

Labrador Inuttut Inverted Number Marking: Ongoing Questions

frMarquage numérique inversé de l'inuttut au Labrador : Questions courantes

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[See table of contents](#)

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Article abstract

There is a fascinating and prima facie perplexing patterning in Inuttut, the Labrador dialect of Inuktitut, wherein the quite regular markers of singular and plural in verbal inflectional markers appear inverted in second person forms. We explore this linguistic problem and show two things: that progress toward a solution is facilitated by incorporating representations of linguistic intent, and also that the consideration of intent, by adding a level of data, opens the phenomenon for deeper understanding by presenting new hypotheses to be explored. Making such features available in grammatical derivations allows the systematic generation of patterns that would otherwise be impossible, thereby obviating gaps in the potential for grammatical explanation and highlighting psychologically plausible mechanisms for diachronic change. It is disadvantageous for any theory of grammatical competence to allow any phenomenon of strong grammatical patterning to remain unaccounted for. By viewing grammatical structures as the result of tool invention by individuals and groups in the linguistic past, the study of the intellectual history of linguistic innovation can potentially uncover particularly clever and insightful processes related to desiderata of cultural adhesion. This approach opens new hypotheses for the evolution of the language from the proto stage.

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Lawrence R. Smith¹

ABSTRACT

There is a fascinating and *prima facie* perplexing patterning in Inuttut, the Labrador dialect of Inuktitut, wherein the quite regular markers of singular and plural in verbal inflectional markers appear inverted in second person forms. We explore this linguistic problem and show two things: that progress toward a solution is facilitated by incorporating representations of linguistic intent, and also that the consideration of intent, by adding a level of data, opens the phenomenon for deeper understanding by presenting new hypotheses to be explored. Making such features available in grammatical derivations allows the systematic generation of patterns that would otherwise be impossible, thereby obviating gaps in the potential for grammatical explanation and highlighting psychologically plausible mechanisms for diachronic change. It is disadvantageous for any theory of grammatical competence to allow any phenomenon of strong grammatical patterning to remain unaccounted for. By viewing grammatical structures as the result of tool invention by individuals and groups in the linguistic past, the study of the intellectual history of linguistic innovation can potentially uncover particularly clever and insightful processes related to desiderata of cultural adhesion. This approach opens new hypotheses for the evolution of the language from the proto stage.

KEYWORDS

Inuktitut, Inuttut, second person, number inversion, tool grammar, cognitax

RÉSUMÉ

Marquage numérique inversé de l'inuttut au Labrador : Questions courantes

Il existe en Inuttut, le dialecte labradorien de l'inuktitut, un motif surprenant et fascinant à première vue, dans lequel les marqueurs assez réguliers du singulier et du pluriel dans les marqueurs flexionnels verbaux apparaissent inversés à la seconde personne. Nous explorons ce problème linguistique et montrons deux choses : que l'avancement vers une solution est facilité par l'incorporation de représentations de l'intention linguistique et que la prise en compte de l'intention, en ajoutant un autre niveau de données, ouvre le phénomène à une compréhension plus profonde, en présentant de nouvelles hypothèses à explorer. Rendre ces caractéristiques disponibles dans les dérivations grammaticales permet la génération systématique de modèles qui seraient autrement impossibles, ce qui permettrait d'éviter les lacunes dans le potentiel d'explication grammaticale et de mettre en évidence les mécanismes psychologiquement plausibles du changement diachronique. Il est désavantageux pour toute théorie de compétence grammaticale de laisser les phénomènes de forte structuration grammaticale inexpliqués. En considérant les structures grammaticales comme le résultat d'inventions d'outils par des individus et des groupes du passé linguistique, l'étude de l'histoire intellectuelle de l'innovation

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linguistique peut potentiellement révéler des processus particulièrement intelligents et perspicaces liés aux desiderata d'adhésion culturelle. Cette approche ouvre de nouvelles hypothèses pour l'évolution de la langue à partir du stade proto.

MOTS-CLÉS

Inuktitut, inuttut, seconde personne, inversion de nombres, outil de grammaire, cognitax

There is a fascinating and *prima facie* perplexing patterning in Inuttut, the Labrador dialect of Inuktitut,¹ wherein the quite regular markers of singular and plural in verbal inflectional markers appear inverted in second person forms. In this research note, we explore this linguistic problem and show two things: that progress toward a solution is facilitated by incorporating representations of linguistic intent, and also that the consideration of intent, by adding a level of data, opens the phenomenon for deeper understanding by presenting new hypotheses to be explored.

First we consider second person number inversion from a purely synchronic perspective. Here are examples drawn from an expanded discussion in Smith (1979):

	1st P. Subj.	2nd P. Subj.	3rd P. Subj.
Sing. Subj. ²	vunga + ∅	vuti + t	vuk + ∅ ³
Dual Subj.	vugu + k	vuti + k	vuu + k
Plur. Subj.	vugu + t	vusi + Φ	vu + t

1. Related phenomena also occur in other eastern dialects. Labrador data serves as one example.
2. Number is not marked as a separate element for first and third person in this analysis, but the distinct forms “vunga” and “vuk” show the cross classification, which is not uncommon in paradigmatic systems. It remains that there is no isolable marking of number in these forms. For the present case of Labrador Inuttut one might entertain the hypothesis that the third person singular might not exhibit a null number marker, but we advert to analogy in the general pattern in the paradigms whereby the third person has final number marking with null singular marking: e.g., imperative-optative intransitive third person taku-lli “let him see” sing. taku-llik “let the two of them see” dual taku-llit “let the 3+ of them see” plural (Smith 1977, 47). (NB: arying /ll/ geminate is orthogonal to our thesis.) This pattern is recurrent in the paradigms. Future work can consider other dialects where the third person intransitive singular shows final /q/ in -vuq but note the final /q/ in these dialects should be subject to the same analogical analysis as potentially exhibiting an unmarked null number for singular.
3. The final /k/, which can correspond to /q/ in other dialects, is itself not a singular marker based on consistent paradigmatic regularity throughout the system of verbal endings, nor is it to be directly identified with a singulative nominal endings q/R, which is justified in historical work (Fortescue 1998) and elsewhere.

The singular and plural markers appear switched in the second person.⁴ This patterning is pervasive through multiple paradigms. It is possible to view such an alternation as paradigmatic, without grammatical analysis, or view it as lexically frozen from some inaccessible process in the past, but this leaves begging questions about how it could be this paradoxical way, and about any forces relating to how this could have come about. In Smith (1979), evidence from multiple languages is provided to raise a hypothesis that plural is unmarked relative to singular, in the Jakobsonian sense, for the second person. Without repeating here the varied evidence for this, it is evoked by pointing to familiar cases in languages such as French where the plural form “vous” encroaches on the semantic territory of the singular. The markedness approach enables an abstract analysis where /t/ is held to be not a marker of plural but a marker of markedness, which is analyzed as plural for first and third persons but singular for the second person. This solution is theoretically interesting but only partially satisfying given the observations. It remains to ask why the markedness pattern would itself be such, and why second person marking has its particular irregular characteristics in a wide variety of languages.⁵

Principal Thesis

Our current aim is to consider the possibility that the traditional rigid separation of linguistic action features from linguistic syntactic configuration effectively prevented a more fully explanatory solution in the earlier analysis. A more comprehensive generative solution is possible if we posit that Inuttut inverted number marks cognitax *actionemes*. Actionemes are defined simply as active intentions to signify. For example, the intentional actions \$assertPlurality and \$assertSingularity, expressed here in a dollar sign notation for the simple formative actions “assert plurality” and “assert singular,” can be viewed as separate from but involved in grammatical plural assignments. We propose in this context that singular and plural are used normally in first and third persons, but are available to be inverted in second person for a cognitactic (action intent) reason, such as to assert plurality when

4. Note the + markers are added as a visual aid rather than for a formal morphological analysis, which requires treatment of all the evident alternations.

5. No proper synchronic analysis of usage by Inuktitut speakers has been undertaken to corroborate any particular contemporary analysis. An analysis assuming that the inflectional endings are frozen without any necessary reference to internal meanings could very well correspond to the conscious awareness of modern-day speakers. Yet the historical question how such a system might have been conceived looms significant. The remarkable evident special status of the second person as the very social context of utterance needs to be included in grammatical analysis to condition various grammatical phenomena.

speaking to one and assert singularity when speaking to many. We observe that a speaker can diffuse uncomfortable focus when speaking to a single individual by addressing a plural diverse audience as an artifice. Similarly, when speaking to a plural audience the speaker may want to avoid the presupposition of dissension and disagreement by artificial formal address as if to a single person.

The Inuttut pattern would thus reflect a tool (in what we call “Tool Grammar”) conceived at some point in the distant past to act out of social sensitivity, not wanting to make listeners uncomfortable by identifying members of a group in any uniform or stereotypical way, and similarly, but inversely, avoiding characterizations or assumptions about a single individual. The use of the otherwise grammatical singular when addressing more than one listener can be construed as a device for social cohesion whereby differences among individuals are tactfully overlooked or subordinated by formal reference in the singular. A speaker might not want to reference differences among listeners even if s/he knew they existed. The hypothesis that there may have been such a conception at some point in the past does not necessarily imply, however, that contemporary speakers would necessarily be aware of it as an active functional process since complex patterns can become lexicalized as simpler and conceptually reduced functional units. The reality of such a process can be independent of whether or not it has standing in consciousness later in the linguistic history of a language.

We therefore propose an actioneme \$promoteGroupCohesion to represent the intention neither of isolating an individual from group membership nor dividing a group by assuming an internal diversity perspective. In the context of this intention, \$assertPlurality would be available when addressing an individual and \$assertSingularity when speaking to a group. In the foregoing we refer to this proposal as the Inversion Thesis. Since only one of these manipulations in either direction is sufficient for our theoretical hypothesis, each can be considered separately and referred to as Asymmetric Inversion, while reference to both directions is clarified as Symmetric Inversion.

We do not present the theses of this paper dogmatically or insistently, but in a spirit of exploration to further scientific discussion in the direction of eventual deeper understanding. Our general approach is to collect together observations that must be overcome by any alternative analysis denying the linguistic reality of second person number inversion, leaving subsequent questions open for further illumination based in a widening empirical perspective.

Any particular analysis must always await replication and confirmation from other sources but this particular behaviour of second person elements in Labrador Inuttut demonstrates a manner in which grammatical systems can

have reference to linguistic actions. The natural spotlight shone on the listener by second person contexts might well in due course cause some corresponding grammatical morphemes to glow with particularities. Such processes might or might not be validated in the conscious perceptions of contemporary speakers at later stages. While it is possible that an intentional force underlying a pattern may still be in effect, it is also possible that an original impetus has been deprecated by the habitual and unconscious patterning in a complex inflectional system.

We hasten to add that the Inversion Hypothesis does not upend linguistic expectations, either for Eskimo-Aleut or other languages. The manipulation of person as a means of social action is already documented in Bergsland (1997, 129) where it is observed that the non-singular first person is displaced in a way that can cushion a personal attribution: “For the non-singular first person (the speaker with one or more other persons) one uses the 3.p.pl form, or, especially in Eastern and later Atkan, a passive form.”

We see further from the use of the plural second person in French known as *vousvoyer* when a less personal/familiar perspective is desired than the singular *tutoyer* that such manipulations are conventionally referred to as linguistic “actions” since action verbs are assigned to them.

Historical Accident Counter-thesis

We now proceed to a diachronic perspective based on reconstruction of a historical Proto Eskimo stage. Any analysis of grammatical or semantic inversion raises a question whether a paradoxical state of affairs may have arisen by historical phonological process. In the present case two other Eskimoan languages show a different pattern in one particular respect, namely that where eastern Inuit dialects exhibit final second person plural /t/ they have final /n/: the –tit of the second person singular is –tin in Inupiaq, and –ten in the Yupik language (Jacobson 1979, 56; Lanz 2010, 82; Woodbury 1981,172).⁶ In these cases, final /n/ contrasts with final /t/ when crossing paradigms since the latter occurs on simple nominal plurals. On this basis one can hypothesize that /n/ occurred in Proto-Inuit as well (Fortescue, Jacobson, and Kaplan 2010, 489) suggesting that symmetric inversion could have arisen by historical accident.

As an important preliminary, even if the second person singular is reconstructed in the proto stage as having a final /n/, thereby partially reducing the full symmetric inversion (null, /k/ /t/) pattern for {singular, dual,

6. We are grateful to an anonymous review and Willem de Reuse (pers. comm.) for valuable commentary and challenges on the possibilities discussed in a part of this section and for the alternative perspective of the comparativist.

plural), this still leaves the primary remarkable asymmetric patterning whereby in second person the plural is marked by means of the null element that elsewhere generally represents singular in the first and third person. The central, most important aspect of the proposed cognitactic process remains unaffected, maintaining the thesis in the plural, and leaving the theoretical proposal viable. Support for the hypothesis of cognitactic replacement under conditions of cultural sensitivity to external minds would remain except that \$promoteGroupCohesion would effect \$assertSingular for the plural case, and not \$assertPlural for the singular. The Historical Accident Thesis regarding final -n is thus restrictive and worthy but not disabling.

Widening the Perspective: Effects of Variation

Surrounding the Alaskan evidence for reconstructing proto /n/ there is an alternative hypothesis, perhaps involving underlying abstraction, that the Alaskan forms derive from a proto stage where the [n] reflexes in this context are not, morphophonemically or proto dialectally, so distinguishable from /t/. Since the forms in Inupiat and Yupik end in a final /n/, which predominantly shares features with /t/, it is necessary to consider the hypothesis that it may not rigidly reflect the historical proto form in any static, underlying or isomorphic way.

The representations of static linguistic reconstruction cannot, of course, be viewed as reflecting the dynamic possibilities and faded evidence of live varying speech communities. As will be noted, there is evidence in Proto Eskimo of final /t/ alternating with /n/ independent of lexical morphological difference. While the reconstruction of *n can be correct and valid as an abstraction, speech communities would have exhibited variation that can't be reflected in the unification of complexity into a generalized model. It is possible that the final [t] of -vutit reconstructed as *n was pronounced [t] in at least partial free variation with [n] or subject to those variationist patterns of linguistic subgroups that naturally become obscured in the limited data and methodologies of primary linguistic reconstruction. We can observe evidence of such t/n variation in the Eskimoan languages.

If /t/ were in some way present in the proto form one could consider the hypothesis that the eastern dialects were, in this particular case, conservative of an abstraction. As a first step, prior to positing that Alaskan forms might have proceeded in the other direction /t/ → /n/ by morphophonemic conditioning, one can easily imagine a variable and mixed environment.

This general picture frames questions about /t/~n/ in the context of the following relevant data points. To the west, there has been observed /t/ ~ /n/ free variation during historical development such that

the [t] ~ [n] distinction could have been less than phonemic in some contexts. See, by way of comparison, the Mackenzie dialect where “final stops alternate with corresponding nasals /m/ and /n/” (Fortescue 1983, 22). Note also the following statement in Fortescue: “As regards the nasalization of final stops, not[e] that this is not a general, free variation as further east, but concerns only certain endings (historically nasal) such as dative –mun, ablative –min, equalis –tun, causative –man, imperative –in, relative case –m and nouns like angun (man). There is no nasalization in, e.g., plural –ic and instrumental –mik” (13).

A similar feature, but more phonologically general, is currently operative in Nunavut: “When the syllabic and roman writing systems for Inuktitut were standardized in the 1970s, it was agreed that words could only end with a vowel or with one of three consonants: q, k, or t. In practice, though, many Inuktitut speakers have a tendency to pronounce these final consonants as an n or an ng sound. This can be a dialectal difference—Inuinnaqtun speakers do this quite frequently—or it can be a generational difference. Inuit elders are more likely to do this than younger speakers” (Pirurvik, n.d.).

To the east in Greenland, Rischel (1974, 153) documents t/n variation in final position attributing the original observation to Thalbitzer: “final consonants fluctuate between non-nasal and nasal pronunciations in East Greenlandic.” Rischel cites similar variation word finally in the Polar dialect, attributing it to Holtved’s transcriptions: “a rather free variation between occlusive and nasal articulation” (153–54).

The further, more probing abstract hypothesis of proto morphophonemic /t/ is stimulated by an analysis from Kaplan (1981, 51), who, after considered analysis, posits a synchronic underlying /t/ in word final noun stems—e.g., anguti for “man,” which has final /n/ in the standard proto reconstruction: angun-. Note, however, that he subscribes to the standard reconstructions based on Yupik: “Alaskan dialects have several instances of final nasals not found to the east, e.g., –mun term, –miñ abl, –kun vialis, –tun aeq, –m rel, –iñ/–tin 2s imp, –uñ 2s-3s imp, and –pman 3s conjunctive dif. subj., as against many eastern dialects which have final stops in these morphemes. Yupik evidence suggests that final nasals must have characterized these morphemes historically” (52).

There are some suggestive relevant nasal reflexes of proto *t in the Labrador dialect. We observe final /n/ and /ng/ across the intransitive of the Labrador interrogative mood, e.g., taku-viin singular “Do you see?,” taku-vitiing dual “Do you two see?,” taku-vaan “Do they see?” (Smith 1977). Compare the indicative forms, respectively: taku-vutit, taku-vutik, taku-vut. These reflexes of proto forms ending in *t give some appearance of a process whereby final

voiceless stops become voiced nasals in restricted final morphological contexts, here the interrogative (Fortescue, Jacobson, and Kaplan 2010, 490).⁷

To summarize this section, an assumption of variational complexity in Proto Eskimo brings out the possibility that the reconstruction of *n as a necessary step in comparative historical analysis might, even as a solid primary abstraction, mask interesting processes at the level of complex and variational phonological realities.

Reversing the Inquiry

So far, we have considered what might be said regarding number inversion when presented with historical data. In what follows we reverse the discussion by looking into what might be said about the reconstruction of the historical proto stage when presented with the hypothesis of number inversion. Turning the discussion upside down in this way has an interesting result. Perhaps there were dialect alternations reflective of underlying abstract morphophonology at the proto stage in conformity to our general inversion thesis.

We next explore the possibility that the verbal plural /n/ of Yupik and Inupiaq that helps motivate proto reconstructed *n could historically/morphophonemically actually reflect a systematic underlying /t/ (*t). Validation for this inquiry can be derived if systematically reconstructed alternations would provide a more systematic view of proto inflectional patterns, based on final [t] alternating with [n] in the inflectional system. These possibilities overlap the scope of the present work.

7. This could be related to a process that would be helpful in developing the hypothesis that proto /t/ varied as /n/ in the second person in Alaskan forms. Note also there is a semantic peculiarity in making a second person assertion for another (second) person, such that saying “you see” has reference to information that only the second person has access to. We observe resultant indirection, for example, in French where the impersonal form comes into play: “On voit.” It is these circumstance then that bring forward the idea that an interrogative kind of element might be natural and appropriate: “You see” easily morphs toward “Do you see?” Any early process of /t/ /n/ might also have been, if it existed, less than fully interrogative but a lesser marking of distance or uncertainty or doubt. Of course this connection to a putative transient stage is highly speculative, especially since Alaskan interrogative forms do not show the respective nasalization, but it does raise a new and important question: What is the history of Labrador interrogative final /n/s back to the proto stage?

Two Hypotheses of Proto Verbal Inflections

It is useful to more formally characterize the hypothesis of historical accident. We will analyze it in two sub-hypotheses:

Historical Accident Hypothesis

1. Non-analyzability thesis: The /t/ at the end of the second person singular forms (e.g., -vutit) is not historically an independent morpheme but is part of a larger singular ending.
2. Historical contradiction thesis: The final /t/ corresponds to proto *n and /n/ in western dialects, including Yupik and Inupiaq, where the corresponding form ends in -tin or -ten, while final /t/ is appears in contrast, e.g., with plural elsewhere in the verbal paradigms.

Under these assumptions surface /n/ corresponds directly to underlying and historical /n/ and does not derive from underlying or historical /t/, leading to a conclusion that there was no symmetric second person inversion historically, and that the final /n/ later became /t/ in eastern dialects creating an illusion.⁸

To examine the possibility of /t/ ~ /n/ in morphophonemic alternation we partially reconsider the historically reconstructed proto stage, relying on the authoritative *Comparative Eskimo Dictionary* (Fortescue, Jacobson, and Kaplan 2010) (and the paradigms presented on pages 487 to 491) from which the following reconstructed forms are drawn.

Surface Indications

A first observation is that final /t/ does occur for second person singular in the nominal inflection for relative second singular in the proto forms, as below:

2s vət, ɣpət

2d vtəɣ

2p vci

This final -t occurs across S/D/Pl of the possessum forms. Even in surface form, then, a final -t and inversion appear prima facie in this particular set, providing an indication that the -t/∅ pattern may have some direct visibility at the proto stage even though -n occurs in the corresponding absolutive forms.

8. We have already noted that such a later change might have been the result of force majeure by the very factors under consideration, but here we only consider what the proto conditions might have been.

Similarly, in the relative mood intransitive second person the final –t again surfaces in a corresponding pattern compatible with the –t/∅ Inversion Hypothesis.

2s vət
2d vtəy
2p vci

These raise questions about what processes may be underlying the surface data.

Superficial Description of a t/n Relationship

In the full matrix of reconstructed verbal paradigms, there are more occurrences of final –n, begging the question how final –n could be a contextual variant of an underlying –t. But the few examples of final –t, as we saw previously, are in monosyllabic inflections suggesting a generalization. Examining the paradigms carefully worked out for Proto Eskimo, we confront the realistic *prima facie* uncontradicted possibility that a phonological rule is in play sensitive to schwa and syllabification. We find such a relationship, expressed as the following rule, which is descriptively viable across all verbal inflections:

/t/ → /n/ ə __# in polysyllabic verbal inflections.

A final underlying /t/ is realized as /n/ after schwa in polysyllabic verbal inflections.

Processes of polysyllabic final weakening are well documented in the linguistic literature on Eskimo-Aleut. Geoghegan (1944, 21) documents Aleut weakenings. A search for “apocope eskimo inuktitut” returns an extensive list of academic papers. Bergsland (1997, 31) discusses the phenomena in Aleut at length: “From both a variationist and abstract morphophonemic perspective, there is a viable hypothesis that the underlying morphophonemic form for some speakers in a context of variability could have involved a /t/ in underlying mental representation even as [n] was pronounced. The interplay of phonological, morphophonological, diachronic, and cognitactic factors leave open the viability of the inversion hypothesis. These observations incline already against an unqualified strong assertion of the Historical Contradiction thesis, entailing further questions.”

A Morpheme Emerges from Increasing the Resolution of Analyzability

We next proceed to test the non-analyzability thesis by scanning the paradigms for repetitive parts and relationships that may bear on the Historical Accident Hypothesis.

We start by observing that analyzability is not finally refuted by the system of proto reconstructions. There exists in the verbal paradigms a surfeit of repeating elements observable from the simple algebra of contrast, suggesting the potential for further analysis. One would not want to face the stark mathematics of probabilistic distribution by claiming that recurrent pieces were accidental. The careful scholarly sourcing behind the historical proto reconstructions presents this opportunity, not just from the vast range of data that it covers, but also by floating ideas for further analysis. We restrict ourselves to one of the possibilities.

Surveying the verbal paradigms, a morphological constancy emerges in one section of the relative mood. For 1st Pers. Subj. 4th Pers. Obj. forms: /tə/ is evidently a marker of non-singular, marking, both dual and plural. These are representative examples are from a pattern that holds more generally:

	Obj 4s	Obj 4d	Obj 4p
Subj 1s	m ni	m təŋ	m təγ
Subj 1d	m tə γ ni	m tə γ təŋ	m tə γ təγ
Subj 1p	m tə ni	m tə təŋ	m tə təγ

This pattern illustrates analyzable parts among the inflections that might otherwise be considered undeconstructable units. Our attention is drawn specifically to /tə/ as a marker of non-singular {dual, plural}, which is significant for our purposes.

Extending the / tə / Analysis to Second Person

Returning to our focus, the existence of a putative historical morpheme *tə opens questions about the dual and plural of the second person forms that we are interested in. We are led to inquire whether this non-singular morpheme might present also for second person. Here is corresponding data from relative mood second person subject and fourth person object.

	Obj 4s	Obj 4d	Obj 4p
Subj 2s	v ni	v təŋ	v təγ
Subj 2d	v tə γ ni	v tə γ təŋ	v tə γ təγ
Subj 2pl	v ci ni	v ci təŋ	v ci təγ

This presents a comparable pattern except that /tə/ in 2d is replaced by /ci/. This variant immediately succumbs to a plausible analysis whereby ə → i and subsequently /t/ palatalizes to /c/ preceding the /i/, except that there would evidently be no phonological conditioning environment for the former. This is because the paradigms exhibit a contradictory set of putative phonological conditioning environments, including

Rel 1p Subj 3p Obj	m tə ki
Rel 2p Subj 3p Obj	v ci ki

The hypothesis that /tə/ and /ci/ can be unified as /tə/ seems here thwarted in the verbal paradigms except for one striking possibility that is a propos of the inversion thesis. The /ci/ form occurs without exception before the position where the {null-singular} marker is moved under the second person inversion hypothesis. Thus, the following rule is descriptively supported by the patterns of the verbal paradigms:

$$\begin{aligned} \text{ə} &\rightarrow \text{i} / _ \{ \emptyset \text{ null-singular} \} \\ \text{t} &\rightarrow \text{c} / _ \text{i} \end{aligned}$$

Schwa becomes /i/ before the null marker. The behaviour of this null-singular morpheme could plausibly reflect a formation involving the presence of an abstract word or clitic boundary, either pre-proto historically or ongoing. This might imply a process of accumulative agglutination (in the non-technical sense) over time of one inflectional system on another.

There is considerable support for the proposed processes because they regularize and rationalizes the verbal paradigms to a striking extent insofar as /tə/ and /ci/ are found regularly in many forms for 2d and 3p, respectively. The analysis is supplemented by /ɣ/ serving to disambiguate the dual by its addition. This formulation amounts to a sizeable rectification of major sections of the verbal paradigms. Without it, repeated pieces appear unprincipled. It is legitimate to conclude that one argument for the second person inversion hypothesis is that it renders the proto verbal paradigms significantly simpler and more systematic per expectation for cognitive systems.

In contrast, while the non-analyzability hypothesis attaches correctly to the surface data it is then left with a significantly less rationalized basis for understanding a set of repeating forms within the verbal paradigms. By furthering morphological analysis, the result is a pattern whereby 2d and 2p very generally include a non-singular marker. We conclude that non-analyzability does not appear to present as a sufficient basis for rejecting the Second Person Inversion Hypothesis and may even lead to inscrutability in the system of verbal paradigms.

There is further considerable tendency to validation of the inversion hypothesis in the /tən/ form itself. If /n/ is underlying /t/ in the singular, then the cultural mechanism of lessened focus is reinforced in that the singular is marked not only by that final /t/ but also by the presence of the preceding /tə/ which itself denotes nonsingular. This then would be a form of reduplication amplifying support for the social hypothesis.

To the extent that the foregoing analysis leads in the right direction it would be semantically and historically interesting because it appears to indicate that Proto Eskimo is layered on a singular/plural system underlying the generally recognized singular/dual/plural one, and that inflection formation may have been agglutinative (in a non-technical sense) appending the latter on the former.

The systemic recurrence of unanalyzed morphological pieces throughout the Proto Eskimo paradigms remains an important territory for future investigation. Patterns of repetition in the verbal paradigms suggest the building of endings by additional pieces recurrently to reflect evolving systems of mental categories in the interest of communicative explicitness.

Reflections from Aleut

We can further investigate the sources of surface *-n* by considering Aleut. It is not that bringing in Aleut data might necessarily lead directly back to Proto Eskimo-Aleut,⁹ but that it's useful to ask how Aleut might have gotten the way it is.

First, in his work on Aleut, Bergsland (1997, 18) reconstructs a final **-t* to give Eastern Aleut *-n* and Atkan *-s*: “An important point of difference between Eastern Aleut and Atkan is the representation of Proto-Eskimo-Aleut final **-t*: Eastern *-n*, merged with the ancient nasal, Atkan *-s* (*-z*) vs *-n*.” This comparative viewpoint, adopted also in Sadock (2000), lends plausibility to our thesis and phonologically allows the possibility that inversion could have originated very early.

Also, Bergsland (1997, 83) gives some plausibility to our specific proposed morphophonemic alternation when he observes, “a verbal stem may end in *a...-t-*, which alternates with *-ch-* *-s-* before the initial vowel of certain mood/tense suffixes.”

Further, the third person intransitive subject marker is *-ku-n* in Eastern Aleut, but tellingly appears as *-ku-s* in Atkan (Bergsland 1997, 84). This is significant because if the underlying form were **-t* it is unsurprising that it could go to both *-n* and *-s* since each is feature-wise similar, but if **-n* is underlying it is not so reasonable to expect an *-s* form, which is more grossly dissimilar.

This phenomenon can be observed elsewhere in the inflectional system, starting with the simple plural nominal ending Eastern *-(i)n*, Atkan *-(i)s* and the respective third person anaphoric plural variants *-(ng)in*, *-(ng)is* (Bergsland 1997, 84). These forms are interesting again because they belie the phonemic contrast between *-n* and *-t*, which is a basis of the historical contradiction thesis.

While there are confounding factors expected in a more distant language branch, Aleut also shows some evidence of a possible second person inversion consistent with our analysis. Here are the relevant terminal intransitive person

9. Note that Fortescue (forthcoming) adverts to some evidence that “Aleut developed from an earlier state, closer to (Proto) Eskimo, as Bergsland surmised.”

morphemes for Eastern Aleut with proposed morpheme boundaries (Bergsland 1997, 84):

	S	D	P
3p	-ku-x̂	-ku-x	-ku-n A .ku-s
2p	-ku-x̂-txi-n	-ku-x̂-txi-di-x	-ku-x̂-txi-chi (optional n)

In this we observe possible analogous inversion and morphophonemic relationships in support of our hypothesis. Note also the variant with final /s/ in Atkan. Due to numerous extraneous processes inversion is not easily seen throughout the verbal paradigms but may be evident here and in some other cases.

Synchronic Hypotheses

In view of considerable countervailing evidence already presented, here, for completeness, we entertain the possibility, even against the foregoing, that there was a historical accident. Even as the current synchronic situation might have emerged in an unintended manner, it could then possibly have been perceived and persisted as a culturally useful system with unconscious psychological utility. There is no necessity that speakers be consciously aware of abstract systemic configuration persistently through time since many linguistic processes are unconscious.

Assuming against the indications we have presented that the early form has /n/ distinct in final position, not deriving from /t/, one might speculate that the imposing pattern and putative force of the processes we have proposed could possibly have helped drive an /n/ form toward /t/, reversing the argumentation in a form of structural back formation. This would mean that a prospective cognitactic potential arose by accident, achieving formal consistency by phonological change and then enabling a cognitive intention for an evolving construction. The realization of final -n as final -t would have been affected by the very pressure under discussion. The inflectional forms being extremely frequent, if there were already t/n variation, a regularization in the verbal paradigms might have rendered the inversion on a wider scale, consistent with the thesis of instrumental creativity that is a linguistic hypothesis in this paper. The impetus of functional load and covert motivations for phonological change in social contexts are difficult to evaluate. A possible boundary for this idea is the observation that final /n/ became final /t/ in other contexts (e.g., nominal case inflections), but it bears consideration since phonological processes can be limited to verbal inflections, and because Eskimo-Aleut verbal inflections tend to be complex and polysyllabic.

Conclusions

We have first observed a *prima facie* case of synchronic number inversion in Labrador Inuttut and have seen how the expression and exploration of such phenomena can be facilitated by an approach that encodes action intent. We considered the historical perspective and concluded that action intent inversion is evidenced in the principal case (direction) even if a secondary case (direction) is viewed as a historical accident. We further laid out an argument that if it is assumed there was no historical accident, a more systematic understanding of the proto stage emerges.

A standard result of linguistic science is that there is no difference in human linguistic minds, often illustrated by the richness of systems of classification. Just as the French cultural tradition may have chosen to classify within the {*chaise, fauteuil, strapontin*} set of chairs so another mind may have classified grammatical verbal participants in ways useful to manage the presentation of observed events. Hypotheses must be critically analyzed from the point of view of the sound historical work that has been done in the Eskimo-Aleut family, but inventions of instrumental creativity might well also be excavated to reflect the realities of language use in a society.

The present analysis does not resist the conclusions of authoritative historical work. It seeks to open questions about its extension in the light of the possibility of cognitactic manipulations. The question we asked is whether there is a boundary separating a final morphological /t/ with a phonological accommodation whereby final /t/ after /schwa/ laxes to /n/. Without forcing a final resolution, the discussion supports the idea that there may have been an abstract morpheme together with phonological alternations not evident from surface data. We proposed an abstract background model that would associate {null}, /k/, /t/ with singular, dual, plural manipulated by inversion in second person.

It is important to take note of instrumental creativity as it adapts linguistic forms dynamically over time as exigencies change. Northern people advanced into regions requiring exceptional exploratory inventiveness, but there can be also evidence of invented modalities of language that support cultural cohesion. Linguistic invention may have been cleverly and boldly undertaken to establish and maintain social relationships so that people might get along against conditions of adversity.

An important but challenging area of research involves exploring the full complexity of the Eskimo-Aleut verbal paradigms, how they arose, and by means of what processes. The cognitactic approach we propose brings directly forward hypotheses for examination that otherwise might remain obscure. By adding a new dimension to the analysis, it enables a fuller investigation, potentially bringing in new data and a more functional perspective. It is theoretically noteworthy because there is evidently no place

for them in any form of grammar without facilities to specify communicative intent. Otherwise, there is no framework for cognitive utilitarian mechanics to give salience to the functional means by which some complex verbal derivations evolve. Second person number inversion raises new hypotheses to explore and invites new ways of thinking about sentence formation.

A ready criticism of the “Tool Grammar” linguistic action approach might be that it mixes cognitive and grammatical systems of competence. We have seen from Labrador Inuttut inverted number marking that allowing action features in grammatical derivations permits a competence/performance distinction to be maintained in a way that envisages the migration of performance features by an innovative individual or group into the competence systems by means of processes of historical change. This allows a wider range of psychologically plausible mechanisms for diachronic change.

It is perhaps Inuit linguists who might best finally resolve the various hypotheses of second person number marking. They may conclude that it's all an epiphenomenal accident or that it reflects as we have indicated a fascinating tradition of instrumental creativity reaching far back in time. It is scientifically circumspect to favour the latter until definitively proven otherwise. Whatever the upshot Fortescue, Jacobson, and Kaplan (2010) have provided the initial visibility to continue looking more than one millennium back in linguistic history.

Where there remains any residual unclarity of the questions raised, the onus must fall equally to proponents of historical accident to definitively rule out the inversion hypothesis. Where there appears a striking example of instrumental creativity by the speakers of a language to serve cultural desiderata, the potential salience of such invention in intellectual history of the language can be viewed as super-ordinate to any automatic default assumption of routine phonological change as a static entity. Even the most refined historical proto reconstruction is necessarily of an abstract nature and can mask complexities inherent in language as a mental process.¹⁰

Science abhors the confines of finalization and invites exploration. We hope to have opened questions for further discussion.

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10. Optimally, many questions await the analysis, validation, refinement, and revision Inuit linguists who are best positioned to pursue their grammatical intuitions into the scientific realm.

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