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THE STATUS OF TENSE WITHIN INFLECTION

Tense is frequently cited as a prototypical example of inflectional morphology. In recent work by Anderson (1992) and by Booij (1994, 1996) inflection has been subdivided into types, four by Anderson (configurational, agreement, phrasal, and inherent) and two by Booij (contextual versus inherent). In general, Anderson's first three types are subsumed under Booij's first. European tense systems are classified in different ways, however, as contextual by Anderson but as inherent by Booij. Here it is shown that Booij's system predicts the otherwise unexpected constellation of characteristics of a tense system of a quite different kind, that of Central Alaskan Yup'ik Eskimo. Though the markers can be seen as paradigmatic and obligatory, they also interact in interesting ways with the elaborate derivational morphology.

One of the most frequently cited examples of a prototypical inflectional category is tense.* Yet the motivation for classifying tense as inflectional varies widely according to the criteria proposed to delineate inflection from derivation. Inflection has often been taken as a cluster concept composed of characteristics such as those detailed in Bauer 1983, Scalise 1988 and Plank 1994. Categories may thus be inflectional to varying degrees, depending on the number of pertinent characteristics they exhibit. Sometimes a single characteristic has been seen as criterial, such as obligatoriness or relevance to the syntax. The definition of syntactic relevance must of course depend in turn on the particular view of syntax assumed.

The status accorded tense within the domain of inflection has varied as well. Anderson (1992: 82-3) distinguishes four types of inflection:

- a) configurational (case)
- b) agreement (number concord on English verbs)
- c) phrasal (genitive on English noun phrases, tense on verbs)
- d) inherent (gender on Latin nouns).

Booij (1994, 1996) distinguishes just two:

- a) contextual (number agreement on Dutch verbs)
- b) inherent (number on Dutch nouns, tense on verbs)

Anderson's first three types, configurational, agreement, and phrasal (a-c), are subsumed under Booij's contextual type (a). The types they label inherent are essentially the same

*Mark Aronoff and Paul Kiparsky made helpful comments on several points discussed here. Work on Yup'ik was made possible by grants from the Academic Senate, University of California, Santa Barbara. Abbreviations are detailed in the Appendix.

(Booij 1994:28). Tense is accorded different positions within the two schemas, however. Anderson classifies tense as phrasal (c) because it is a property that is 'assigned to a larger constituent within a structure' (the clause) but 'realized on individual words' (verbs). Booij concurs that tense has scope over a whole clause, but classifies it as inherent, because 'the tense of the verb is not determined by syntactic structure' (1994:30).

A significant feature of inherent inflection noted by Booij is the fact that it can interact with derivation, an observation that argues against split models of morphology. Booij's model also allows a more specific formulation of the nature of the boundary between inflection and derivation. Contextual inflection, defined as 'that kind of inflection that is dictated by syntax' (1996:2), differs cleanly from derivation, while inherent inflection may differ from derivation to varying degrees.

For many languages, the various criteria for identifying inflection yield the same categorization of tense. For some, however, they do not, providing us a better vantage point from which to compare their utility. Such a situation will be illustrated here with material from Central Alaskan Yup'ik, a language of the Eskimo-Aleut family. It will be shown that Booij's schema accounts well for the sometimes surprising patterning of tense markers synchronically and diachronically in the language.

1. Tense in Central Alaskan Yup'ik

At first glance, Yup'ik appears to exhibit a regular paradigmatic inflectional tense system similar to those of many European languages. Examples are drawn here from the speech of the Charles family of Bethel Alaska, particularly Nick Charles, Elena Charles, George Charles, Elizabeth Charles Ali, and John Charles. (Additional descriptions of the system are in Mithun 1995, in press, and to appear, and Snyder 1996.) I am especially grateful to Elizabeth Ali and George Charles for their help in transcribing and discussing the material.

(1) Basic tense suffixes

<i>ayagtua</i>	<i>ayallruunga</i>
ayag-tu-a	ayag- <i>llru-u-nga</i>
go-IND.INTR-1SG	go-PAST-IND.INTR-1SG
'I'm going'	'I went'
<i>ayakatartua</i>	<i>ayaciqua</i>
ayag- <i>qatar</i> -tu-a	ayag- <i>cique-u-a</i>
go-IMMINENT.FUT-IND.INTR-1SG	go-FUT-IND.INTR-1SG
'I'm going to go'	'I'll go'

In much spontaneous speech, the use of the suffixes appears quite straightforward, essentially the same as in English. Present tense verbs are unmarked for tense, while those referring to past events carry the past suffix *-llru-* and those referring to future events carry the imminent future *-qatar-* 'going to' or the general future *-cique-* 'will'.

(2) Use of tense suffixes in conversation: Elizabeth Ali, speaker

<i>Wiinga</i>	<i>tang</i>	<i>kaikapailrianga.</i>
<i>wiinga</i>	<i>tang</i>	<i>kaig-qapiar-lria-nga</i>
I	see	be.hungry-very-PARTICIPIAL-1SG
'You see, I'm very hungry.'		

<i>Atsalurpaine</i>	<i>kiimek</i>	<i>tuai</i>	<i>nerellruunga.</i>
<i>atsar-lugpiar-nek</i>	<i>kii-mek</i>	<i>tuai</i>	<i>nere-llru-u-nga</i>
berry-authentic-ABL.PL	only-ABL	that.is	eat-PAST-IND.INTR-1SG

I only ate salmonberries.

Palugartartua.
palu-qatar-tu-a
 starve-IMMINENT.FUTURE-IND.INTR-1SG
 I'm going to starve.

<i>Carrakuinermek</i>	<i>tauggaam</i>	<i>cikiquvnga</i>	<i>tuai</i>
<i>carrar-kuiner-mek</i>	<i>tauggaam</i>	<i>cikir-ku-vnga</i>	<i>tuai</i>
little.bit-small.amount-ABL	but	give-COND-2SG/1SG	well

But if you give me just a little bit,

quyapairciqua.
quya-pair-ciqe-u-a.
 be.thankful-very-FUTURE-IND.INTR-1SG
 I will be most grateful.'

On many occasions, however, it seems almost haphazard. Verbs relating past events often lack past tense suffixes. The passage in (3) came from a breakfast table conversation. Mrs. Charles, the mother of the family, is a gifted Yup'ik speaker.

- (3) Apparent optionality: Elena Charles, speaker
Last fall-gguq *maaten-gguq*
last fall=gguq *maaten=gguq*
 last fall=HEARSAY when=HEARSAY
 `Last fall when

<i>Frankynguk</i>	<i>tekituk</i>
<i>Franky-ngu-k</i>	<i>tekite-u-k</i>
Franky-ASSOC-DU	arrive-IND.INTR-3.DU

Franky and his companion arrived (no tense)

<i>campaput</i>	<i>yungqellruyaaqelliniuq</i>
<i>campaq-apat</i>	<i>yuk-ngqerr-llru-yaaqe-llini-u-q</i>
camp-1PL/3SG	person-have-PAST-actually-apparently-IND.INTR-3SG

they realized that there had been (PAST) people at our camp.

upallrulliniliteng
upag-llru-llini-lu-teng
 change.residence-PAST-apparently-SUB-3PL
 They had moved (PAST)

<i>carayim</i>	<i>piateng.</i>
<i>carayag-m</i>	<i>pi-a-ateng</i>
bear-ERGATIVE	do-CONSEQUENTIAL-3SG/R.PL

because a bear was bothering them (no tense).

<i>Franky-gguq</i>	<i>bother-neritellinilutek.</i>
<i>Franky=gguq</i>	<i>bother-nrite-llini-lu-tek</i>
Franky=HEARSAY	bother-not-apparently-SUB-3DU

But Franky said that they (he and companion) were not bothered (no tense).

The Yup'ik tense markers are not absolute, as in English, but relative. In English, the deictic center of the tense system is generally the moment of speech. Past tense markers indicate a time before the moment of speech, and future tense markers a time after it. In Yup'ik the deictic center may be the moment of speech, as in (2) above, but within narrative, even short anecdotes, the deictic center is the narrative time. Events happening along the timeline of the narrative are unmarked for tense. A past tense marker specifies a time before the current narrative moment, and a future tense marker a time after it. The reference time in (3) is Franky's visit to the camp. The past tense suffixes on 'there had been people' and 'they had moved' specify a time before his visit, before the narrative moment. The clause stating that Franky and his friend were not bothered by a bear is unmarked for tense, because it is simultaneous with the visit.

A relative future can be seen in (4). Most of the events related in the narrative took place along the narrative timeline, so they are unmarked for tense. The final line, however, 'I would be squashed', projects an event after the narrative moment.

- (4) Relative future: Elena Charles, speaker
[Those two moose there were looking at me.]

<i>Wiinga-gg</i>	<i>tangvagkegka</i>
<i>wiinga=gga</i>	<i>tangvag-ke-gka</i>
I=as.for	watch-PARTICIPIAL-1SG/3DU

As for me, I was watching them (no tense).

<i>Tuai</i>	<i>tuntuviik</i>	<i>ukuk</i>	<i>taingareskaggnak</i>
<i>tuai</i>	<i>tuntivag-ek</i>	<i>uku-k</i>	<i>tai-ngarte-ku-agnak</i>
and	moose-DU	these.approach-DU	come-suddenly-COND-3.DU

And if these two moose came suddenly (no tense) ...

<i>tuai</i>	<i>yaavet</i>	<i>qerciqua</i>
<i>tuai</i>	<i>yaavet</i>	<i>qerte-ciqe-u-a</i>
so	to.yonder	squashed-FUTURE-IND.INTR

then I would be squashed (FUTURE).'

The pattern is reminiscent of the historical present in English. In Yup'ik however, narrative time must be assumed as the point of reference, because the tense system is a relative one. It is a matter of grammar. In English, the historical present is simply a stylistic option, a possible exploitation of an absolute tense system for stylistic effect. Of

course one may evolve from the other diachronically.

A shift in the reference point to narrative time is not necessarily signalled formally in Yup'ik. There need not be an overt past tense marker to shift it away from the speech time. Often, of course, time is established at the beginning of a narrative with adverbials or lengthier explanations. The passage in (4) above, for example, opened with 'Last fall'. In the same way, shifts in the point of reference back to the moment of speech are not necessarily marked.

Even in the course of telling narratives, however, speakers do not always maintain a single point of temporal reference. Speakers often step out of the narrative world to add comments from their present vantage point. Such a shift can be seen below. As the narrative unfolded, there was no past tense marking. After a pause and a murmur from the audience, she made the statement in (5), this time with a past tense suffix.

(5) Shift in perspective: Elena Charles, speaker

'We went again (no tense) to see (no tense) Qitenguq. You see, we could not catch game (no tense). And those two accompanied us (no tense), those two from up there, Peter Aluska and another, travelling (no tense) with their own boat ... and Bob Qilang.' (Mmm).

<i>Yunerillruuq</i>	<i>tauna.</i>
<i>yunerir-llru-u-q</i>	<i>tauna</i>
die-PAST-IND.INTR-3SG	that
'He died (PAST TENSE), that one.'	

<i>Ayiimek</i>	<i>tuai</i>	<i>mululutek.</i>	...
<i>ayag-a-mek</i>	<i>tuai</i>	<i>mulu-lu-tek</i>	
go-CONSEQUENTIAL-3R.DU s	o	be.late-SUB-3.DU	
The two left late [but at least they arrived, and the weather was good ...]'			

The dying clearly did not take place prior to the narrative time, when the two men were coming along in their boat. Mrs. Charles left the narrative time to mention the death of Mr. Qilang; the past tense on 'he died' situates his death prior to the moment of speaking, not the narrative. She then resumed the story with no signal.

Discussions of past habitual events generally exhibit systematic past tense marking on each clause. This is because there is no narrative timeline, no sequence of events.

(6) Past habituals: Elena Charles, speaker

<i>Ayagllermegni</i>	<i>nunanirqelallruuq.</i>
<i>ayag-ller-megni</i>	<i>nunanirqe-la-llru-u-q.</i>
go-CONTEMPORATIVE.PAST-1DU	pleasant-HABITUAL-PAST-IND.INTR-3SG
'When we travelled, it used to be beautiful (PAST HABITUAL).'	

<i>Ayakarrarlemegni</i>	<i>qamani</i>
<i>ayag-qarraar-ller-megni</i>	<i>qama-ni</i>
go-at.first-CONTEMPORATIVE.PAST-1DU	upriver-LOC
When we first travelled in there	

<i>uita<u>lallruukuk</u></i>	<i>qaivani</i>	<i>lituliggegmi.</i>
<i>uita-la-llru-u-kuk</i>	<i>qaiva-ni</i>	<i>lituliggeg-mi</i>
stay-HAB-PAST-IND.INTR-1PL	upriver-LOC	Iituli-LOC

we would stay (PAST HABITUAL) far in there at Iituli.

<i>Allaneq-am</i>	<i>ikanitengnaql<u>allruuq</u></i>	<i>qikertarraremi</i>
<i>allaner=am</i>	<i>ikani-te-ngnaqe-la-llru-uq</i>	<i>qikertar-rrar-mi</i>
stranger=EMPH	across.there-go.to-try-HAB-PAST-IND.INTR	island-little-LOC

A stranger used to try to stay over there (PAST HABITUAL) on a little island.

<i>Wiinga-am</i>	<i>tauna</i>	<i>assikngamku</i>
<i>wiinga=am</i>	<i>tauna</i>	<i>assike-nga-mku</i>
I=EMPH	that	like-CONSEQUENTIAL-1SG/3SG

Because liked that place

<i>tuantel<u>allruukuk</u></i>	<i>kiigamegnuk</i>
<i>tuante-la-llru-u-kuk</i>	<i>kiiga-megnuk</i>
there-go.to-HABITUAL-PAST-IND.INTR-1DU	lone-1DU

we used to stay there (PAST HABITUAL) by ourselves.'

The clauses in this passage represent related comments around a theme, rather than the progression of a sequence of events.

Once the relative nature of the Yup'ik tense system is understood, it appears straightforwardly inflectional, according to most of the usual criteria for inflection. The tense suffixes do not appear to create new lexemes: verbs remain verbs. They affect none of the features cited by Scalise (1988:568) as alterable by derivation only: syntactic category, conjugation class, subcategorization features, or selectional features. They are fully productive. They are unconstrained by blocking, by which tense marking on certain stems would be avoided because of the prior existence of synonyms. Their allomorphy is regular, phonologically rather than lexically conditioned. Their semantic contribution is transparent and predictable, as well as abstract. The markers are also inflectional by Plank's criterion of relationality (1994: 1673), 'specifying the temporal relation between the proposition and the speech act'. Tense qualifies as inflectional even by the more elusive commutability criterion: there are no monomorphemic stems in Yup'ik that could replace a stem plus tense suffix. Furthermore, there are no independent words that could replace a tense suffix in a clause, though of course there are adverbials that cooccur with tense markers. The classification of the Yup'ik tense suffixes as inflectional is buttressed by the fact that tense is a commonly recurring inflectional category cross-linguistically.

The Yup'ik system does raise interesting questions about a feature often considered definitive for the distinction between inflection and derivation: obligatoriness.

2. Obligatoriness

Among the characteristics of inflectional categories, the feature of obligatoriness has often been taken as criterial. Bybee (1985: 81) remarks, for example:

One of the most persistent undefinables in morphology is the distinction between derivational and inflectional morphology. While linguists seem to have an

intuitive understanding of the distinction, the objective criteria behind this intuition have proved difficult to find. The most successful criterion is *obligatoriness*, applied to the definition of derivation and inflection by Greenberg 1954. Obligatory categories force certain choices upon the speaker.

An analysis of Yup'ik tense as obligatory entails the recognition of a meaningful zero; the lack of a tense suffix must signal time as well, either present or, more precisely, 'time simultaneous with the deictic center'. Such a characterization accords with what we have seen of the Yup'ik tense markers so far. Yet further examination of natural Yup'ik speech shows that verbs sometimes occur without tense marking when they represent events not simultaneous with the deictic center. The passage in (7) below describes a narrative sequence, appropriately unmarked for tense: getting up, drinking coffee, going down, stopping, shooting. Yet when Ayaginar spoke, we might have expected a past tense within his utterance.

(7) Unmarked tense: Elena Charles, speaker

'In the morning we woke up and it was raining. We had coffee and those two men, our companions, came up to have coffee too. Then your daddy said to them, "Now over there, to the side of us, dock at the edge of the lake and look to see if there is game." The two left and after some time they suddenly stopped, and they shot their guns. Ayaginar [the father] said:

<i>Cakma</i>	<i>tuai</i>	<i>tuntuturtuk</i>
<i>cakma</i>	<i>tuai</i>	<i>tuntu-tur-tu-k</i>
down.there.obscured	so	moose-catch-IND.INTR-3DU

"They must have caught a moose down there (unmarked tense)."

He was making an observation, not telling a narrative, so we would anticipate that the deictic center for him would be the moment of speech. The sounds of the shots had already faded by the time he spoke. Yet his comment carried no tense marking.

An investigation of the use of such verbs without tense suffixes might suggest that the Yup'ik point of temporal reference covers a larger span of time than its English counterpart. The uses of the different tenses with the *nalkute-* 'find' can be compared as follows. Mr. Charles reports that if he and a friend were out looking for a lost knife, and he suddenly spied it, he could use the unmarked (present) tense as he was bending over to pick it up: *nalkutaqa* 'I'm finding it'. If he and his friend were some distance apart, so that after picking up the knife he had to make his way over to where the friend was searching, he could still use the same verb several minutes later to announce his good luck. If the two men were far from home and then spent most of the day returning, he could use the same unmarked verb to announce his success to his wife that evening. If his mother had been asleep when he returned, he could even use the unmarked verb to tell her the news the following morning. Mrs. Ali concurred, commenting, "To her, it's still lost until you tell her". Immediately after the announcement, the mother could turn to her own husband and use the past tense: *nalkutellruullinia* 'he apparently found it'. The Yup'ik unmarked present tense thus seems appropriate for a span of time encompassing not only the moment of speech, but as long as the preceding day and night as well.

But the difference is more interesting. Scurrying around the kitchen preparing dinner, I

might realize that I have mislaid my knife. Discovering it a few moments later, Mrs. Ali notes that I could use the unmarked *nalkutaqa* just as I caught sight of it. Now if my husband had been on his way out when I began searching for the knife, but he returned 15 minutes later to find me engrossed in a book, having completed dinner preparations, I would use the past tense to announce my discovery: *nalkutellruaqa* 'I found it'. This time the Yup'ik unmarked present tense seems to cover a span no longer than 15 minutes.

The unmarked tense category does not of course indicate a specific span of time. It is used to convey immediacy, for what is portrayed as immediate rather than displaced experience. What is included within the realm of immediate experience can vary to a certain extent with the situation and the desire of the speaker. When Ayaginar spoke in (7) above, he was portraying the shooting of the moose as part of the current situation. The same was true of Mr. Charles announcing the discovery of his knife even after a day had passed. English shows a somewhat similar use of the present progressive for imminent futures (*I'm leaving*) but the similarity does not extend to past events. Yup'ik speakers systematically use the unmarked present for past punctual events that have current relevance, as in 'I find my knife', 'they catch a moose'. In similar situations an English speaker could use a perfect: 'I've found my knife', 'they've caught a moose'. The fact that the unmarked present covers both past and future events indicates that it is neither a perfect nor an imminent future marker, but simply a marker of immediate relevance.

3. Paradigmaticity

Closely related to the issue of obligatoriness and meaningful zeroes is paradigmaticity. We expect inflectional categories to be expressed by a relatively small set of terms that constitute a closed class, and to be mutually exclusive. There are actually several more Yup'ik tense suffixes than those discussed so far. Among them are *-arkau-* 'will eventually', 'should', 'is supposed to'; *-niar-* 'will perhaps' *-ki-* 'do later' (delayed imperative), *-ngait-*, 'will not', *-ngite-* 'please do not', and *-niarar-*, 'be going to soon'. A number of these have resulted from the compounding of adjacent suffixes, such as *-nrilki-* from the negative *-nrite-* + delayed future *-ki-*. The fact that new markers may enter the system is not problematic for a classification of tense as inflectional, however. All grammatical systems evolve over time. What is interesting is the extent to which the creation of a new category affects the system as a whole, since it is purportedly paradigmatic, and markers should be mutually exclusive. The creation of new markers by compounding is not disruptive, since verbs containing reanalyzed sequences still have just one tense marker. The tense markers are not, however, clearly mutually exclusive.

- (8) Imminent future + past: George Charles, speaker

ayakatalruunga
ayag-gatar-llru-u-nga
 go-IMMINENT.FUTURE-PAST-IND.INTR-1SG
 'I was going to go'

- (9) Past + future: George Charles, speaker

ayallruciqua
ayag-llru-ciqe-u-a
 go-PAST-FUTURE-IND.INTR-1SG
 'I will have gone'

Examples (8) and (9) each contain both a past and a future suffix. Semantic scope relations are reflected in the order of the suffixes. The first verb *ayaqatallruunga* 'I was going to go' represents an imminent event (inner formation 'about to go'), the whole set in past time (outer past suffix *-llru-*). The second verb *ayallruciqua* 'I will have gone' represents a past event (inner formation 'went') viewed from the future (outer future suffix *-cique-*). The existence of such forms does not necessarily constitute evidence against the paradigmaticity of the tense markers, however, if the complexes are analyzed as members of the system in their own right: *-qatallru-* and *-llrucique-*. It is significant that the alternative orders are not possible: there is no **ayaciqellruunga* (go-FUTURE-PAST-IND.INTR-1SG) and no **ayallruqatartua* (go-PAST-IMMINENT.FUTURE-IND.INTR-1SG).

4. Relevance to the syntax: agreement

A frequently cited criterion for inflection is relevance to the syntax. This criterion has important implications for models of linguistic structure such as that of Anderson, in which inflection is accomplished by syntactic rules rather than by processes localized within a separate morphological component. Booij (1994, 1996) has proposed that not all categories that would be considered inflectional by other criteria are relevant to syntax, and that the distinction can be captured by recognizing two types of inflection, contextual inflection, 'that kind of inflection that is dictated by syntax, such as person and number markers on verbs that agree with subjects and/or objects, agreement markers for adjectives, and structural case markers on nouns', and inherent inflection, 'the kind of inflection that is not required by the syntactic context, although it may have syntactic relevance' (1996:2). He notes that 'inherent inflection is more similar to derivation, and it may feed word formation, unlike contextual inflection, which is peripheral to inherent inflection. Language acquisition and language change also appear to reflect this distinction' (1996:3). For Anderson, tense is relevant to the syntax because it is a property 'assigned to a larger constituent within a structure' (the clause) but 'realized on individual words'. Booij concurs that tense has scope over a whole clause, but classifies it as inherent, because 'the tense of the verb is not determined by syntactic structure' (1994:30).

If we were to find tense agreement, we would have a clear case of contextual inflection. Yup'ik appears to offer just such a system. Tense can be marked on nouns as well as verbs.

- | | | |
|------|--|--|
| (10) | Tense on nouns
<i>uillra</i>
<i>ui-ller-a</i>
husband-PAST-3SG/3SG
'her <u>former</u> husband' | <i>akutarkat</i>
<i>akutar-kar-t</i>
Eskimo.ice.cream-FUTURE-PL
' <u>future</u> Eskimo ice-cream' |
|------|--|--|

Tense suffixes on nouns and verbs can cooccur within a sentence, suggesting the possibility of agreement.

- | | | |
|------|---|---|
| (11) | Cooccurrence of noun and verb tense
<i>uillra</i>
<i>Ui-ller-a</i>
husband-PAST-3SG/3SG
'Her husband was tall.' | <i>sugtullruuq</i>
<i>sugtu-llru-u-q</i>
tall-PAST-INDICATIVE-3SG |
|------|---|---|

A closer look reveals that the noun and verb suffixes operate in different domains. The verb suffixes situate events in time, while the noun suffixes situate referents. They need not match within a clause.

- (12) No agreement: past tense Elizabeth Ali, speaker

<i>Uillra</i>	<i>sugtuuq</i>
<i>ui-ller-a</i>	<i>sugtu-u-q</i>
husband-PAST-3SG/3SG	tall-INDICATIVE-3SG

'Her former husband is tall.'

- (13) No agreement: future tense: Elena Charles, speaker

<i>Qallalluki</i>	<i>piuratuaput</i>	<i>akutarkat</i>
<i>qallate-lu-ki</i>	<i>piurar-tu-a-put</i>	<i>akutar-kar-t</i>
boiling-SUB-R/3PL	continue-CUST-IND.TR-1PL/3PL	mixture-FUT-PL

'We bring them a boil, those (fish) that will be made into Eskimo ice cream.'

There is of course correspondence between sentence adverbials and tense. The cooccurrence could be taken as the result of either grammatical constraints or simply the fact that speakers say things that make sense. In any case, there is little formal evidence that Yup'ik tense should be considered contextual in Booij's sense.

5. Interaction with derivation

Booij has proposed that inherent inflection, unlike contextual inflection, can interact with derivation. Here the Yup'ik case becomes especially interesting. Yup'ik contains an unusually rich inventory of suffixes. They include some suffixes that affect argument structure, *-ni-* 'claim that', *-yuke-* 'think that', and *-nayuke-* 'think that maybe'. They introduce a claimer or thinker. If the derived verb is inflected intransitively, it specifies that the person cast as the absolutive thinks something about himself or herself. If it is inflected transitively, it specifies that the person cast as the ergative thinks something about another, cast as the absolutive. The verbs in (14) are derived from *ayag-* 'leave', as in *ayagtuq* 'he's leaving'.

- (14) Derivational suffix *-ni-* 'say that': Elizabeth Ali, speaker

<i>Ayagniuq</i>	<i>Ayagniat</i>
<i>ayag-ni-u-q</i>	<i>ayag-ni-a-at</i>
leave-say-IND.INTR-3SG	leave-say-IND.TR-3PL/3SG

'He says he (himself) is leaving' 'They say he's leaving.'

Tense markers can appear with derived verbs of claiming and thinking. A past tense suffix, for example, may follow the derivational suffix of saying to put the entire claiming event expressed by the derived verb stem in the past, as in (15).

- (15) Past claim: Elizabeth Ali, speaker

Ayagnillruat
ayag-ni-llru-u-at
 leave-say-PAST-IND.TR-3PL/3SG
 'They said he was leaving.'

Tense markers may also precede the derivational suffix of saying. The past tense suffix in (16) puts the event claimed in the past.

- (16) Claim about the past: Elizabeth Ali, speaker
Ayallruniat
ayag-llru-ni-a-at
leave-PAST-say-IND.TR-3PL/3SG
'They say he left.'

Tense suffixes may even occur both before and after the derivational suffix of saying.

- (17) Past claim about previous event: Elizabeth Ali, speaker
Ayallrunillruat
ayag-llru-ni-llru-a-at
leave-PAST-say-PAST-IND.TR-3PL/3SG
'They said he had left.'

The tense markers can and do interact with the derivational morphology.

The capacity of tensed verbs to serve as the input to derivational processes has consequences for related features considered characteristic of inflection. The tense markers are not always 'outer' affixes, occurring at the margins of words. As we can see from examples (16) and (17), tense affixes can appear inside of derivational affixes, closer to the root. The tense suffixes could also be said not to have an invariant order with respect to other suffixes; as seen above, they occur sometimes before and sometimes after the derivational suffix *-ni-*. They could even be said to apply recursively, that is, to their own output, with the mediation of suffixes like *-ni-*.

The situation is actually just what would be predicted by Booij's scenario. Yup'ik tense would be classified as inherent derivation.

Inherent inflection is the kind of inflection that is not required by the syntactic context, although it may have syntactic relevance. Examples are the category number for nouns, comparative and superlative degree of the adjective, and tense and aspect for verbs ... Inherent inflection is more similar to derivation, and it may feed word formation, unlike contextual inflection, which is peripheral to inherent inflection. Language acquisition and language change also appear to reflect this distinction. (Booij 1996:2-3)

Booij notes further that 'contextual inflection tends to be peripheral with respect to inherent inflection' (1996:11). All nouns and verbs in Yup'ik consist of a base (root), any number of optional postbases, and one and only one obligatory ending. On nouns, the ending specifies number and case. If the noun is possessed, the ending encodes the possessor and possessed in a transitive pronominal suffix. On verbs, the ending consists of two parts: a mood marker and a pronominal suffix complex.

The endings would qualify as inflectional suffixes by any criteria. They are obligatory and paradigmatic, they comprise a closed set, they are fully productive and applicable to all stems, they show only phonologically conditioned allomorphy, and they contribute predictable meanings. Their order is invariant, and they are not recursive. They do not

feed derivation. They would generally be considered contextual inflection. On nouns they specify case and number in portmanteau forms, and case is obviously highly contextual syntactically. On verbs, the mood suffixes function relate clauses to the larger discourse event (indicative, interrogative, optative) or to each other (participial, subordinative, connectives). The pronominal suffixes specify the core argument of the clause. Yup'ik morphology thus shows a structure perfectly in accord with Booij's division of inflection into inherent and contextual. The contextual categories in Yup'ik are always word-final, and the inherent categories, particularly tense, are word-internal.

6. The shifting of categories over time

Yup'ik also shows us that morphological categories do not necessarily occupy fixed positions between derivation and inflection. The past tense suffix *-llru-* is not reconstructed for Proto-Eskimo (Fortescue, Jacobson, and Kaplan 1995). Jacobson 1984 derives it from a compounding of the nominal past tense suffix *-ller-* plus the verbalizing suffix *-u-* 'be'. The suffix *-ller-* can be attached to either noun stems or verbs stems, but it always derives a noun stem: 'former N', 'the one that V-ed'. It is thus a past nominalizer, always including a specification of past tense. (Uvular *r* automatically appears as the stop *q* word-finally.)

(18) Historic elements of past *-llru-*: *-ller-* + *-u-* Jacobson 1984: 491, 488,

<i>angyara</i>	'his boat'	<i>ayag-</i>	'to leave'
<i>angyallra</i>	'his former boat'	<i>ayalleq</i>	'the one who left'
<i>angyaq</i>	'boat'		
<i>angyauquq</i>	'it is a boat'		

The derivational leanings of the modern past tense suffix *-llru-* might be explicable in part as relics of its earlier source, literally 'to be the one that V-ed'.

Markers may apparently slide along the continuum between derivation and inflection in either direction. The suffix *-ller-* also appears as an etymological element in a number of other suffixes, some highly derivational. It has been compounded with the suffix *-(ng)un-* 'supply of, for example, to yield a new suffix *-nguteller-* 'empty container which held N'.

(19) Element of new derivation: Jacobson 1984: 583

<i>ciku</i>	'ice'
<i>cikuutelleq</i>	'empty container which held ice'

Of special interest is the separate evolution of the past tense nominalizer *-ller-* into a modern inflectional suffix (ending), the past contemporative mood *-ller-* 'when (in the past)'. Its use can be seen in example (6), repeated here in part.

(6) Past contemporative *-ller-* 'when (in the past)': Elena Charles, speaker
Ayagllermegni *nunanirqelallruuq.*
ayag-ller-megni *nunanirqe-la-llru-u-q.*
 go-CONTEMPORATIVE.PAST-1DU be.pleasant-HABITUAL-PAST-IND.INTR-3SG
 'When we travelled, it used to be beautiful.

The mechanism by which the derivational past nominalizer was reinterpreted as an inflectional connective mood is clear. As a nominalizer, it formed nouns that could be inflected for number, case, and possession, just like other nouns. The intransitive pronominal suffixes that appear with the modern inflectional past contemporative mood resemble those that appear with locative endings on verbs.

- (20) Past contemporative mood: Elizabeth Ali, speaker
tangvagkai *ayallratni*
tangvag-ke-ai *ayag-ller-atni*
 watch-PARTICIPIAL-3SG/3PL leave-PAST.CONTEMPORATIVE-3PL
 'He watched them as they were leaving (in their leaving).'

(Compare *angyaatni* 'in their boat'.) Contemporatives like *ayallratni* 'as they were leaving' are no longer nouns, however. A nominal identifying those leaving is in the absolutive case ('leave' is intransitive), rather than the ergative (genitive) case.

- (21) Past contemporative with absolutive noun: Elizabeth Ali, speaker
angun *ayallrani*
angun *ayag-ller-ani*
 man.ABSOLUTIVE leave-PAST.CONTEMPORATIVE-3SG
 'as the man (ABSOLUTIVE) was leaving'

(Compare *angute-m angyaani* 'in the man's (ERGATIVE) boat'.) In transitive verbs, the traces of the nominal source are disappearing. The past contemporative mood is usually (though not always) followed by the same verbal transitive pronominal suffixes that appear with other connective moods.

7. Conclusion

Yup'ik tense marking provides us with an example of a system that would be perplexing for traditional accounts of inflection, but that is predicted by the proposal by Booij (1994, 1996) for separating contextual from inherent inflection. Once the relative nature of the system is understood, and it is seen that speakers exploit the unmarked present to convey a sense of immediacy, the system shows most marks of prototypical inflection. Tense suffixes do not create new lexemes: verbs remain verbs with essentially the same meanings, and syntactic category, conjugation class, subcategorization features, and selectional features remain intact. The markers are fully productive, and their semantic contributions are transparent and predictable. They are obligatory and paradigmatic. On the other hand, the tense suffixes can interact with derivation. This is just the constellation of features proposed by Booij to characterize inherent inflection. At the same time, a closer look at the shallow history of the suffixes themselves reminds us that the position of markers along a continuum from derivation to inflection is not necessarily fixed for all time. The suffix *-ller-* has been seen to evolve in several directions, from derivational to more derivational, to inherent inflection, and to contextual inflection.

Appendix

The transcription used here is in the practical orthography developed by the Alaska Native Language Center in Fairbanks. Abbreviations in glosses are as follows: ABL=ABLATIVE, ABS=ABSOLUTIVE, ASSOC=ASSOCIATIVE, DU=DUAL, CNTP=CONTEMPORATIVE, COND=CONDITIONAL, EMPH=EMPHATIC, FUT=FUTURE, HAB=HABITUAL, IND=INDICATIVE, INTR=INTRANSITIVE, LOC=LOCATIVE, PL=PLURAL, R=COREFERENTIAL, SG=SINGULAR, SUB=SUBORDINATIVE, TR=TRANSITIVE.

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