes. Clauses headed by these moods do not stand alone or have illocutionary force, unless they are used in contexts of subordination. They have dependent morphologies, with relative or locative pronominal inflection and dependent 3rd person object inflection; and Yupik/Inuit innovative moods also distinguish between 3rd and 3C persons.

5. Why are EA dependent moods innovative?

Probable reasons for the predominantly dependent sources of EA innovative clauses include their relative frequency in discourse, no unremarkable processing requirements, importance in terms of information structure, and pragmatic importance.

Dependent structures in clause chains tend to be far more frequent than independent ones (Jacobson 1995, Dorais 2010, Tersis 2010, Berge 2011). In conversations, there are on average 2-4 times as many conjunctive clauses; in some narrative texts, there are 4-10 times as many conjunctive clauses, and 1-3 times as many connective mood clauses as independent clauses (1).²⁴ This frequency may explain why more Sirenikski pronominal inflectional forms are borrowed from Central Siberian Yupik in dependent moods than in independent moods (Berge 2023b). Many new moods allow speakers to refine distinctions in tense, aspect, and modality between clauses. Further, in a language family with few independent adverbs, clause chaining is the main strategy for expressing verbal modification, hence the development of the connective moods.

Interestingly, the pattern of innovation in Yupik/Inuit mirrors language acquisition and suggests that dependent structures are not more difficult to process. The moods that have most served as the basis for Yupik/Inuit mood proliferation, the anterior and conjunctive moods, are precisely those acquired early, and in more pronominal inflectional forms than the indicative and interrogative moods (Lee & Allen 2023: 91); the conditional mood is learned much later and is coincidentally not the basis of innovations. There is no evidence that Yupik/Inuit dependent clauses are more idiosyncratic, and therefore stored in memory. Although there are lexicalized stems and combinations of suffixes, a verb is structurally created at the time of speech; and, as mentioned previously (section 2), dependent pronominal inflection has a greater degree of syncretism than independent clauses.

EA dependent clauses also play an important role in information structure and discourse structure. Clause chains are larger units than typical sentences in non-chaining languages, and dependent clauses are an important mechanism for signaling topic continuation or change. They are too important to be ignored as backgrounding devices; conversely, new information and focus are not limited to main clauses (Berge 2009, 2011, 2023b).

Finally, there are sociolinguistic reasons for the importance of dependent structures. For example, indirectness is valued (Miyaoaka 2012, Berge 2016a), and direct commands and questions are dispreferred, hence the use of the conditional and dubitative moods and other indications of doubt in Unangam Tunuu (13), the use of the conjunctive for interrogative functions in Unangam Tunuu (22-23) and insubordination in Yupik/Inuit (20).

In conclusion, innovation within EA clauses has historically led to the development of dependent moods from dependent structures; and dependent clauses are vastly less conservative than independent ones.

Abbreviations

ABL = ablative; ABS = absolutive; ACC = accusative; AN = anaphora; ANT = anterior; APL = applicative; C = coreferential; CAUS = causative; CF = counterfactual; CONCES = concessive; COND = conditional; CONJ = conjunctive; CONSEQ = consequential; CONTING = contingent; COP = copula; CTP = contemporative; DESID = desiderative; DU = dual; DUB = dubitative; EA = Eskaleut; EXCL = exclamatory particle; FUT = future; GER = gerundive; IMP = imperative; IND = indicative; INT = interrogative; INTENS = intensifier; INTENT = intentional; IRR = irrealis; LINK = linking morpheme; LOC = locative; MOD = modalis; NEG = negative; NMLZ = nominalizer; OBJ = object; OBL = oblique; OPT = optative; PART = participial; PEA = Proto-Eskaleut; PFV = perfective; PL = plural; POSS = possessive; PREC = precessive; PRF = perfect; PRS = present; REL = relative; SG = singular; TERM = terminalis; VIA = vialis.

Notes

¹ The term ‘subordination’ is often used interchangeably with ‘dependency’ in reference to syntax, although the latter is more broadly used to refer to relations between subclausal constituents as well. The use of the term ‘subordination’ is sometimes applied narrowly to adverbial clauses in contrast with coordinated clauses (cf. Berge 2016a). In this paper, I focus on clausal and semantic dependency rather than syntactic coordination vs subordination. However, in section 2, I use the terms ‘subordinate’ and ‘main’ as per the source being cited.

² Open skin boat for multiple people.

³ Demonstrative pronouns and quantifiers have slightly different inflectional patterns; quantifiers such as *kisiisa* ‘only, alone’ in (1) have nominative-accusative inflection, for example.

⁴ EA verbs with transitive inflection typically index the subject and an object (e.g. the patient of a transitive clause, or the beneficiary of a simple ditransitive clause). In complex constructions with an embedding suffix such as Sirenikski *-saχ-* ‘to say’ in example (3), the object indexed is the subject of the embedded clause, and not the patient thereof (Berge forthcoming-d). The following example illustrates this with the intransitive stem *itəχ-* ‘to enter’:

itəχ-saχ-təqəχ-təβ-a

enter-tell.to-PRS-IND-3SG/3SG

‘he asks to come in’ = ‘he_i asks that he_i [be allowed to] come in’ (Menovshchikov 1964:78)

⁵ The dashes in the table are supposed to indicate the incompleteness of the stem.

⁶ Fortescue *et al.* (2010: 493) view Inuit *-yi-* as a 2SG indicative *-yin-*, generalized to the imperative.

⁷ This is word-final inflection, e.g. *awa-ḏa!* work-2SG.IMP ‘work!’

⁸ The UT conjunctive *-lix* is a final inflection, e.g. *awa-lix* work-CONJ ‘working.’ The UT interrogative mood inflection is a result of extending the use of the conjunctive; unlike the latter, however, it does take person endings, hence the notation *-lix-: awa-li-txin?* work-2SG.IND ‘are you working?’

⁹ Fortescue *et al.* (2010: 489-491) reconstruct mood markers for Proto-Yupik/Inuit; however, using their tentative reconstructions is unnecessary to the discussion and would obfuscate the differences between the languages.

¹⁰ The use of 3SG instead of 1PL in this example is a common Unangaḅ distancing strategy.

¹¹ Fortescue *et al.* (2010: 439) suggest that the Alaskan Inuit participial derives from Proto-Yupik/Inuit **-ḏuβak-* ‘continually’ or from Proto-Inuit **-tuqaq* ‘old.’ I suggest instead that it derives in two stages from an original indicative that was nominalized as a participle and then reanalyzed as a verb mood: (i) **-ḏu-β* ‘IND-NMLZ’ > ‘PART’, (ii) **-ḏuβ-aβ-* ‘PART-PST.PRT.’

¹² Unangam Tunuu and Sirenikski also have a participial with no overt mood marker; I do not address this participial form here.

¹³ In relative or appositional clauses, the 3rd person participial is ambiguously nominal; in this example, it could be glossed as *-tuqaq* ‘singular participle’.

¹⁴ This is historically a phonologically based split, now synchronically opaque.

¹⁵ Miyaoka (2012: 1392) assumes the initial morpheme is from the passive participle *-yaq*, and the second morpheme is *-(ŋ)a-* ‘anterior,’ cf. Central Siberian Yupik *-yaqŋa-*. Fortescue *et al.* (2010: 438) assume the initial velar is epenthetic to break up a disallowed vowel sequence; they posit a derivation from **-ḏak-*, *-ḏaqa-* ‘habitual’. Both reconstructions are phonologically and semantically irregular.

¹⁶ Fortescue *et al.* (2010: 460, 463) derive *-ŋβa(a)β-* from PE **-ŋa-* ‘be in the state of

doing something'; but it more directly corresponds with Yupik anterior *-ŋa-* mentioned but not linked to the concessive in Fortescue *et al.* (2010: 494). It may also be related to Proto-Inuit **-jaŋaa-* 'whenever', which has the same elements (the palatal glide is not unexpected; cf. Central Siberian Yupik *-ja-* vs Central Alaskan Yup'ik *-ŋa-*).

¹⁷ Fortescue *et al.* (2012: 476) reconstruct PYI **-vaŋ-* 'big' and PY **-vaŋələŋ-* 'before'. I view these as related.

¹⁸ There is evidence that the combination *-w/pay-tə-* has been recently lexicalized in Alutiiq: *taŋəŋta-ca-aŋa* 'see-SUCC-1SG/3PL = 'when I saw them' (unpublished, collected by Irene Reed in 1961 from Nellie Gregorieff, Alaska Native Language Archive).

¹⁹ Fortescue (2022: 204) sees this as related to Proto-Inuit **-maŋa(aq)-* 'whether', not found in Yupik; Fortescue *et al.* (2010: 454) also suggest a possible link with PYI **-(u) maŋaŋ-* 'continually (while V-ing)'. The correspondences and semantics are irregular.

²⁰ Menovshchikov (1964) identified the moods as a desiderative, a subjunctive, and a future indicative, although these were actually misparsed; they all involve combinations of *-juŋ-* 'to want' or *-uŋuŋ-* 'irrealis' + an existing mood morpheme such as the indicative *-tə-*, etc.

²¹ The conjunctive mood was called 'subordinative' in MacLean's work from the 1970's, renamed the 'contemporative I' in her (1986) grammar II, and renamed again as the 'appositional' in her (1995) dissertation. Contemporatives in the latter are numbered differently, and her identification of moods include derivational suffixes + mood combinations that are not lexicalized. I use the term 'conjunctive' for the mood morpheme *-lu-* for all EA languages. I follow her earlier numbering system for the innovative contemporative moods. Lanz (2010) and most other authors do not mention these moods.

²² This mood is also found in Naukanski (Fortescue *et al.* 2010: 454), perhaps from language contact with westernmost Alaskan Inuit (Krauss 2005).

²³ A relatively rare prohibitive mood *-VVŋana-* 'not allowed to...' is probably related to Yupik/Inuit *-jaqu(naŋ)* 'negative imperative' (Bergsland 1994: 476, Fortescue *et al.* 2010: 479), and borrowed from Yupik into Unangam Tunuu at a relatively late date (Berge *forthcoming-b*), which is why it is not found in dependent clauses or with dependent characteristics. There are some semantic overlaps between the optative and the prohibitive moods, and dialectal differences in their usage; for example, the negative optative tends to be used more in Eastern Unangam Tunuu, whereas the prohibitive is more often found in Atkan.

²⁴ These figures are based on a review of Unangan texts in Bergsland & Dirks (1991), Old Greenlandic Inuit in Berge *unpublished*, modern Greenlandic texts in Berge (2011), a Central Alaskan Yup'ik text in Mithun (2008), and Alutiiq texts in Leer (1990).

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