TRAVAUX
DU
CERCLE LINGUISTIQUE
DE COPENHAGUE

VOL. XVIII

JENS ELMEGÅRD RASMUSSEN

Anaptyxis, Gemination, and Syncope in Eskimo

A Diachronic Study

THE LINGUISTIC CIRCLE OF COPENHAGEN

COPENHAGEN
1979

Anaptyxis, Gemination, and Syncope in Eskimo

A Diachronic Study

TRAVAUX
DU
CERCLE LINGUISTIQUE
DE COPENHAGUE

VOL. XVIII

JENS ELMEGÅRD RASMUSSEN

Anaptyxis, Gemination, and Syncope in Eskimo

A Diachronic Study

THE LINGUISTIC CIRCLE OF COPENHAGEN

COPENHAGEN
1979

ANAPTYXIS, GEMINATION AND SYNCOPE IN ESKIMO

A Diachronic Study

by

JENS ELMEGÅRD RASMUSSEN

THE LINGUISTIC CIRCLE OF COPENHAGEN

COPENHAGEN
1979

Produced by Akademisk Forlag
Printed in Denmark 1979

ISBN 87-500-1877-9

Distributed by

Reitzels Boghandel A/S
Nørregade 20
DK-1165 Copenhagen K
Denmark

Prefatory Note

The first draft of the present investigation was written in leisure hours in 1975–6 during a stay at the University of Erlangen as a research fellow under the Alexander von Humboldt Foundation. The manuscript, originally completed by November 1976, was later subjected to a substantial revision, especially with regard to the utilization of later literature (and of the 18th century Greenlandic sources to which I did not have access in the first round). The main plan was, however, preserved, a fact that accounts for certain inconsistencies in the physical shaping of the text, such as the many additional footnotes subnumbered by letters (19a, 19b, etc.).

With this revision, the author's work on the main text was terminated in the summer of 1978. This in turn explains the non-utilization of the recent high quality studies on the West Eskimo dialects of Alaska and St. Lawrence Island published by The Alaska Native Language Center of Fairbanks, Al.,* which only got into my hands after that time. For West Eskimo, then, I have had to rely mainly on Hinz's 1944 grammar and on the Soviet writings. It should be noted, however, that I have been fully aware of the shortcomings of these sources and have taken pains to use them with the necessary care: I have nowhere based the discrimination of /i/ and /ə/, or of /k/ and /q/, on Hinz alone, I have no capital arguments involving prosodic features of the Siberian material (note especially that the Soviet sources do not consistently indicate vowel length), and nowhere is a line of reasoning affected by the existence of labio-velars and labio-uvulars. It is my firm impression, therefore, that the higher degree of phonetic exactness attainable through the latest works, though important in its own right, would have no serious impact on the present study, where West Eskimo wordforms are for the most part quoted to demonstrate such macroscopic facts as the mere existence of a lexeme, the presence or absence of suffix-initial /-l-/, points of inflexion, and the like.

The investigation was not written by a specialist in the field of Eskimo studies; it is the work of an Indo-Europeanist testing the methodology of diachronic linguistics on a field less exhausted by previous cultivators. The main theory crystallized in the course of a series of (more or less informal) lectures I held at

---

* Note especially the two important manuals of Alaskan and Siberian Yupik: Reed-Miyaoka-Jacobson-Afcan-Krauss, Yup'ik Eskimo Grammar, Fairbanks 1977, and Steven Jacobson, Siberian Yupik Eskimo as spoken on St. Lawrence Island, Alaska, Fairbanks 1977.

the University of Vienna in the spring term of 1974 and later repeated in Erlangen and Copenhagen. It is a pleasant duty to acknowledge the not insignificant impulses gained from discussions with the participants of these lectures that belong to my very dear memories.

At various stages in the course of preparation, the investigation profited from fruitful discussions with Jørgen Rischel. Needless to say, the responsibility for the present text is mine alone.

My English was corrected by Janet Gunzerhauser, who undertook the laborious task of weeding out the worst barbarisms (the remaining of which are of course my own). The extraordinarily difficult manuscript was prepared for print with admirable precision by Mrs. Inger Hansen of Akademisk Forlag.

The cost of printing was in part defrayed by a grant from *Landsdommer V. Gieses Legat* (Copenhagen). To the administration of the latter, as well as to the above-mentioned individuals, I wish to express my sincere gratitude for their valuable services in the interests of the present publication.

Roskilde, May 16th 1979 Jens Elmegård Rasmussen

CONTENTS

0. GENERAL REMARKS

In recent years a handful of studies have appeared concerning the phenomenon of gemination in West Greenlandic (henceforth "WG") nominal declension, i.e., Pyle 1970, Underhill 1971, Sadock 1972, Webb 1973, and Rischel 1974.[1] Only Rischel correctly sees the problem in a wider morphological context and draws on material from all subsections of WG grammar and derivation where the phenomenon is indeed frequently encountered. The aim of the present paper is to show that even this global synchronic scope is too narrow, as the rules governing gemination can be shown to antedate certain Pan-Eskimo phonological changes, whereby evidence from the other Eskimo dialects – above all the West Eskimo (WE) of Southwest Alaska and Siberia – becomes not only relevant but sometimes even crucial to the analysis, if important information is not to be left out of sight. The Eskimo gemination was a historical event which took place long before the dialect of West Greenland came into being, and any investigation of it has to take this fact into account, much as a description of the Thirty Years' War dealing exclusively with its after-effects on our present-day situation would only partially meet the average reader's need of information.

1. GEMINATION: GENERAL THEORY

1.0. Dialectal distribution of gemination

Gemination of the type of WG /ammit/ 'furs', pl. of /amiq/ is found all over the East Eskimo (EE) territory[2] but appears to be lacking in the WE dialects:[3] Kuskokwim (S.W. Alaska) and Chaplino (Siberia) *amiq*, pl. *amit*. Aleut has no sign of it either: *aδax* 'father', pl. *aδa-s* (Attu and East Aleut *-n*), so on the surface we appear to be dealing with a clear case of EE phonological or morphological innovation. The evidence of WE and Aleut is, however, trivial, as WE can be shown to have simplified old geminates, cf. Chap. *unuk* = WG /unnuk/ 'night' or Chap. *quliq* = WG /qulliq/ 'topmost' (the latter analysable into stem **qulə* 'top' + suffix **-liq* 'farthest out in the direction of –' with regular dropping of *ə in an open internal syllable),[4] and Aleut is reported to possess no geminates at all.[5] It appears, then, that all we know is that the one dialect area which could show gemination – of whatever origin – does so. Therefore, the important question is whether 1) the WE dialects (and perhaps Aleut) have given up gemination in the cases under discussion or 2) they never had this phenomenon, which would then make it an EE innovation. In my opinion solution 1) can be proved correct.

1.0.1. Bergsland on gemination

Knut Bergsland, to judge from stray notes in writings on more general subjects (1958:626, 1966:210), also appears to take gemination to be Pan-Eskimo or possibly Pan-Eskaleut. Bergsland, however, does not seem to have undertaken any attempt to prove this point in any detail, and in fact his analysis of the conditioning factors of the process (Bergsland 1959:8ff) which still keeps writers on the subject spell-bound,[6] is based on material which upon closer inspection proves irrelevant to the discussion. Bergsland's analysis, for all the brevity of its presentation, demands a somewhat lengthy discussion due to its connection with the no less difficult question of SYNCOPE, which indeed is relevant to the issue.

1.0.2. Gemination and syncope

When the addition of a possessive suffix /-ni/ of 4th sg. inergative of a singular word (henceforth 4.sg.ie.sg. and the like) 'his own —' to a word which is synchronically WG /iRniq/ 'son' engenders an output as short as /iRni/ 'his (own) son', syncope has certainly taken place. The alternative solution of (regular or spontaneous) haplology is excluded by examples like /aluq/ 'sole' → /alli/ 'the sole of his (own) foot'. Therefore these modern forms are somehow developed from sequences of the shape **iRnəR-ni* and **aluR-ni* (cf. Chap. *iRnəq* 'son' and *aluq* 'oar blade' [Kuskokwim 'sole']). Now /alli/ is seen to present the same gemination as the pl. /allut/, so the two phenomena are indeed in some way interrelated. But did syncope cause gemination, or gemination syncope, or are they both due to other factors, shared or discrete?

1.1. Bergsland's extra-syllable theory: Criticism and alternative solution

1.1.0. Presentation of Bergsland's theory: Gemination caused by syncope

Bergsland (1959:8–10) takes the stand that syncope caused gemination not only in 4. sg. forms like /alli/ but also in plurals like /allut/. He therefore undertakes to prove the existence of an older stage containing an extra syllable which can be made responsible for the geminate when it is later syncopated. Accordingly he reconstructs (1959:9) the forms **nuyarət*, **amirət*, **puγurət* (in my notation **nujaRət*, **amiRət*, **puγuRət*) as pre-forms of WG /nutsat/, /ammit/, /puγγut/, the plurals of WG /nujaq/ 'hair' (from **nujaR*), /amiq/ 'fur' (**amiR*), and /puuq/ 'bag' (**puγuR*).[7]

1.1.1. Arguments for the extra syllable

Bergsland adduces two types of forms as arguments for the extra syllable of his proto-forms: 1) that stems in **-əR* form their plurals in **-Rə-t*, cf. **patəR* 'marrow', pl. **patRət* (WG /patiq/, pl. /paqqit/) and 2) that the type exemplified by WG /maRRaq/ 'clay' with a geminate preceding the last vowel also

shows pl. *-ət, cf. orthographical WG *marrait* (i.e. 19th cty. /maRRait/, now monophthongized to /maRRaat/). In Bergsland's opinion these two sets of examples preserve the extra syllable *-*Rə*- thanks to their special conditions of word structure not shared by the type /amiq/, pl. /ammit/.

This is clearly an arbitrary point of view. No argument is adduced to refute the equally possible alternative that the type /ammit/, because of *its* structural characteristics, was the only type not to receive an extra vowel of anaptyxis inserted into the plural formations of words answering the structural description of **patəR* (**patəq*) and whatever lies behind /maRRaq/ and the other members of its type. As long as this possibility has not been tested, the solution proposed by Bergsland remains arbitrary, even if the alternative may look clumsy and improbable at first sight.

1.1.2. Criticism: The two shwas

The assumption of an extra syllable in reconstructions like **amiRət* finds only very slender support in the segment *-*Rə*- of plurals like **iRnəRət* or **patRət* (WG /iRniRit/, /paqqit/), allegedly from **iRnəR-t* and **patəR-t*, because these words contain /ə/ which is generally considered subject to a rule of metathesis giving quite different conditions of syllable structure. Therefore generalizations made on the basis of the alleged forms **iRnəR-t* and **patəR-t* are not necessarily valid for the real forms **nujaR-δ*, **amiR-δ*, and **puγuR-δ*. (On the reconstruction of the plural morpheme as pre-Eskimo *-δ instead of *-*t*, a detail irrelevant to the present issue, see Bergsland 1966a:145.) The inflectional forms of the *-*əR*-type, e.g. erg.sg. **patRə*^{w}*m*, pl. **patRət* had in the final vowel a variety of shwa that must have been different from the shwas not generated by rule seen in e.g. **kəγutə*(-) 'tooth' or **qulvə* 'tear' (WG /kiγut/, pl. /kiγutit/, Chap. *xuta*, pl. *xutət*, Sirenik *kəγəta*, pl. *-tij*, and WG *quvdle*, now /qulli/, Chap. *qulva*, pl. *-vət*), since the two vowels are treated differently before the ergative ending *-p* (< **-m*). The *-*əR*-type forms show a labialization of the shwa to /u/, cf. WG erg. sg. /paqqup/, /iRniRup/, while the others merely display the normal development of *ə to /i/ in anteconsonantal position: /kiγutip/, /qullip/. Now /i/ is the regular EE treatment also in cases where the shwa is known to have held its position before an /m/ all along: **təmə* 'body', Chap. *təma*, pl. *təmət*, is WG /timi/, whose erg. /timip/, obviously from **təməm*, leaves room for no discussion. Stems ending in a velar have the same colourable shwa inserted between the stem-final consonant and the ending, as do examples of the type /maRRaq/ (to be treated in section 1.2. below), cf. erg.sg. /inuup/ (Proto-Esk. **iñuγ-*ə^{w}*m*) from *inuk* 'human being' and orthographical erg. *marraup* (now /maRRaap/) '(of) clay'.

1.1.3. Solution: No underlying shwa

One immediate solution to the problem of the two shwas could be that the shwas presenting the conditioned development *ə*m* > *um* are older than those of *ə*m*

> *im*. But this is contradicted by the material as shown above: **təmə-m* > /timi-m/ (> /timi-p/) cannot have *two* young shwas. The alternative that a postulated proto-form **patəR-m* was metathesized to **patRə^{w}m* with simultaneous coloration of the shwa would be highly unnatural since other shwas did not at this or at any other time become labialized before /m/ and since there is otherwise no metathesis of *VRm* to *RVm*.

The only reasonable solution therefore appears to be that there was no metathesis at all, because there was no underlying vowel to metathesize. This analysis was in fact suggested by Underhill (1971:304f), and it will in the following be argued that this idea is correct, the final proof lying (*inter alia*) in the special gemination rules of stems in "*-əR", on which see section 2.2. below.

1.1.4. Reconstruction of underlying forms

We thus avoid all contradictory statements if we depart from underlying forms like the following:

**iRnR*	'son',	erg.	**iRnR-m*,	pl.	**iRnR-δ*;
**patR*	'marrow',	erg.	**patR-m*,	pl.	**patR-δ*;
**təmə*	'body',	erg.	**təmə-m*,	pl.	**təmə-δ*;
**aRnaR*	'woman, mother',	erg.	**aRnaR-m*,	pl.	**aRnaR-δ*;
**aluR*	'sole',	erg.	**aluR-m*,	pl.	**aluR-δ*;
**paniγ*	'daughter',	erg.	**paniγ-m*,	pl.	**paniγ-δ*;
**kamγ*	'boot',	erg.	**kamγ-m*,	pl.	**kamγ-δ*;

Note. The given proto-forms are meant to map all distinctions that are known to have existed in the chronological stage immediately preceding the first demonstrable sound-law, and only in this sense should they be considered realistic reconstructions of the actual phonetic shape of the words at the time in question. This is particularly relevant for the possibility of unconditioned mergers: If, say, Proto-Eskaleut **a* represents a coalescence of two vowels, e.g. /e/ and /a/, it is quite possible that the monotonous vocalism of the reconstruction **aRnaR* is in fact an anachronism. However, as long as there is no indication to the contrary, these conceivable refinements shall be considered irrelevant to the present issue.[7a]

1.1.5. The anaptyxis rule

We have now obviously a very simple rule inserting an anaptyctic vowel /°/ before the final consonant of words terminating in such consonant clusters as were at that time no longer tolerated as word finals. We can only let the material speak: Final *-RC* (whether *C* be **-m*, **-δ* > Proto-Esk. **-t*, the dual ending **-γ* > Proto-Esk. **-k*, or the 2.sg.ie.sg. poss. ending **-t* > Proto-Esk. **-n*) was tolerated, *-CR*, *-γC* and *-Cγ* were not, and neither were groups of more than two consonants. By the operation of this rule the selected examples are changed to:

**iRn°R*,	**iRnR°m*,	**iRnR°δ*;
**pat°R*,	**patR°m*,	**patR°δ*;
**təmə*,	**təməm*,	**təmə*δ (unchanged);

**aRnaR*, **aRnaRm*, **aRnaRδ* (unchanged);
**aluR*, **aluRm*, **aluRδ* (unchanged);
**paniγ*, **paniγ°m*, **paniγ°δ*;
**kam°γ*, **kamγ°m*, **kamγ°δ*.

1.1.6. The gemination rule

Now words ending in **-RC* at this stage underwent the curious sound change consisting in gemination with loss of /R/, and words containing clusters of more than two consonants had these relieved by anaptyxis, which however did not occur between two identical consonants (geminates). The two processes of anaptyxis and gemination apply to different types of words, and their relative chronology is therefore difficult to assess (but not impossible — see below.) Hereafter the examples have the following shape:

**iRn°R*, **iRn°R°m*, **iRn°R°δ*;
**pat°R*, **patR°m*, **patR°δ* (unchanged);
**təmə*, **təməm*, **təməδ* (unchanged);
**aRnaR*, **aRnnam*, **aRnnaδ* (with gemination);
**aluR*, **allum*, **alluδ* (with gemination);
**paniγ*, **paniγ°m*, **paniγ°δ* (unchanged);
**kam°γ*, **kamγ°m*, **kamγ°δ* (unchanged).

This would immediately explain why forms like **patRə^{w}m* and **patRəδ* show no gemination: they never had the structure *-VCVRm*, *-VCVRδ*, the "underlying" forms **patəR-m*, **patəR-t* being merely grammarians' constructs. The last vowel of **patRə^{w}m* and **iRnəRə^{w}m* is anaptyctic and therefore subject to other rules than the "old" shwas of words like **təməm*. We have, then, a sound-law "° > ə^{w} / ___ m #", but no development of **əm* to *um*. In other positions (in WE ultimately in all positions) this vowel /°/ fell in with inherited /ə/ and was developed like it. As a suitable notation of the anaptyctic vowel I would suggest for the pre-Eskimo phonemic level /°/ (e.g. /iRn°R°m/) and, for the Proto-Eskimo phonemic level, /o/ for the position before /m/ and /ə/ for other positions: */iRnəRom/. On the morphophonemic level the vowel seems not to be present at all: //iRnRm//, //iRnRδ//.

1.1.7. Cluster reduction, final forms

After these final adjustments (to which should be added a rule simplifying a cluster to the first two consonants of a series as will be shown further on as well as a rule hardening word-final spirants to the corresponding stops[8]) the examples come out as follows in terms of Proto-Eskimo phonemics:

**iRnəq*, **iRnəRom*, **iRnəRət*;
**pataq*, **patRom*, **patRat*;
**təmə*, **təməm*, **təmət*;
**aRnaq*, **aRnam*, **aRnat* with cluster reduction *-Rnn-* > *-Rn-*;

**aluq, *allum, *allut;*
**panik, *paniγom, *paniγət;*
**kamək, *kamγom, *kamγət;*

The final development to the actual modern dialect forms is without complications, cf. the WG and Chaplino forms (phonemic notation):

WG	Chaplino
iRniq, iRniRup, iRniRit	*iRnəq, iRnəRəm, iRnəRət*
patiq, paqqup, paqqit	*patəq, patRəm, patRət*
timi, timip, timit	*təma, təməm, təmət*
aRnaq, aRnap, aRnat	*aRnaq, aRnam, aRnat*
aluq, allup, allut	*aluq, alum, alut*
panik, pani(j)up, paniit[9]	*panik, paniγəm, paniγət*
kamik, kammup, kammit[10]	*kamək, kamγəm, kamγət*

Notice that the development of these examples is perfectly understandable without the assumption of an extra syllable to trigger gemination. This deprives Bergsland's first argument of its cogency.

1.2. Bergland's second type: WG *marraq, marraup, marrait*

1.2.0. General criticism: Formation unclear

The second type of material adduced by Bergsland in favour of the extra syllable, exemplified by orthographical WG *marraq, marraup, marrait* 'clay', is more difficult to evaluate. But one feels uncomfortable with a major argument stemming from material itself so little understood, and in fact it appears that these examples can be explained quite differently. But first we must call attention to two facts of a more general nature.

1.2.1. Prerequisites of gemination: antevocalic /R/ or /γ/; extra vowel after /γ/ preserved

First, it is clear that the necessary prerequisite of gemination, if we limit our scope to the morphological types whose etymological analysis is clear, is the presence of preconsonantal /R/ or /γ/ (examples of the latter will be given and discussed below). The plural type **amiR-δ* comes out as **ammit*, and the other types with a single consonant before the last vowel (a necessary condition for gemination to be preserved down to the attested dialects) behave differently: **nuna-t* 'countries', **paniγ-ət* 'daughters (not †**pannit*, see below on the different behaviour of /R/ and /γ/ under these conditions), **patR-ət* 'lumps of marrow', **kəγutə-t* 'teeth'. The geminating type also geminates before the erg. **-m*, the dual **-k* and the 2.sg. possessive **-n*: WG /ammip/, /ammik/ (obsolete), /ammit/. The 4.sg. possessive type **aluR-ni* > /alli/ discussed below also presents preconsonantal /R/ in its underlying form, and a few suffixes triggering gemina-

tion of the consonant preceding the last stem-vowel can be analysed so as to conform to these rules, as will be shown. The only other type of WG gemination, viz. the one due to initial emphatic stress (e.g. orthographical WG *una* 'that one' with anaphoric prefix *ta-´-* yields *táuna*, i.e. 19th cty. /taunna/, now /taanna/ 'that one just mentioned'), is irrelevant to this problem and will be discussed in an appendix. In the literature the generative process of plural formations like WG /amiq/ → /ammit/ is most often described as passing through an intermediary stage /amiq-t/. Pleasant exceptions are Swadesh and Bergsland, who[11] clearly say that the choice of the word-final variant for the uvular of the underlying form was arbitrary and indeed contradicted by the facts. By the addition of the 3.sg.ie.sg. possessive ending /-a/ this word forms WG /ami(j)-a/ 'its fur', where the uvular is regularly deleted intervocalically if the preceding vowel is not *//ə//*, provided the uvular in question is the spirant *//R//* for which this process is both synchronically and diachronically demonstrable. For example, WG /unaaq/ 'harpoon shaft' forms pl. /unaRRat/ where the geminated variant of the consonant dropped between the two *a*'s of the sg. form reveals this to be *//R//*, not *//q//*. Compare also an etymology like 19th cty. WG *nauja* = Chap. *naRuja* 'seagull'. Sirenik in fact preserves the /R/ before the poss. ending *-a: taŋaR-a* 'his child'. On this background other WE dialect forms like Chap. *aŋjaq* → *aŋja-a* 'his boat' might be assumed to have analogical zero on the analogy of forms with regular *R*-dropping like the pl. *aŋjat*, but it cannot be excluded that this is the phonetically regular form, a problem to be dealt with later on. Aleut, at least, does not present this analogy and has even generalized a combination of the *R*-form in the simple word and the *R*-less form in the inflected forms, e.g. *ilaχ* → *ilā* 'his companion' = Esk. *ila, ila-a*. For the treatment after **ə*, cf. the preservation of **R* in WG /iRniR-a/ = Chap. *iRnəR-a* 'his son' and an etymology like WG /niRi-vuq/ = Chap. *nəRa-quq* 'eats'.[12] If the uvular were the stop *//q//* it would be lenited to EE /R/ in intervocalic position after non-first vowel, but not dropped, cf. the WG alternation in /miiRaq/ 'child' → pl. /miiqqat/, where the geminate reveals the underlying plosive character of the uvular, or a plain etymology like WG /anuRi/ = Chap. *anuqa* 'wind', both from **anuqə*.[13]

Secondly, the anaptyctic vowel postulated by Bergsland for the hypothetical stage **amiRət* is found with stems in **-γ* and is here preserved: **qilaγ* 'sky', pl. **qilaγəδ* > Proto-Esk. and WE (Chap.) *qilak, qilaγət*, WG *qilak, qilait*. As we do not otherwise have different rules for /R/ and /γ/ in intervocalic position (cf. loss of both in *nauja* <**naRuja* above and *nauvoq* ~ Chap. *naγwaquq* 'grows' and cp. footnote 9), the reconstruction **amiRət* seems highly unlikely, and we must test the possibility that anaptyxis in words of this syllabic structure developed only after /γ/.

1.2.2. Examples of the type *marraq:* Proto-Eskimo geminates

Now the example *marraq, marraup, marrait* is, as stated expressly by Bergsland (1959:10), of a type containing a geminate between the penultimate and the

final syllable already in the uninflected form. Other examples conform to this description, cf. the examples given in Chr. Rasmussen (1888:10f; orthographical notation here preserved): *sorqaq, sorqaup, sorqait* 'baleen', *utorqaq, -rqaup, -rqait* 'old', suffix *-înaq -înaup -înait* 'only a –', suffix *-tsiaq -tsiaup -tsiait* 'a medium-sized –'; and the word *sujugdleq -gdliup -gdlît* 'first' (phonemically 19th cty. /syjulliq/ etc.)[14] mentioned in Schultz-Lorentzen 1945 (§ 14, II b 1), to which should be added at least the following emerging from a scanning of J. Petersen 1951 ("ordbogêraq"): *qiporqaq* 'humpback whale', *kilorraq* (a kind of thread or seam), *kipaq* 'cut-off piece' (pl. *kippait* given by Erdmann 1864), *majorqaq* 'defile, passage over a mountain', *marqaq* 'portage', *norraq* 'caribou calf', *saggaq* 'thin-haired skin, light fog, thin . . . snow', *tarraq* 'shadow', *uvkaq* 'front wall, outer side' (Kleinschmidt's *-vk-* arbitrarily for /kk/, cf. *úkak* in Fabricius 1804); and formations like *sujugdleq* and *qutdleq* 'topmost' (above), e.g. *isugdleq* 'first of a series' and others presenting definitely arbitrary spellings of the voiceless geminate /ll/.[15] Another probable example is *qigdloq* 'carcass' mentioned as an example of this inflection by Kleinschmidt 1851:26.[16] West Eskimo here has merely the simple consonant: Chap. *suqaq, utuqa* (Kusk. *utoqaq*), *taua-ŋ-inaq* 'only so' with hiatus-filling *-ŋ-*, *pana-râq* 'medium-sized spear, bayonet' (Menovščikov 1962:98), *nuRaq, sivuliq,* to which Bergsland (1959:10) adds Kusk. *marayaq* 'clay'.[17] This reveals the EE geminates of these words to be old geminates, not assimilated clusters.[17a] so that it must be regarded as hazardous to base on this type of word the theory of an extra syllable to produce gemination, as long as we are unable to apply the same explanation to the uninflected form itself.

1.2.2.1. Analysis of the type: *-RR* excluded

Superficially, however, this seems to be quite easy. If, according to Bergslands's theory, /ammit/ is from **amiRət,* then **suqqaR* should be from **suqaRəR,* and the erg. **suqqa(R)əm* from **suqaRəR-əm* (with deletion of **-Rə-* and the later EE lenition of the intervocalic *R* to zero), which would even appear to support the anaptyctic vowel for *R*-stems. But this is in fact impossible as is shown by the counter-examples presented by the inflexion of the word for 'wife', WG *nuli(j)aq,* Chap. *nulīq* (Proto-Esk. **nuliaq).* As Bergsland's extra vowel is WG /u/ before the ergative ending it is of anaptyctic origin, as was demonstrated above. So behind a proto-form like **suqaRəRəm* we should posit an older stage **suqaRRm,* i.e. stem **suqaRR,* erg. **suqaRR-m,* pl. **suqaRR-δ.* Now the word *nuliaq* is in fact an example of stem-final **-RR.* The Chaplino inflexion is: *nulīq,* erg. *nulīχəm,* pl. *nulīχət,* with a voiceless uvular spirant *-χ-* between the long *-ī-* (by regular monophthongization from **-ia-)* and the anaptyctic vowel before the endings. This consonant is normally a mere allophone of /R/ (conditioned by an adjacent phonemically voiceless consonant), but has assumed phonemic status under very special conditions. A clear indication of this conditioning is given by derivatives involving the suffix **-RaR* 'the young of –

(animal)' seen in e.g. Chap. *naRuja-Raq* = WG (19th cty.) *nauja-aq* 'young seagull'. After a stem-final uvular we get forms like Chap. *ukaziRaχaq* and WG *ukaliaq* 'young hare' (from Ch. *ukaziq*, WG *ukaliq)* which can only be understood in the following way: from **ukaliR-RaR* the regular development would be **ukaliRχaR* > Proto-Esk. **ukal(l)iχaq*.[18] To such a form a productive suffix **-χaq* was added anew to the stem with its final uvular, this time with Chap. anaptyxis /ə/, which before the uvular changed to /a/ (for this point, cf. Chap. *aRnəq* 'day', *aRvíγaq* 'wash' = Nauk. *əRnəq*, *əRvíγaq*). In Greenlandic no anaptyxis occurred between the two uvulars, and *-χ-* was treated like *-R-* in that it underwent the EE linition to zero (cf. the lack of anaptyxis in the WG intensive derivative *akili-qaa* from **aki-liR-qɔ-aR-a*). It seems therefore safe to posit a sequence **-RR-* underlying the voiceless *-χ-* of Chap. *nuliχəm nuliχət*. The type *marraq -aup -ait* has been almost completely normalized in Chap.: *suqaq suqam suqat*, but there does remain the precious example *pana-rāq -rāRəm -rāRət* (with normal retention of the stem-final uvular after a long vowel) showing that this type had a *voiced* uvular spirant, i.e. an underlying structure different from that of *nuliaq*.

1.2.2.2. Analysis: *-Rγ* excluded

For the details of *nuliaq* itself I refer to the treatment of its 3rd and 4th sg. possessive forms further on in the text (2.4.). Suffice it here to stress the fact that the treatment *nuliχəm* reserves underlying *-RR-* for this type, so that *pana-rāRəm* must have something else. There remain only two likely candidates, viz. *-γR-* and *-Rγ-*. At first glance one would immediately prefer *-Rγ-*, since (1) gemination is definitely known to be triggered by preconsonantal /R/ in the clearest examples, whereas gemination caused by /γ/ is much more difficult to prove (an attempt to prove it will be given below) and (2) the anaptyctic vowel seen in 19th cty. *marraup marrait* is otherwise restricted to γ-stems. Even the next few steps in the calculation of this possibility look rewarding: A reconstructed paradigm **maRaRγ*, **maRaRγ-m* **maRaRγ-δ* would first undergo anaptyxis to **maRaRγ* **maRaRγ°m* **maRaRγ°δ*, whereupon the dropping of preconsonantal /R/ accompanied by gemination would produce the forms **maRRaγ* **maRRaγ°m* **maRRaγ°δ*, the two last of which would be the perfect matches of the actual WG forms *marraup marrait*. But this possibility is ruled out by the uninflected form, which would have a final *velar*. In order to get the actual uvular of *marraq* etc. we would have to assume the operation of the rule assimilating uvular + velar to uvular known from examples like **aRnaR-ka* > Proto-Esk. and Chap. *aRnaqa* (WG *arnara* with EE lenition). But this assimilation would be expected to occur in the inflected forms, too, and then the intermediary forms would be **maRaRR* **maRaRR°m* **maRaRR°δ*, i.e. exactly the type *nuliaq* excluded above.

1.2.2.3. Analysis: *-γR* acceptable

We must, therefore, choose the other alternative and posit a stem-final sequence

*-γR (not *-Rγ and not *-RR). This type then belongs together with the examples presenting gemination triggered by preconsonantal /γ/ which will be treated in the following. We now have the following development: *maRaγR *maRaγR-m *maRaγR-δ > *maRaγR *maRaγR°m *maRaγR°δ > *maRRaR *maRRaR°m *maRRaR°δ > Proto-Esk. *maRRaq *maRRaRom *maRRaRət > WG *marraq marraup marrait*. The only surprise is that the uninflected form is not subject to anaptyxis. As there seems to be no material contradicting this development and as we must make our rules on the basis of the material we have, we are compelled by this analysis to accept the rule stating that the cluster *-γR was tolerated as word-final.

1.2.2.4. Additional material: The types *kípaq* and *pátagpâ*

Some additional material should be treated here as it seems to provide a welcome corroboration of the analysis which gives *-γR as the underlying form of the word-final sequence of *marraq* and the other members of its type. An interesting example cited among the material above (1.2.2.) is the word *kípaq*, phonemically /kippaq/ 'cut-off piece', because it is synchronically analysable as belonging to the verb *kipivâ* 'cuts it off'. The Chaplino counterpart of this is *kəpaqaa* with verbal noun *kəpnəq* 'segment' matching WG *kivneq* 'clearance (of the ice)' (in the sense 'cutting' the verbal noun has been renewed as *kipineq* by secondary recomposition of the constituent elements), so the verbal stem is obviously **kəpə-*. Then the immediate analysis of /kippaq/ would appear to be stem **kəpə-* + a geminating suffix *-´-aq*, which according to what was said above (1.2.2.3) should have the underlying shape **-aγR*, and indeed a proto-form like **kəp(ə)-aγR* could only give Proto-Esk. **kəppaq*. But it is not as simple as that: The word (WG orth.) *ínaq* 'fullgrown seal' (phonemically /innaq/), which clearly belongs to the verb *inerpoq* 'is finished' (cf. the perfective derivative *inersimavoq* 'is grown up'), exhibits a most puzzling alternation /a/ ~ /i/, which cannot be boiled down to the normal behaviour of the morphophoneme *//ə//*. The same alternation is observed in the verbs *patigpâ* 'lays hands on him/it' (Chap. *patxaqâ* 'wipes it off with his hand', cf. the further enlarged *patəγ-miγa-qâ* 'chases it away with his hand') → *pátagpâ* 'strikes something off him with his hand' and *mikigpâ* 'pulls at it with the teeth in order to get it loose' → *míkagpoq* 'plucks with the teeth (the hair from a sealskin), eats meat by tearing it with the teeth' (semantics cited from Schultz-Lorentzen 1927). In all these words the situation is descriptively that a vowel /a/ has replaced the /ə/ of the underlying base-word and the preceding consonant has been geminated. But this is not the whole story. Words of a less complicated phonemic make-up have a uvular /-R/ added to the stem alongside these adjustments, cf. WG *aulavoq* 'moves' → *autdlarpoq* 'goes away' (Kusk. *arûlauq* 'moves' → Chugach *aRulaRtuq* 'flees' cited from Birket-Smith 1953:242), *nalavoq* 'lies' → *natdlarpoq* 'lies down', *paluvoq* 'lies on its belly' → *patdlorpoq* 'lies down on his stomach' (Kusk. *palortoq* 'falls or lies on his face'), *napavoq* 'stands upright' → *náparpâ* 'places it upright, raises

it on end' (Chap. *napaχtaqā* 'places it upright'). Functionally the modification expressed by this suffixation is in all these examples a change of the mode of action, the derivatives having in each case an ingressive or iterative force not inherent in the base-word. A WE example without the secondary *-t-* (probably stemming from the active participle, so that e.g. Kusk. *palortoq* is in fact the etymological counterpart of the WG participle *patdlortoq* 'lying down') is Chap. *qujaquq* → *qujaRaquq* both according to Rubcova 1971 'radovat'sja, rejoice', the first of which is clearly the counterpart of WG *qujavoq* 'says thanks', while the second would correspond to a WG **qutsarpoq* not citable from the handbooks, whereby the presumed original semantic opposition would be 'is grateful' vs. 'gets (completely) grateful'.

1.2.2.5. Analysis: suffixal *-γR*, anaptyctic *-a-*

Now to the analysis of these forms. Since we only have examples of gemination being produced by the dropping of preconsonantal /R/ or /γ/ we must also reckon with one or both of these elements here. As the suffix in question is seen to leave a uvular /-R/ in /nallaRpuq/ etc., the last element of the suffix must be /R/, i.e. the suffix has at a certain stage the shape /-CR/. This /R/ may have been /R/ from of old, or it may be an old /γ/ assimilated to a neighbouring /R/. As the forms /pattaγpaa/ and /mikkaγpuq/ show, a stem-final /γ/ is preserved and not assimilated to any following /R/. Therefore the first consonant of the suffix cannot be /R/, and as it must be something capable of triggering gemination, it can only be /γ/. Then the final consonant of the suffix must have been /R/ all along, i.e. the suffix can only have had the original shape **-γR*. The rest is pure algebra, the selected examples showing the following developmental details:

1	**kəp (ə) -γR-m*	**inR-γR-m*	**patγ-γR-paR-a*	**mikγ-γR-puR*	**aRula-γR-puR*
2	*kəpaγRm	*inaRγRm	*pataγγRpaRa	*mikaγγRpuR	
3		*inaRR(R)m	*pataγγpaRa(?)	*mikaγγpuR (?)	
4	*kəpaγR°m	*inaRR°m			
5	*kəppaR°m	*innaR°m	*pattaγpaRa	*mikkaγpuR	*aRullaRpuR
PE	**kəppaRom*[19]	**innaRom*	**pattaγpaRa*	**mikkaγpuq*	**aRullaRpuq*
WG	/kippaup/	/innaup/	/pattaγpaa/	/mikkaγpuq/	/aullaRpuq/

Like **aRula-γR-puR* > **aRullaRpuq* further: **nala-γR-puR* > **nallaRpuq*, **palu-γR-puR* > **palluRpuq*, **napa-γR-paR-a* > **nappaRpaRa*, and **quja-γR-puq* > **qujjaRpuq*.

The only thing we did not know in advance is that the sequence *-CGG(G)C- (where G is used as a cover-symbol for /R/ and /γ/) is relieved by an anaptyctic vowel /a/ to *-CaGG(G)C- before further anaptyxis (with /°/) takes place. This is the only way of explaining how an apparent "suffixal" vowel *-a-* could find its way into the interior of the verbal root, and since we have no

material against such an assumption, it must be accepted as demanded by the material we do have.

1.2.2.6. Conclusion: -γ- lost, not -γə-

It can thus be considered proved that stem-final consonantism of the type *marraq* was originally *-γR, and with this result in mind we now revert to Bergsland's theory. For the uninflected form, it must be granted that a proto-form **maRaγəR* (with anaptyctic /ə/) would indeed give the output **maRRaR* if the sequence *-γə- were dropped with compensatory gemination, as Bergsland's theory has it. But the erg. **maRaγR-m* could only give the actual **maRRaRəm* if it went through a stage **maRaγəRəm* with double anaptyxis as in **iRnRm* > **iRn°R°m* (WG *ernerup*). However this double anaptyxis only occurred in words having three consonants in front of the pre-final anaptyctic vowel, i.e. it occurred in **iRnR°m* > **iRn°R°m* but not in e.g. **atR°m* = Chap. *atχəm* (erg. of *atəq* 'name'). Therefore the intermediary stage in the development of **maRaγR-m* could only by **maRaγR°m*. We now see from the development of this form, **maRaγR°m* > **maRRaR°m*, that the gemination was not a compensation for the loss of a syllabic sequence *-γə-, but a compensation for the loss of /γ/ alone. This invalidates the second type of material which superficially favours the theory of an extra syllable triggering gemination.

1.3. General assessment of Bergsland's theory

1.3.0. Gemination in /ammit/; phonetic development

An important implication of the findings of the preceding paragraph is that there is no reason to believe the development of **amiR-δ* to **ammiδ* > **ammit* to have passed through a stage involving an anaptyctic /ə/ or /°/ either. If gemination arose as a compensation for the loss of /γ/ or /R/ in (certain types of) anteconsonantal positions, we can explain the material with the rules we have already and need not posit any ad-hoc rule to produce anaptyxis in words of the structure **amiR-δ* in order to explain the geminate once it is deleted again.

The phonetics of the development **amiR-δ* or **amiR-m* to /ammit/, /ammim/ are not of course known in detail, but it seems likely that the final cluster was simplified to /δ/ (later /t/) and /m/, possibly through a stage with uvular co-articulation, and the loss of material was compensated by the gemination of the consonant: erg.sg. **amiR-m* > **amʿiᴿmʿ* > **amːiᴿm* > **ammim*, a development perfectly understandable without the assumption of extra syllables.

1.3.1. Criticism of new version of Bergsland's theory

For the sake of completeness I add that Bergsland's explicit formulation (or amendment?) of the development from "**amirət*" to *ammit* reported by Rischel (1974:297) as spelling out the intermediary steps as **amirət* > **amit̂* > **ammit̂*

> *ammit*, is highly improbable, too, even if we disregard the problem of the unfounded anaptyctic vowel of the original form. The first step is further reported (Rischel ibid.) to be meant as consisting in deletion of the uvular spirant with subsequent contraction of the flanking vowels to one long vowel, i.e. **amirət* > **amiət* > **amīt*. First of all, West Eskimo retains /R/ in intervocalic position, so *R*-dropping – an East Eskimo innovatory sound-law – should not be invoked for a development which is meant to be pre-Eskimo. Secondly, the rule of "gemination in the environment V__$\overline{\text{V}}$", although valid for a certain dialect area within West Eskimo (where it represents an innovation), is contradicted by the East Eskimo material showing forms like /akiit/ 'their prices', with 3rd person possessive of plural word /-i/ followed by the plural marker /-t/ (referring to the possessor) from of old without gemination of the preceding consonant. It may be noted, thirdly (though this is perhaps not quite fair in view of the intervening fifteen years), that the statement in Bergsland 1959:10 that "in the few cases where the preceding consonant already is a geminate there is no such contraction, e.g. *marraq . . . marrait*" is only reconcilable with the latest version of Bergsland's theory if pre-Eskimo /R/ was dropped in "**uqaRət* > **uqaət*" (> /uqqat/, pl. of /uqaq/ 'tongue'), but not in "**cuqqaRət*" 'baleens', i.e. dependent on the geminated or non-geminated nature of the consonant preceding the vowel before the /R/. This is a very unnatural conditioning indeed, which would demand very strong arguments in its favour to convince anyone. Since the WG 19th cty. erg. /suqqaup/ definitely points to **cuqqaRom* with /o/ of anaptyctic origin, not underlying /ə/, a conditioning triggering anaptyxis *and* gemination in the type **cuqqaq *cuqqaRom *cuqqaRət*, but no anaptyxis and only *limited* gemination in the type **uqaq *uqqam *uqqat* must be considered superior to any ad-hoc theory of extra syllables where the material has none.

2. THE 4th PERSON POSSESSIVE SUFFIX /-ni/ [19a]

2.0. Gemination not caused by syncope

We now come to the type /alli/ 4.sg.ie.sg. 'the sole of his (own) foot', somehow derived from **aluR-ni* with the same possessive suffix as *nuna-ni* 'his (own) country', which Bergsland (1959:9) adduces to make syncope responsible for gemination. The ergative case of this word is /allumi/ from **aluR-m-ni*, and the plural is /alluni/ from **aluR-δ-ni*, both presenting gemination *without* syncope. This is also the situation with the homophonous non-possessive locatives, sg. /allumi/ 'on the foot-sole' from **aluR-m-ni* and pl. /alluni/ from **aluR-δ-ni* ("oblique" case-endings are added to the form of the ergative, sg. **-m-*, pl. -Ø- + pl.-marker **-δ-*). Then, at least in the four last-mentioned forms, gemination must have another origin than the after-effects of syncope, and it appears desirable to have this other origin account for the geminate of /alli/ as well. This is in fact quite easy, and the rules seem very clear.

2.1. Syncope

First, all the selected examples drop their anteconsonantal /R/ with compensatory gemination:

**aluR-ni*	4.sg.ie.sg.	>	**alluni*
**aluR-m-ni*	4.sg.erg.sg.	>	**allumni*
**aluR-δ-ni*	4.sg.pl.	>	**alluδni*
**aluR-m-ni*	loc.sg.	>	**allumni*
**aluR-δ-ni*	loc.pl.	>	**alluδni*

The next step is obvious: The first of these forms has its medial vowel syncopated. This must occur before the consonant clusters of the other forms are assimilated to one short consonant. Otherwise the sg. inergative and the corresponding plural could not come out different, as both would have the intermediary stage †**alluni*. We have, then:

**alluni*	> **allni* (syncope)	>	/alli/	(cluster reduction)
**allumni*	(no change)	>	/allumi/	(assimilation **-mn-*>**-m-*)
**alluδni*	(no change)	>	/alluni/	(assimilation **-δn-*>**-n-*)
**allumni*	(no change)	>	/allumi/	(assimilation)
**alluδni*	(no change)	>	/alluni/	(assimilation)

It is seen, then, that syncope is conditioned by the syllabic structure of the word, a natural enough factor to produce adjustments of the syllabic structure itself. The pre-Eskimo syncope deleted the vowel of a light syllable following a geminate consonant as seen in **alluni* > **allni*, but did not affect the vowels of heavy syllables, so **allumni* and **alluδni* (and of course all forms with no subsequent assimilation of clusters, such as dual loc. **aluR-γ-ni* > **alluγni* > 19th cty. WG *atdlungne* /allunŋni/) kept their number of syllables unimpaired. Although hardly anything is known about the prosodic features of Proto-Eskimo or its pre-stages, it is interesting to note that the occurrence of syncope is restricted to syllables which in WG words of the same structure would carry no phonetic stress (short vowels in open non-final syllables), whereas syllables which in WG would show some degree of dynamic stress are not subject to syncopation. We are therefore not at all surprised to find that it is **alluni* and not **allumni* or **alluδni* that loses its vowel, and an inference about the pre-Esk. stress pattern as conforming to the rules of modern WG inducing us to postulate **álluní*, but **állúmní* and **állúδní*, seems reasonable.[19b]

This analysis shows that gemination preceded syncope, and syncope preceded the assimilations *mn* > *m* and *δn* > *n*. Since even this last step is pan-Eskimo, cf. Chap. *nunami* = WG /nunami/ < **nuna-m-ni*, whether 4.sg.erg.sg. '(of) his own country' or loc.sg. 'in the country', and Chap. *nunani* = WG /nunani/, whether 4.sg.pl. '(of) his own countries' or loc.pl. 'in the countries', then, by implication, gemination and syncope are pan-Eskimo, too, and must be assigned to a pre-stage of the proto-language.

2.2. Gemination in clusters, details of syllabification

As is well-known, no gemination is found in words with a consonant cluster in the position where a single consonant is geminated: WG /aRnaq/ 'woman' → pl. /aRnat/. Now the syncope presented by 4.sg. forms like /aRni/ 'his (own) mother' bears witness of an old gemination even here: **aRnaR-ni* became **aRnnani*, the light syllable following the geminate lost its vowel, and the resulting **aRnn(n)i* had its cluster reduced by rule to the first two consonants: Proto-Esk. **aRni* > WG /aRni/. We see again that the restrictions imposed upon Esk. consonant clustering forbidding groups of more than two (like or different) consonants belong to post-gemination or even post-syncopation times. This means, of course, that we do not have free hands to project Esk. consonant groups like that of **aRnaq* itself back to stages preceding these restrictions, since our imagination has room for untold possibilities of heavier clusters that might eventually assume this shape. It is, however, of importance for the argument that **aRnaq* cannot have had a *simpler* consonantism than it has in historic times, and whatever its exact shape we now know it to have undergone gemination of its final member in certain inflectional forms.

This observation makes us more comfortable with the intermediary stage **aRnnam *aRnnaδ* postulated above (1.1.6.) between the underlying **aRnaRm *aRnaRδ* and the Proto-Esk. reconstructions **aRnam *aRnat*. Not only is there no material which argues against the assumption of gemination in this environment, the syncopated 4.sg. form /aRni/ is a definite proof that it did occur.

We now also understand what happened in the 4.sg.ie.sg. /iRni/ 'his (own) son' from **iRnəq* 'son' with possessive ending **-ni*. If we posit the underlying form without the anaptyctic vowel(s) as argued above we get **iRnR-ni*. This form is of the same syllabic structure as the 1.sg.ie.sg. **iRnR-ka* which on the evidence of Chap. *iRnəqa* and WG /iRniRa/ must be taken to be vocalized **iRn°Rka*, which in turn became **iRn°qa* by assimilation without leading to R-dropping with gemination. Correspondingly we will expect **iRnR-ni* to be vocalized **iRn°Rni* yielding the structure triggering gemination: **iRnn°ni* > **iRnn(n)i* > **iRni* as described for **aRni*.[19c] The fact that **iRnRni* > **iRn°Rni* produced the conditions for gemination with subsequent syncope, while the erg. **iRnRm* > **iRnR°m* > **iRn°R°m* and the pl. **iRnRδ* > **iRnR°δ* > **iRn°R°δ* did not, is a clear confirmation of the analysis that these latter forms are not underlying **iRnəR-* + endings **-m* and **-δ*, but rather monosyllabic sequences relieved by the same rules of anaptyxis.[19d] Reconstructions like **iRnəRm *iRnəRt* (or, worse, **iRnəqm, *iRnəqt*, to say nothing of **iRniqp *iRniqt*) should be excluded from treatments of Eskimo diachrony – and possibly also from synchrony, unless one wants all interesting "irregular" forms to be stored away as "lexicalized".

2.3. The suffix *-tsiaq* and its inflectional forms

2.3.0. 4th sg. /-tsii/. Criticism of Bergsland's theory

A special section must be devoted to the 4.sg.ie.sg. form WG /-tsii/ of words containing the suffix /-tsi(j)aq/ NN 'a medium-sized —', because it, too, plays a certain role in Bergsland's argumentation, in that its North Alaskan counterpart *-tsiai* is said to have lost only the stem-final /R/ and the ending-initial /n/ by the complex process of syncope and gemination (Bergsland 1959:9). Bergsland therefore assumes that the vowel preceding the stem-final uvular was in fact not lost, but rather merged with the vowel of the suffix (i.e. with the /i/ of the suffix /-ni/) to form a long vowel which was later shortened. This seems to me completely impossible. Even though I do not want to press the point that the cited NAl. *-tsiai* is at variance with Bergsland's own rule demanding the creation of a monophthong out of the /a/ of the stem and the /i/ of the suffix, there are still a good many unwarranted and unlikely assumptions involved in this theory. The laconic statement that "in the usual type *nukki*, the *i* represents a contracted, formerly long vowel" (Bergsland loc.cit.) can only be read to mean that the development of the 4.sg.ie.sg. of *nukaq* 'younger sibling of same sex' is considered by Bergsland to be the following: **nukaR-ni* > **nukai* > **nukī* > **nukkī* > /nukki/, the two final steps being shared with the pl. forms **amīt* > **ammīt* > /ammit/. This view is open to criticism on a number of points. First if the cluster **-Rn-* is dropped in intervocalic position in **nukaRni* > **nukai*, why then is it retained in /aRnaq/? If it is lost only after a non-first vowel, the only structural difference likely to be of significance in this pair, why then is it not dropped in WG *qasigiarniarpoq* = Chap. *qaziɣjaRnīRaquq* 'is hunting speckled seal'? The possible counter-argument that *aRnaq* may have *-Rn-* developed from a heavier cluster is not applicable to the quoted WG-Chap. correspondence, because (1) the stem-final /-R/ is seen in intervocalic position in Chap. *qaziɣjaRaq* 'young of a speckled seal' where a cluster should have retained two consonants[20] and (2) the suffix-initial /n-/ is no different after stem-final vowel, cf. Chap. *ama-nīRaquq* 'is hunting wolves', which shows that this is not a reduced cluster either. (The WG suffix of *puissi-ngniar-poq* 'is seal hunting' is a conglomerate of two suffixes: **-ŋ-* seen in e.g. Chap. *tuŋtu-ŋ-aquq* 'has killed a caribou' and **-niaR-* seen as Chap. *-nīR-* in the words just mentioned; judging from Chap. words like *nāŋnəq* 'end' and *maŋnəRraq* 'leather belt 'listed by Rubcova 1971, it is not possible to see the same conglomerate in Chap. *-nīR-.)* Next, if **nukai* changed to **nukī* by regular phonetic development, why then did *nuna-i* 'his countries' retain its old form? If *nuna-i* is to be reconstructed with hiatus-filling *-ŋ-*, as Bergsland seems to suppose (his analysis at 1966:212f of "EE *ïlaa*", supposedly the etymological counterpart of Kuskokwim *itle* 'he', as from **ïla-ŋa* < **ïlï-ŋa* apparently meaning that he takes the **-ŋ-* either as part of the ending or as an obligatory hiatus-filler and not merely as an *optional* hiatus-filler, as I would, considering as I do the forms

əLə-a and *əLə-ŋa* to be variants based on some non-semantic criterion such as speech tempo or social environment — on which variation see the treatment of personal endings, section 3.3.2.), why then is the same consonant retained in WG /aṣṣiŋ-i/ 'his pictures' (from /aṣṣik/) contrary to the productive pattern of words in *-k* which is of the type **paniγ-i* > WG /panii/ 'his daughters'? If the answer to this question is that /aṣṣiŋi/ has *two* underlying *-ŋ-*'s (**-iŋ-ŋi*), why then are they not preserved as a geminate, as in WG /qiŋŋat/ 'nostrils' (pl. of /qiŋaq/)? Thus a development of the type **nukai* > **nukī* is only possible if the last stem vowel is itself /i/, as is the case in *amiq* 'fur', for which the same steps would be **amii* > **amī*. But, as demonstrated above, the form **amii* could not develop from **amiR-ni*, and the further development of **amī* to /ammi/ is contradicted by the preservation of forms like *akī* = /aki-i/ 'his prices'. Only the last step, supposedly **ammī* > *ammi* seems irrefutable: I know of no possessive forms of WG *avdla* /alla/ 'other, different' = Chap. *aLa* < Proto-Esk. **aLLa*, but even if a 3.sg.ie.sg. should be */alla/ and not the expected */allaa/ this alone could not save the theory of /Rn/-dropping, contraction, and gemination between short and long vowel, steps that have all been disproved above. Thus, unless everything we can analyse is due to secondary restructuring, our material demands that we restrict the Esk. syncope to deletion of the vowel of a light syllable following a geminate consonant, and no sound laws based on unanalysable or nonexistent material should be formulated so as to violate this rule. So far, then, the most plausible analysis of /nukki/ still appears to be **nukaR-ni* > **nukkani* > **nukkni* > /nukki/.

2.3.1. Development of Siberian *-rāq* and EE *-tsiaq*

East Eskimo *-tsiaq* 'a medium-sized –, a relatively good or pretty –' (with adverbs 'rather –') is in all probability the etymological counterpart of Chap. *-rāq*, Sir. *-raχ*. A good indication of the original function may be seen in the EE adverb *uva-tsiaq*, in Canada meaning 'not long ago' (Thibert 1954 s.v. *owatsiark)*, in WG specialized in the sense 'this morning', derived from *uva* 'watch this, now', as compared to Chap. *iknáqə-rāR-inaq* 'not very strong' (Rubcova 1971:605 under suffix entry "*-rāRina*") from the verbal stem *iknaqə-* 'be strong' (gerund *iknáqə-lRi* 'strong') and elaborated with the further suffix *-inaq* 'only', i.e. originally meaning something like 'strong to a limited degree only'. The same semantic shade is seen in Sirenik *aγə́ni-ráχ* 'there nearby' as opposed to *aγə́ni* 'there far away', where the latter is the loc. adverb corresponding to the pronoun *aγ-na* 'that one going past, that one going away' (Menovščikov 1964:56), and the former obviously expresses a limitation of this notion, i.e., something like 'somewhat far away'. Other Siberian examples of this suffix are inconclusive: Chap. *ami-rāq* = Sir. *ami-raχ* 'fur' means pretty much the same thing as the base-word *amiq* // *amaχ* itself, the semantic difference between Chap. *kujŋá* 'tobacco pipe' and *kujŋə́-rāq* 'small receptable for offerings' or 'old pipe' (two entries in Rubcova 1971) is not very enlightening, and that between Chap.

qikmíq 'dog' and *qikmí-rāq* 'dog's fur' cannot be original. But it should be pointed out that none of the recorded examples excludes the assumption of an original meaning 'a medium-sized – (etc.)' as in EE, an analysis strongly suggested by the cited cases of cross-dialectal correspondence in adverbial derivatives with this suffix.

As regards the phonological analysis of *-rāq*, Siberian *-r-* seems to be the normal reflex of Proto-Esk. *δ in consonant clusters, if one may be allowed to judge from examples like Chap. *aqirγiq* 'ptarmigan' = WG *aqigsseq* or Sir. *siŋraR-məRa* = WG *sigssar-mio* 'beach-dweller' (with suffix *-*miRu*). In Sirenik this phoneme later became *-č-* in the position before the reduced vowel /ə/ (Bergsland 1966a:142), whether from old *ə or as a result of the Sir. reduction of non-first vowels (further conditioning unclear: possibly in light non-initial and all final syllables?), cf. Sir. *siŋčəχ* 'beach' = WG *sigssaq* (Proto-Esk. **ciŋδaq*).[20a] That this also happened in intervocalic position is evidenced by the very clear example *qəčəχ* 'firewood'[21] vs. *qərux-tuχ-təqəχ-təχ* 'collects firewood' cited by Bergsland (loc.cit.) as evidence of this rule. This example, corresponding to WG *qissuk* 'wood', clearly contains the same medial consonant as Sir. *əča* = WG *isse* (Proto-Esk. *əδə) = Aleut *δa-χ* 'eye', i.e. Esk.-Al. *-δ-, wherefore one feels fairly certain that the suffix of Chap. *ami-rāq* does indeed contain the Proto-Esk. phoneme *δ.

For the analysis of EE *-tsiaq* it is of importance that /ts/ is otherwise the geminate corresponding to the single consonants /j/ and /c/ (WG /s/). Proto-Esk. /c/ is excluded by Sib. *-rāq*, but /j/ could very well be correct, as we shall see. Since the WE reflexes of the geminate /jj/ are the same as those of simple /j/ the peculiar EE articulation /ts/ for the geminate must be an innovation of this group. The obvious intermediary stage between PE *jj* and EE *tc* (*cc*) is something like *d′d′ʒ́* (*j′j′*). One may compare, by way of parallels, the Gothic strengthening of Germanic **jj* to *ddj* and Italian *maggiore* from Latin /majjōrem/. As EE had no voice distinctions, this *d′d′ʒ́* fell in with *t′t′ʃ́* ("*tc*" or "*cc*"), the geminate of /c/ (whose palatal articulation is proved by reflexes like Kusk. *tsh* = *č* and Mackenzie *č* [Henry 1879:5]).

It is seen, then, that WE points to *δ and EE to **j* or even **jj*, and the only way of maintaining the etymological identity of *-rāq* and *-tsiaq* is now to press all of these (or their pre-stages) into one proto-form. This is not as impossible as it may seem: no examples of Chap. or Sir. /rj/ appear to be attested to by the sources, so it may well be assumed that /j/ was simply dropped in this position, perhaps by dissimilation against the markedly palatal articulation of Sib. /r/, and possibly with compensatory lengthening of the following vowel, an assumption which would quite smoothly explain the vowel length of *-rāq*. On the EE side, a sequence **δj* (where /δ/ is itself a palatal [δ′], judging from reflexes like Chap. /j/ and Sir. /č/) may easily have joined the fate of /jj/ when this became *d′d′ʒ́* > *t′t′ʃ́* (= *tc*).

This brings us to Proto-Esk. **-δjiaq* with a sequence /-ji-/ that may well be

the regular development of the geminate /-jj-/ expected on the basis of the inflected forms *-tsiaup -tsiait*. If this is correct, the underlying form of this suffix is **-δjaγR*, with the following development: **-δjaγR* > **-δjjaR* > **-δjiaq* > EE *-tsiaq*, erg. **-δjaγR-m* > **-δjaR°m* > **-δjjaR°m* > PE **-δjiaRom* > EE *-tsiaum* (WG *-tsiaup*), pl. **-δjaγR-δ* > **-δjaγR°δ* > **-δjjaR°δ* > PE **-δjiaRət* > EE *-tsiait*.

2.3.2. Development of 4th sg /-tsii/

For the 4.sg.ie.sg. WG /-tsii/ the following is clear: After the period of gemination and loss of preconsonantal /G/ this form ends in /-ani/ following a geminate, so that the /-a-/ of the light medial syllable is syncopated. This demands the interpretation of the /-i-/ of *-tsiaq* as a consonant, at least in this old stage, a finding which is in perfect harmony with the underlying form reached in the preceding section. There is the difficulty, though, that nothing is reported in the handbooks about the regular form of the 4.sg.ie.sg. possessive of words of the type *marraq, sorqaq* etc. A case in point, however, appears to be presented by WG *qigsse* 'his (own) crying' cited by Schultz-Lorentzen 1927 s.v. *qia(k)* 'crying, tears'. This evidently belongs to a not listed *qigssaq**,[22] whose inflection is evidenced by Mackenzie Eskimo erg.sg. *qiſ'aup* occurring in a folk tale recorded by the Fifth Thule Expedition (Kn. Rasmussen & H. Ostermann 1942:84, the inerg. being listed ibid. 149 as *qiſ'aq*). It is, therefore, not an ad-hoc analysis when I propose to interpret the form /-tsii/ as **-δjaγR-ni* considering the following line of development the most probable: **-γR-* was simplified (to /γ/ or /R/) before the suffix "*-ni*" (cf. the development of the 4.sg. possessive of *nuliaq* discussed in the following section), and the ensuing **-δjaG-ni* underwent gemination with loss of /R/ to **-δjjani* which triggered syncopation of the post-geminate short vowel before the syllable boundary, giving the product **-δjjni*. Our rules of cluster reduction may now be refined somewhat. The main rule is that any number of consecutive consonants was reduced to a cluster consisting of *the first two* members of the series, but a few interesting forms bear witness to an intermediary stage preserving the first *three* consonants of a heavy cluster. One such form is **-δjjni* which was first reduced to **-δjji*, at which stage the second /j/ was obviously vocalized to /i/ (just as the uninflected form **-δjjaR* gave **-δjiaq*) giving Proto-Esk. **-δjii* > EE /-tsii/. This form, then, in actual fact reflects no loss of intervocalic consonants at any stage, however obvious this might seem from a synchronic formula like "*-tsiaq* + *-ni* → *-tsii*". The stem-final uvular was lost as part of the complex process giving gemination, the *-a-* was syncopated, and the *-n-* was dropped after a consonant cluster. This does not, of course, explain the North Alaskan form /-tsiai/ reported by Bergsland (1959:9), but the obvious solution seems to be that this was simply normalized after the pattern of the uninflected form /-tsiaq/. At any rate, the output form of WG /-tsii/ is synchronically totally unpredictable and can therefore not be analogical; the synchronic status of the /-a-/ of the form /-tsiai/ is quite the contrary of this.[22a]

2.4. The type *nuliaq*.

A comparable problem is presented by the word *nuliaq* 'wife', Chap. *nulīq*. The 4.sg.ie.sg. of this word, WG /nulii/, is only explicable on the assumption that the /i/ was consonantal earlier. From the WG plural /nuliat/ (not †/nuliṣṣat/), we see that the gemination product of this /lj/ comes out the same as the non-geminated cluster. This means, of course, that we do not know whether the /lj/ of the uninflected form is geminated already. In fact, certain curious details indicate that this is really the case. The Sirenik form *nučix* may be an indication of an underlying geminate, but the sound laws are too little known (Sir. *ukačəx* = Chap. *ukaliq* 'neighbour', being of the same morphological type as WG *sujugdleq* = Chap. *sivuliq* 'first', must have had a voiced geminate /ll/ appearing as Sir. /č/ as contrasted with *tasiməŋij* 'five' = Chap. *taLimat*, WG /tallimat/, showing Sir. /s/ from geminated voiceless /LL/.) The final proof is provided by the 3.sg.ie.sg. WG *nulia*, which is only understandable as older **nuliꞏa* resulting from cluster reduction of **nuliiCa*, this in turn from **nuliiaC-a* by syncopation due to the geminate preceding the light inner syllable. The voiceless *-x-* of the WE inflected forms (Chap. pl. *nulīxət*) explains the geminate, the full line of sound changes experienced by this form being evidently as follows: **nuliaRR-a* > **nuliaRx-a* (with allophonic [x]) > **nuliiaxa* (with phonemically voiceless /x/) > **nuliixa* > **nuliꞏa* > Proto-Esk. **nulia*. The Kuskokwim form *nulerra* given by Hinz 1944 (vocabulary) is undoubtedly a normalization caused by introduction of the voiceless spirant from other inflected forms.[22b] The 4.sg. possessive had the following development: **nuliaRR-ni* had its geminate *-RR-* simplified before the ending, and the resulting **nuliaRni* underwent the usual changes of gemination, syncope and cluster reduction through **nuliiani* > **nuliini* > **nulii* to the Proto-Esk. reconstructum **nulii*.[23]

2.5. Reflections on the chronology of gemination

By these analyses most of the material cited in favour of Bergsland's theory of the conditioning factors of gemination is shown to have developed according to other rules, and for the rest alternatives have been presented depriving Bergsland's analysis of all cogency.

We will now expect to find that these phonological changes antedate everything we know to be East Eskimo linguistic innovations, and in fact gemination is found to be older than the EE lenition. This is the only possible conclusion from the fact that the geminate appearing in such WG plurals as /miiqqat/ 'children', /tulukkat/ 'ravens' or /sanapput/ 'they carve' does not represent a doubling of the single consonant of the contemporary singular forms /miiRaq/, /tuluvaq/ (Labrador /tuluɣaq/) and /sanavuq/ 'he carves', but rather presupposes an older still unweakened state. This is particularly obvious where the single consonant has been dropped altogether, as e.g. /naaq/ 'stomach', pl. /naṣṣat/, /puuq/ 'bag', pl. /puɣɣut/, or /unaaq/ 'harpoon shaft', pl. /unaRRat/. An interesting point is the different gemination product of /j/ seen in *nujaq* 'hair', pl.

nutsat, as against *qajaq* 'kayak', pl. (orthogr.) *qâinat*. Now, the single consonant has become /j/ all over the map in both of these words, cf. Chap. and Kusk. *nujaq* and *qajaq*, Sir. *nujəɣ* and *qajəɣ*, so this merger apparently antedates the fission of the proto-language. Again, we find that gemination is older than a pre-Eskimo phonological change and, therefore, itself pre-Eskimo.

3. THE POSSESSIVE NOUN INFLEXION

3.1. The 2.sg. ergative

Some very important evidence pertinent to the problems of the age of gemination and its precise conditioning is offered by the possessive inflexion of nouns. Within this evidence, the case of the 2.sg.erg. forms is specially illustrative. Of Esk. **taLiq* 'arm', the WG (19th cty. orthographical) forms are: sg. *talerpit*, du. *tatdligpit*, pl. *tatdlivit;* the corresponding Chap. forms are *tal.iɣpək*, *taLixpək*, *taLiɣpək*. Of these, only the sg. and the du. can be reduced to common denominators, i.e. Proto-Esk. **taLiR-pətk* and du. **taLLi-ɣ-pətk*. In the pl., however, this type (consisting of stems in **-aR*, **-iR*, **-uR*) is seen to contain in its WE continuant a stem-final /R/ not present in the Greenlandic form, so that the question arises which of the two dialect areas (if any) has preserved the old state of affairs. By contrast, stems in a final vowel like *nuna* 'land', 2.sg.erg. WG *nuna-r-pit*, *nuna-g-pit*, *nuna-vit* as opposed to Chap. *nuna-vək*, *nuna-x-pək*, *nuna-vək* present an extra /R/ in the sg. form in WG, but not in Chap. This element was taken by Hammerich (1936:202f) to represent the singular number of the possessed object in cases where the possessor is of non-singular number:

"Populär ausgedrückt . . . kan man sagen, dass die Eskimos – wie wir – es natürlich finden, dass einer ein einzelnes besitzt, weshalb in solchem fall die einzahl des besitzes nicht bezeichnet wird (G{rönländisch] *igdluga* 'mein haus', *igdlut* 'dein haus') – während bei einem besitzer die mehrzahl des besitzes hervorgehoben wird (*igdlúka* 'meine häuser', *igdlutit* 'deine häuser'). Allein die Eskimos finden es auch natürlich, dass mehrere ein mehreres besitzen, weshalb in solchem fall die mehrzahl des besitzes nicht bezeichnet wird (*igdluvut* 'unsere häuser', *igdluse* 'eure häuser', *igdlutik* 'die häuser der erwähnten'). Dagegen verdient es nach eskimoischer auffassung hervorgehoben zu werden, wenn mehrere einen besitz haben (*igdlorput* 'unser haus', *igdlorse* 'euer haus', *igdlortik* 'das haus der erwähnten')." (Hammerich 1936:202f)

Unfortunately, this intelligent analysis is not supported by the comparative evidence: The *-r-* of the WG endings *-rput -rse -rtik* is expressly reported by Kleinschmidt to be lacking in the corresponding Labrador forms (Kleinschmidt 1851:30); for Central Canada, Thibert (1954:155f) gives the forms *tuktu-wut* 'our one deer' and *tuktu-si;* and for Barrow, Jenness (1944:9) reports *nuna-ting* 'their own land' (the 1.pl. and 2.pl. forms *nuna-k-put nuna-k-si* are, if correctly reported, doubtless generalized dual forms due to the widespread formal identity of the sg. and the dual). The WE forms also agree with this picture, cf. Kuskokwim (Hinz 1944:13) *âna-vut -se -sing* (from *âna* 'mother'), Chaplino

(Menovščikov 1962:202) *pana-vut pana-zi pana-jəŋ* 'our, your, their own spear', Sirenik *lu-pu* 'our house' (Menovščikov 1964:146, text 8, sentence 73) *lu-təŋ* 'their own house' (ibid. p. 47; no forms of the 2.pl.ie.sg. of stems in final vowel are given in the grammar and none appears to occur in the texts). The *-r-* of the Greenlandic form is, therefore, evidently an innovation due to the analogy of stems in **-R*. The process is easy to reconstruct: the type *arnaq arnap arnat* with non-surfacing gemination had a number of forms in common with the vocalic type (*nuna nunap nunat*) anyway, cf. 2.sg. *arnat nunat*, 3.sg. *arnaa nunaa*, 3.pl. *arnaat nunaat*, 1.sg.erg. *arnama nunama*, 3.pl.erg. *arnaata nunaata*, 1.pl.erg. (19th cty.) *arnavta nunavta*, 2.pl.erg. (19th cty.) *arnavsi nunavsi*, 3.pl.erg. *arnaata nunaata*, a list that could be continued by the forms of pl. possessum and forms involving the (now obsolete) dual. It is therefore not surprising that the regular series **nunavut *nunasi *nunatik* was changed to *nunarput nunarsi nunartik* so as to agree with *arnarput arnarsi arnartik*.

The conclusion of all this is, of course, that there is no morpheme **-R-* of singular number in Eskimo. Then the ergative of the 2.sg.sg. of vocalic stems, which in modern WG has the form *nuna-r-pit*, cannot prove a Proto-Esk. **-R-* of the sg., but must be analogical (after *arnar-pit*, interpreted as *arna-rpit* according to the list of syncretisms given above), an analysis which is proved by the mere fact that the 18th cty. sources indeed have it as *nuna-vit*[24] fully in accordance with the comparative evidence (Canada and Alaska *-vit*, Siberia *-vək*, probably from **-vətk*). The forms we have to reckon with, then, are for the erg.sg. **nuna-vətk* and **taLiR-pətk* revealing a morphophonemic alternation **v* ~ **p* already on the level of Proto-Eskimo. For the dual all dialects agree on having **nuna-γ-pətk *taLLi-γ-pətk*, but for the plural the disagreement between WG /tallivit/ and Chap. *taLixpək* is somewhat problematic. Kuskokwim is cited (Hinz 1944:13f) for both *angiarpit* '(of) your boats', *qayarpit* '(of) your kayaks', *amerpit* '(of) your skins' agreeing with the Chap. forms and (in footnotes) *angiavit, qayavit, amivit* (misprinted *anivit*) superficially matching the WG forms, but in fact doubtless due to a generalization of the endings of vocalic stems. The phonetically regular S.W. Alaskan counterpart of WG *-vit* seems to be /-pət/, cf. Barnum (1901:24) *kătŭnră-pŭt* '(of) thy children', phonemically /qətunRa-pət/ from /qətunRaq/ = WG /qituRnaq/ 'child'. As the *R*-less ending /-pət/ cannot be analogical, this must be the well-preserved regular form of the 2.sg.erg.pl., which is then to be reconstructed as **-pətk*. The WG *-vit* shows regular EE lenition of **p* to /v/ in intervocalic position after a non-first vowel, and the variant /-Rpət/ ~ /-Rpək/ is probably simply the sg. form introduced into the pl., due to the identity between sg. and pl. in the vocalic type (**nuna-vətk* erg. 'thy country' and 'thy countries').

Thus, the Proto-Esk. paradigm of 2.sg.erg. possessive forms runs as follows: (1) vocalic stems: sg. **nuna-vətk*, du. **nuna-γ-pətk*, pl. **nuna-vətk*, (2) stems in **-R*: **taLiR-pətk*, du. **taLLi-γ-pətk*, pl. **taLLi-pətk*. We see again that the dropping of the **-R* is accompanied by gemination, and that this process is

older than the EE lenition seen in **taLLipətk* > WG /tallivit/. This confirms the theory of relative chronology involved in this development: Gemination is older than the splitting up of the Eskimo language family.

3.2. Consonant alternations in possessive personal endings

3.2.0. General conditioning

A further interesting point is presented by the puzzling consonant alternation observed in such Proto-Esk. forms as 2.sg.erg.pl. **nuna-vətk* as opposed to **taLLi-pətk*. As the other forms cited clearly show, the allomorph **-vətk* is restricted to postvocalic position, so in **taLLi-pətk* one would explain the **-p-* by the assumption that the stem-final **-R* was not dropped until after the creation of this alternation. Comparable doublets are found in the 1.pl.ie. possessive of vocalic stems, sg. **nuna-vut*, pl. **nuna-put*, in the 2.pl.ie.sg. **nuna-si* : 2.pl.ie.pl. **nuna-ci* (seen in Kusk. *-si* : *-ci*,[24a] Chap. *-zi* : *-si*), and in the 4.pl.ie. which must be reconstructed as something like sg. **-zəŋ* : pl. **-təŋ*. In the 4.pl., the form is in Kusk. *-siŋ* and in Chap. *-jəŋ*, both presenting the same consonantal phoneme as in the word for 'shoulder', Kusk. *tusa* = Chap. *tuja* (Naukan *tujə*). Judging from WG *tuve(q)*, Barrow (etc., see Jenness 1928:121) *tui*, and Kusk. *quser-toq* 'coughs' = WG *quer-poq*, the EE regular representation in intervocalic position is zero, so that Labrador *-tik*, Barrow *-ting* must have generalized the postconsonantal variant. Also Sir. *-təŋ* appears to be the old postconsonantal allomorph, cf. what is apparently the regular postvocalic treatment — as /j/ — in Sir. *kajŋəjux-tə́qəχtə́χ* 'is ashamed' = Chap. *kajŋújuγ-áquq* = Kusk. *kasinguyug-toq*, all with retention of the consonant cluster **-zŋ-* (in Kusk. with anaptyxis), which in EE is assimilated to /nŋ/ and in WG further assimilated to /ŋŋ/, cf. Barrow *kanŋusuktuq* (Webster & Zibell 1970:29) and WG *kángusug-poq*. I see no way of deciding whether the series **-vətk *-vut *-si *-zəŋ* is developed through a process of lenition out of the series **-pətk *-put *-ci *-təŋ* or whether the latter represents a "strengthening" of the former. Suffice it to stress the point that the "strong" endings originated in postconsonantal position, whether following a stem-final **-R* (as in **taLLi-pətk* from **taLiR-*) or a plural marker **-δ* (as in **nuna-put *nuna-ci *nuna-təŋ*). A comparison of the 2.sg. and the 1.pl. is particularly revealing. The underlying forms are fairly clear: 2.sg.erg.sg. **nuna-m-t* (later enlarged by the addition of the pronoun **tkət* 'thou'), pl. **nuna-δ-m-t* (+ **tkət*), 1.pl.ie.sg. **nuna-B-δ*, pl. **nuna-δ-B-δ* (*B* being used as a cover-symbol for the alternants /v/ and /p/). In all these forms, the labial consonant has been neutralized with regard to mode of articulation, obviously due to its contact with the following consonant, i.e., before anaptyxis took place. We have, then — leaving out the 2.sg.erg.pl. for a moment — the three forms **nuna-Bt* > **nunaB°t* (+ **tkək* → **nunaB°tk*), **nuna-Bδ* > **nuna-B°δ*, **nuna-δ-Bδ* > **nuna-δ-B°δ*. The treatment of /B/ is now seen to be /v/ after vowels and /p/ after consonants, and the quality of the anaptyctic vowel is

found to be dependent upon the mode of articulation of the following dental. We get /ə/ before a plosive in **nuna-vətk*, and /u/ before a spirant in **nuna-vut *nuna-put*, somehow corresponding to the double treatment /i/ : /a/ observed in Aleut: Central Aleut 2.sg.erg. *-mis*, 1.pl. *-mas* (East Aleut *-min*, *-man*).

3.2.1. The 2.sg. ergative plural

The 2.sg.erg.pl. **nuna-vətk* is still problematic, as an underlying form **nuna-δ-m-t* (+ **tkət*) makes one expect the labial to be hardened to **-p-* after the plural morpheme, as was the case in the 1.pl.ie.pl. **nuna-δ-Bδ* > **nuna-put*. If this problem is not cleared up, our rules for the representation of the labial in these endings will be invalidated and an important piece of evidence concerning the relative chronology of gemination and other phonological processes will wither away. One possible solution would, at first glance, seem to be a typologically very likely loss of the **-δ-* in the word-final three-consonant cluster **-δmt*, a process which would make the form identical with the sg. **nuna-mt* and thus lead to the two identical forms we have, sg. and pl. **nuna-vət-k*. But this assumption would be untenable: stems in final **-R* had *four* word-final consonants, so a form like the erg. **taLiR-δ-mt* '(of) thy arms' would a fortiori be expected to drop one or two. But in fact the final form **taLLipətk* gives evidence that all four of them were retained for a considerable period of time after the start of these developments: The **-R-* was kept until it triggered and was deleted by the process of gemination, and the **-δ-* must have been present at this time as well, because otherwise the form would have coincided with the corresponding sg. form **taLiR-mt* > **taLiRB°t(+tkət)* in which no gemination occurred (doubtless owing to the syllable boundary between /R/ and /B/, cf. below). There appears therefore to be no way of saving a proto-form **nuna-δmt* from going through the stages **nunaδBt* > **nunaδB°t* > **nunap°t* (+ *tkət*), which would give a Proto-Esk. form **nuna-pətk*. Failing this, there remains only the explanation by analogy: The actual form **nunavətk* is merely a duplicate of the sg. form in imitation of the identity of the erg.sg. and the erg.pl. in all non-third persons of vocalic stems. The Proto-Esk. endings of the ergative, sg. and pl., are: 1.sg. **-ma*, 2.sg. **-vətk*, refl. **-mi*, 1.pl. **-mta*, 2.pl. **-pci*, refl.pl. **-məŋ*. The endings are the same for consonantal stems, but with stem-final **-R* there are differences between the sg. and the pl. with regard to gemination, and a survey of the full paradigm may reveal some interesting facts pertinent to the question of the exact conditioning of this process.

3.3. The possessive inflexion in Proto-Eskimo

3.3.0. Reconstruction of Proto-Eskimo endings

The Proto-Eskimo system of possessive suffixes can be reconstructed approximately as follows (÷ denotes the dropping of a stem-final uvular, + its retention; morphemes with no indication are used after a stem-final vowel):

	sg. noun	dual noun	pl. noun
1.sg.ie.	*+ka*	*÷γka*	*÷nka*
erg.	*÷ma*	*÷γma*	*÷ma*
loc.	*÷mni*	*÷γəmni*	*÷mni*
2.sg.ie.	*÷n*	*÷γkən*	*÷tən*
erg.	*+pətk ~ vətk*	*÷γpətk*	*÷pətk* (~ *vətk* anal.)
loc.	*+pəni*	*÷γpəni*	*÷pəni*
3.sg.ie.	*+a ~ ŋa*	*÷kək ~ γək*	*+i ~ ŋi*
erg.	*+an ~ ŋan*	*÷γkən*	*+in ~ ŋin*
loc.	*+ani ~ ŋani*	*÷γkəni*	*+ini ~ ŋini*
refl.sg.ie.	*÷ni*	*÷γni*	*÷ni*
erg.	*÷mi*	*÷γmi*	*÷mi*
loc.	*÷mini*	*÷γmini*	*÷mini*
1.du.ie.	*+puk ~ vuk*	*÷γpuk*	*÷puk*
erg.	*÷məγ-nuk*	*÷γməγ-nuk*	*÷məγ-nuk*
loc.	*÷məγni*	*÷γməγni*	*÷məγni*
2.du.ie.	*+tək ~ zək*	*÷γtək*	*÷tək*
erg.	*÷ptək*	*÷γpətək*	*÷ptək*
loc.	*÷ptəγni*	*÷γpətəγni*	*÷ptəγni*
3.du.ie.	*+ak ~ ŋak*	*÷γkək*	*÷kək*
erg.	*+aγn-ək*	*÷γkən*	*÷kən*
loc.	*+aγni*	*÷γkəγni*	*÷kəγni*
refl.du.ie.	*+tək ~ zək*	*÷γtək*	*÷tək*
erg.	*÷mək / ÷məγ-nuk*	*÷γmək/÷γməγ-nuk*	*÷mək / ÷məγ-nuk*
loc.	*÷məγni*	*÷γməγni*	*÷məγni*
1.pl.ie.	*+put ~ vut*	*÷γput*	*÷put*
erg.	*÷mta*	*÷γəmta*	*÷mta*
loc.	*÷mtəni*	*÷γəmtəni*	*÷mtəni*
2.pl.ie.	*+ci ~ si*	*÷γci*	*÷ci*
erg.	*+pəci ~ pci*	*÷γpəci*	*÷pci*
loc.	*+pəcini*	*÷γpəcini*	*÷pcini*
3.pl.ie.	+at ~ *ŋat*	*÷γkət*	*+it ~ ŋit*
erg.	*+ata ~ ŋata*	*÷γkəta*	*+ita ~ ŋita*
loc.	*+atni ~ ŋatni*	*÷γkətni*	*+itni ~ ŋitni*
refl.pl.ie.	*+təŋ ~ zəŋ*	*÷γtəŋ*	*÷təŋ*
erg.	*÷məŋ*	*÷γməŋ*	*÷məŋ*
loc.	*÷məγtəni*	*÷γməγtəni*	*÷məγtəni*

3.3.1. Analysis of the Proto-Eskimo endings

This is the paradigm that emerges from a reasonably careful analysis of the facts (my sources being above all the material recorded by Hammerich 1936, supplemented by the later works on WE, especially Hinz 1944 and Miyaoka 1975 for Kuskokwim [Yupik], Menovščikov 1962 for Chaplino, Men. 1964 for Sirenik, and Men. 1975 for Naukan). Space limitations forbid a full discussion of the arguments for the reconstruction of each single item. The following observations should, however, be made: The diacritic under the morpheme *+ka* of 1.sg.ie.sg. is meant to indicate that the /k/ coalesces with a word-final **-R* to form a single stop /q/, cf. Chap. *taLiqa* = WG *talera* 'my arm'. That the same change did not occur with the ending *÷kək* of 3.sg.ie.du. (Chap. *taRnuχa-kək* 'his two children' from *taRnuχaq*) must be due to analogy with other stem types, perhaps supported by the 3.du.ie.du. in *÷γkək*. The hiatus-filling /ŋ/ of certain 3rd person forms is of so widespread occurrence that it must be assigned to the proto-language, but only as a free variant, seeing that the WG and Chap. forms certainly continue proto-forms without it; perhaps the original difference was one of speech tempo or emphasis, *-aŋa* being a not unlikely phonetic output of /-aa/ in weak and lazy talk. The element **-nuk* added to a few erg. forms is of unknown origin (through the similarity to the 1.du. personal pronoun contained in the second part of Chap. *xwa-nkuk* is hardly fortuitous), but it is clear that all the elements of, e.g., 1.du.ie.sg. *+puk* (*-vuk*) are contained in the first part of the complex ergative ending *÷məγ-nuk* (consisting of a labial consonant marking the 1. person and a velar marking the dual, the whole being preceded by another labial morpheme of the ergative case, the original initial cluster being responsible for the deletion of stem-final **-R* with gemination). The East Eskimo ending *-mnuk* (thus Barrow, WG 19th cty. *-vnuk*) of 1.du.erg. (all numbers) is irreconcilable with the differentiated series attested by the dialects of SW Alaska. Hinz (1944:12) gives the bare endings as sg. *-miginuk*, du. *-gimiginuk*, pl. *-miginuk*; Barnum (1901:24) cites the *R*-stem forms as sg. *kătŭnră-mŭg'nŭk*, du. *kătŭnră-g'mŭg'nŭk*, pl. *kătŭnră-mŭg'nŭk* which, in view of the Kuskokwim forms and the obsolete WG undifferentiated *qitorna-vnuk* cited expressly by Uhlenbeck (1907:26f), can only mean /qətunRa-məγnuk/, /-γməγnuk/, /-məγnuk/ (the ' being a "voice glide" [Barnum p. 4] matching the anaptyctic *i*'s of Hinz's forms). These phonemicizations may well be taken as homophonous with the Proto-Esk. reconstructions, EE *-mnuk* being in all probability a non-phonetic spontaneous simplification of these cumbersome endings, perhaps starting as an haplology-like development reducing the dual ending **-γməγnuk* to **-γmnuk* (which could have been realized as **-γomnuk*), thereupon dropping the segment **-əγ-* of the sg. and pl. forms as well, and finally uniforming the series **-mnuk *-γ(o)mnuk *-mnuk* to a single **-mnuk* for all numbers.

3.3.2. The particle /-a/

Is seems obvious that the final /-a/ of the 1.sg. endings (ie. and erg., all numbers

and the 1.pl.erg. endings (all numbers) has the status of an added particle. The /-a/ is absent from the corresponding Aleut endings, and one observes an interesting alternation between Eskimo word-internal stop and Aleut word-final nasal: 1.sg.ie.sg. *+ka* vs. *-ŋ*, du. *÷γka* vs. *-kiŋ*, pl. *÷nka* vs. *-niŋ*. This certainly reflects a prehistoric phonetic change of word-final stop to the corresponding nasal, cf. the parallel relationship between *-t-* and *-n* in, e.g., erg. **aŋutə-m* from **aŋun* 'man' or the 2. dual possessive ending **-tək* vs. the 2. sg. **-n*. The 1.sg.erg.sg. *÷ma* (Al. *-miŋ*) may be assumed to go back to **-m-ŋ* + **-a* (the development of the nasal cluster being comparable to **-mi* from **-m-ni* in the refl.sg.erg.sg.), and the corresponding pl. *÷nka* ultimately to **-δ-k* + **-a*. Both forms, however, must be seen as contaminations between the simple forms and those with the added /-a/: In the erg.sg., the extended form **-m-k-a* was changed to **-mŋa* on the analogy of the simplex **-m°ŋ* (from **-m-k*), while the ie.pl. **-δ-k-a* became **-nka* in imitation of the nasal of the simplex **-n°ŋ* (where it arose by assimilation in **-δ°ŋ*, earlier **-δ-k*). Then also the 1.pl.erg. forms consist of the same elements as the corresponding inerg. forms, only flanked by the ergative /-m-/ and the particle /-a/. Thus (the actual person-marker being a labial here merely given as -B-), sg.ie. **-B-δ* > **-put*, erg. **-m-B-δ+a* > **÷mta*, du.ie. **-γ-B-δ* > **÷γput*, erg. **-γ-m-B-δ+a* > **÷γəmta*, pl.ie. **-δ-B-δ* > **÷put*, erg. **-δ-m-B-δ+a* > **÷mta*. All these developments are seen to be regular, and the phonetic laws they reflect have been formulated and ordered in Appendix II.

3.3.3. The 2.sg. pronoun in endings

The forms of the 2.sg., except the ie.sg. in pure **-n* < **-t*, display an enlargement appearing as **-tk*, **-kən*, and **-tən*, which is, doubtless, identical with the Aleut pronoun *txin* 'thou' as correctly seen by Hammerich (1936:172). The analytic character of these forms (elaborating on Bergsland's idea, 1951:169f) is clear: sg.erg.sg. **-m-t* + **tkən* > **+pətk* ~ **-vətk*, sg.ie.du. **-γ-t* + **tkən* > **÷γkən*, erg. **-γ-m-t* + **tkən* > **÷γpətk*, sg.ie.pl. **-δ-t* + **tkən* > **÷tən*, erg. **-δ-m-t* + **tkən* > **÷pətk*. The word-final cluster **-tk* has been posited for PE in some of these forms on the strength of the dialectal variety, supported by internal analysis: Chaplino and Naukan have *-k*, SW Alaskan and East Eskimo *-t*, and a sequence **-tk-* is obviously demanded by the underlying forms as shown. This is probably a case of non-phonetic shortening of unusually long word-forms, and perhaps the only case of a Proto-Eskimo word-final cluster.

3.3.4. The 2nd person and the reflexive

The 2nd person and the reflexive have a few interesting morphophonemic characteristics in common: (1) Both the 2.du. and the refl.du. have the allomorphs *+tək* ~ *-zək*. Judging by parallel variations like *+put* ~ *-vut* or *÷kək* ~ *-γək*, one expects a form **-δək* as the lenited form of *+tək*, and a form **+cək* as the unlenited form of *-zək*. The interdental spirant is indeed

found in Aleut, where *–δix* is likewise both the 2.du. and the refl.du. of the ie.sg. Originally, however, the two persons must have had different morphemes, as they have given different results with the ergative morpheme **–m–*, viz. Eskimo 2.du. *÷ptək* and refl.du. *÷mək*, Aleut *–mδix* and *–max*. The obvious conclusion is here that in Proto-Eskimo-Aleut ("Eskaleut") **–δək* was the 2.du. and **–zək* the refl.du., later separate linguistic development leading to the generalization of the one or the other. Then, by implication, the original distribution of the unlenited endings was **–tək* for the 2.du. and **–cək* for the refl.du., but here, due to the disappearance of both in Aleut, we cannot tell in what chronological stage the generalization of **–tək* took place. (2) No less remarkable is the surprising /–i/ of the refl.sg. **–ni* and the 2.pl. **–ci*. In the 2.pl., one excepts a combination of the morphemes *//–t–//* ("2. person") and *//–δ–//* ("pl."). It seems reasonable to suspect — though it cannot of course be proved — that the two dental consonants coalesced at an early date and triggered an auxiliary vowel */–i/*. And if such a vowel could be triggered by a *dental* environment, a *palatal* environment would be even more likely to produce it. Then the refl.sg. ending **–ni* may perhaps be understood as the development of a single consonant, as in fact indicated by the internal analysis: Corresponding to the refl.du. **–cək* postulated just above, one expects a sg. **–c*. The phoneme /c/ being notoriously of a markedly palatal timbre, and underlying plosives being known to change to nasals in word-final position, the expected realization of this ending is **–ñ*, a palatal nasal. The actual Proto-Eskimo-Aleut form in **–ni* may be simply a straightforward phonetic development of this. The possible repercussions of this analysis for the conditioning of gemination will be discussed in a later chapter (7.2 with footnote 41a).

3.3.5. Third person forms

The system of the 3rd person forms is perhaps not immediately transparent owing to the very considerable paradigmatic levelling in the individual dialects. In West Eskimo, however, the reservation of *–a –i* for the 3.sg.ie. (of sg. and pl. noun, respectivly), *–an –in* for the 3.sg.erg., and of *–at –it* for the 3.pl.ie., *–ata –ita* for the 3.pl.erg. is so consistent (discounting Sirenik and the single Chaplino item *–ita* instead of *–ata*), that one must agree with Bergsland 1951:169 in considering this the original distribution. In the case of a singular noun, the morpheme of 3rd person possessor is certainly /–a(–)/. In the 3.sg., the ergative morpheme is just as certainly /–n/, i.e. either *//–n//* or *//–t//*. The pl. morpheme /–t/ of *–at –it* (etc.) is of course from *//–δ//* (since *//–t//* gives /–n/), wherefore the plosive character of the *–t–* of the erg. forms *–ata –ita* (etc.) cannot stem from the pl. morpheme, but must be assigned to the ergative marker, which is thus found to be *//–t//*. The final *–a* of the 3.pl.erg. forms is absent from the de-ergative case forms like the loc. *–at–ni –it–ni* and is therefore not part of the endings proper. It must be either the particle /–a/ of the 1st person forms discussed above, or perhaps an auxiliary vowel supporting what was once a final cluster. The 3.pl.erg.

series *-ata -γkəta -ita* is then found to consist of the following elements: (1) the series *-a -kək/-γək -i* of the 3.sg. + (2) the plural morpheme *-δ-* + (3) the ergative marker of 3rd person *//-t-//* + (4) an added vowel /-a/ of uncertain origin. The assimilation involved in these forms is, thus, **-δt-* > **-t-*, not "**-n-t* > *-t*" as Bergsland has it (1951:169): As clearly shown by the 3.sg. and 3.du. forms, the number morphemes precede the ergative marker, not *vice versa*. The assimilation of the pl.marker to a following consonant is also seen in all non-third person forms of the right-hand column of the chart, where **-δ-*, though absent on the surface, may be recovered by (1) the absence of lenition (only *÷put*, not *-vut*, etc.) and (2) the geminating effect of the endings. The same morphophonemic behaviour is displayed by the 3.du.pl. endings *÷kək* and *÷kən*, testifying to the presence of the pl. *//-δ-//* also in the 3rd person possessive of a plural noun, despite the aberrant forms of the sg. and the pl. *-i -in -it -ita*. Another bewildering point is that the "dual noun" forms (the middle column) contain the dual marker twice, but no marker of 3rd person possessor. This makes it very likely that one of the dual markers is in fact an old 3rd person marker, either unaltered or rather assimilated to the real dual marker. Now, if a 3rd person marker is really contained in the dual forms, it is most likely that it was present in the plural forms as well, the more so as the latter do have some otherwise unexplainable idiosyncrasies. As all other morphemes inherent in the possessive forms of sg. nouns are the same in those of du. and pl. nouns, it is only reasonable to believe that the 3rd person marker disguised in the dual and plural is originally the same as in the sg., i.e. identical with the morpheme /-a/ of **iRnəR-a* 'his son'. If this morpheme is to be assimilated to the *//-γ-//* of the dual, it must originally have been a consonant. In the table of the presumed ultimate analysis of the subsystem of 3rd person possessive forms given below I write this "coëfficient sonantique" (de Saussure) as *//A//*:

	sg. noun	dual noun	pl. noun
3.sg.ie.	*-A*	*-γ-A*	*-δ-A*
erg.	*-A-t*	*-γ-A-t*	*-δ-A-t*
3.du.ie.	*-A-γ*	*-γ-A-γ*	*-δ-A-γ*
erg.	*-A-γ-t*	*-γ-A-γ-t*	*-δ-A-γ-t*
3.pl.ie.	*-A-δ*	*-γ-A-δ*	*-δ-A-δ*
erg.	*-A-δ-t* (+ *-a*)	*-γ-A-δ-t* (+ *-a*)	*-δ-A-δ-t* (+ *-a*)

In order for this system to give the actual forms (or just the reconstructed Eskimo-Aleut proto-forms), the following rules will have to be added to the ones already known: (1) *γA* > *γγ*, (2) *δA* > *i* (through *δδ* ?), however (2a) *δAγ* > *δγγ* (through *δδγ* ?), and (3) *A* > *a*. The rest of the rules are known from a reasonable number of other examples (and may be found in the list of sound laws in Appendix II). They include rules of pre-final neutralization of modes of articulation (e.g. **-γγt* > **-γgt*), anaptyxis in final clusters (**-γgt* > **-γg°t*),

lenition of /b, d, g/ after vowel and strengthening after consonant (*-γg°t > *-γk°t, but 3.sg.ie.du. *-γA > *-γγ > *-gγ > *-g°γ > *-γ°γ after stem-final vowel), word-final nasalization of stops and hardening of spirants (*-γk°t > *-γk°n, *-γ°γ > *-γ°k). The 3.du.erg.sg. *-Aγt regularly gives *-agt > *-ag°t > *-aγ°t > *-aγ°n, which is preserved in the loc. *-aγni (with regular deletion of the shwa), the erg. itself having been enlarged by an additional dual morpheme /-ək/ on the analogy of forms like *-ptək or *-mək. Apart from this minor change, which is easily accounted for, all the forms of the chart regularly give the actual Eskimo forms. The oldest rules (1-3) are admittedly mere postulates, but *if* the system they are designed to save is seen as regular, all eighteen forms in their further development obey six more rules that were set up on the strength of totally different evidence, a fact that can hardly be fortuitous.

3.3.6. The distribution of gemination

One striking feature of the personal endings as set up in the chart is that all forms beginning with a consonant cluster trigger gemination (28 examples, counting only ie. and erg. forms, no counter-examples). A following consonant cluster is then doubtless a sufficient condition for gemination to occur. But it is not necessary: A single final consonant is at play in the 2.sg. *÷n, and ultimately also in the refl.sg. *÷ni if this is from older *-ñ. Of the 30 endings in CV- (discounting the refl.sg.ie.sg. -ni), 21 cause gemination and 9 do not. Among the 21 geminating endings, 15 are plural forms where the plural marker //δ// has obviously been lost in anteconsonantal position, and 5 are erg.sg. forms in *m-* where a following consonant has been lost (like the 1.sg. ÷ma from *-mŋa or the 1.du. ÷məγ- from *-m-B-γ). Thus, 20 of the 21 geminating endings originally began with a consonant cluster. Only *-kək of the 3.sg.ie.du. did not, and this is most probably analogical (see above). None of the 9 non-geminating endings in CV- is found to have lost a consonant when confronted with their underlying forms: *-pətk is from *-m-t-tkət, *-puk/*-vuk from *-B-γ, *-tək/*-zək from *-t-γ or *-c-γ, *-təŋ/*-zəŋ ultimately from *-c-δ, and even *-ci from *-t-δ and *-pəci from *-m-t-δ are not examples of simple loss of a consonant in an ending-initial cluster. It is clear, then, that gemination is absent when the following ending began with CV- (or V- alone), but present where it began with CC- (or consisted of just one -C). It is obvious, too, that the chronological stage relevant for this conditioning is that of the underlying forms after they have been modified by the rules of anaptyxis, but before certain events of cluster simplification have occurred. Chronologically, therefore, gemination is to be ordered between anaptyxis and the oldest cases of cluster simplification. To be able to determine the age of this period in relation to the Eskimo-Aleut proto-language, we shall now have to look for a while at the Aleut facts.

3.4. The possessive inflexion in Aleut

Some interesting details of the Eskimo possessive endings are verified by the corresponding Aleut forms. The following is the presumed Common Aleut system of synthetic endings, as far as this can be extracted from the very sketchy literature (Veniaminov-Geoghegan 1944, Iochel'son 1934, Menovščikov 1967a and — most important — Bergsland 1951). I omit most dialect variants, choosing in each case the more conservative specimen and thus recording all distinctions attested by the dialectal diversity (for the details of which the reader may be referred to the mentioned sources):

	sg. noun	dual noun	pl. noun
1.sg.ie.	-ŋ	-*kiŋ*	-*niŋ*
erg.	-*miŋ*	(= ie.)	(= ir.)
2.sg.ie.	-:*n*	-*kin*	-*txin*
erg.	-*mis*	-*kimis*	
3.sg.ie.	-*a*	-*kix* // -:*x*	-(ŋ)*is*
erg.	-*γan*		
refl.sg.ie.	-:*n*		
erg.	-:*m*	-*ki:m*	
2.du.ie.	-*δix*		
erg.	-*mδix*		
refl.du.ie.	-*δix*		
erg.	-*max*		
1.pl.ie./erg.	-*mas*		
2.pl.ie.	-*či*		
erg.	-*mči*		
3.pl.ie.	-ŋ*is*		-ŋ*is*
erg.	-*γan*		-*γan*
refl.pl.ie.	-*δis**		
erg.	-*maŋ*		

Note: The refl.pl. is given by Bergsland (170, no. 186, after Veniaminov) as East Aleut of 19th cty. -*δin*. As the Central Aleut distinction of word-final -*n* and -*s* (e.g. as 2.sg. vs. pl. morphemes) must be older than the Eastern -*n* for both, this ending is here listed in its presumed Central Aleut shape. Modern Central Aleut has generalized the dual form -*δix* for refl. du. and pl. (this is given by Menovščikov p. 391 for the pl. as -*δix* with the usual inaccuracy in the printing of diacritics which mars all Menovščikov's publications).

3.5. Comparison of Eskimo and Aleut; the age of gemination

3.5.0. Distribution of anaptyxis

It is now clear that all corresponding Eskimo endings that have an anaptyctic vowel have it in the same position as their Aleut counterparts. The forms are: 2.sg.ie.du. A -*kin* E *÷*γkən*, pl. A -*txin* E *÷*tən*, 2.sg.erg.sg. A -*mis* E

*+*pətk*/*-*vətk*, du. A *-kimis* E *÷*γpətk* (with further Aleut anaptyxis), 2.du.ie. sg. A *-δix* E *+*tək*/*-*zək*, erg. A *-max* E *÷*məγ-nuk*, 1.pl.ie.sg. A *-mas* E *+*put*/*-*vut*, refl.pl.ie.sg. A *-δis* E *+*təŋ*/*-*zəŋ*, erg. A *-maŋ* E *÷*məŋ* (from this form the final *-ŋ was apparently introduced into the inerg. replacing the pl. morpheme seen in the Aleut form, the *-ŋ being itself perhaps as assimilation product of the pl. morpheme *-δ due to the once neighbouring nasal). In the 3.sg.ie.du., A *-kix* corresponds to E *÷*kək*, but the variant *-:x* is not congruent with the Esk. variant *-γək*. However, *-:x* may well be an old dual matching the Esk. 3.du.ie.sg. *+*ak* (and A *-kix* could also correspond to E 3.du.ie.du. *÷*γkək* with anaptyxis in the same place). There are, however, a few Aleut forms showing anaptyxis where Eskimo has none: 1.sg.ie.du. A *-kiŋ* E *-γka*, pl. A *-niŋ* E *-nka*, 1.sg.erg.sg. A *-miŋ* E *-ma* and perhaps 1.pl.erg.sg. A *-mas* E *-mta*, but here the underlying forms are different, as described above (+/- the particle *-a* like 1.sg.ie.sg. A -ŋ E *-ka*). Thus, even including these, there appears to be full agreement between the reconstructed paradigm of Proto-Eskimo and that of Common Aleut.

There can be no doubt, therefore, that anaptyxis was present in the Esk.-Al. proto-language with the same distribution as in Eskimo. And as the specific syllabic structures brought about by anaptyxis were found to be the causal background of gemination, it is seen that the conditioning factors of Eskimo (-Aleut) gemination were in fact present already in the Eskimo-Aleut proto-language. This means, of course, that within the system of possessive inflection there is nothing to preclude that gemination itself belonged to Proto-Esk.-Aleut.

3.5.1. Post-gemination sound changes common to Eskimo and Aleut

To prove that gemination did in fact arise on a pre-stage of the Esk.-Aleut proto-language and had been completed by the time of the dissolution of this linguistic unity, one would have to find traces in Aleut of pre-Eskimo sound changes that are manifestly younger than gemination. I find two such indications in the material that is analysable by me: the assimilation of **mn* to **m* and the absence of stem-final **-R* in inflected forms. As the refl.sg.erg.sg. **aluR-m-ni* > **allumni* > PE **allumi* (or **aluR-m-c* > **allumñ* > **allumni* > PE **allumi*) 'his own sole' without syncope showed (see above 2.1), the reduction of the cluster **mn* to **m* is posterior to gemination, and the Aleut form *tana-:m* erg. '(of) his own land' (inerg. *tana-:n*) clearly presupposes the same sound law for the prehistory of Aleut. In the inflection of the Aleut verb, the 3.sg., e.g. *haka-kux* 'he walks', is obviously used as a stem to which the various specific pronouns of the other persons are added, cf. 1.sg. *haka-kuq*, older *-kuqiŋ*, clearly going back to **-kuR-tiŋ* (*tiŋ* 'I'), 2.sg. *-kux-t* from older *-kux-txin* (*txin* 'thou'), 2.du. *-kux-txiδix* (*txiδix* 'you two'), 2.pl. *-kux-txičix* (*txičix* 'you' with *-x* on the analogy of the dual). In the 3rd persons, this form is merely inflected for number, giving the series *haka-kux haka-ku-x haka-ku-s*. This inflection is the perfect typological match of the Chaplino series *-quq -quk -qut* with which

it shares dropping of the stem-final uvular in the inflected forms, a development which is proved by the WG series *-vuq -ppuk -pput* to be part and parcel of the complex process of gemination.

3.5.2. Synopsis of the conditioning of gemination

There can be little doubt, therefore, that compensatory gemination is governed by sound changes going back to a pre-stage of the Eskimo-Aleut proto-language. We shall now sum up the conditions of this process as far as determined up till now, and in the following chapters we shall try to establish these conditions with somewhat greater precision.

From the observations already made we know the following to be sufficient to trigger loss of /R/ with gemination:

(1) a following final consonant: erg. **taLLi-m*, du. **taLLi-k*,[24b] pl. **taLLi-t*, 2.sg.ie.sg. **taLLi-n;*

(2) a following **-ni* of refl.sg.ie.sg., which, if reflecting a development **-c* > **-ñ* > **-ni*, is only a subtype of (1): **taLLi-ni* > **taLLni* > **taLLi;*

(3) a following consonant cluster: 1.pl.erg.sg. **taLLi-mta* and all other personal endings involving the ergative, the dual and the plural morphemes;

(4) a following /R/: **nuliaRR-a* > **nuliaRχa* > **nuliiaχa* > **nuliixa* > **nulia* > **nulia* 'his wife'.

We know, too, that loss of /γ/ with gemination was triggered by:

(1) following refl. **-ni*, though we have only two examples: **paniγ-c* (?) > **pannic* (?) > **pannin̄* (?) > **pannini* > **pann(n)i* > PE **panni* 'his own daughter' and **naña γ-c* (?) > **naññani* > **naññni* > PE **naññi* > WG (19th cty.) /nainni/ (wr. *náine*) 'his little sister' (*najak*). Apart from these two relic forms, this type has been normalized, as, e.g., WG *kuja-ni* 'his own loin' (*kujak*).

(2) a following /R/: **maRaγR-δ* > **maRaγR°δ* > **maRRaR°δ* > Proto-Esk. **maRRaRət* > WG *marrait*, pl. of *marraq* 'clay'.

4. THE /l/ ZERO ALTERNATION

4.0. General remarks

We can now show that both /γ/ and /R/ were lost with gemination before a suffix-initial sequence **-li-* or **-Li-* and that the rules of syncope and cluster reduction applied to the outcome of this process: a light non-final syllable following a geminate consonant lost its vowel, and the resulting consonant cluster was reduced first to its first three, later to its first two, members. This is of some general interest, in that it provides a consistent solution to the vexed problem of

the Eskimo alternation between /l/ (of /L/) and zero in suffix-initial position.[25]

All WG suffixes beginning with /-li-/ where the /i/ is from Esk. **i* (not **ə*) are found to have allomorphs without the /l/. For want to access to part of the data no full screening of the facts can be given, but the WE facts that are accessible to me (Kuskokwim, Chaplino, Sirenik) show so marked points of contact with WG and Labrador data that their joint testimony can safely be considered normative for Proto-Eskimo.

4.1. List of WG suffixes with *l/* zero alternation

Following is a list of the relevant WG suffixes (cited with examples extracted from various handbooks: Schultz-Lorentzen 1927, Chr. Rasmussen 1888, J. Petersen 1951, and, for Labrador, Erdmann 1864 and Bourquin 1891, for Chaplino, Rubcova 1971, and, for Kuskokwim, Hinz 1944):

4.1.1. *-lerivoq* ~ *-erivoq*

-leri-voq ~ *-eri-voq* (normalized from the alternative form *-lera-oq* ~ *-era-oq*) NV 'has to do with —, has a pain in his —': WG *issi-lerivoq* 'has a pain in his eyes', Labr. *kublo-lerivoq* 'has a sore thumb' = Chap. *kumlu-Liqa-quq* (from *kublo* = *kumlu*, which must be the older form as contrasted with WG *kuvdloq*). With **tL* > *s*, WG and Labr. *apuserivoq* 'works with snow' (*aput*); WG and Labr. *kiguserivoq* 'has a toothache' = Chap. *xūsiqaquq* from WG *kigut*, Chap. *xūta*, pl. *xūtət* 'tooth' (PE **kəɣun*, pl. **kəɣutə-t*). With loss of stem-final */ɣ/*, Labr. *agla-lerivoq* 'has to do with books' (WG *agdlait* 'book', pl. of *agdlak* 'spot, written matter') and, from a verbal stem, WG *nâla-lerivoq* 'strives to be obedient' (*nâlag-poq* 'is obedient'). With stems in a final uvular, the underlying sequence **-VR-L-* is, descriptively, lost with compensatory gemination of the preceding consonant: WG *niarq-era-oq* (phonemically /nijaqq-iRa-uq/) 'has a headache' (also *-erivoq*) = Chap. *nasq-iqa-quq* from WG *niaqoq*, pl. *niarqut*, Chap. *nāsquq;* WG *násserivoq* 'has a bellyache' from *nâq*, pl. *nássat* (Erdmann 1864 with inconsistent spelling of the geminate, *natserivok*, *nāk*, *nakset*). If two consonants precede, gemination of course does not show, cf. WG *orsserivoq*, Labr. *orqsserivoq* 'works with blubber' (WG *orssoq*). That loss of stem-final spirant with gemination, syncope and cluster reduction was also the regular treatment in case of stems in */-ɣ/* is shown by WG *kangmeraoq* (or *kangmerivoq*) 'is at work with boots' (from *kamik*), obviously an unetymological spelling for 19th cty. /kammiRauq/ (/-Rivuq/) (on this problem cf. the remarks on the Chap. examples under *-lerpâ* and *-liorpoq*, sections 4.1.2 and 4.1.7 below). Then the examples of plain */ɣ/*-dropping before retained /l/ (*aglalerivoq* above) obviously represent secondary normalizations and should not be used as the basis for the formulation of sound laws. The same clearly applies to Chap. *aqsakəx-Liqa-quq* 'has a pain in his back' which is aberrant in that it contains a ready-made dual form *aqsâkək* 'back' as its first part (rather than the bare stem as Labr. *aglalerivoq*). The Proto-Eskimo form of the suffix is plainly **-Liqə-* which was treated ac-

cording to regular local sound laws (EE **L* > *l*, and **q* > *R* intervocalically after a non-first vowel, Eastern EE **ə* > *i*, Chap. *-Liqaquq* < **-Liqə-δaR* + *-qə-uq*, as described in footnote 12).

4.1.2. *-lerpâ* ~ *-erpâ*

-ler-pâ ~ *-er-pâ* NV 'supplies him with — ' : WG *aki-ler-pâ* 'pays him, pays it' = Kusk. *akîlerâ* = Chap. *akíliRáqā* warrants the reconstruction of PE **-liR-*. With **tl* > *s*, WG and Labr. *mátuserpâ* 'applies a plaster (*mátut*) to it'. With loss of **-VR-l-* against gemination, WG *igaláss-erpâ* 'puts a window in it' = Labr. *igalatj-erpâ* (from *igalâq*, pl. WG *igalássat*, Labr. *igalatjat*), WG and Labr. *ím-erpâ* 'fills it' = Kusk. *im-erâ* = Chap. *im-íRaqā* from *imaq* 'contents' (also 'ocean'). With non-surfacing gemination, WG *orss-erpâ* 'puts blubber into it, fills it (the lamp) with oil' = Labr. (Erdmann) *orks-erpa* = Kusk. *oq-erâ* = Chap. *uq-íRaqā* (from WG *orssoq*, Kusk. *oqoq*, Chap. *uqūq*). If /t/ precedes, the outcome is /-tsiR-/ (from **-ttliR-* with loss of **-VR-* only): WG *atserpâ* 'gives him a name' = Kusk. *atserâ*, or WG *ajagutserpâ* 'puts props under it', from *ateq* 'name' and *ajagutaq* (pl. *ajagútat*) 'prop', respectively. This clearly shows that the development of **tl* to **c* is younger than gemination and syncope, but older than the reduction of heavy clusters to the first two consonants, the only plausible line of development being **at°R-liR-* > **att°liR-* > **attliR-* > **atciR-*. It is seen from these examples that the intermediary stage containing **-ttl-* demanded by the syncopation rule was in fact once a reality, and also gemination is proved by them: Subsequent to syncopation, the second /t/ combined with the /l/ to give /c/, the resulting cluster **-tc-* now remaining unchallenged by the cluster restriction rule. With stems in **-γ* we have the usual normalization consisting in plain deletion of the velar, cf. WG *túngavi-lerpâ* 'lays a foundation under it, puts a foot on it' (e.g., a lamp, the translation 'puts his foot on it' of Schultz-Lorentzen 1927 being one of the errors made in re-translating the Danish glossings into English) = Labr. *tungavi-lerpâ* = Kusk. *tusingavi-lerâ* (with suffix *-vik* in the first element). But some very interesting examples survive of the regular treatment, cf. WG *sím-erpâ* 'corks it' (from *simik* 'cork') and — with an interesting verbal ending — *magdl-erpoq* 'the sea has risen' (literally 'is has been supplied with waves' from *malik* 'wave', the spelling *-gdl-* obviously being due to a misinterpretation of the segment /-ll-/ as composed of the elements /l/ and /k/ of the base word — compare the *-ngm-* of *kangm-eraoq* above). Even if these examples could, strictly speaking, be analogical (on the pattern of *R*-stems), this possibility would be completely ruled out for the following two derivatives: (1) Chap. *qīRaqā* 'lights it (a stove)', literally 'supplies it with firewood', is undoubtedly derived from *qūk* 'firewood', but the link between the two is only diachronically transparent, the base-word being reconstructible as **qəδuk* to match WG *qissuk* and Sirenik *qəčəχ* ~ *qəruγ-*. The development **qəδuk* > *qūk* is comparable to that of **əγət-paR-a* (WG *igípâ*) → **əγət-δaqaRa* > **əγtaqaa* > Chap. *xtáqā* 'throws it' showing deletion of **ə* if the word is pronounceable

without it, and to **uqδuq* (WG *orssoq*, Sir. *uqčəx* 'blubber') > Chap. *uqūq* certifying loss of **δ* after **q*. The treatment of the derivative **qəδuγ-liR-* 'supply with firewood' is now the following: loss of /γ/ with gemination gives **qəδδuliR-*, in which the /u/, being the vowel of a light non-final syllable following a geminate, is syncopated to give **qəδδliR-*, which undergoes cluster reduction to PE **qəδδiR-*; in WE the geminate is simplified, in Chap. the /ə/ of the now open syllable is syncopated, and finally the /δ/ is lost: **qəδiR-* > **qδiR-* > **qīR-*,[26] and in the prs.ind. the postvocalic allomorph *-aqā* (footnote 12) is generalized, resulting in the form *qīR-aqā*. (2) The other example is even more illustrative: WG *agss-erpâ* 'spills blood on it, mixes it (water, soup) with blood' is obviously a derivative of *auk* 'blood' presenting a geminate /-ṣṣ-/ (spelled *-gss-* in the erroneous belief that it contains the velar of the base-word) corresponding to an intervocalic zero in *auk* itself. This is the normal behaviour of PE **δ*, cf. Sir. *qačəx* 'grass padding for shoes' = WG *qâq* 'skin for sleeping platform, feather-bed, mattress', from which *qáss-erpâ* 'aranges a rug for him on the sleeping platform, prepares a bed for him on the sl. pl.' is derived with the suffix here treated. The individual steps of the development of this word are clear: **qaδaR-liR-* > **qaδδaliR-* > **qaδδliR-* > PE **qaδδiR-* > WG /qaṣṣiR-/, and for the derivative meaning originally 'supply with blood' they are correspondingly: **aδuγ-liR-* > **aδδuliR-* > **aδδliR-* > PE **aδδiR-* > WG /aṣṣiR-/. Although this analysis is in itself compelling, it should be pointed out that the Sirenik form of the base-word, *ačəx* (from **ačuk* < **aδuk*) with the preserved regular reflex of the spirant **-δ-*, leaves room for no doubt about the correctness of this analysis. The important point to be made is, however, that neither Chap. *qīRaqā* nor WG *agsserpâ* can be derived by analogy, sound laws, or otherwise from the *synchronic* forms of the words to which they belong (*qūk*, *auk*), i.e., they can only represent the regular phonetic outcome of the old (i.e. pre-Eskimo) derivatives based on the pre-forms of these words. It can be considered proved, therefore, that gemination with loss of /G/ in the environment "___VGli" is as valid for the case "G = /γ/" as it is for "G = /R/".

4.1.3. *-lersorpâ* ~ *-ersorpâ*
-lersor-pâ ~ *-ersor-pâ* NV 'supplies it with several —', e.g. WG *îgk-ersorpâ* 'covers it with a wainscot' (*îgaq*, pl. *îgkat*). This suffix, which is evidently an extension of the former one, is not recorded for Labrador by Bourquin.

4.1.4. *-lerssârpoq* ~ *-erssârpoq*
-lerssâr-poq ~ *-erssâr-poq* NV 'talks about —', e.g. WG *takordlôrneq* 'vision' → *takordlôrni-lerssârpoq* 'relates about his vision', *takordlûgaq* (pl. *-ûgkat*) → *takordlûgkerssârpoq* 'id.'. Not quoted by Bourquin.

4.1.5. *-liaq* ~ *-iaq*
-liaq ~ *-iaq* NN 'a manufactured —': WG *su-liaq* 'work', cf. Kusk. *tsha-liaq*

(both derived from the interrogative-indefinite *so // tsha* 'what, something', PE **cu* and **cu-a* respectively). This suffix is obviously nothing but the passive participle of 4.1.11 *-li-voq* NV 'makes —' below, derived from this with the usual participial morpheme **-δaq*. Cf. the corresponding verb, WG *su-livoq* = Kusk. *tsha-lioq* 'makes something, works', and the parallel interrelationship between Kusk. *erin-iaq* 'child' = WG *ern-iaq* 'brood, interest' and Kusk. *erin-ioq* = WG *ern-ivoq* 'gives birth'. The development of this example involves the regular loss of **-VR-l-* with gemination: **iRn°R-liδaR* > **iRnn°liδaR* > **iRnnliδaR* > PE **iRniδaq* 'the son that has been made' → 'the offspring, the brood, the increase that has been accomplished'. No corresponding verb appears to have been preserved in the case of WG *ím-iaq* 'beer', literally 'manufactured water', from WG *imeq* < PE **əməq* through the stages **əm°R-liδaR* > **əmm°liδaR* > **əmmliδaR* > PE **əmmiδaq*. With **tl* > *s*, WG *ipusiaq* 'a manufactured oar' (*iput*). Normalized forms are WG *ajortu-liaq* 'misdeed' from *ajortoq* 'bad' and Labr. *savi-lia-nga* 'das von ihm verfertigte Messer' (Bourquin) from *savik* (regular form seen in WG *sagfiaq* /savvijaq/ 'manufactured knife' with regular loss of **-Vγ-l-* and compensatory gemination).

4.1.6. *-liarpoq* ~ *-iarpoq*

-liar-poq ~ *-iar-poq* NV 'travels to —' and *-liaq* NN 'travelling to —': WG *kitâ-liaq* 'travelling West' from *kitâ* 'its West side' (from **kətə-a*), *palasi-liarpoq* 'goes to the priest' (*palase* from Norwegian *prest*). With normalizing loss of **-γ-*, WG *Nû-liarpoq* 'goes to Nûk/Godthåb' (WG *nûk* 'naze, point or end of something, Chap. *nuvuk* 'top, end'), Labr. *niuverti-liarpoq* 1 'goes to the merchant' (*niuverte*), 2 'goes to the shop' (*niuvertik*). With regular loss of **-VR-l-* with gemination, WG *Káng-iarpoq* 'goes to Kangeq' through **kaŋ°R-li(C)aR-* > **kaŋŋ°li(C)aR-* > **kaŋŋi(C)aR-*, and similarly Labr. *Oq-iarpoq* (obviously for /uqq-ijaRpuq/) 'goes to Oqaq' (cf. WG *oqaq*, pl. *orqat* 'tongue'). The parallel development with final velar is exemplified by WG *qíss-iarpoq* 'is out looking for driftwood' from *qissuk*. The dropping of a word-final dental continuing Esk. /n/ seen in WG *uvavtínu-liaritse* 2.pl.ipv. 'come and see us' from *uvavtínut* 'to us' (Chap. *xwaŋkuNun* = Kusk. *vangkutnun*) is probably due to normalization.

4.1.7. *-liorpoq* ~ *-iorpoq*

-lior-poq ~ *-ior-poq* NV 'manufactures —, makes —': WG *igdlu-liorpoq* 'builds a house' = Labr. *iglu-liorpoq*, cp. Chap. *nə-lîRaquq* 'settles down' (*na*, pl. *nə-t* 'house'). Loss of **-VR-l-* with gemination in WG *qáin-iorpoq* 'makes a kayak' (*qajaq*, pl. *qáinat*) from **qañaR-liuR-*, or WG *ám-iorpoq* 'prepares skin' from *ameq* 'skin, hide', whose derivative *amigssaq* 'boat skin' is the basis of *amiggs-iorpâ* 'seeks a covering for it (the boat)' (cf. the Chap. derivative *amír-îRaquq* 'covers a skin vessel' from *amîraq* 'skin'). Note the interesting vowel-length in WG *umîorpoq* 'builds an *umiaq*' revealing the consonantal origin of the *-i-* of the base-word: **umi̯aR-liuR-* > **umi̯i̯aliuR-* > **umi̯i̯liuR-* > **umi̯iuR-* with

reduction of the four-consonant group to a two-consonant group, followed by syllabic realization of *-i̯-* in the environment "C__V" to give PE **umiiuR-*. It is doubtful whether [i] and [i̯] were ever different phonemes: If the underlying form of the suffix was in fact **-liuR* with antevocalic syllabic [i], they obviously were, but as it cannot be excluded that some pre-Eskimo consonantal phoneme has been lost in **-li(C)uR*, the realization of /i/ may well have been predictable at all stages (in which case the antevocalic realization is consonantal at the oldest stages of our internal reconstructions, but vocalic in the final phase of Proto-Eskimo). Kuskokwim examples are: *nivû-liortoq* 'works in the earth, digs' from *nivo* 'earth', *kivg-iorâ* 'serves him' from *kivgaq* 'servant', and, with **tl* > PE **c* (WG and Chap. /s/), *angutsiortoq* 'runs after men'. Regular loss of **-Vγ-l-* with gemination is seen in WG *agss-iorpoq* 'makes soup of dried blood' (cf. the discussion of *agss-erpâ* under 4.1.2 above), *magdl-iorpoq* 'labours in the waves (a vessel)' (cf. *magdl-erpoq* in 4 1.2), *kangm-iorpâ* 'treats a boot with a boot stretcher' (cf. Chap. *kam-iRaquq* 'sews boots', and *kangm-eraoq* under 4.1.1 above), *savf-iorpoq* 'forges' from *savik* 'knife' (earlier also 'iron' which is obviously still the meaning underlying the derivative **cavi̯γ-li(C)uR-* 'works with iron'). That the /-vv-/ of the last-mentioned word is not from **-vγ-* as indicated by the alternative orthography *sagfiorpoq*, is proved by Chap. *sav-ĩRaquq* (**-vγ-* being preserved in Chap. *kəvγaq* = WG *kivfaq* 'servant, messenger'). The same rule is seen to obtain with the extended suffix *-liúpâ* ~ *-iúpâ* NV 'makes it into –' (*matu-liúpâ* 'makes it into a door'), cf. *qíss-iúpâ* 'uses it for fuel' (lit. 'makes it into firewood') from *qissuk* and *kikíss-iúpâ* 'uses it for a nail' (*kikiak*). In view of these clear examples the correspondence between WG *máni-liorpoq* and Chap. *mani-lĩRaquq* 'boils eggs' from *mánik* // *manik*, otherwise impressive, can only represent parallel normalizations. This suffix is undoubtedly an extension of 4.1.11 *-livoq* 'makes –'. Judging from the pair WG *ernivoq* 'bears' : *erniorpoq* 'breeds, brings forth young, gives interest', the function of the extra suffix **-(C)uR-* is an iterative force, as correctly seen by Schultz-Lorentzen (1927:290, however with errors in the details: The entry "*-orpoq, -gorpoq, -rorpoq nv*, repeatedly. erniorpoq, propagates" can only mean that Sch.-L. did not recognize the suffix *-li-* here, but instead took *erniorpoq* to be derived directly from the noun *erneq*). The same functional relationship is found with the WG suffixes *-kitdlivoq* NV 'gets a smaller (e.g., size, price)' and *-kitdliorpoq* NV 'has a smaller –' (Sch.-L. 1927:282).

4.1.8. *-lípoq* ~ *-ípoq*

-lípoq ~ *-ípoq* NV 'has arrived in –': WG *nuna-lípoq* 'has reached land', *sigss-ípoq* 'sets foot on the beach' (from *sigssaq* with loss of **-aR-l-* and gemination). The normalizing loss of /γ/ is seen in Labr. *inu-lípogut* 'we meet people' (*inuk*).

4.1.9. *-lissarpoq* ~ *-issarpoq*

-lissar-poq ~ *-issar-poq* NV 1 'takes – with him', 2 'resembles his –': WG

sáku-lissarpoq 'has his weapons with him (*sáko*). Loss of **-VR-l-* is seen in WG *túp-issarput* 'they have their tent with them' (*tupeq* → **tup°R-li-*) and *arn-issarpoq* 'resembles her mother' (**aRnaR-li-*), but cf. the normalized Labr. *arna-lijarpoq* 'has his wife with him'. With **tl* > **c*, WG *angusissarpoq* 'resembles his father' and Labr. *supôrusijarpoq* 'smokes his pipe' (*supôrut*).

4.1.10. *-livik* ~ *-ivik*

-livik ~ *-ivik* NN 'container of/for —': *qáin-ivik* 'kayak scaffold' (through **qañaR-li-* > **qañ̃ali-* > **qañ̃li-* > **qañ̃i-*), *merqusivik* 'needlecase' from *merqut* 'needle' with **tl* > **c*. Obviously containing *-vik* VN 'a place or time for —', added to *-li-/-i-* (see the following with footnote 27).

4.1.11. *-livoq* ~ *-ivoq*

-li-voq ~ *-i-voq* NV 'makes —': Labr. *adsi-livâ* 'makes a picture of him' from *adse*, but WG *ássi-livâ* 'id.' from *ássik* indicates that this is in fact a normalization that has been extended to the base-word itself. Gemination and loss of **-Vγ-l-* is seen in WG *atúng-ivoq* 'prepares sole skin' from *atungak*, the same with **-VR-l-* in Kusk. *tuner-ioq* 'practises sorcery' from *túneraq* and in the very significant correspondence WG *ern-ivoq* = Kusk. *erin-ioq* = Chap. *iRn-iquq* 'gives birth', literally 'makes a son' (**iRnəq*). Full suffix in Kusk. *tsha-lioq* 'works', cf. WG *su-livoq*.[27]

4.2. Conditioning of the /l/ zero alternation

We can now formulate the rules governing the alternations presented by these suffixes.

4.2.1. The full suffix *-li-*

A full suffix with *-l-* (or *-L-*) is used (the numbers 1-11 refer to the individual suffixes treated in sections 4.1.1 through 4.1.11 above):

1. After a vowel: WG *neqi-liorpoq* = Chap. *nəqə-lī̆Raquq* (7) 'cooks meat'.

2. After stem-final /R/ when this is dropped without further alteration of the stem: WG *ajortu-liaq* (5), Chap. *ajvə-lī̆Raquq* 'cooks walrus meat' (*ajvəq*). As shown by the type C1 below this type is plainly analogical, showing the productive derivational procedure with full suffix added to a vocalic stem synchronically singled out by reanalysis of inflected forms.

3. After stem-final /γ/ when this is dropped without further change: WG *máni-liorpoq* = Chap. *mani-lī̆Raquq* (7). This type is clearly secondary as contrasted with the type WG *savfiorpoq* = Chap. *savī̆Raquq* (7).

4. After a fully inflected word form in final *-t* which is then dropped: *qavdlunât nunâ-liat* 'travellers for Denmark' (*Qavdlunât nunât*). This type is manifestly secondary as shown by the old type B.

4.2.2. Allomorphs with *-ci-*

B. A variant with initial *-c-* (WG *-s-*) is used after stem-final /t/ where it represents a fusion of the cluster **-t-l-*: WG *ipusiorpoq* 'makes an oar' (*iput*), Kusk. *angutsiortoq* (7), Chap. *xūsiqaquq* (1). A special case is represented by the variant WG form with *-ts-* arising in words where a /t/ was geminated due to the loss of /R/ or /γ/ and the subsequent syncope gave rise to the cluster **-ttl-* that yielded the not unexpected result **-tc-* (WG *-ts-*): WG *atserpâ* = Kusk. *atserâ* (2). In both subtypes, secondary realignment of the constituent elements was likely to occur, cf. Chap. *javuqutə-li-* 'make an oar' (Menovščikov 1967:29, i.e., 3.sg.prs.ind. *javuqutəlīRaquq*) from *jāvuqūn*, pl. *-qūtət*, and *atə-liRāquq* 'gives a name' from *atəq*.

4.2.3. The shortened form *-i-*

C. The variant with no suffix-initial consonant is used:

1. After stem-final /R/ which upon dropping out causes the chain reaction of gemination, syncope and cluster reduction: **iRn°R-li-* > **iRnn°li-* > **iRnnli-* > **iRnni-* > **iRni-* 'make a son' in WG *ernivoq* = Kusk. *erinioq* = Chap. *iRniquq* 'gives birth' (11), and similarly WG *niarq-eraoq* = Chap. *nāsq-iqaquq* 'has a headache' (1).

2. After stem-final /γ/, showing the same further details as the *R*-stems: **caviγ-li(C)uR-* 'manufacture iron' > **cavvili(C)uR-* > **cavvli(C)uR-* > **cavvi(C)uR-* > WG /savvi(j)uR-puq/ (wr. *savfiorpoq* or *sagfiorpoq*) = Chap. *saviRaquq* (7). As demonstrated by the examples Chap. *qīRaqā* and WG *agsserpâ* (2) from **qəδuγ-liR-* and **aδuγ-liR-*, this can only be the regular phonetic treatment.

Note. WG *ujarq-erivoq* (Erdmann for Labr. *ujarkerivok*) 'works with stones' (suff. no. 1) from *ujarak*, pl. *ujarqat*, as contrasted with Chap. *ujR-īRaqā* 'throws anchor' (probably suff. no. 7 as 'prepares a stone for it', sc. the vessel) from *ujRak*, shows a surprising geminate /qq/ corresponding to a uvular spirant in the Chaplino form. The same problem is seen in the pl., not only of the same word, but also of WG *isigak*, pl. *isigkat* 'foot'. Corresponding to the latter Labrador has *itigak*, pl. *itikkat*, and the derivative (in Erdmann's spelling) *ittik-ittárpok* 'es langt, reicht bis auf die Füsse', phonemically /itikk-it-tar-puq/, obviously a habitual derivative with the suffix WG *-tar-poq* ~ *-ssar-poq* from a verbal stem /itikk-it-/ 'reach the feet',itself a derivative with suffix no. 8 *-lípoq* ~ *-ípoq* above. The plurals *ujarqat, isigkat*, unexpected with stems in a velar, are matched by WG *eqaluk* 'trout', pl. *eqatdlut* (and *eqatdl-iat* 'trout fishers' with suff. no. 6). The stem-final velar of 'stone' and 'trout' is proved ancient by the WE counterparts, cf. Chap. *ujRák* and *iqáLuk* 'fish'(Sirenik *iqə́Lux*), but the word for 'foot' seems to have an old uvular, cf. Chap. *itə́γaq* (Sir. *itəγəχ*). It will seem reasonable to assume, therefore, that the EE *-k* of 'foot' represents an assimilation of the old uvular still seen in the WE forms under the influence of the syllable-initial velar. With 'stone' and 'trout', conversely, dissimilation seems the only possible solution, the sequence uvular + velar in all probability going back to a sequence of two uvulars. Here the change happened before the end of Proto-Eskimo, but after the rise of gemination, which demands a stem-final uvular to be produced in the plural formations. This, however, solves only the problem of the WG pl. gemination, not the discrepancy with regard to the mode of articulation of the consonant preceding the last vowel of WG pl. /ujaqqat/, isikkat/ and Chap. *ujRak, itəγaq*. If Chap. points to spirants here, why then did WG geminate them as stops? The possibility that WG merely adapted the declensional variation of old spirants to the pattern

of words like *saneraq*, pl. *sanerqat* 'side' and *ûgaq* (later *ûvaq)*, pl. *ûvkat* /uukkat/ 'cod', which arose as a result of the EE lenition (cf. Chap. *saniqaq* and *ûkaq*), seems ruled out by Aleut *kitax* 'foot' which, though unclear in several details, may safely be taken as a proof that the velar of Esk. **itəγaq* goes back to a Proto-Esk.-Al. **k*. In *ujarak* the first /a/ is no doubt an anaptyctic duplication of the second, cf. the same interrelationship between WG *ujoruk* and Chap. *ujRú* 'sister's child'. But the geminate /qq/ of the pl. *ujarqat* must have been intervocalic already at the time when cluster reduction would have otherwise deleted its final member, so the only plausible reconstruction for Proto-Esk. is sg. **ujRak*, pl. **ujaqqat*. The sg. was probably dissimilated at the stage **ujRaR* > **ujRaγ*, i.e. prior to the hardening of word-final spirants. Since there appears to be no material demanding a Proto-Esk. cluster **-jq-* in any word, the form **ujRaR* is very probably simply a phonetic development of the older **ujqaR* demanded by the plural. The only possible line of development is now the following: first of all, gemination changed the pl. **ujqaR-δ* to **ujqqaδ*; next, in the sg. the cluster **-jq-* was changed to **-jR-* thus triggering the dissimilation of **ujRaR* to **ujRaγ*, while in the pl. an otherwise unknown[28] anaptyctic development brought about the form **ujaqqaδ*; finally, word-final spirants were hardened to the corresponding stops to yield Proto-Esk. sg. **ujRak*, pl. **ujaqqat*. Thus, even if a number of details concerning the phonetic development of these words remain obscure, what we do know about them in no way invalidates the rules of stem-alternation either in the derivations treated here or in the formation of the plural.

3. After stem-final vowel in a few, obviously restructured, formations: WG *sík-iarpoq* (6) 'goes out on the ice' besides *sikuliaq*. J. Petersen (1951) gives a derivative *síkerpoq* with the glossing 'sikunigpoq (there has come ice)' with no **sikulerpoq* quotable beside it. Therefore, this may represent another base-word derived from **ciku* with either a velar or a uvular suffix, very probably the WG counterpart of Chap. *sikuk* 'ice' (as opposed to *siku* 'floe'), in which case the example belongs under 2. Other examples are: WG *íp-erpâ* = *ipu-lerpâ* 'puts a shaft on it' = Chap. *pũ-liRaqã*; WG *isúm-erpâ* 'suggests (something) to him' from *isuma* 'mind, thought', the latter presumably with restructuring in the base-word, cf. erg.sg. *isúmap*, pl. *isúmat* (J. Petersen 1951:13); WG *nís-eraoq* (or *nís-erivoq*) 'has a pain in his leg' from *nio*, pl. *nísut*, 4.sg.ie.sg. *níse*, whose inflected forms demand a stem **niδuR-* nowhere attested;[29] WG *nuíss-erpoq* 'it becomes cloudy' from *nuia*, pl. *nuíssat*, which also demands a uvular stem, though there is widespread interdialectal agreement on the vocalic stem throughout the EE territory, cf. Birket-Smith 1928:33 and Kn. Rasmussen 1941:14, 29,37, in both of which, however, the WG form is given as *nuiaq* which may be an archaism. The relation of WG *nán-erivoq* 'is busy with a bear, is fighting a bear' from *nano* 'bear' poses no problem, the old form *nanoq* being still in use in WG and apparently the only form attested outside Greenland. Two words with /t/ before their last vowel have been treated on the analogy of the type WG *atserpâ:* from *mato* 'door' are made *matserpâ* 'puts a door in it' (from which *matserfik* 'door frame') and *matsiúpâ* 'uses it as a door' beside the regular *matulerpâ* and *matuliúpâ;* from *puto* 'hole' J. Petersen (1951) gives *putsiorpâ* 'sews a buttonhole', but the corresponding instrument noun is given by Schultz-Lorentzen 1927 as *putuliût* 'bodkin' presupposing a regular **putu-lior-poq* 'works with a hole'.

4.2.4. Synopsis of regular formations

There can be no doubt that the following subtypes represent the regular phonetic treatment of suffixes beginning with *-*li*- or *-*Li*-:

A1: *-*V*-*li*- remained unchanged.

B: *-*t*-*li*- > PE *-*ci*- > WG -*si*-, with the variants:

*-*tVR*-*li*-
*-*tVγ*-*li*- } > *-*ttVli*- > *-*ttli*- > PE *-*tci*- > WG -*tsi*-

C1: *-*CVR*-*li*-
C2: *-*CVγ*-*li*- } > *-*CCVli*- > *-*CCli*- > -*CCi*-

4.3. Suffix-initial *l*/ *L* followed by vowels other than */i/

4.3.1. WG -*(l)utaq*

This alternation is restricted to cases where the /l/ was followed by PE *i. The only apparent counterexample, WG -*lutaq* ~ -*utaq* VN 'means of —' is no doubt analogical, forms like WG *tâlutaq* 'shooting sail' (Erdmann *tălutak* 'Vorhang, rouleaux') using /l/ as a simple hiatus-filler to help preserve morphological transparency and avoid neutralization of length in the diphthong /au/ that would otherwise arise. The choice of /l/ is of course due to the analogy with the alternation *l* ~ Ø. As indicated by Schultz-Lorentzen (1927:285,302) this suffix is evidently an elaboration of WG -*ut* VN 'means to —', cf. the semantic identity between *nangmautaq* and *nangmaut* 'carrying straps' from *nangmag-poq* 'carries something on his back' reported by Chr. Rasmussen (1888:102). This suffix, therefore, contained no /l/ in its original form.

4.3.2. *-*lə*-

No gemination is caused by suffixes beginning with WG /-li-/ where the /i/ is from Esk. *ə, either: WG *qajalik* = Kusk. *qajalək* 'having a kayak', Chap. *qikmi-lək* 'having a dog' (*qikmiq*), WG *umia-lik* 'having an *umiaq*' = Chap. *umĭ-lək* 'chieftain', all agreeing in the treatment of *-*Rl*- as *-*l*- without further ado. Likewise with stem-final velar: WG *au-lik* 'bloody' (Chr. Rasmussen 1888: 112), Chap. *səfLuγa-lək* 'having a gun' (*səfLuγak*, Menovščikov 1962:101). Another case is the suffix *-*lə*R- VV 'begin —', WG -*ler-poq* = Chap. -*laRa-quq* (Menovščikov 1967:41) with simple deletion of stem-final spirant: WG *ini-ler-pâ* 'has almost finished it' (*iner-pâ*), as opposed to -*(l)er-pâ* from *-*liR*- (4.1.2 above). One cannot quite agree with Rischel (1974:195f) in considering the different morphophonemic behaviour of -*ler-pâ* / -*er-pâ* NV 'provides him with —' as against the pair -*ler-pâ* VV 'begins to — him' and -*er-pâ* NV 'takes — away from him' unpredictable from a synchronic point of view. The information that the alternating suffix -*lerpâ*/-*erpâ* is morphophonemically //-liR-paR-a//, while the others are //-lə R-paR-a// and //-iR-paR-a//, respectively, i.e., that the first contained a sequence *-*li*- while the others did not, is perfectly recogniz-

able from synchronic forms like WG (1) *pi-ler-pâ* 'provides him with something' forming an intensive derivative *piler-sor-pâ* 'provides him with several things', as contrasted with (2) *pi-ler-pâ* 'starts it' with the intensive derivative *piler-tor-pâ* 'gets it over with quickly'. This shows that the /i/ of the suffix /-liR-/ of the first of these is the morphophoneme *//i//* causing assibilation of the following *//t//* (a rule also operating through an intervening consonant), whereas the second is revealed to have *//ə//* (*i*$_2$, *ï*, *e*) and therefore no assibilation; opposed to these is of course (3) *pêrpâ*, i.e. /pi-iR-paa/ 'takes it away', from the same stem, showing the absence of underlying *//l//*.

4.3.3. **-la-*

The same is true for suffix-initial /-la/: WG *-lâr-poq* VV '— a little' in *kia-lârpoq* from *kiag-poq* 'is hot', *sikua-lârpoq* from *sikuarpoq* 'is covered with thin ice' cited from Chr. Rasmussen (1888:138) who gives also (ibid.) the interesting example *suja-lârpâ* 'fries it a little' from *sujápâ* showing a treatment of **-tl-* as /l/, not /s/ as before /i/. That this treatment is phonetically regular is indicated by the WG verbal negative indicative /-ŋŋila-/, which must contain a morpheme /-ŋŋit-/ as its first element, cf. the participle /aki-ŋŋit-suq/ 'not answering' agreeing with /tikit-suq/ 'coming' (thus Kleinschmidt 1851:113; Schultz-Lorentzen 1951:66 has /tikittuq/ which must be analogical, the normal post-consonantal allomorph of the participial suffix being /-tuq/).

4.3.4. **-Lu-*

The handbooks differ very much in their statements about the suffix **-Luγ-* NN 'a bad —' or NV 'has a bad —'. The shape of the suffix is clear from such correspondences as WG *sialuk* 'rain' (with loss of one /l/ by dissimilation) = Labr. *silaluk* = Kusk. *tla-tluk* 'bad weather' = Chap. *sLa-Luk* 'bad weather'. The examples mentioned in Kleinschmidt 1851 (145) agree with Menovščikov's (1962:113) for Chap. in presenting deletion of stem-final spirant: WG *ánorâ-lugpoq* 'hat schlechte kleidung' (*ánorâq*) and *oqa-lugpoq* 'he speaks' (literally 'has a bad tongue' from *oqaq*), Chap. *aŋja-Luk* 'old, no good boat' from *aŋjaq* and *kamə-Luk* 'worn-out boot' from *kamək*, but Chr. Rasmussen (1888:127) gives *ánorâr-dlugpoq*, agreeing with Hinz's Kuskokwim data (1944:90), e.g. *umyuar-tlugtoq* 'has an evil mind', and the renovated WG *sila-rdluk* 'bad weather' must have got its /R/ from somewhere. It is possible that there were originally two different, but related, suffixes, **-Luγ-* and **-R-Luγ-*, with a slight difference of meaning, perhaps parallel to the pair **-kiγ-* : **'-qiγ-* (WG *-gigpoq* and *'-rigpoq*), on which see the following section (5.1). The important point is, however, that no gemination is found with the suffix **-Luγ* (**-RLuγ*), and also the development of **tL* to **c* (WG /s/) is alien to it, failing the condition of following /i/, cf. WG *avqut-dluk* 'bad road', Kusk. *angûtluk* (i.e. /aŋut-Luk/) 'bad man' (Hinz 1944:90), Chap. *məRút-Luk* 'thrown-away cup' (Rubcova 1971:601).

4.4. Conclusion: Gemination triggered by *-γ/-R* before *-li-/Li-*

The case of the WG (and other Eskimo) suffixes with initial *-l-* (or *-L-*) thus provides us with the insight that gemination and its aftereffects occurred when stem-final /γ/ or /R/ found a position next to a suffix-initial sequence /-li-/ or /-Li-/. This finding should be included in the formulation of the complex regularity governing the occurrence and non-occurrence of gemination.

5. THE SUFFIXES *'-rigpoq* AND *'-vik.*

5.0.

Two other suffixes triggering gemination agree in having the vowel /-i-/ after the suffix-initial consonant: WG *'-rigpoq* and *'-vik*. Only in the case of the latter, however, does this appear to be essential.

5.1. WG *'-rigpoq* : the suffix *-gigpoq / -rigpoq*

The suffix given by Schultz-Lorentzen (1927:278) as *-gigpoq, -rigpoq* NV 'has a good, fine —; is a good or fine —' is obviously from PE **-kiγ-*, cf. the regular EE lenition of /k/ to /γ/ after a non-first vowel in WG *igdlu-gigpoq* 'has a good house', while stems in final uvular like *qajaq* → *qajarigpoq* 'has a good kayak' fuse the group **-Rk-* to Proto-Esk. **-q-* which with EE lenition becomes WG /R/ according to the rules known from cases like **taLiR* 'arm' + **-ka* 'my' → PE and Chap. *taLiqa*, WG *talera*. The Kusk. form *-qig-toq* NV 'is good, nice, fine —; has a good, pretty —, etc.' (Hinz 1944:85) appears to be a generalization of this post-uvular variant, cf. *tla-qigtoq* 'it is beautiful weather' : WG *sila-gigpoq* (although one should not exclude the possibility that this is just one of Hinz's many inaccuracies in distinguishing /k/ and /q/, cf. his laudable self-criticism in 1944:VIII, "I believe there is often a *k* where there ought to be a *q*, and it may be that there is sometimes a *q* instead of a *k*", a modesty proved fully justified by the glossary). From this suffix no forms with gemination occur.

5.1.1. *'-rigpoq = *-γR + -gigpoq*

From the former is derived the suffix WG *'-rig-poq* VV 'is good at —', e.g. *sána-rigpoq* 'is good at working in wood or bone'. As this suffix has a uvular also after a stem-final vowel, it must contain a suffix-initial uvular itself, i.e., its underlying form appears at first glance to be **-R-kiγ*. But if this is the whole truth, why then did gemination occur in the sequence **cana-R-kiγ-* but not in **qañaR-kiγ-* 'have a good kayak'? Indeed, a simple functional analysis immediately reveals what is wrong. If **-kiγ-* means 'have a good —', what precedes must be a noun, so the first part of *sánarigpoq* including the uvular element must mean something like 'working skill, artisanship', a meaning for which there is no immediately obvious candidate among the recorded derivatives from this

stem. But in the case of WG *tutsarigpoq* 'is quick at hearing, hears well, receives good news' the solution lies right at hand: this is not directly from *tusar-poq* 'hears', but from its derivative *tutsaq* 'hearing (noun)' formed with the suffix that was reconstructed as **-γR* above (1.2). Thus, *sánarigpoq* is to be analysed as **cana-γR-kiγ-puR* 'has a good working', whereby the different treatment of this and the type **qañaR-kiγ-puR* 'has a good kayak' becomes perfectly understandable:

Underlyings forms	**cana-γR-kiγ-puR*	**qañaR-kiγ-puR*
Rk > q:	**canaγqiγpuR*	**qañaqiγpuR*
CVG > CCV / ____ qi:	**cannaqiγpuR*	(no change)
R > q/ __ #, ñ > j/ V____ V:	**cannaqiγpuq*	**qajaqiγpuq*

5.1.2. *-rqigpoq = -t + '-rigpoq*

Another variant belonging here is WG *-rqig-poq* VV 'is good at -ing' which, as shown by the semantics, must belong to *'-rigpoq* rather than to *-gigpoq*. Now the two variants are sometimes found with the same word-stem, cf. the example *oqalorqigpoq* 'is eloquent' vs. *oqatdlorigpoq* 'is talkative' cited by Rischel (1974:287) who adds, "the obvious regularity is that there is gemination in the preceding stem if the suffix appears with /r/ but not if it appears with /qq/, i.e. a trading relationship between clusters". This is, of course, the synchronic state of affairs, but it does not seem to be essential for the historical explanation of this suffixal variety. It is clear that *oqatdlorigpoq*, having experienced a change of meaning from 'is good at talking' to 'talks much', is the older member of the pair, the variant *oqalorqigpoq* being a renovation created to fill the vacuum left when the old form was no longer usable without a pejorative shade. But what was the origin of this variant? One glance at the handbooks is enough: Schultz-Lorentzen (1927:293) gives *merssorqigpoq* 'is good at sewing' from *merssorpoq*, *ersserqigpoq* 'is distinct' from *ersserpoq* 'becomes visible' and *qorsôrqigpoq* 'is vividly green'. The last-mentioned of these belongs ultimately to *qorsuk* 'green' with the suffix given by Schultz-Lorentzen (ibid. 294) as *-rpâ* VV '— repeatedly' (i.e. lengthening of the last stem-vowel + stem-elaborating /R/), cf. *sungârpoq* 'is yellowish' from *sungaq* 'gall'. From this Kleinschmidt (1851:153) gives *sungârqigpoq* 'ist lebhaft grün, hellgrün'. To the examples of Sch.-L. J. Petersen (1951:223) adds *pitdlarqigpoq* (no meaning given) from *pitdlarpâ* 'punishes him'. Chr. Rasmussen (1888:142) only gives examples of *-rqigpoq* 'again, further' which may be a different suffix, but with the further extension *-tdlar-poq* VV '— very much' he cites forms like *qajartu-tdlarqigpoq* "is an excellent kajak-rower". This survey clearly shows that the form *-rqig-poq* is merely a post-uvular variant of *'-rigpoq*. But even so, it is of secondary origin. The whole series of derivational steps made from a vocalic stem is preserved in the case of WG *makíta-voq* 'is out of bed; has risen; is proud, conceited' (itself derived from *makípoq* = Chap. *makətaquq* 'stands up') → *makítaq* 'that by which something is made to rise . . .; ability to rise' → *makítarigpoq* 'is upright,

straight, horizontal; stands vertically' (literally 'has a good ability to stand up'). The last of these is of course from **makəta-γR-kiγ-* > **makətaγqiγ-* > PE **makəttaqiγ-*. Now a secondary confrontation of **makəta-* with its second-degree derivative **makəttaqiγ-* led to the singling out of a suffix **-qiγ-* with the meaning 'have a good ability of -ing'. This was in its turn added to such verbal stems in final uvular as had no apparent gemination, e.g., Proto-Esk. **əδR-iR-* 'hide no longer' (i.e., WG *ersserpoq* 'becomes visible', derived from the stem of WG *isserpâ* 'hides it' as beautifully demonstrated by Rischel, 1974: 277) → **əδRiR-qiγ-puq* > WG *ersserqigpoq*. From here it spread beyond its original boundaries giving rise to a more handy productive type applied wherever the original formation had become impractical. The most frequent reason for this was probably semantic change as in *oqatdlorigpoq*, but other motivations are also conceivable. Thus, in *pe-rqigpoq* 'is healthy, dashing' (from the semantically empty word-stem /pi-/ whose derivatives have simply the sole meaning of the suffixes themselves) the regular variant *'-rigpoq* was obviously not used for the simple reason that the word was too short for gemination to show. The regular treatment after a stem-final uvular is no doubt the undramatic pure loss of the uvular seen in the type *tutsarigpoq*. The development is: **tucaR-γR-kiγ-puR* 'has a good ability of hearing' > **tucaRqiγpuR* > **tuccaqiγpuq* > EE **tuccaRiγpuq*. That the sequence **-γR-* merely behaved like one /G/ (**R* or **γ*) which dropped out and caused gemination in certain environments, was shown above in the discussion of the 4.sg. *qigsse* 'his own crying' (2.3.2) from PE **qiδδi* < **qiδδni* < **qiδδani* < **qiδδañ* < **qiδδac* < **qiδa-γR-c*. Another corroboration is provided by stems in **-əC* like WG *paner-poq* 'is dry' or *kâvig-poq* 'walks in a circle (**-ə-* being proved by derivatives like the participle *panertoq* 'dry' and the form *kâvig-tuarpoq* '. . . alone' with /t/, not /s/). According to the rules found above in the discussion of the type *kípaq*, *pátagpâ*, the sequence **-CGG(G)C-* (where G is either **R* or **γ*) is relieved by an anaptyctic /a/ to **-CaGG(G)C-*. This sequence now arises in the words under discussion here: **panR-γR-kiγ-puR* 'has a good ability of being dry' first becomes **panaRγRkiγpuR* and then (through unknown intermediary stages) **panaRqiγpuR*, whence, with gemination and word-final hardening, Proto-Eskimo **pannaqiγpuq*, the obvious pre-form of the WG form *pánarigpoq* 'is completely dry'. Likewise, the non-initial segments of *kâvfarigpoq* are developed from **-avγ-Rγ-kiγ-puR* through **-avaγRγkiγpuR* > **-avaRqiγpuR* > **-avvaqiγpuq*, and *patdlarigpoq* 'is good at making sun-tanned' from *palerpâ* 'makes sun-tanned' (forms cited from J. Petersen 1951:203 under suffix-entry *-arigpoq*). It may be noted that this is in its turn a strong support for the analysis of the types **kəppaq* and **pattaγpaRa* given in 1.2.2.5 above. If the sound laws drawn up on the strength of the examples in that section were wrong, the chance that they would work here as well would be practically nil.[29a] Another important indication that the type *tutsarigpoq* is ancient is the word *nutaggarigpoq* 'is quite new' from *nutâq* 'new, novelty' through the intermediary *nutaggarik* 'brand-new'

with gemination revealing a velar for which there is no synchronic basis (nor is there in reality any diachronic basis for a velar here, since all WE dialects agree on a common denominator **nutaRaq*, cf. the forms collected by Swadesh 1952: 251f, which I take to reflect a pre-Esk. assimilation of **-γaR* to **-RaR* in the forms without gemination). The various forms taken by these suffixes thus have their justification in sound laws and restructurings on several different chronological levels, and not a few of the forms are seen to reflect very ancient morphophonemic alternations with a truly amazing fidelity.

5.2. WG *'-vik*. General allomorphy

It is not easy to see exactly what lesson is taught us by the behaviour of the suffix *'-vik* VN 'a place or time for -ing'. The form of the suffix is the same all over the Eskimo territory (except, of course, for such manifestly secondary adjustments as Sirenik *-vəx* and Wales *ü'γöik* < EE **əγγavik* 'kitchen'), i.e. Proto-Esk. **-vik*, erg. **-viγom*, pl. **-viγət* (the notation *-vik* for WG morphophonemics in Bergsland 1955:9,103 is a curious mistake), cf. Chap. *ulĭma-vik*, pl. *-vĭγət* 'workshop' = WG *ulĭma-vik* 'chopping block' (from Chap. *ulĭmā-quq* 'works', WG *ulima-voq* 'cuts with an axe'). In EE the suffix is accompanied by gemination if the verbal stem ends in -VCV, e.g., WG /ulimmavik/, /sannavik/ 'workshop' from *sana-voq*, /niRRivik/ 'table' from *neri-voq* 'eats'. A stem-final /t/, being assimilated to any following consonant, of course gave rise to the allomorph /-vvik/ (phonetically [-FFik], spelt *-vfik*) which was used productively wherever useful. An important factor was no doubt semantic change combined with the gradual decline of the synchronic predictability of gemination. Once the semantic difference between /tuqqu-vik/ 'place or time of dying' (from /tuqu-/ 'die') and /tuqu-v-vik/ (from /tuqu-t-/ 'kill'), originally 'place or time of killing (or being killed)', was no longer perceived, a suffix conglomerate /-vvik/ could be segmented off and used in new coinings like *inûvfik* 'birth-place' (whose old form *inûvik* had become specialized in the meaning 'birthday', cf. Schultz-Lorentzen 1927:303 agreeing with the entry in J. Petersen 1951) or in a case like *iga-vfik* 'kitchen, stove' instead of the older *igga-vik* with a voiceless [xx] not easily identified with the voiced spirant of *igavoq* 'cooks'. The same change is found to have taken place from an old form /sulli-vik/, spelt *sugdli-vik*, to the normalized *suli-vfik* 'working-place, -hours' (the second being the only form given by e.g. J. Petersen 1951 and by Bugge et al. 1960 s.v. arbejdsplads). Here again the "trading relationship between clusters" seen by Rischel (1974:287) to obtain between such variants (*-qq . . .v-* alternating with *-q. . .vv-* etc.) is without bearing on the historical evolution of the switch. The productive allomorph just did not originate in vocalic stems, so its lack of gemination is trivial, and, conversely, the geminating type is restricted to vocalic stems, so *its* failure to assimilate anything to produce a geminate /-vv-/ is no less trivial.

5.2.1. Analysis of underlying form

There remains the difficult question of the origin of gemination in forms like *sána-vik*, Proto-Esk. **canna-vik*. I can propose no better solution than an ad hoc re-positing of the underlying form. In accordance with the rules pieced together so far we would expect gemination to have arisen in a sequence **-VCVGCi-*, changing this to **-VCCVCi-*. If we take the liberty of writing in the -G- this is exactly what we have. Then, taking the suffix to be **-Gviγ* (i.e. **-γviγ* or **-Rviγ*), we have a proto-form **cana-Gviγ* which would be very likely to come out as Proto-Esk. **canna-vik*. But then problems begin to turn up.

5.2.2. Counterexamples; delimitation of gemination

If **cana-Gviγ* became **cannavik*, why then did **atuR-Gviγ* become WG *atorfik* 'position, office' (literally 'place for being useful' from *ator-poq* 'is useful') with an ungeminated /t/? The sequence **-RG-* of the postulated proto-form could hardly be crucially different from the **-γR-* that did cause gemination in **qiδa-γR-c* ("*-ni*") > **qiδδi* 'his own crying' (WG *qigsse* explained above at 2.3.2 and 5.1.2). And if a sequence **-CGGC-* was otherwise changed to **-CaGGC-*, why then does WG *patig-pâ* 'puts his hand upon it' with underlying stem **patγ-* form *patigfik* 'piano key' from what would seem to be **patγ-Gviγ*? The fact that the expected form */pattaGvik/* could be seen in the actually occurring *pátagfik* (same meaning) is no help, for this plainly belongs directly to *pátagpâ* 'strikes it with his hand', intrans. *pátagpoq* 'plays the piano (etc.)'.

5.2.3. Conclusion: gemination analogically redistributed

The only way of saving the theory that the gemination in **cannavik* was caused by the dropping of a suffix-initial velar or uvular spirant is to assume that all word forms that are not immediately reconcilable with this analysis are due to secondary restructuring. This is, at any rate, certainly the case with very many examples. It is significant that all derivatives with the suffixal variant *'-vik* retain their verbal stem intact. Apart from the gemination in the type **cannavik*, no synchronically unpredictable change could be found in any relevant word recorded by the handbooks excerpted for this purpose,[30] a fairly clear indication that analogical levelling has indeed been at work. Therefore, the evidence of the suffix *'-vik* is inconclusive for the establishment of rules governing gemination, but, in a passive manner, it is itself best accounted for if gemination is assumed to change a sequence **-VCV-Gviγ* to **-VCCV-vik*.

6. THE INSTRUMENT-NOUN SUFFIX "-ut"

6.0. General remarks. List of allomorphs

A particularly tricky case is presented by the suffix commonly cited as WG *-ut* VN 'means to —; cause, reason to —; the time when —' (thus Schultz-Lorentzen 1927:302). In WG, the allomorphs of this suffix are: (1) *ˊ-t*, (2) *ˊ-ut*, (3) *-ut*, (4) *-rut*, (5) *-qut*, (6) *-t*, (7) *-ˊssut* (i.e. /-ṣṣut/) with a most puzzling distribution, the main facts of which are to be disentangled in the following.

6.1. The allomorph *ˊ-t*

Verbs in stem-final *-a*, *-i* or *-u* (not *-ə) geminate the preceding consonant and add /-t/ (Proto-Esk. *-*n*, older *-*tə*) to the stem (allomorph no. 1): *sana-voq* 'works' → *sána-t* '(carving) tool' = Naukan *sana-n* (Menovščikov 1962:92). After a cluster, gemination, of course, does not show, cf. WG *sagdlu-ti-gâ* 'tells a lie about him or to him' (from *sagdlu-voq* 'tells a lie', i.e., literally 'has him as a means of lying').

Stems in final *-ə fall into at least two distinct subcategories:

6.2. The allomorph *ˊ-ut*

Gemination + *-ut* (allomorph 2) is found in the following examples: WG *kíput* 'cutting implement' from *kipi-vâ* = Chap. *kəpáqā* = Kusk. *kípâ* 'cuts it off' (cf. the verbal noun **kəpə-nR* > **kəpən°R* > **kəpn°R* > Proto-Esk. **kəpnəq* > WG *kivneq* 'clearance in the ice', Chap. *kəpnəq* 'segment, stump'); WG *súp-ut* 'bellows' from *supi-vâ* 'blows at it' = Chap. *sūpaqā* = Kusk. *tshupâ* (cf. Nunivak *cupun* 'breath' and the Alask. words for 'gun' in Swadesh 1952:253 and Jenness 1928:113); WG *uláp-ut* 'that which keeps one busy' from the equivalent of Chap. *ulāpa-quq* 'trains' (WG *ulapípoq* 'is busy' being a derivative of this); WG *káput-* as a verbal stem in *kápúpâ* 'thrusts it into something so that it sticks' from *kapi-vâ* 'stings him' = Chap. *kāpa-qā* (J. Petersen 1951 also lists *káput* 'a kind of nail', with which cf. Naukan *kapún* 'spear used for hunting sea animals' given by Menovščikov 1975); WG pl. *qíputi-t* 'several twines; vice; press, with screws', verb *qípúpâ* 'twines it with something else; fixes it with a screw' from *qipi-vâ* 'twines it', turns it' = Chap. *qəpá-qā* 'ties it', *qəput-aq* 'tie', *qəputaqā* 'ties it to something' (verbal noun *qəp-nâq* 'bundle' = WG *qivneq* 'winding, screw thread').

6.3. The allomorph *-ut* without gemination

Under apparently similar phonetic circumstances the following words present *-ut* without gemination (allomorph 3): WG *naqitar-ut* 'lashing' from *naqitari-vâ* or *naqitarâ* 'lashes it fast'; *sap-ut* 'dike, weir' from *sapi-vâ* 'blocks its way' = Chap. *sāpa-qā* 'covers it', cf. Naukan *sapútaq* 'a blocking, covering' in Men. 1975; *api-voq* 'there is snow on it' ~ Chap. *apə-nRān* 'fresh fluffy snow' which is certainly the basis of the very old derivative WG *ap-ut* = Sirenik *apə́ta* 'snow'

(the Sir. form, from **aputə*, has been regularized from a paradigm **apun *aputə-m *aputə-t;* for Naukan, Menovščikov gives only *apə* in 1964:213 and in the glossary of 1975, but the grammar section in 1975:83 refers to a paradigm *ápun, apútəm* matching the pre-forms of Sirenik); then also Proto-Esk. **kəγ-un* 'tooth' (WG *kigut*, Chap. *xuta*, Sir. *kəγəta* etc.) will be derived from **kəγə-* 'bite' (WG *kî-vâ*, Kusk. /kəxaa/, Unaaliq *kxxaa*, Naukan *kəxáqā* 'bites it off', Chugach *kix-maR-tuq*). A clear example is also WG *uvserut* 'tar' from *uvserivoq / uvseraoq* 'tars, caulks' = Chap. *umsiχqaqā* 'patches a hole in it'.

6.3.1. Delimination of 6.2 and 6.3: The status of /-ə/

The crucial difference between the types of 6.2 and 6.3 — which cannot be sought in the element preceding the /ə/ as in both types this can be /p/ — seems to lie in the status of the /ə/. At least the fact that the verbs of 6.2 form WG "halftransitive" derivatives of the shape *kipi-ssi-voq, supi-ssi-voq, kapi-ssi-voq, qipi-ssi-voq* with retained stem-final *//ə//*, as contrasted with the "syncopated" derivatives from the verbs of 6.3, WG *naqitar-ssi-voq, sav-ssi-voq*, strongly suggests an analysis of this sort. We would then have to reconstruct simply **ulapə-* + suffix for *ulâput*, but **cap-* + suffix for *saput*, i.e. stem forms with and without underlying *//-ə//*. Part of the reason for the lack of gemination in **capun* is then the mere fact that in this type, the last stem consonant was not immediately followed by a vowel at the time when the gemination rule was operative.

6.3.2. *-ut* with stems in *-γ* and *-R*

The allomorph *-ut* is also regularly found in derivatives from verbs with a stem-final velar or uvular spirant: WG *agdla-ut* 'chalk' from *agdlag-poq* 'writes' (Barrow etc. *aγλaun* 'pencil' agrees with the WG form, but Nauk. *alŋan* given by Menovščikov 1962:92 must be derived from Nauk. *alŋaquq* [Men. 1975 matches Jenness 1928:7, who gives "East Cape" *aλʻɪŋaqʻoq*] with regular suffix variant no. 1); *alugssa-ut* 'soup spoon' from *alugssar-poq* 'sips it' (Barrow /aluun/ in Jenness 1928:16 must be derived directly from *aluk-toq* 'licks', WG *alug-pâ* 'licks it'); *pauti-t* (pl.) 'kayak paddle' from *paor-poq* 'paddles a kayak' with (19th cty.) /-au-/ from older **-auu-*. This derivational type, however, is productive and should therefore only be used with the utmost caution for the formulation of sound laws. In fact, the verbal derivative *parrúpâ* 'tries to keep pace with or overtake him in a kayak' can hardly be anything other than the old non-regularized instrument-noun derivative from *paor-poq* in a verbal function, i.e. Schultz-Lorentzen's derivative in *-úpâ, -ssúpâ* VV '— for him; — with it; — with regard to him' (1927:301). The original meaning would then be that of a home-made German phrase 'er *berudert* ihn'. As this form cannot possibly be analogical, there seems to be no alternative to the assumption that this is the only regular example of this class that has resisted normalization. We must, then, posit the following structural description for the instrument-noun derivative made from

a verb in -CVR: loss of -VR, gemination of -C-, suffixal allomorph *-*un*/-*utə*-. A Proto-Esk. stem **paRRutə-* could be the regular outcome of underlying **paRR-Cutə-*, itself arising by syncope from **paRRuCutə-*, which points to an older form **paRuR-Cutə-* with a suffix-initial consonant that makes the stem-final /R/ anteconsonantal and therefore prone to loss with compensatory gemination. By this operation the stem of the derivative is made to harmonize with that of the base-verb *paor-poq*, i.e. /pauR-/ (modern WG /paaR-/) from **paRuR-*.

6.3.3. *-iut* from verbs in *-iarpoq*, *-iorpoq*

A decisive corroboration of this analysis is furnished by the derivatives in *-iut* from verbs in *-iar-poq* and *-ior-poq*, such as *agiar-poq* 'rubs, files' → *agi-ut* 'file', *pi-niar-poq* 'hunts' → *pi-ni-ut* 'hunting implement', *pujor-sior-poq* 'walks around in the mist' → *pujor-si-ut* 'compas', *kangm-ior-pâ* 'treats it (a boot) with a boot-stretcher' (suffix *-lior-* NV 'manufacture, make') → *kangm-i-ut* 'boot-stretcher'. In all of these examples, the antevocalic /i/ is treated as a consonant which is geminated and causes syncope before cluster reduction simplifies the geminate again: **aɣi̯aR-* + suff. > **aɣi̯̇i̯a-Cutə* > **aɣi̯̇i̯aCut* > **aɣi̯̇i̯̇aCun* > **aɣi̯̇i̯̇Cun* > PE **aɣiun;* even in EE the /i/ is here treated as a consonant in that it prevents the loss of /ɣ/. The same process obviously underlies the derivation *anguar-poq* 'rows' → *angût* 'paddle', i.e. **aŋu̯̇aR-* + suffix > **aŋu̯̇u̯̇a-Cutə* > **aŋu̯̇u̯̇aCut* > **aŋu̯̇u̯̇aCun* > **aŋu̯̇u̯̇Cun* > PE **aŋuun.*

6.3.4. Cases of preservation of stem-final *-R* before *-ut*

In a number of cases a stem-final /R/ is preserved before *-ut:* (1) If the /R/ is preceded by a consonant in the underlying form, e.g. *parq-ut* 'marrow extractor' from PE **patR-un* derived from *pater-pâ* 'extracts the marrow from it' = Chap. *patə̂x̯taqā* 'sucks it in' formed directly from the stem of WG *pateq*, Chap. *patəq* 'marrow'. Similarly, WG *qern(g)uti-t* (pl.) 'binoculars' from *qiner-poq* 'looks around him for something' = Imaklik *qənəRa-toq* (Menovščikov 1964:215) = Chap. *qinə́x̯ta-quq* 'looks at something' (the difference *qən-* : *qin-* probably being due to inaccuracy in the sources, cf. Barrow /qiñiqtuq/ in Jenness 1928:67 with *-ñ-* proving **qin-*, not **qən-*). (2) After /ə/ preceded by a consonant cluster as in WG *agdler-ut* 'miscarriage' from *agdler-poq* 'bears prematurely'. (3) After /ə/ preceded by a sequence /-əC-/ as in WG *eqiter-ut* 'glove to scrape caplin with' from *eqiter-pâ* 'compresses it' = Chap. *qətâqā* 'clenches his fist'; thus also *ipiter-ut* 'steering wheel' from *ipiter-pâ* 'moves or turns it little by little' (**-ət-* proved by lack of assibilation of the /t/). (4) After the vowel clusters /ai/ and /aa/ (in terms of EE phonemics), e.g. WG *atâr-ut* 'ski' from *atâr-poq* 'comes down', *nalunaer-ut* 'message' (on which see section 6.5 below), *parnaer-ut* 'lock, lashing' = Nauk. *paqnēR-un* (Menovščikov 1962:93).

6.4. WG *tarn(g)ut*

A subgroup of the former is made up of the one word WG *tarn(g)ut* 'grease,

salve', obviously belonging to *tanípâ* 'greases it' (stem *//tanət-//*) and like it derived from the equivalent of Chap. *tăna-qā* 'washes it' (verbal noun *tănə-Ləq*). As the WG uvular nasal is always the product of Proto-Esk. **-nR-*,[31] the reconstruction **tan-Run* cannot be seriously doubted. This word has a stem-final consonant different from any of the examples under 6.3 above, so the two sections very probably belong together, showing different results of the same suffix in complementary distribution. The important lesson to be learnt from **tan-Run* is, of course, that the suffix-initial consonant, whose existence was inferred under 6.3.2 above, can now be identified as /R/. Then, at least for a large subgroup of examples, the underlying form of this suffix can so far be traced back to a stage **-Rutə*.

6.5. The allomorph *-qut*

An allomorph *-qut* is found in a few tricky examples. One major difficulty is that this suffixal variant has achieved a semi-independent status, allowing it to spread beyond its original bounds. One clear example of this is WG *pugtaqut* 'buoy' derived from *pugta-voq* 'flows on the water', showing retention of intervocalic *-q-* after non-first vowel contrary to the EE lenition rules. The form *-qut* is restricted to EE and may therefore very well be the regular outcome of **-Run* following a plosive. Since no other plosive than /t/ appears to occur stem-finally in EE verbs, it seems at least probable that the original locus of this variant was the verbal type in /-t/, and indeed this assumption sheds light on some forms that would otherwise remain obscure. One such is WG *náparqut* 'pillar; spire; cross or stone on a tomb' from *náparpâ* 'places it upright', which is found to have lost a stem-final /t/ when contrasted with Chap. *napaχtaqā*. From WG *nalunaer-poq* 'communicates; explains; gives evidence (about himself)' = Kusk. *natlunaerâ* 'makes it known' = Chap. *naLúnĭRaqā* 'notices', the instrument noun is WG *nalunaerut* = Kusk. *natlunaerun* 'announcement' = Chap. *naLúnĭRun* 'sign'. The form WG *nalunaerqut* 'mark; sign' (in the sense of Germ. Kennzeichen) is not merely a variant of this, but is rather derived from *nalunáipoq* 'is clear, is known' (given by Chr. Rasmussen 1888:103, itself a derivative from *nalunar-poq* 'is incomprehensible' with the suffix **-it-*, which changes the meaning of adjectival verbs to the opposite, as in *manig-poq* 'is even' → *manĭpoq* /mani-ip-puq/ 'is uneven'). Therefore, the original meaning may be assumed to be 'means of being known'. Other clear examples are *ímúpâ* 'rolls, wraps it into something' → *Ímorqut* 'swaddle'; *kápúpâ* 'thrusts it into something so that it sticks → *káporqut* 'pin'; and the interesting word *kiggerqut* 'clothes' pin', which for semantic and formal reasons can belong neither directly to *kigar-pâ* 'makes a notch or an incision in it' nor to *kiger-poq* 'casts traces (a dog)', but only to the derivative *kiggípâ* 'pinches it' (all of which, of course, ultimately belong together with the words for 'bite' and 'tooth' mentioned in 6.3 above).

6.6. The allomorph *-t* without gemination

The allomorph *-t* without gemination is rare and somewhat problematic. One small group of examples is manifestly secondary: WG *uvserit* 'tar brush' is plainly from *uvseri-voq* 'tars', which is nothing but a normalized variant of *uvsera-oq* whose regular instrument noun *uvser-ut* 'tar' has already been explained in 6.3 above. Then WG *míngerit* 'something which is used for dirty work' (pl. *míngerisit* 'clothes for dirty work') and its base-verb *míngeri-voq* 'is engaged in dirty work' must be taken to have replaced an older pair **mínger-ut* : **míngera-oq* (the latter obviously from **miŋuγ-Liqə-[p]uR* > **miŋŋuLiqə-* > **miŋŋLiqə-* > Proto-Esk. **miŋŋiqə-uq*, cf. *minguk* 'dirt'). As this normalization presupposes the merger of *ə and **i* into WG /i/, it is manifestly younger than the productive period of gemination. The model for this formation may be seen in the type *sagdluti-gâ* (6.1 above) or *ikitsi-t* 'match' (from *ikit-si-voq*, half-transitive of *ikípâ* 'kindles it') with non-surfacing gemination. The assibilation seen in the plurals *uvserisi-t*, *míngerisi-t*, though regular only after Esk. **i*, does not provide a counterargument against the assumption of the proto-forms **umciχqə-* (from **umciγ-qə-*, being the intensive of WG *uvsig-poq* 'is waterproof') and **miŋŋiqə-*, because all inherited instrument nouns in WG *-it* are of course derived from verbs in **-i-*. Verbs in **-ə-* have different allomorphs, all ending in *-ut* as described, and so the model for the inflexion of these words can only be the type *autdlait* 'gun', pl. *autdlaisit*.

6.6.1. WG *ímît, qôrqît, amîsit*

To this section belong also the three curious WG examples (1) *ímît* /immiit/ 'ramrod' from *ímer-pâ* = Chap. *imíRa-qâ* 'fills it' (lit. 'supplies it with content', see 4.1.2), (2) *qôrqît* 'grooving plane' from *qôrqer-pâ* 'makes a furrow in it' (this being in its turn from *qôroq* 'valley, furrow, groove' with the same suffix **-liR-* as the preceding), and (3) *amîsit* pl. given by J. Petersen 1951 with the glossing 'qalipausiutit' = 'paint brush', i.e. *amît** derived from *amer-pâ* 'covers it (a skin vessel [with a hide, WG *ameq*]), paints it'. At first glance, this looks like a clear-cut transformation from the verbal stem in *//-*iR*//* to an instrument noun in *//-*iitə*-//* or *//-*iRitə*-//*, but as the regular formation is found to be of the type *ami-ut* 'paint', *aki-li-ut* 'payment' (*aki-ler-pâ* 'suppiles him with payment' i.e. 'pays him'), the small group of examples in *-ît* must have another explanation. The first example appears to correspond exactly to Chugach *imĩn* 'water dipper' given by Birket-Smith 1953:239 and apparently pointing to a proto-form **immiin*, not **immiRin*. Now, a WG form /immiit/ would be the regular instrument noun made from a verbal stem /immii-/ with allomorph 1 (gemination + *-t*, the gemination failing to show if there is no consonant before the last stem-vowel), and this can only be the halftransitive derivative *ímîvoq** /immiivuq/ 'fills something' (not recorded by the handbooks for this verb, but cf. with the same suffix *atúngerpâ* 'soles it' → htr. *atúngîvoq* from *atungak* 'sole', *ivsserpâ* 'casts earth upon him' → htr. *ivssîvoq* from *ivssoq* 'earth, peat',

tigumísserpâ 'gives him something into his hand' → htr. *tigumíssîvoq* from *tigumiaq* 'that which one has in one's hand'). That instrument nouns can be derived from the intermediary halftransitive derivative was seen in the word *ikit-si-t* 'match' in the preceding paragraph (to which could be added, e.g., *inápâ* 'commands him' → htr. *inatsivoq* → *inatsit* 'command', *qamípâ* 'puts it out [the lamp]' → htr. *qamitsivoq* → *qamitsit* 'extinguisher', *naqípâ* 'presses it down; seals it' → htr. *naqitsivoq* → *naqitsit* 'signet; sealing wax', *simêrpâ* 'uncorks it' → htr. *simêrsivoq* → *simêrsit* 'cork screw'). In like manner, Chap. *aγlāt-i-siq* 'means for carrying something' is derived with a different suffix from the halftransitive *aγlāt-i-quq* 'carries something, walks away with something' of *aγláʀ-quq* 'walks' (Menovščikov 1967:78). After stem-final *-R*, the halftransitive suffix **-δi-* (on which see the discussion in the subsections of 6.7 below) changed to **-i-*, possibly through an intermediary stage **-ji-* (**-ɟi-*). As the pre-form of WG verbs in *-lî-voq* (or gemination + *-îvoq*) we should then posit **-liR-ɟi-puR* > **-liR-ii-puq*, and for the corresponding instrument nouns **-liR-ɟi-R(u)tə* > **-liRɟit(ə)* > **-liRɟɟin* > **-liRɟin* > PE **-liRiin*, or with syncope, **-liRɟɟitə* > **-liRɟɟtə* > **-liRɟt* > PE **-liRin*, i.e., in any case with retained stem-final /R/ contrary to the expectation expressed above. Now, it can be proved with absolute certainty that stem-final /R/, or perhaps rather /R/ following a non-first vowel, is in fact dropped in front of a vocalic suffix in all non-Sirenik dialects. Apart from the unanalysable WG *atausiq* = Sir. *atəRəsəχ* 'one' this is proved by such forms as WG *ima-er-pâ* 'empties it' ~ Chap. *imĭ-lŋuq* 'empty' = Sir. *imáR-ə-lŋuχ* (stem **imaR-iR-* 'remove content'), WG *qajŭtaq* 'ladle, scoop' = Chap. *qajūtaq* 'wooden tray for eating meat' = Sir. *qajəR-ətáχ* 'cup' (**qajuR-uttaq* derived from *qajuq* 'meat broth, tea'), or the suffix **-miRu* NN 'inhabitant of —' in WG *-mio* = Chap. *-mi* = Sir. *-məRa*[31a] (*siŋraR-məRa* 'beach-dweller'). Then a non-Sirenik WE possessive form like Chap. *aŋja-a* 'his boat' will represent the regular reflex of Esk. **aŋδaR-a* (for the stem, cf. Iglulik Shaman's language *agʒaq* given by Kn. Rasmussen 1930:73) as hinted at under 1.2.1 above. Unfortunately no Sirenik forms corresponding to the type *ímît* have been found (and the chances of ever finding any in this moribund dialect are practically nil), so a definitive choice between the two proposed reconstructions for *ímît*, either PE **immiRiin* (would be Sir. **iməRita*) or PE **immiRin* (Sir. **iməRəta*), cannot be made on the basis of direct observation. It seems, however, that a decision — favouring **immiRiin* (and **kuCuqqiRiin*,[32] **ammi-Riitə-t)* — may be reached on the basis of a more precise knowledge of the general rules governing gemination, on which see section 6.8.2. below.

6.7. The allomorph *-ssut* from halftransitives in *-ssivoq*

The allomorph *-ssut* has known a certain degree of productivity, cf. such doublets as WG *toqú-ssut* 'cause of death' and *torqu-ti-gâ* 'dies from it' (lit. 'has it for his *torqut** = cause of death', cf. the entry in Schneider 1970:433 "torquti-poss. pour toqoguti motif de mort"), or *sulí-ssuti-gâ* 'works for it'

and *sugdli-si-t* (pl.) 'work clothes' (unetymological spelling for /sullisit/ from *su-li-voq* 'works'). According to Kleinschmidt 1851:117, the origin of this allomorph is to be found in verbs with stem-final /t/, and the same belief is expressed in Bergsland 1955:103. To be sure, this is the picture that emerges from a scanning of the dictionaries (Schultz-Lorentzen 1927 was found to contain ten examples of the type *inápâ* 'commands him' → *inássut* 'order'), but it is certainly not what we expect from our knowledge of the sound laws. And since the allomorph *-qut* of the type *nalunâipoq* → *nalunaerqut* (6.5 above) could not possibly arise under any other circumstances than after stem-final /t/, the origin of *-ssut* must lie elsewhere. The only unproblematic solution appears to be that a derivative like *oqáussut* 'message, exhortation' belongs not directly to *oqáupâ* 'tells him what to do, exhorts him', but rather to its halftransitive derivative *oqáussivoq*. Then also examples like *qaerqússut* 'call, vocation, invitation', *kuíssut* 'baptismal name, bapt. water', *pivdluarqússut* 'blessing' and *tuníssut* 'gift, sacrifice' are derived not from *qaerquvâ* 'calls him', *kuivâ* 'pours it out, pours water on it, baptizes him', *pivdluarquvâ* 'blesses him' and *tunivâ* 'gives him something', but from their halftransitives *qaerqussivoq*, *kuissivoq*, *pivdluarqussivoq*, *tunissivoq*, thus exemplifying the regular treatment of the suffix after stem-final **-ə* described under 6.2 above. A strong corroboration of this analysis is provided by the fact that other derivatives of these verbs contain the same halftransitive extension, cf. the 3.sg. possessive of the verbal noun *qaerqu-ssi-ner-a* 'his vocation' given by Schultz-Lorentzen 1927 and the two active participles *kui-ssi-ssoq* 'baptist' and *tuni-ssi-ssoq* 'giver' listed in Bugge et al. 1960 under the catchwords *døber* and *giver*. A particularly instructive case is the derivational line of *erqartũpâ* /iqqaRtuuppaa/ 'reminds him of something; speaks to him of what has happened; judges him' → *erqartũssivoq* → *erqartũssut* 'judgment, sentence', *Gûtip erqartũssinera* 'God's judgment', *erqartũssissoq* 'judge'; *erqartũssivik* 'court of justice'. In this group of words, the morpheme *-ssi-* was so intimately integrated into the stem that a new instrument noun could be derived with it, either regularly as *erqartũssi-t* 'ordinance, legal provision' or with the productive suffix variant *-ssut* as *erqartũssíssut* 'law suit'.

6.7.1. The htr. morpheme and its allomorphs

As the allomorph *-ssut* is here conceived of as containing the suffix of halftransitive verbs, an analysis of the underlying form of this extension may not be out of place here. But the morphophonemic behaviour of the htr. suffix is very unusual and has been blurred by so many analogical re-formations that the odds seem very unfavourable for a definitive solution. On top of this, all descriptions of non-WG Esk. dialects available to me are, to say the least, very sketchy in their information on this point. There is, however, a clear and interesting agreement between WG (for which Schultz-Lorentzen 1927 and J. Petersen 1951 may be expected to give fully representative coverage of all forms that are not analogical anyway) and Kuskokwim (so far as the facts can be obtained from the

more or less fortuitous references in Hinz 1944, including the glossary). In both dialects the suffix has the form /-si/ after a stem-final dental, and the form /-i/ after any other stem-final consonant, cf. WG *toqut-si-voq* = Kusk. *toqût-si-oq* 'kills'; WG *ikiu-i-voq* = Kusk. *ikaior-i-oq* 'helps' (WG *ikiorpâ*, Kusk. *ikaiorâ* 'helps him'); WG *qalipa-i-voq* 'paints' (*qalipag-pâ* 'paints it' from *qalipak* 'covering, shell, colour') agreeing with Chugach *mingug-i-uq* 'paints' (Kusk. *mingug-â* 'paints it' from *minguk* 'ointment, paint'). Though out of a total of 109 WG forms in *-si-voq* given by Sch.-L.'s dictionary only 69 are formed from stems in /-t/ (the remainder comprising 21 stems in /-γ/, 17 in /-R/ and the two vocalic stems *kî-* 'pinch' and *tigu-* 'take'), the fact that no other stems form this type of htr. in Kusk. may be taken as proof of an old rule restricting the allomorph /-si/ to the position following an Esk. dental. This assumption is not contradicted by the WG facts either, for all *t*-stems not formed with the suffix *-úpâ* and its variants have *-t-si-voq* as their htr. form, so that nothing speaks against the assumption that this variant has been generalized somewhat beyond its original bounds. After a stem-final vowel, the suffix is in WG invariably *-ssi-* (i.e., /-ṣi-/), cf. *ila-ssi-voq* 'adds', *matu-ssi-voq* 'closes', *ili-ssi-voq* 'places, buries' (Esk. **əLi-*, cf. Chap. *Livə́q* = WG *iliveq* 'grave'), and — with /-ə/ — the two types *supi-ssi-voq* 'inflates' and *sav-ssi-voq* 'blocks the way' (*sapi-vâ*) whose distribution was discussed above in 6.3.1. Unfortunately the Kusk. material contains examples of no stem-final vowels other than /-ə/, for which Hinz 1944: 43 gives *kink-i-oq* 'loves' (*kink-â* 'loves him') and lists in his vocabulary *nak-i-oq* 'reads, counts' (*nâk-ai* 'counts them', cf. Miyaoka 1975:70 *na'qa'*).

The very few examples which can be quoted from Chaplino all have *-i-* irrespective of the preceding phoneme. The short lists in Menovščikov 1960, 1967:78, 1967b and Emel'janova 1967, to be sure, only give examples of stem-final /t/ and /ə/, as, e.g., *aγlata-qā* 'carries it' → *aγlat-i-quq* (/a/ is anaptyctic after /t/, so there is really no "čeredovanie" *a* ~ *i* as Emel'janova 1967:275 sees it) and *kuva-qā* 'pours (water) out of it' → *kuv-i-quq* (WG *kui-ssi-voq*), but cf. also an entry in Rubcova 1971 such as *məsuni-Ləq*, verbal noun of *məsúnā-quq* 'cuts hair', tr. *məsúnā-qā* 'cuts his hair' testifying to a htr. derivative **məsuna-i-* with regular monophthongization. The Chap. forms corresponding to the WG causative suffix *-típâ* (**-tət-*) and its htr. derivative *-tit-si-voq* (e.g., *autdlar-típâ* 'lets him go' → *autdlar-tit-si-voq*) are *-sta-qā* and *-st-i-quq*, cf. Menovščikov 1960:94 *ulima-sta-qaŋa* 'he lets me manufacture' → *ulima-sti-quq* 'he lets (someone) manufacture', in which the sequences *-staq-* and *-stiq-* are definitely from older **-ttəq-* and **-ttiq-*, which in their turn arose through regular syncopation of /ə/ in the open syllables of **-tət-əq-*, **-tət-i-q-*. This means that the Chaplino deletion of whatever consonant once preceded the vowel of the half-transitive morpheme is found to antedate ə-dropping in an open syllable, which rule, then, though in part belonging to Proto-Eskimo, must have been repeated at a later period by this dialect area. The same must be true of Kusk. *-tsitâ*

(Hinz 1944:100) whose *-ts-* must be the product of the encounter of the two dentals — cf. the variant *-tstâ* — so that there seems to be no other explanation of the *-i-* but anaptyxis, a common enough phenomenon in this dialect. The Naukan facts are not without interest here: The only htr. morpheme found in the examples given by Menovščikov 1975 (p. 206–14 and the glossary) appears to be /-i-/ as in Chaplino. The material comprises stems in /-ə/, /-R/ and a dental only, exhibiting the following morphophonemic behaviour: /-ə/ is dropped by rule in an open internal syllable, cf. *tanēquq* (i.e. /tan-i-quq/) 'scrubs the floor' ← *tanáquq* 'washes himself' (Chap. *tana-qā* 'washes him', verbal noun *tānə-Ləq*); /-R/ is retained after any vowel, cf. *simíRēquq* /simiR-i-quq/ 'changes something' ← *simíRaqā* 'changes it' or *iváχtuR-ē-quq* 'examines something, does research' ← *iváχtuRā-qā* 'examines it, searches for it' (htr. morpheme also in the verbal noun *iváχtuR-ī-nəq* 'examination, search'); and a dental, surprisingly, assumes the shape /s/, cf. *unə́xs-ē-quq* 'leaves (someone)' from *unə́xtā-qā* 'leaves him' or *təŋús-ē-quq* 'flies away with something' from *təŋútā-qā* (WG *tíngúpâ*) 'flies away with it'. The causative of dental verbs (probably the original locus of WG *-t-ípâ*, Chap. *-s-taqā*, Kusk. *-tsi-tâ*, cf. the shorter form with stem-final vowel in WG *toqúpâ* = Chap. *tuqutaqā* = Kusk. *toqûtâ* 'kills him') has the form *-sītāqā*, cf. *mákəsītāqā* 'raises him' (WG *makitípâ*) from *makəta-quq* 'rises' (WG *makípoq*), which in its turn forms the htr. *mákəsīsēquq* 'raises someone' (Menovšč. 1975:214; I take the liberty of correcting the spelling *maqə-* [not repeated in the glossary]). Naukan /-sit-/, /-sisi-/ is now found to differ from Chap. /-st-/, /-sti-/ in presenting the same anaptyctic vowel as Kusk. /-cit-/ (htr., apparently not recorded by the handbooks, probably /-cici-/).

Now, the historical explanation of the htr. morpheme, as it presents itself through these more or less well-preserved alternations, is difficult to a degree parallelled perhaps only by the suffix *-ut* on which it is itself expected to shed light. At first glance, little can be said about its exact underlying form beyond the general formula -CV-, which raises as many problems as it contains elements: What consonant can reasonably be assumed to show the WG alternation "/s/ after vowel, /s/ after /t/, zero after /γ/ and /R/", the Kuskokwim alternation "/s/ after a dental, zero after /γ/, /R/ and /ə/", and a Chaplino-Naukan invariable zero, accompanied by certain adjustments of a stem-final dental? And which vowel did in this environment regularly give pan-Eskimo /i/, except when followed by the instrument noun suffix where its morphophonemic behaviour was that of either //i// (WG *-tsit* and the type *ímît*, both discussed in 6.6.1) or //ə// (WG *-ssut*)? And how does this tie in with the Naukan alternation /t/ ~ /s/?

6.7.2. The two kinds of dental stems

One important observation to be made here is that there are two kinds of "t"-stems in Eskimo, viz. (1) stems derived with the instrument noun suffix in verbal function, WG *-úpâ* '— with it, for him', presenting the same morphophonemic

variation as the nominal suffix (e.g., WG *sánápâ* 'carves, manufactures something for him or in his place' like *sánat* 'tool' from *sana-voq*) and therefore definitely pointing to an old stem-final sequence *-*tə* rather than a plain *-*t*, and (2) verbal stems ending in a "coronal" (non-labial, non-velar, and non-uvular) consonant of somewhat unclear articulation, these stems being restricted to verbal function and therefore not very easy to single out of their paradigmatic variation. These two groups behave differently when forming halftransitive derivatives. Group 1 undergoes regular syncope of /ə/ in an open syllable, and the cluster consisting of the /t/ and the suffix-initial consonant gives WG /şş/, e.g. *sánássivoq* 'carves something for someone (etc.)'. In group 2 the result is invariably WG /-tsi-/ as described above. Theoretically, this difference could be due to either chronology — the cluster of group 1 then being younger than the syncopation of /ə/ — or to an underlying difference of substance located in the last stem consonant, i.e., in the "t". In fact there are enough indications that this consonant is, in the second group, the morphophoneme *//c//* to prove the second of these alternatives correct.[33] This can be read out of the conjugation synopsis in Hinz 1944:55-9. Before the suffix *-an* of 3.sg. "conjunctive" (i.e., subordinate preterite) we get Kuskokwim forms like *atu-an* (< **atuR-an*) from *ator-toq* 'is used', *ayên* (< **ajaɣ-an*) from *ayag-toq* 'goes away', *ukfar-an* from *ukfar-toq* 'believes', *agên* (< **aɣa-ŋan* with hiatus-filling *-ŋ-*) from *aga-uq* 'is hanging', *nau-ngan* from *nau-goq* 'grows', *taq-ngan* (< **taqə-ŋan*) from *táq-oq* 'is finished' (in Hinz given with *-k-*, but cf. Chugach *tarquq* and Chap. *tāqa-quq*), but *maktsh-an* (i.e., /makcan/) from *makt-oq* 'rises', obviously from **mak(ə)c-an*. With the suffix *-kan* of 3.sg. "subjunctive" (subordinate future) we have *atoqan* (**-Rk-* > Proto-Esk. **-q-* though given by Hinz as *-k-*), *ayakan*, *ukfaqan* (Hinz *-kan*), *aga-kan*, *nau-kan*, *takkan* (thus Hinz p. 57, obviously from **taq-kan* < **taqə-kan*, the phonetic reality underlying the spelling with *-kk-* being unclear to me), but *makiskan* from **makəc-kan* contrasting with the preservation of *-tk-* in Kusk. and Chap. *atkuk* 'coat'. The same behavious of "t"-stems is seen in the Chaplino preterite and its Kusk. correspondence in *-umauq* (Hinz's suffix no. 160) expressing completed action. In Menovščikov 1967:96 (§ 113) the morpheme of this formation is given — with the usual inaccuracy of this work in matters of segmentation — as *-ma*. In fact, the analysable examples given by Menovščikov point to an underlying sequence *-uma-* followed by the usual indicative (or participial) morphemes, most probably intr.3.sg. **-uma-δuq*, tr.3.sg.+ 3.sg. **-uma-δaR-a*. In WE outside Sirenik, *-δ-* and *-R-* disappeared and gave Kusk. *-umauq -umâ* and Chap. *-umāq -umā* with regular contractions, and correspondingly Sirenik *-(ə)məčəχ -(ə)məčəRa* with regular vowel reduction. Some examples will illustrate: Chap. *itχa-quq* 'goes in' → *itχ-uma-ŋa* 'I went in' (stem **itR-*, **itəR-*), *ana-quq* 'goes out' → *an-uma-ŋa* 'I went out' (stem **anə-*), *taɣi-quq* 'comes' → *taɣi-ma-ŋa* 'I came' (*iu* > *ī*, vowel-length being systematically ignored in M.'s grammar outside the phonetic sections), *aɣlaRa-quq* 'goes'

→ *aγla-ma-ŋa* 'I went' (*R* > Ø intervocalically after a non-first vowel, then *au* > *ā*, no notation of length); Kusk. *kuv-â* 'pours it out' → *kuv-ûma-uq* 'it has been poured out', *anertor-â* 'saves him' → *anertûmauq* 'it has been saved' (**-tuR-uma-*); Sir. *učəmə-mə-čə-ŋ* 'I manufactured something' (Menovščikov 1964:83) from *učəmə-čəqəx-təx* 'manufactures' (the corresponding Chaplino form given by Men. in 1967:96 as *ulimaŋa* is no doubt a misprint for *ulima-maŋa*), *kəlγəti-mə-čəx* 'it appeared' (Men. 1964:85) from the verb which in Chap. has the form *kəlγúta-quq*. After a stem-final dental, this suffix gave rise to the very surprising sequence **-c-ima-δuq*, tr. **-c-ima-δaR-a*: Chap. *aγlata-qā* 'carries it' → *aγlas-imā*, *tuγuta-qā* 'brings him something' → *tuγús-imā* (the latter example being borrowed from the lengthy note in Rubcova 1954:121-3 devoted to the fact that "in the present the correspondence of the [preterite] suffix *-sima* is the suffix *-ta*" [p. 122]); Kusk. *toqût-â* 'kills it' → *toqûts-ima-uq* 'it has been killed', *unît-â* 'leaves him' → *unîts-ima-uq* 'has been left';[34] Sir. *aRaRət-əqəx-tə-mkən* 'I lead you' → *aRaRəs-əmə-rə-mkən* 'I led you' (Men. 1964:86). The sequence **-cima-* was lifted out and generalized to all verbs in East Eskimo, cf. WG *sana-sima-voq* 'has carved' and Barrow *ikayoq-sima-lanniari-pkin* 'I shall undoubtedly help you' (Jenness 1944:26). With dental stems the normal WG form is now of the type *nâpí-sima-vât* 'they have (no doubt) met him' (*nâpí-pâ* 'meets him'), but there does remain a small residuum of old forms like *tarrís-ima-voq* 'is lost out of sight' from *tarrí-poq* 'disappears, sets behind something' or *nâtis-ima-voq* 'has been hung on a hook' from *nâtĭ-pâ* 'hangs it on something (like a nail or a hook)', both given by J. Petersen 1951: 226. Even though the morphophonemic alternation in the initials of the suffix *-uma-/-ima-* remains thus far obscure,[35] there can be no doubt that the word-final sequences *-c-an* and **-c-ima-δuq* have preserved the original stem-final consonant of the dental stems of group 2 before a suffix-initial vowel.[36]

6.7.3. The consonant of the htr. morpheme

With this finding in mind we can now analyse the halftransitive final *-tsivoq* of WG dental verbs of group 2. There can be no doubt that the *-ts-* is here the outcome of the encounter between stem-final **-c* and the suffix-initial consonant appearing after a vowel as WG /ṣ/. It is an interesting fact that in Chaplino and Sirenik the cluster arising at the morpheme boundary between a stem-final dental (of group 1 verbs, from which it was generalized to all dental-stem verbs of these dialects) and the halftransitive suffix is treated exactly like the cluster originally produced by the same dental + the initial of the suffix of the active participle (in Siberia functioning as the so-called "near past"). Thus we find Chap. *aγlati-quq* 'carries something' with the same *-t-* as *qamaxtuq* 'it has just been finished' (i.e., "that's it", the finishing formula of the tales recorded by Rubcova 1954) from *qamaxta-quq* 'is being finished', and in Sir. the semantically corresponding pair *aRaR-ət-i-čəqəxtəx* and *qamáxtəx*, likewise with *-t-* in both (for a more detailed analysis of these forms, see the following paragraph). Now,

in Sirenik the "near past" morpheme is *–čəχ* after a stem-final vowel, cf. *učəmə–čə–ŋ* 'I manufactured' (Menovščikov 1964:83), so the suffix-initial consonant concerned is plainly Proto-Esk. *–δ–. In WG this consonant gives /ʂ/ in intervocalic position when preceded by *ə, from which position it must have been generalized to all vocalic stems (instead of being regularly deleted after all vowels other than *ə), so that for this dialect we get not only *neri–ssoq* 'eating' (< **nəRə–δuq*), but also *toqu–ssoq* 'dying' and *sana–ssoq* 'carpenter' (**tuqu–δuq* and **cana–δuq* with analogical retention of /–ʂ–/). Regular deletion is observed in Chaplino and Naukan, though probably restricted by rule to the position after a non-first vowel, cf. Chap. prs. *ukini–quq* 'sews' → near past *ukiniq* (Menovščikov 1967:96 for *ukiniq* < **ukini–uq* < **ukini–δuq*) 'he just sewed' (or 'he just started sewing'), *ulimāq* (Men. ibid. without notation of length) 'he just manufactured' (< **ulimauq* < **ulima–δuq*), Nauk. *aki–ûq* 'he just answered' (**aki–δuq*), *sana–ûq* 'he just manufactured' (**cana–δuq*) (Men. 1975:233f). After /R/ the suffix-initial *–δ– appears as /t/ in all dialects: WG *ajor–toq* 'bad', Kusk. *qavar–toq* (Hinz 1944:163 with incorrect *k–*) 'sleeps' = Chap. and Nauk. *qavaχ–tuq* 'he just fell asleep' (for Nauk. recorded by Menovščikov's text material, e.g., Men. 1975:363, sentence 218). Sir. *aftalRaχ–tə–ŋ* 'I just worked' (Men. 1964:83). This /t/ was carried over to the velar stems, apparently before the splitting up of the proto-language, cf. WG *nâlag–toq* 'obedient', Kusk. *tigilig–toq* 'steals', Nauk. *aγlux–tuq* 'he just worked', and Chap. *qamaxtuq* and Sir. *qamáxtəχ* just cited above (the phonetically regular treatment of *–γδ– is seen in WG *ugssuk* = Sir. *uγčəx* 'barbed seal' and WG *igssuk* = Sir. *iγčəx* 'testicle'). In Chaplino the /–t–/ was further exploited to prevent contraction of /u–u/ in the type *tuqu–tuq* 'he just died' (Men. 1967:96) corresponding to Sir. *tuqə́–čəχ* (Men. 1964:140, tale 8, sentence 218). After all consonants other than /R/ (and /γ/), the reflex of Esk. *–δ– was simply lost in non-Sirenik WE: Chap. *təŋ–uq* 'flew' **təŋə–δuq* (through **təŋδuq*), *an–uq* 'went out' < **an(ə)–δuq*, *puv–uq* 'blew' < **puv(ə)–δuq* (cited from Men. 1967:96), Nauk. *tə́ŋ–uq*, *ān–uq* (Men. 1975:234), Kusk. *tingoq*, *anoq*, *puvoq*. Men. 1964 seems to contain no corresponding Sirenik forms, but as the present indicative morpheme (3.sg.intr.) *–čəqəχtəχ* ~ *–təqəχtəχ* shows the same suffix-initial allomorphy as the morpheme of the near past, glossary entries like *an–čəqəχtəχ* 'goes out' and *təŋ–čəqəχtəχ* 'flies' may safely be taken as proof of near past forms of the shape (*)*an–čəχ*, (*)*təŋ–čəχ* from **an–δuq*, **təŋ–δuq*, i.e., the same pre-forms as for the rest of WE. The only major difficulty encountered when operating with PE **–δuq* is the WG (EE) active participle of dental stems in /–ttuq/ (in both types: *tikiútoq* 'who has arrived' like *makítoq* 'who has got up', cf. Schultz-Lorentzen 1952:30). But the suffix-initial consonant is doubtless the same in the passive participle,[37] which with dental stems presents the two WG types (1) *nermússaq* 'that to which something has been lashed' (J. Petersen 1951:227 under *–ssaq* I, obviously from *nermúpâ / nerngúpâ* 'lashes it to something' = Chap. *nəmRūtaqā*, derived from *nimerpâ* 'winds it about' = *nəmRáqā*, a direct verbal application of the stem *nimeq* = *nə́məq*

'wrapping, band') and (2) *toqutaq* 'killed' (*toqúpâ* 'kills', causative of *toqu-voq* 'dies'). This means of course that the regular treatment of **-tδ-* (after syncope of **-ə-*) is Proto-Esk. **-tδ-* > pre-EE **-δδ-* > EE **-ɛ̌ɛ̌-* > WG */-s̬s̬-/*, and that underlying **-cδ-* gives **-t-*, probably already in Proto-Esk. (it should be noted, however, that WE trans. forms with */-ta-/* can be from any of these, cf. Naukan *tuqútā* 'killed it' and *itx̣útā* 'brought it in' in Men. 1975:348, sentences 107 and 134). Then the active */-ttuq/* can hardly be the phonetically regular form for any of the types in WG (though in WE it could well be regular for both), but will have to be explained by analogy, being in all probability a simple recomposition of a synchronic stem in */-t/* and a productive suffixal allomorph */-tuq/* originally belonging to uvular stems, i.e., */-t-tuq/* like */-R-tuq/*. The credibility of this assumption is considerably heightened by the fact that the process can be shown to have repeated itself in the normalization of the assibilated type *tikit-soq* (with */-tsuq/* from */-ttuq/* due to preceding **i*, not **ə*, cf. Labr. *tikít̬oq*) to present-day WG *tikít̬oq*, where */-suq/* was simply replaced by the "regular" postconsonantal shape of the morpheme */-tuq/*. The only form of this suffix required for the working of our underlying representations (i.e. the "original" form, as far as the reconstructions go) is, then, **-δuR* with a dental spirant.

6.7.4. The htr. **-δi-* in individual dialects

Very probably, then, the initial consonant of the halftransitive suffix is Proto-Esk. **δ*, too, and indeed, the additional assumptions needed to account for the details of its allomorphy are fully within reasonable limits. Regular WG treatments are */-s̬i-/* after **ə* (the type *kapi-vâ* → *kapi-ssi-voq*) and most consonants (*sapi-vâ* with anaptyctic **-ə-* → *sav-ssi-voq*), therefore also after stems in *-(u)tə-* like Esk. **uqaR-utə-paR-a* 'calls upon him' > **uqautpaa* > WG /uqauppaa/ (now /uqaappaa/) yielding a halftransitive **uqaR-utə-δi-puq* > **uqautδipuq* > EE **uqauɛ̌ɛ̌ivuq* > WG /uqaus̬s̬ivuq/ (spelt *oqáussivoq*, now /uqaas̬s̬ivuq/); further, the sequence */-tsi-/* represents stem-final **-c* + suffixal **-δi-* as in Esk. **tuqu-c-δi-puq* > **tuqucc̬ipuq* > EE **tuquccivuq* = WG *toqutsivoq* 'kills someone'. The regular treatment after *-a*, *-i* and *-u* should have been plain WG */-i-/* with loss of **-δ-* as mentioned above. In fact, although the allomorph */-s̬i-/* of **ə*-stems was generalized to give forms like *ila-ssi-voq* 'adds', *ili-ssi-voq* 'lays, buries' (stem Esk. **əLi-*), *qalu-ssi-voq* 'scoops', an allomorph */-i-/* must have existed, for it was analogically extended to stems in */-R/* and */-γ/*, probably due to the early loss of these phonemes in many paradigmatic forms, so that forms like *agtor-pâ* 'touches it' → htr. *agtu-i-voq*, *amer-pâ* 'dresses, paints it' → htr. /ami-i-vuq/, *assag-pâ* 'washes it' → htr. *assa-i-voq*, *mísilig-pâ* 'examines it' → htr. /missili-i-vuq/ are found practically without competition. The type was even extended to cases where the */R/* — for */γ/* there appear to be no examples — was retained after **ə* as in the aspectual suffix *-ter-poq*, *-ter-pâ* VV 'gradually, again and again' or NV 'covers it with —', e.g.

iser-ter-pâ 'brings it in gradually' → htr. *iser-ter-i-voq* 'brings in the harvest', *imer-ter-pâ* 'waters it' → htr. *imer-ter-i-voq*.

In WE the dental stems had a treatment of their own, the dialectal difference pointing to two types: in Kuskokwim the final *-ts-i-oq* as in *toqutâ* 'kills him' → *toquts-i-oq* definitely arose from **-c-δi-* and was generalized to stems in **-(u)tə-δi-* like *pikiutâ* 'conveys it' → htr. *pikiuts-i-oq* (Hinz's Supplement 1944:97). The same generalization obviously underlies the Naukan halftransitives in *-s-i-quq* treated in 6.7.1. above. Chaplino and Sirenik, however, generalized the form *-t-ī-*, stemming from the type **-(u)t-δi-* < **-(u)tə-δi-*, cf. Chap. *aγlat-i-quq* 'brings', Sir. *aRaR-ət-i-čəqəχtəχ* 'carries something' (both with **-aR-ut-δi-* > **-aRutī-*, in Chap. with *R*-dropping and monophthongization *au* > *ā*, in Sir. with vowel reduction, the morphological structure being as in WG *oqar-poq* → *oqá-u-pa* → htr. *oqá-u-ssi-voq*). Outside the dental stems Kuskokwim and Chaplino have only *-ī-*, noted long in Rubcova 1954:154, obviously owing to the fusion with the *-a-* of the following prs. morpheme **-δa(R)-* (Sir. *-čə*[*R*]*-*).

The few examples in Men. 1964:79 of a Sir. suffix *-ti-* all allow the isolation of segment *-iti-* when compared with their respective glossary entries (except "*aRaRə-ti-čəqəχ-təχ*", where the suffix is in fact *-i-* as just shown). Thus, *sitəRčaR-iti-čəqəχtəχ* 'goes for an outing by sledge' clearly belongs to *sitəRčaR-təqəχtəχ* 'slides, goes by sledge', likewise *qəruxsiR-iti-čəqəχtəχ* 'chops wood' to *qəruxsiχ-ta* 'wood-cutter' and Chap. *qūxsíRā-quq* 'cuts wood' and *skati-čəqəχtəχ* 'keeps watch for something' to *əskə́-čəχ* 'opened his eyes' (near past). But this is not enough to account for the functional relationship: a halftransitive verb must of course be derived with a morpheme expressing the intransitivization of a *transitive* verb. Therefore, Menovščikov's examples cannot be derived directly from the *intransitive* stems with which they are here confronted, but clearly presuppose an intermediary derivation with some transitivizing suffix.

In the first of the three examples this is undoubtedly the suffix **-(u)tə-*. The verbal base is here Esk. **citu-* seen in WG *sisu-voq* 'slides downwards' = Chap. *stā-quq* (with *ua* > *ā* as in Chap. *tuqá-quq* = WG. *toqu-voq* 'dies', *tuγá-qā* = WG *tigu-vâ* 'takes it' [with a Chap. assimilation **təγu-* > **tuγu-*], *naLā-quq* = WG *nalu-voq* 'does not know how', cf. Chap. *naγwā-quq* = WG *nau-voq* 'grows' with Chap. reflex of /u/[38], cp. past tense *stūmāq* (**citu-uma-δuq*) and verbal noun *stú-Ləq*. To this was added an aspectual suffix of iteration, probably a conglomorate of the shape **-aRə-δuaR-* composed of (1) the suffix of WG *arq-ar-poq* = Chap. *atχ-áRa-quq* = Sir. *atχ-áχ-təqə̄χtəχ* = Kusk. *atr-ar-toq* 'descends, dives' as against WG *ater-poq* = Chap. *ātχa-quq* (stem **atəR-*, in Chap. with prs. marker **-(δ)a-* and subsequent syncope of *-ə-*) and (2) Proto-Esk. **-δuaR-*, i.e., the suffix appearing as WG *-(t)uar-poq* VV 'keeps on -ing'.[39] From the proto-form **citu-aRə-δuaR-*, the development in Chap. and Sir. was in part identical, and perhaps one has to reckon with a common intermediary stage **citāRδāR-* with double monophthongization.

In Chaplino the further development consisted in the curious sound law deleting the /i/ of a word-initial sequence /sit-/ with simultaneous lengthening of the following vowel known from Chap. *stāmat* = WG *sisamat* 'four' from Esk. **citamat*, and in the dropping of postconsonantal /δ/ (examples above). In Sirenik, there was vowel reduction (by unclear rules) to /ə/, and **δ* changed to /ć/, so that the verbal stems come out as Chap. *stāRāR-* and Sir. *sitəRčaR-*. The meaning of this derivative is given in Rubcova's dictionary as iterative ("mnogokratnoe dejstvie") 'slides downhill'. This shade of meaning is not stated expressly in Menovščikov's Sirenik glossary (Men. 1964), but the isofunctional character of the two forms is plain from the very neat correspondence in the derivative Chap. *stāRaR-vik* = Sir. *sitəRčaR-vəx* 'place for sliding, sledge slope'. From this stem is derived the Chap. transitive verb *stāRāta-qā* 'brings him downhill in a sledge', formed with the suffix **-utə-* like *ātχ̣āta-qā* 'carries it down' = WG *arqáupâ*. The halftransitive of this should be Chap. *stāRāt-ī-quq** (not quotable from any source known to me) traceable to Proto-Esk. **citu-aRə-δuaR-ut(ə)-δi-*. The expected Sirenik form would be **sitəRčaRəti-čəqəχ̣təχ̣* 'takes something away in a sledge'. The actual form given by Men. 1964:79 (quoted just above) has *-iti-*, not *-əti-*. One can only make more or less airy guesses as to the origin of this segment, but the solution involving the fewest irregular ("spontaneous", "chance") elements is probably the assumption that the htr. morpheme *eo ipso*, which is Chap. and probably also Sir. *-i-*, simply combined with the final string of dental-stem halftransitives in *-t-i-* to give the conglomerate product *-iti-*.

Of the remaining two examples, one, *skati-čəqəχ̣təχ̣* 'keeps watch', most probably contains the same suffix **-(u)tə-*. In Chap. we have the (probably unrelated) verb *sχ̣ápaγ-úta-qā* 'looks out for it, keeps watch over it' derived from *sχ̣ápaγá-quq* 'looks, watches'. Therefore Sir. *skati-* (with sandhi deletion of **ə-*) may very well be taken to be composed of the stem appearing in the glossary and texts as *əskə-* + the conglomerate suffix *-iti-* functioning as the halftransitive of **-utə-*. Indeed, a stem form **əska-* could explain everything. Judging from the correspondence Chap. *ulima-sta* = Sir. *učəma-sta* 'artisan' at least the vowel /a/ is not reduced before the agent noun suffix in Sir., so that the glossary entry *əskə́-sta* may be taken as a conclusive argument for this stem form. The transitivized derivative would be **əska-tə-* > Sir. **əskətəqəχ̣təχ̣* 'looks out for it', and the halftransitive of this could hardly be anything besides **əska-itī* > **əskātī-* without weakening of the long vowels, i.e., exactly the form *(ə)skati-čəqəχ̣təχ̣* given by Menovščikov.

For the last example the same can be assumed (if not proved): the Esk. word for 'looking for firewood' with the secondary meaning of 'chopping wood' is **qəδuγ-ciuR-* as seen from the close correspondence of WG *qissug-sior-poq* 'looks for driftwood or fuel; cuts wood' = Sir. *qərux-siR-* (the suffix **-ciuR-* appearing also in Kusk. as postvocalic *-shor-toq* ~ postconsonantal *-tshor-toq* NV 'is in search of, is hunting', Hinz no. 128). From this, a derivative **qəδuγ-ciuR-utə-* would mean 'cut wood for —', and its htr. would be Esk. **qəδuγ-*

-ciuR-ut(ə)-δi- 'cut wood for someone', which in Sir. would substitute *-iti-* for its last two morphemes to give the form *qərux-siR-iti-čəqəχtəχ* 'he is cutting wood for someone'. That the two last examples in fact do contain a morpheme (or the substitute of a morpheme) expressing the notion of some "indirect" object, appears even to be corroborated by the two sentences given as illustrations in Men. loc.cit.: *Kujapa skati-čəqəχtəχ ajvəR-nu* 'Kujapa is watching for walrus' and *nukəLpiγčəχ qəruxsiR-iti-čəqəχtəχ apa-mə-nu* (my segmentation) 'the boy is cutting wood for his grandfather' both contain explicit mention of a more or less indirectly affected object, in both cases in the shape of an allative case form in *-nu*.

6.7.5. The htr. *-δi- + "-ut"

Thus, everything analysable clearly demands a proto-form *-δi-* for the suffix of halftransitive verbs, and nothing among the somewhat tricky details of the htr. forms themselves is found to exclude this conclusion. There remains, however, the important question of what exactly happened when the instrument noun suffix was added. Descriptively, the situation is clear anough: *-δi- + the suffix so far identified as "*-Rutə*" gave East Eskimo *-δδun* (WG *-ssut*) except when preceded by stem-final *-c*, in which case the final outcome of *-c-δi- + "-Rutə" was pan-Eskimo *-ccin* (WG *-tsit*).

It should be noted, however, that WG /-ʂʂut/ is hardly found outside of stems in *-t(ə)*, so that the geminate /-ʂʂ-/ pointing to (pre-) EE *-δδ- may in fact represent a Proto-Esk. cluster *-t-δ-. This is certain for words of the type *oqáussut*, which comes somehow from (pre-Esk.) *uqaR-"Rutə"-δi-"Rutə" through Proto-Esk. *uqaRutδun*. Words like WG *tunissut* 'gift' may then, theoretically, either be made analogically on the pattern of *oqáupâ* → *oqáussut* or simply represent the regular phonetic treatment of a proto-form *tunə-δi-"Rutə" suggested by the morphological analysis. If the first of these options is to be preferred, we must ask ourselves what the regular form would have been, and — supposing this to be different from the actual form — the answer could hardly be anything other than *tunə-δδi-n* formed with gemination and the same reduction of the suffix as seen in the type *canna-n* 'tool' (WG *sánat* from *sana-voq*), *cilli-n* 'whetstone' (WG *sitdlit* = Kusk. *slin* from WG *sili-voq*), *tuqqu-n* 'cause of death' (Kusk. *toqun* ~ WG *toqu-voq*). In this case, the total lack of WG instrument nouns in /-ʂsit/, which are not even found as sporadic archaisms, would be most embarrassing, so that it must be assumed that a word-final sequence *-δδun* did exist already on the level of Proto-Esk. and that it represented the regular treatment of an older sequence identified so far as *-δi-"Rutə". However — as the manner of quotation indicates — even this reconstruction is open to some further refinement, on which see the following section.

6.8. Identification of the underlying form *-*Rɣətə*

The exact form of the suffix hitherto cited as "*-*Rutə*", or phonetic alterations of this basic form, becomes clear from a closer look at the phonetic processes involved in the evolution of the most bewildering variation observed in Proto-Esk. **canna-n* of type 1 and **kapp-un* of type 2. As Eskimo gemination has been found to be the compensation for loss of an /R/ or a /γ/ in certain ante-consonantal positions, it is clear that in the type **canna-n* the *-u-* of the suffix was either consonantal or absent at the time when gemination occurred. If it were absent, the correspondence with the type **kapp-un* with regard to gemination would be merely fortuitous, which seems very hard to believe. Thus, if **canna-n* and **kapp-un* are to have their gemination explained by the same rule, there remains only the possibility that the *-u-* was once consonantal, i.e. that *R*-dropping with gemination changed sequences of the shape **canaRɣtə* **kapəRɣtə* to **cannaɣtə* **kappəɣtə*. Since there is no Esk. morphophoneme *//ɣ//*, its consonantal character in these forms must be due to a neighbouring vowel. The only realistic reconstructions are, therefore, **cana-Rɣətə* **kapə-Rɣətə* with /u/ in antevocalic position and therefore non-syllabic, a rule known e.g. from forms like the WG possessive 3.sg.ie.sg. *igdlú-ngua* 'his small house' from *igdlú-nguaq*, obviously generated through *-ŋŋɣaGR-a > *-ŋŋɣɣaRa > *-ŋŋɣɣRa > *-ŋŋɣa > PE *-ŋŋua with antevocalic /u/ treated as a consonantal member of the geminated cluster responsible for syncope and made vocalic only after the first cluster reduction rule had reduced the five consonants *-ŋŋɣɣR- to three. In *-Rɣətə, the first /ə/ occurred in an open syllable and was consequently dropped, whereas the /ə/ of the stem *kapə- was retained before the two consonants *-Rɣ-. Thus, the first steps of the postulated development are perfectly regular: **cana-Rɣətə* **kapə-Rɣətə* > **canaRɣtə* **kapəRɣtə* > **cannaɣt(ə)* **kappəɣt(ə)* > **cannaɣn* **kappəɣn* > Proto-Esk. **cannan* **kappun*. The different development of *-*aɣt-* > *-*at-* (and *-*iɣt-* > *-*it-* in **cu-li-* 'do something' → **cullin*, *-*uɣt-* > *-*ut-* in **tuqu-* 'die' → **tuqqun*) on one hand and *-*əɣt-* > *-*ut-* on the other is, of course, invented ad hoc. But it is found to run counter to no known sound law and is, among all conceivable ad hoc solutions, no doubt the simplest and most realistic one which can account for the observed variation,one which certainly is not explainable by any of the rules known in advance.

6.8.1. *-*Rɣətə* in types 3–4–5

Most of the other types present no dramatic problems when "-ut" is analysed as *-*Rɣətə*. Types 3–4–5 are, as stated, in complementary distribution, and the sound laws presupposed by the following developments are contradicted by no known material: (3) **cap-Rɣətə* 'means of blocking the way' > **capɣtə* with loss of *-*R-* in the environment "p__ɣ" > **caput* > Proto-Esk. **capun*; (4) **tan-Rɣətə* 'means of anointing > **tanRɣtə* with retention of *-*R-* in the environment "n__ɣ" > **tanRut* > PE **tanRun*; (5) **naLu-naR-ic-Rɣətə* 'means

of being not incomprehensible, sign' > **naLunaRitRu̯tə* > **naLunaRitRutə* > **naLunaRitRut* > PE **naLunaRitRun* > EE **nalunaiqqun* > 19th cty. WG /nalunaiqqut/ (now /-aaqqut/). The deviations presented by the subgroups mentioned under type 3 are found to be triggered by regular gemination: **paRuR-Ru̯ətə* 'means of paddling' > **paRuRRu̯tə* > **paRRuRu̯tə* > **paRRuRutə* > **paRR(R)ut(ə)* with synscope > **paRRut* > Proto-Esk. **paRRun*; **pi-ŋjaR-Ru̯ətə* 'means of hunting something' > **piŋjaRRu̯tə* > **piŋj̯aRu̯tə* with gemination > **piŋj̯aRutə* with vocalization of **-u-* > **piŋj̯aRut* > **piŋj̯aRun* > **piŋj̯Run* with syncope > **piŋjun* with cluster reduction > Proto-Esk. **piniun*. These examples are of course decisive for questions of chronology: Note, especially, that the vocalization of consonantal **-u̯-* is younger than gemination, but older than syncope, which means, of course, that syncope is – as elsewhere – found to be younger than gemination.

6.8.2. **-Ru̯ətə* in the type *ímît*

The type of WG *ímît* 'ramrod' treated in 6.6 is found to contain Proto-Esk. **-iRiin* provided (1) that the suffix is **-Ru̯ətə* and (2) that the suffix of half-transitive verbs **-δi-* was changed to **-j̯i-* prior to gemination, as assumed above. We have then **imaR-liR-δi-Ru̯ətə* 'means of providing something with content' > **imaRliRj̯iRu̯tə* > **immaliRj̯iu̯tə* > **immaliRj̯iun* > **immliRj̯iun* > **immiRj̯un* with cluster reduction > **immiRiin* > PE **immiRiin* > EE **immiin* > WG /immiit/. The exact conditioning of the process **-δi-* > **-j̯i-*, especially whether or not it is dependent on a preceding **-i*(C)-, may be left aside for the time being.

6.8.3. WG *-ssut*

Another assimilatory process appears to be responsible for the allomorph seen in WG *-ssut*. As was shown above (6.7), this is the regular instrument noun formation from halftransitives in WG *-ssi-voq* and *-ssi-voq*. The latter of these was found to be regular with stems in **-tə*, while the former appears in vocalic stems but was originally restricted to stems in **-ə*. Thus all relevant verbal stems seem to agree in having the stem-final **-ə*. In fact, only in one instance did a screening of the WG lexicalized material reveal a derivation *-ssi-voq* → *-ssut* departing from a verb with a vocalic stem-final other than **-ə*, viz. in the case *qaerqu-vâ* 'calls him' → *qaerqussivoq* → *qaerqússut* (6.7 above). But even here there are good reasons for assuming an older stage with stem-final **-ə*. The form *qaerqu-vâ*, also meaning 'invites him, summons him', is plainly a derivative from *qai-voq* 'comes' with the suffix *-rqu-vâ* VV 'bids him to –; orders him to –; permits him –; wishes that –; begs him to –; in order that –' (semantics as given by Schultz-Lorentzen 1927:293); the connection has been seen (at least) by Schultz-Lorentzen 1952:44, and it is certainly strengthened by the fact that *-rqu-vâ* regularly forms the htr. *-rqu-ssi-voq*. The WG *-rq-* (/-qq-/) is not an old geminate, but represents a late assimilation, as revealed by the

Barrow form *qai-tqo-ga* 'he tells him to come' given by Jenness 1944:25 (where the suffix is misanalysed as "*-qoga*"). The West Eskimo correspondences are now somewhat easier to identify. In Hinz's Kusk. material we find the suffix *-skâ* VV 'wants him to; bids or asks him to' (1944:100, no. 134) illustrated by e.g. *tai-goq* 'comes' → *tai-skâ* 'bids him to come'. For this connection to be correct, Hinz's spelling will have to be a mistake for *-sqâ*, and in fact the uvular is what we find in Siberian. For Chaplino, Menovščikov 1967:75 gives "*-sqa*", i.e. /sqə-/ (Rubcova 1954:195 gives examples of preterite forms in *-sq-uma-*), and for Naukan, Men. 1975:216 has "*-jqa*", i.e. /-sqə-/ (cf. Nauk. *nájquq* = Chap. *nasquq* = Kusk. *nasqoq* 'head' or Nauk. *nájpətaqā* = Chap. *naspətaqā* 'determines it').[39b] Thus, WE clearly points to **-cqə-*, and whatever the origin of the *-u-* of EE **-tqu-*, the derivation *-ssi-voq* → *-ssut* may well date from a period when the stem-final vowel of this suffix was still **-ə*. It may then safely be asserted that all verbs presenting halftransitive derivatives in which the vowel of the suffix **-δi-* behaves morphophonemically like **-ə-*, yielding instrument nouns in **-un*, not **-in*, are themselves found to present (or to have replaced verbs presenting) stem-final **-ə*. Everything then boils down to the fact that an expected sequence **-ə-δi-Rɣətə* behaves as if it were **-ə-δə-Rɣətə*. The obvious solution here is that a simple straightforward assimilation has changed the **-i-* to **-ə-*. Again, this solution is ad hoc, but not contradicted by any known material and not unrealistic: if **ə* was phonetically a retracted or lax variety of **i*, this is a very likely kind of assimilation, consisting merely in retention of the tongue position (or of a certain degree of articulatory tension) throughout all four syllables, of which three already contained the vowel **ə*. This assimilation is of course older than the dropping of **ə* in an open internal syllable and, if the change **-δi-* > **-ji-* dealt with in the preceding paragraph does not presuppose a preceding **i*, older than this change as well. We have then: **kuvə-δi-Rɣətə* 'means of pouring' > **kuvəδəRɣətə* > **kuvə-δəRɣtə* (the reason for the retention of the stem-final **-ə* is unknown [paradigmatic levelling?], but the retention is definitely a fact tying in with the distribution of instrument-noun types 2 and 3, as described above) > **kuvə-δδəɣt(ə)* > **kuvəδδəɣn* > PE **kuvəδδun* > EE **kuvəžžun* (or the like) > WG /ku(v)iṣṣut/. Correspondingly with **-cqə-* : **qaRi-cqə-δi-Rɣətə* > **qaRicqəδəRɣətə* > **qaRicqəδəRɣtə* > **qaRicqəδδəɣt(ə)* > **qaRicqəδδut* > PE **qaRicqəδδun* → pre-EE **qaRicqu-δδun* > EE **qaitqužžun* > WG (19th cty.) /qaiqquṣṣut/ 'vocation'. As stems in **-tə* are mostly (perhaps exclusively) derived with the instrument-noun suffix in verbal function, derivatives from these contain an underlying sequence **-Rɣətə-δi-Rɣətə*, where assimilation is all the more likely to occur as it here results in five consecutive syllables containing **-ə-*. An example is **ənqaR-δuR-Rɣətə-δi-Rɣətə* meaning something like 'means of subjecting something to thorough consideration', giving **ənqaRδuRRɣətəδəRɣətə* > **ənqaRδuRRɣtδəRɣtə* > **ənqaRδδuRɣtδδəɣt(ə)* > **ənqaRδuRutδəɣn* > PE **ənqaRtuRutδun* > EE **ətqaRtuužžun* > WG /iqqaRtuuṣṣut/ (*erqartŭssut*)

'ordinance, legal provision' (reconstruction of stem made under consideration of Chap. *nəqáRa-qā* 'remembers it/him' = Barrow *itqaq-toq* 'ponders, tries to remember' [Jenness 1928], here with the aspectual suffix known from such conglomerate suffixes as *-iar-tor-poq* VV 'is on the point of –, goes in order to–', *-ler-tor-poq* VV '– quickly', and *-vig-sor-poq* VV '– particularly').

6.8.4. The WG type *ikitsit* and conclusion

The type WG *ikitsit* 'match' contains, according to the above findings, a sequence **-c-δi-Rɣətə*. Here **-δi-* did not become **-ji-*, but **-cδ-* was assimilated to **-cc-*, this being a matter either of chronology or of the precise conditioning of **-δi-* > **-ji-*. The development of this form was, then, the following: **əkə-əc-δi-Rɣətə* 'means of making something burn' > **əkəcδiRɣtə* > **əkəcδδiɣt* > **əkəcδδiɣn* > **əkəcδiɣn* > **əkəcδin* > PE **əkəccin* (the shape of the verbal stem is seen in the verbal noun **əkə-nR*, erg. **əkə-nR-m* > Proto-Esk. **əknəq*, **əkənRom*, whence, with different paradigmatic levelling, 19th cty. WG /iŋniq/, /iŋniRup/ and Chap. *kənəq*, *kənRəm* 'fire').

It is seen, then, that all the details become realistic if (and only if) the underlying shape of the instrument-noun suffix is posited as **-Rɣətə*, and that of the halftransitive suffix as **-δi-*. The intriguing problem of the morphophonemic variation of the suffix "-ut" appears finally to be solved.[40]

7. CONCLUSION. THE CONDITIONING OF GEMINATION

7.0. General preliminary rule of gemination

With this analysis the last piece in the puzzle presented by Eskimo gemination falls into place. The rule by which gemination was triggered has been found to be of the following shape:

$$\begin{array}{ccccccc} C & V & G & & & & \\ 1 & 2 & 3 & > & 1 & 1 & 2 \end{array} \; / \; - \; \left\{ \begin{array}{l} C \; \left\{ \begin{array}{l} C \\ i \\ \# \end{array} \right\} \\ /R/ \end{array} \right\}$$

i.e. "a postvocalic uvular or velar spirant (here written as G) is lost when followed by two consonants, one consonant + *i*, one consonant + juncture, or by the phoneme /R/, and the nearest preceding consonant is geminated".

7.1. Further conditioning of gemination

It is not critical to the conditioning of gemination whether the consonant subject to gemination is preceded by a vowel or a consonant. It is true that the geminate can only be preserved down to the individual East Eskimo dialects *as a geminate* if a vowel precedes, but forms like 4.sg.ie.sg. **aRni* 'his own

mother' (WG *arne*) from **aRnaR-"ni"* and **iRni-puq* 'makes a son, gives birth' (WG *ernivoq*) from **iRn°R-li-puR* provide unambiguous evidence for the gemination of the final member of consonant clusters, just as their syncopation was proved to be the after-effect of gemination.

What does, however, appear to be a critical factor is exactly what kind of consonant preceded the *i* in sequences of the shape C_iVGCi (G = *R* or γ), which may come out as either $C_iC_iVCi > C_iC_iCi > C_iC_ii$ (or – if preceded by yet another consonant – as CC_ii) or as C_iVGCi (i.e., unchanged), depending on the character of C. Gemination was found before all suffixes in **-li-* and **-Li-* and before the individual suffix **-ni* of 4.sg.ie.sg. possessive, in both cases restricted to forms with preceding stem-final **-R* or **-γ*. It was found, restricted to forms with a stem-final vowel, before the suffix **-vik* of nomina loci for which a suffix-initial **-R-* or **-γ-* could be neither proved nor disproved. It was found *not* to occur when the suffix **-kiγ-* NV 'have a good –' was added to a stem-final uvular spirant, and one glance at the list of suffixes in e.g. Schultz-Lorentzen's dictionary (1927) is enough to prove that it does not regularly occur when uvular stems are elaborated by suffixes like **-niR-* VV 'is nice to –' (*tusar-ner-poq* 'is nice to hear', **-i-* being proved by **R*-dropping in the negative *tusarnipoq* /tusaR-ni-ip-puq/ 'is bad to hear'), **-pik* NN 'a real –' (whether the phonetically regular form be of the type seen in WG *ima-vik* 'main sea' matching Chap. *aŋja-pik* = Sir. *aŋjá-pix* 'real boat' or of the type instanced by WG *imar-pik* 'the real big sea' and *taler-pik* 'right arm' corresponding to Kusk. *imarpik* and *tatlerpik*), or **-ci-puq* NV 'provides –' (WG *ingner-si-voq* 'fetches the fire'). Insofar as the suffix **-miRu* NN 'inhabitant of –' is independent of the termination of the locative and not merely an elaboration of it added to all stems in defiance of obsolete phonetic laws, forms like *imar-mio* 'sea-dweller, aquatic animal' or *Iluliar-miu-t* 'inhabitants of Iceberg, i.e. Jakobshavn' point to non-occurrence of gemination before **-VRmi-*.[41]

7.2. Suggestions for underlying forms of relevant suffixes

One difficult question which can hardly be satisfactorily answered, is this: What did **-li-*, **-Li-*, 4.sg. **-ni* and (perhaps) **-vik* have in common phonetically with consonant clusters, word-final consonants, and the phoneme /R/? In the case of /R/, phonetic affinity to the vanishing spirant was obviously a major factor, so that this condition may be set aside as a special case with no repercussions for the analysis of the rest of the set, with which no obvious phonetic relationship is found to exist. As for **-ni*, it is probably just a special development of a single word-final consonant.[41a] Then, leaving the possibility *-Ci-* aside for a moment, we find gemination to occur whenever (postvocalic) *R* or γ appeared before a *tautosyllabic* consonant. One educated guess would therefore suggest that the suffix-initial consonant of *all* geminating suffixes once belonged to the preceding syllable. In the case of *-Ci-* this would mean that either the *-i-* was once consonantal, or a consonant has been lost before it. Since neither

*-ɟə- nor *-ɟi- occurs in the underlying forms of the analysable parts of the material, any of these could be involved here. Indeed, this assumption would explain the actual forms with considerable ease. If we re-write the suffix *-li-puq NV 'makes –' (4.1.11 above) as *-ɟə-puR we get, e.g., *iRn°R-ɟə-puR 'gives birth' > *iRn°RɟipuR > *iRnn°ɟipuR > *iRnn°lipuR > *iRnnlipuR > *iRnipuR > Esk. *iRnipuq > WG /iRnivuq/. With *-ɟi-puR, the first few steps would be *iRn°R-ɟi-puR > *iRnn°ɟipuR > *iRnn°lipuR. Thus, if the change was ɟə > ɟ, it was prior to gemination, if it was ɟi > i, it was posterior. For *-vik, parallel assumptions would give the options (1) *cana-Gvɟəγ > *cannavɟəγ > *cannaviγ > PE *cannavik > WG /sannavik/, erg. *cana-Gvɟəγ-m > *canaGvɟəγ°m > *canaGvɟγ°m > *cannaviγ°m > *cannaviγ°m > PE *cannaviγom > WG /sannavi(j)up/, or (2) *cana-Gvɟiγ > *cannavɟiγ > *cannaviγ > *cannavik, erg. *cana-Gvɟiγ-m > *canaGvɟiγ°m > *cannavɟiγ°m > *cannaviγ°m > *cannaviγom. This leaves only the problem why these forms did not undergo syncope of the final vowel of the verbal stem (the second –a–), seeing that both *-ɟə-/*-ɟi- > *-i- and *-CiC- > *-CiC- were found to be early enough to generate the syllabic structure demanded for this. The obvious way out is analogy, the structural transparency of the vocalic-stem type *tuqqu-vik being preserved owing to support from the consonant-stem type *tuqu-c-vik (WG toqúvfik). Then, everything considered, the smoothest solution is the assumption of a sound change *-ɟə(-) > *-i(-) (or *-ɟi(-) > *-i(-)).

Two important points of detail tie in with the assumption of consonantal *-ɟ- in these suffixes. First, the suffix of WG –lior–poq NV 'makes –' could simply be from *-ɟuR- with no intervening consonant between /i/ and /u/, as strongly suggested by the derivative in –(l)iúpâ NV 'makes it into –' containing the instrument-noun suffix, which gives the following development: *matu-ɟuR-Ruətə-paR-a 'uses it as means of making a door' > *matuɟuRRɣt(ə)paRa > *matuɟɟuRut(ə)paRa > *matuɟɟuRutpaRa > *matuɟiRutpaRa > *matuɟutpaRa > Proto-Esk. *matuliutpaRa > WG /matuli(j)uppaa/. Secondly, the chronology presupposed by these calculations, viz. (1) ə-dropping in open internal syllables, (2) gemination through loss of /R/ and /γ/ before tautosyllabic consonants, (3) vocalization of interconsonantal *-ɟ- and *-ɣ-, (4) syncope, and (5) cluster reduction – occurring in this order – is exactly the same as the order of events we were led to postulate in the above discussion of the suffix "-ut" (see especially section 6.8.1).

7.3. Suggestion for final rule formulation

I would, therefore, suggest the following formulation of the rule governing gemination as the most likely hypothesis that can be set up on the basis of our present knowledge:

$$\begin{array}{cccccc} C & V & G & & & \\ 1 & 2 & 3 & > & 1\ 1\ 2 & / \_\_ \end{array} \left\{ \begin{array}{c} C_1^n \mid \\ /R/ \end{array} \right\}$$

i.e. "a postvocalic uvular or velar spirant is dropped when followed by a tauto-syllabic consonant or the phoneme /R/, and the nearest preceding consonant is geminated".

The rule operated on a pre-stage of the Eskimo-Aleut proto-language. It was posterior to certain events of anaptyxis and /ə/-dropping, but antedated a number of other important syllabic adjustments, including syncope and reduction of consonant clusters to the first three, later the first two, members of a series. As unpredictable word-forms caused by this rule are found in great quantities in the grammar and lexicon of all dialects of this linguistic family, and as a number of such forms were taken as models for new forms and derivations, this is one of the notable cases where diachrony lends substantial support to a meaningful analysis of synchronic facts.

8. Appendix I: EMPHATIC GEMINATION

8.0. General remarks: Ulving's theory

The gemination presented by a number of demonstrative and anaphoric word-forms, such as WG *avſa* /avva/ 'look, there in the north!' and *tȧuna* = 19th cty. /ta-unna/ with anaphoric *ta-* (now /taanna/) 'that one just mentioned' as opposed to *ava-ne* 'in the north' and *una* 'that one, he, she, it' has been treated in the main correctly by Tor Ulving (1953:51f). Ulving's main theory of dynamic stress as the active factor producing gemination in general is, however, unprovable. Stress is non-phonemic in Eskimo, so even phonetic changes which *are* in actual fact caused by the influence of stress can just as well be correlated with other factors, as was the case with the pre-Eskimo syncope in **alluni* > **allni* above. But in the present case it admittedly makes very good sense to call attention to "a natural tendency . . . to put strong stress on the initial syllable of a form employed to arouse the instant attention of an interlocutor" (Ulving 51). But even so there is no way of proving this theory. Nothing positively indicates that the geminates presented by the output of such attention-arousing pronominals originated in simple consonants following emphatically stressed vowels rather than being simply emphatic geminates themselves, created directly by the emphatic character of the word.

8.1. List of WG demonstratives presenting emphatic gemination

Following is a list of the WG examples of exclamative demonstratives formed by adding /-a/ (with which cf. the particle *-a* in a number of personal endings) to a monosyllabic pronominal stem and geminating the stem-final consonant (after Schultz-Lorentzen 1945 §§ 19-21 and J. Petersen 1951):

8.1.1. *íka*

íka /ikka/ 'look yonder!'; non-exclamative *ika-*, e.g. loc. *ika-ne* 'yonder'; pronominal stem *//ik-//*: *ínga* /iŋŋa/ 'the one yonder', erg. *igssuma*, pl. *igkua*, obviously from **ik-na*, **ik-δum-a*, **ik-kuδ-a*, cf. Chap. *ikȧ*, *ikȧ-ni* 'on the other side', pronoun *ĩkna*, erg. *ikum** (not recorded by the handbooks), pl. *ĩkəxkut* (< **ik-kut*, cf. Ulving 1971:94); for inflection cf. Sir. *ik-na*, erg. *ik-čəm-a** (judging from *iŋ-čəm-a* 'that' from *iγ-na*, pl. *iŋ-kər-a*), pl. *ix-kər-a*), (Menovščikov 1964:56f) and the very beautiful analysis in Bergsland 1966a:144.

8.1.2. *píka*

píka /pikka/ 'look, up there, in the east!', *pika-ne*, pron. *pínga pigssuma pigkua*;

Cor. *piŋna* 'he up there, in the south' (like WG 'east' from an old meaning *"up inland"), Wales *pika* (unlenited!), Chap. *píká, pikáni* 'up there', *pikna pikum* pikəxkut*, Sir. *pikna* 'he up there, away from the sea, in the north', pl. *pixkəra*. Proto-Esk. obviously **pikka, *pika-ni, *pik-na *pik-δum(-a) *pik-kut/-kuδ-a*.

8.1.3. *avfa*

avfa /avva/ 'in the north!', *ava-ne, avna avssuma avkua*; Barrow *ava* 'far away', Kusk. *avâne* 'down south'; cf. Chap. *awāva-ni* 'there, far away from the shore, far away out on the sea', *awā-liq* 'distant'. Proto-Esk. probably **avva, *ava-ni, *av-na *av-δum(-a) *av-kut/-kuδ-a*.

8.1.4. *qavfa*

qavfa /qavva/ 'look, in the south!', *qava-ne, qavna qavssuma qavkua*; Barrow *qava* 'east'; Chap. *qawā* 'there at the end, on the bottom', *qawāní, qáwna qawxkut*. Proto-Esk. **qavva, *qava-ni, *qav-na *qav-δum(-a) *qav-kut/-kuδ-a*.

8.1.5. *pavfa*

pavfa /pavva/ 'look, up there, in the east!', *pava-ne, pavna pavssuma pavkua*; Barrow *pava* 'inland, south' (Jenness 1928), *pavva* 'back there, landwards', *pavani* 'located back there' (Webster & Zibell 1970:113f); Kusk. *pavâne* 'up there, far back over land'. Proto-Esk. **pavva, *pava-ni, *pav-na *pav-δum(-a) *pav-kut/-kuδ-a*.

8.1.6. *mássa*

mássa /massa/ 'of course' (from *"look here, that's it!"), *mâ-ne* /maa-ni/ 'here', *mána* 'this one' *matuma mákua*; Kusk. *mane, mána matum makut*; Chap. *mā* 'place around settlement', *māní* 'in this neighbourhood', *māna* 'the one at this place' *matum makut*; Sir. *mana makəra*. Proto-Esk. obviously **maδδa, *maδa-ni, *maδ-na *maδ-δum(-a) *maδ-kut/-kuδ-a*, the spirant **δ* being corroborated by Sir. *maĕə-γna* 'from here' = WG *mānga* (/maaŋŋa/ from **maδa-γna*) and *marámu* 'hither'.

8.1.7. *kigga*

kigga /kiγγa/, *kiga-ne* 'in the south', *kínga kigssuma kigkua*; cf. also (from Jenness 1928) Cor. *tätkíγa* 'outside there' and Wales *kíγata* 'its north side', as well as Erdmann's Labrador entry *kingna* 'der draussen vor der Tür'. The retention of intervocalic /γ/ demands a preceding **ə*, cf. SW Alaska *kəx-* in Miyaoka 1975 (Table 10). Then Hinz's vocabulary entry *qrâne* 'outside, in front of the door' is obviously for /kxxaani/. Proto-Esk. **kəγγa, *kəγa-ni, *kəγ-na *kəγ-δum(-a) *kəγ-kut/-kuδ-a*.

8.1.8. *qáma*

qáma /qamma/, *qamane* 'in there', *qavna qavssuma qavkua*; Kusk. *qamâne*,

qamina qamum qamkut; Chap. *qama, qamani, qāmna qamkut*; Sir. *qama-mu* all. 'inside', *qamna qamkəra*; Proto-Esk. clearly **qamma, *qama-ni, *qam-na *qam-δum(-a) *qam-kut/-kuδ-a.*

8.1.9. *sáma*

sáma /samma/, *sama-ne* 'down, towards the sea, west', *savna savssuma savkua*, Ungava *samani* 'là-bas vers la mer'; Kusk. *tshamâne* 'below', *tshamina tshamum tshamkut*; Chap. *sámá, samáni, sāmna samkut*; Sir. *samā, sámna* 'the one by the sea, underneath, in the south' *samkəra*; Proto-Esk. **camma, *cama-ni, *cam-δum(-a) *cam-kut/-kuδ-a.*

8.1.10. *kána*

kána /kanna/, *kana-ne* 'down, in the west', *kána katuma kákua*; Barrow *kan'a kät'uma* 'he down there'; Kusk. *kanâne* 'down west', *kána katum kankut*; Chap. *kana-ni* 'down', *kana kankut*; Sir. *kana* 'the one down by the sea, at the entrance of the house' *kankəra*; obviously Proto-Esk. **kanna, *kana-ni, *kan-na *kan-δum(-a) *kan-kut/-kuδ-a.*

8.1.11. *uvfa*

uvfa /uvva/ 'look here!', *uva-ne* 'here where I am pointing', *una* 'this one, he, she, it', *ûma ukua*; Kusk. *vane* 'here, where it is shown or written' (Hinz 1944: 41[2]), *una ûm ukut*; Chap. *xwa* 'look, now!', *xwani* 'here, there', *una um ukut*; Sir. *mani* 'here' (cf. *məŋa* 'I' = Chap. *xwaŋa* = WG *uvanga*), *una*; Proto-Esk. stem **u-*, i.e. exclamative adverb **uu̯a*, loc. **u(u̯)a-ni, *u-na *u-δum-a *u-kuδ-a.*[42]

8.1.12. General analysis

There is ample evidence, then, that the normal catalogue of forms made from a pronominal stem in Proto-Eskimo comprised the following basic items: (1) an interjectional adverb (meaning 'look towards the . . .!') formed with a suffix *-a* and gemination of the last stem-consonant (in **u-a* the gemination hit the glide to give **uu̯a*); (2) a non-interjectional nominal base, in principle identical with the former, but lacking gemination, from which adverbial case forms are derived (in part with special morphemes not presented by non-pronominal declension) as, e.g., the loc. **kan-a-ni* 'below';[43] (3) a demonstrative pronoun (meaning 'the one situated towards the . . .') presenting a declension all its own: inerg.sg. root + **-na*, erg.sg. root + **-δum* with or without a following **-a*, pl. root + **-kuδ* with or without **-a* (without **-a* the final **-δ* of course hardens to **-t*, the EE "nominatives" in pure **-ku* being in all probability back-formations created at a time when **-δ-* had already been lost intervocalically).[44]

8.2. Forms with anaphoric prefix *ta-*

8.2.1. *ta- + u-*

When the anaphoric prefix *ta-* is joined to *u-* the result undergoes gemination

of the consonant following *u–*. If we depart from the reconstructed pre-forms of *una*, everything comes out regular:

**ta+una* → **taunna* = WG *táuna* (now /taanna/)

**ta+u–δum+a* → **tauδδum+a* > 19th cty. WG /tauss̱uma/, wr. *táussuma* (now /taass̱uma/)

**ta+u–kuδ+a* → **taukkuδa* > EE **taukkua* > WG /taukku(v)a/ (now /taakku(v)a/)

Elsewhere in EE the second part of the diphthong /au/ developed into a consonant treated like /v/, cf. Labrador (Bourquin 1891:88) *tâmna tâpsoma tâpkua* (like *amna apsoma* from **av–*, no. 3), Ungava (complete assimilation) *tanna tatsoma takkoa*, Barrow (Webster & Zibell 1970:116) *taamna taavruma taapkua*. The WE forms, lacking gemination, are of course merely formed by prefixing *ta–* to the paradigm of *u–*: Kusk. *tauna taum taukut*, Chap. *tāna* (*au* > *ā*) *tām tākut*, Sir. *tāna*, pl. *tavɔkɔra* (stem **tava–* analogical after *tava* = WG *tássa* on which see the following section).

The only surprise is the outcome of **ta–* + **u–a* itself, which is WG *tássa* /tass̱a/. However, the consonant geminated is in this form the glide *–y–* for which rules concerning /v/ are not necessarily valid. Moreover, considering the highly idiomatic application of this form for "it is, that is to say, that's the one, there, then, now, that's enough, don't', it would not be surprising if *tássa* behaved like any other interjection allowing a wide range of spontaneous changes. Cf., e.g., the different forms in the Mackenzie tales of Kn. Rasmussen (1942) presenting notations of what is (originally, at least) the same word as different as *tagva, taγva, tagua, tagfa, taγfa, taf'a, ta^{u}vfa, tasfa, taʃ'a*. Similar deviations from normal phonation are seen in Kusk. *toi* (or *tua*), *toine* = WG *tássane* 'there', Chap. *tāwa, tawáni*, and Sir. *tava, tavóni*. These special treatments of *–au–* + geminate go back to a time when intervocalic spirants had not yet been lost in EE. Later, of course, new sequences of this type arose in words like WG *qáumat* from **qaRumman* 'means of being light, moon'.

The statement in Rischel 1974:294 that "The forms /taanna/, /taass̱uma/, /taakku/ cannot be continuations of /ta/ plus inflection of /una/" is, therefore, unjustified. It is very hard to see on what grounds Bergsland (apud Rischel ibid.) can have "pointed out . . . that "u" in the spellings [Táursoma Táuko of Egede 1750:180] must reflect a labial consonant". First, Kleinschmidt heard it a century later as the second part of a diphthong /au/ in an environment where **p*, **v* or **m* would have coalesced with the following /s̱/ to form a long spirant likely to be spelt *–vss–*. Secondly, if the "u" had been a consonant, the /s̱/ could not have been doubled, as this would mean a cluster of three consonants. The fact that it fell in with one of the existing labial consonants in a few other dialects (*tâpsoma, taavruma*), has no relevance for WG, let alone for the prestage of Proto-Eskimo, in which gemination arose. The form *táussuma* is the

perfect etymological counterpart of Sir. *tačəma* (recorded by Menovščikov 1964: 138, text 8, sentence 142). Proto-Esk. **tauδδum(a)* became Proto-WE **tauδum(a)*, whence the Sir. form with vowel reduction, monophthongization, and *δ > č before Sir. /ə/ as usual. Outside Sir., *–δ– was lost in this position, cf. Kusk. *taum* and Chap. *tăm* (with normal monophthongization), continuing the variant without the particle *–*a* (which must have been an enclitic of much the same status as *–*Lu* 'and'; cf. also the fact that *–*a* did not count as part of the word when the syncopation rule was in operation, the form **tauδδum–a* preserving a light internal syllable following a geminate). The same phonetic and morphological details are seen in the uncompounded form, Proto-Esk. and WE **uδum(–a)*, whence Sir. *učəma* (Men. 1964, text 5, sentence 58), Kusk. and Chap. /uum/. Cf. the same dialectal variety in the behaviour of *δ in the environment "u__i" as seen in the words (1) **kuδik* 'river' (in EE assimilated to **kuδuk* before loss of *δ: WG *kûk*) in Sir. *kučəx*, Chap. dual *kĭwək* (from **kuiγək*[44a] < **kuδiγ–ək*), cf. WG *kugssiorpoq* 'makes a water conduit' from Esk. **kuδδiuRpuq* < underlying **kuδiγ–ĵuR–puR* 'makes a river', and (2) **uδiγ–* 'taste, try' in Kusk. *vig–â* 'tastes it' = WG *ûg–pâ* 'tries it' (with the same assimilation as *kūk*), cf. WG *ússer–pâ* 'tries it' from ingressive **uδδiR–paR–a* < pre-Esk. **uδiγ–γR–paR–a*.

8.2.2. *ta–* + other demonstratives: Word-internal preservation of clusters simplified initially

When *ta–* is prefixed to any other demonstrative stem than *u–* there is basically no phonetic change. And yet a few of the forms present quite considerable surprises (I give the locatives, which are agreeably transparent):

1	*ikane*	→	*taikane*
2	*pikane*	→	*tagpikane* !
3	*avane*	→	*tâvane*
4	*qavane*	→	*tarqavane* !
5	*pavane*	→	*tagpavane* !
6	*mâne*	→	*tamâne*
7	*kigane*	→	*tákigane* ! (i.e., /takki–/)
8	*qamane*	→	*tarqamane* !
9	*samane*	→	*tasamane*
10	*kanane*	→	*takanane*
11	*uvane*	→	*tássane* (above)
12	*imane*	→	*taimane* 'at that time'

The immediate analysis is that something more than just *ta–* has been prefixed to the stem. We have a phonological doubling of the initial in items 2,4,5,7, and 8. Therefore the prefix is given by Bergsland 1955:153 (with examples through 157) as **taC–* containing an unspecified consonant which combines with the initial of the stem to form a geminate in the cases 2 /tappikani/, 4 /taqqavani/,

5 /tappavani/, 7 /takkiɣani/, and 8 /taqqamani/. This analysis, intrinsically probable as it appears at first glance, has also met the approval of Rischel: "Historically this is without doubt the correct explanation" (1974:293). But at least in *tagpikane* the spelling *-gp-* appears to be etymologically justified, as this corresponds exactly to Erdmann's Labrador entry *"takpikane"*. True, Jenness has *tatpika* for Barrow, Mackenzie and Coronation Gulf, and *-t-* in 5 *tatp-*, 7 *tatk-* and 8 *tatq-* (the last-mentioned only in 1944:11) as well, so the value of Erdmann's spelling appears for a moment questionable. But there does exist a cluster showing regularly this very distribution of WG (Kleinschmidt) *-gp-*, Labr. *-kp-*, Central Canada to N.Alaska *-tp-*, namely Esk. **-Lp-*. For 'guillemot' WG has *agpa*, Erdmann *akpa*, and Jenness gives *atpak* for Wales; for 'young man' WG has *nukagpiaq*, Jenness for Wales, Barrow and Mackenzie *nukätpiaq* (here Erdmann's *nukapiak* and Bourquin's *nukäppiaq* [1891:393] may represent an earlier assimilation due either to the position in the word or to the velar surroundings, cf. also Thibert's *nukapiak*, but *akpak*); for both words **-Lp-* is proved by Chap. *aLpa*, *nukaLpiɣaq*. Therefore *tagp-/tatp-* may very well be from **taLp-*, in which case the prefix should be **taL-*. This is, however, excluded by the other forms like **ta-ava-ni*, **ta-unna* where the lateral should have been preserved intervocalically. This solution would therefore be highly problematic.

There are two very precious Chaplino examples of a surprising /z/ emerging between *ta-* and stem-initial /i-/: (1) Chap. *taziŋa-ni* 'there, not far' as opposed to *iŋá-ni*, the pronoun being *iɣ-na iŋ-kut* and *taziɣ-na taziŋkut*, and (2) Chap. *tazima-vák* all. 'to somewhere', *tazima-kən* 'from somewhere' as against *imá-ni* 'somewhere', with which cf. WG *ima* 'thus' with the pronoun *ivna* = Chap. *imna*. Here the Chap. *-z-* is the phoneme seen in e.g. Chap. *qaziɣjaq* 'speckled seal' = Sir. *qačiɣjəx* = WG *qasigiaq*; Chap. *nazíRaq* 'young fiord seal' = Sir. *načiRax* = WG *natsiaq* (with gemination as also the base-word, WG *natseq* 'fiord seal'); Chap. *kəzíRmi* adv. 'lonely', *kəzəmáRaq* adj. 'quite alone' ~ Sir. *kəčəməlŋux* 'the only one' ~ WG *kisime* '(he) alone', i.e. a special Esk. phoneme probably to be posited as Proto-Esk. */z/*.

Even if this could be indicative of a special treatment of stem-initial *i-* in Chaplino (no forms made from *ta-* + *ik-* appear to be mentioned by the sources), there is no way of saving a prefix form **taz-*, seeing that with *k-* we have both WG *tákigane* (no. 7) and *takanane* (no. 11), which recur in Barrow with *-tk-* in the former as opposed to simple *-k-* in the latter.

There seems, therefore, to be only one possible solution to the problem. We must bear in mind that Eskimo has very radical restrictions with regard to word and syllable structure. The only phonemes tolerated as word initials in Proto-Eskimo are *p t c k q m n ñ* Ø followed by *a i u* ə. But this is of course only the state of affairs in the phase of the proto-language reached by our reconstructions, i.e. the final period immediately prior to the splitting up of the family. As most other morphological phenomena of Eskimo have been found to be much older than this period (and often older than Proto-Esk.-Aleut as well), there is

no reason why this should not be the case with the anaphorics under discussion. There is therefore nothing to exclude the obvious solution that a form like **taLpikani* (or the like) simply consists of the prefix **ta-* and a stem **Lpik-* + suffixes. Without the prefix, **Lpik-* has then undergone a no doubt regular simplification of word-initial consonantism to give Proto-Esk. **pik-*. Likewise, **ziŋ-* and **zim-* simply lost their initial **z-* when uncompounded, but retained it after **ta-*, thus giving rise to the Proto-Esk. and Chap. alternations *iŋ-/ta-ziŋ-* and *im-/ta-zim-*. This makes it immediately transparent why forms like WG *tasamane* and *takanane* present no doubling of their stem initial: The stems were merely **cam-* and **kan-*, and the anaphoric forms of course simply **ta-cam-* and **ta-kan-*.

8.3. The WG imperative *qarrît*

A very interesting case is presented by the imperative *qarrît* 'come here!' given by Schultz-Lorentzen under the entry *qai-voq* 'is visiting, gets there'. For the pl. he gives the ipv. as optionally *qarrîtse* or *qaigitse* implying a sg. form *qaigit* which is in fact given by J. Petersen. The WG imperative morpheme *-git*, pl. *-gitse*, normally with retention of *-g-*, points to Proto-Esk. **-$k^{i}/_{ə}{}^{t}/_{n}$* with and without the 2.pl. ending **-ci*. For Barrow, Jenness (1944:13) gives the endings as *-in -itci*, but his example (p. 19) *aularin aularitci* 'depart' from the uvular stem of *aulaq-toq* has, of course, EE /R/ by lenition from Esk. /q/ which arose from the underlying combination **-Rk-*. We can then posit Proto-Esk. **-$k^{i}/_{ə}$n ± ci*. There appears to be no correspondence of this ending in WE, where SW Alaska and Chap. use the bare stem, e.g. Unaaliq *tai* = Chap. *taγi* 'come' (Swadesh 1952:73 and Menovščikov 1967:111), Sirenik offering an emphatic particle *-a* in the sg., cf. *aRaR-a*, pl. *aRaχ-si* 'go' (Men. 1964:86). Zero ending also underlies the WG transitive forms, e.g. *takûk*, pl. *taku-si-uk* 'hear it' from **taku-γu ± ci*. Thus, the intransitive ending **-kən* is obviously identical with the enclitic pronoun of 2.sg. **tkən*, which in Esk. shows an alternation between postvocalic **-tən* (WG /aki-va-a-tît/ = Chap. *aki-qa-a-tən* 'he answers thee') and postconsonantal **-kən* (WG *aki-va-v-kit* = Chap. *aki-qa-m-kən* 'I answer thee'). In the imperative the latter variant was generalized: regular forms are *tusarit* 'hear' and *nâlagit* 'obey'; from the latter *-git* was generalized to vocalic stems and "t"-stems (*tikigit* for expected **tikíkit*, from which the variant *tikítit* was normalized).

Thus the final segments of *qarrît* go back to **-ikən*, which would have been expected to give EE **-iγin* and WG **-iγit*. Now, EE /γ/ has been dropped intervocalically in WG in a number of forms, on the basis of which no obvious rule can be formulated. In some cases the active factor was apparently one of assimilation to a markedly labial environment, cf. words like *tuluvaq* 'raven' for Labr. *tulugak* (Esk. **-k-* proved by the geminate of pl. *tulugkat*) and *ûvaq* 'fiord cod' = Chap. *ukaq* and the list given in Schultz-Lorentzen 1945 § 14. There seems to be no such assimilatory factor involved in the imperatives in *-(g)it* and

-(g)uk discussed by Rischel 1974:252. The latter example is spurious: the ending *-(g)uk* contains a velar spirant in Proto-Esk. as proved by WE *-γu*, so the WG variant with retained *-g-* belongs in fact originally to verbs in final *-ə like *neri-guk* 'eat it', from which it spread and gave rise to variants like *taku-guk* beside *takûk* 'hear it'. The spirant origin of the velar of *-(g)uk* is proved by the allomorph /-s̱s̱uk/ arising in "t"-stems and whenever the ending is preceded by a plural morpheme: *tikíssuk* 'come to it' and optative 3.pl. + 3.sg. *aki-líssuk* 'let them pay him', the latter corresponding to Chap. *aki-Li-t-xu* as against 3.sg. + 3.sg. WG *aki-li-uk* + Chap. *aki-Li-γu*. There is no need to set up a separate underlying form /s̱uk/ for this variant in WG as Rischel does (1974: 253), for the change *$t\gamma$ > WG /s̱s̱/ is synchronically transparent in the derivation of *pássúpâ* 'treats him (as a physician), beats him, ravishes her' from the verb *patig-pâ* 'lays hands on him' with the instrument-noun suffix "-ut", where /pas̱s̱ut-/ is manifestly from **patγ-ut-*, there being no other obvious candidate for the result of this cluster in WG. Thus the variation *-(g)it* must have a reason of its own, and it lies right at hand:

As no rules can be formulated on the basis of optional variants, we must look for a pair where the variation *-git* ~ *-it* is combined with some other palpable feature. I would suggest that the answer is being cried out by the very pair *qai-git* : *qarri-it*. The obvious generalization is here that the ending-initial /γ/ is lost if the word is pronounced with emphatic gemination. This could be understood as a massive concentration of the articulatory energy on the beginning of the word, combined with a corresponding weakening of syllables located further toward the end. By this process the form **qaRi-kən* may have been altered to something like **qaRRiγən*, whence EE **qaRRiin*, WG *qarrît*. This is of course an ad hoc solution, but if the word is the only example of its kind, it would have to be so anyway.

9. Appendix II: LIST OF PRINCIPAL SOUND LAWS

9.0. General remarks: The Stammbaum model

The following phonological rules formulated during the preparation of the present paper are meant as sound laws in the Neogrammarian sense. As far as possible, they are presented in chronological order. The rules are meant to serve a practical purpose only, above all as a convenient index or key to the problems discussed in different, often unpredictable, contexts throughout the paper. No attempt has been made at pressing the greatest number of related processes into the formulation of a single rule. Whether several of the events of anaptyxis could or should be presented as one complex rule (which would be of informative value only if the reader were a computer), is a purely theoretical and aesthetic problem without bearing on the subject matter under discussion.

The concept of language evolution underlying this survey of diachronic rules is as close to the Neogrammarian Stammbaum model as the facts allow — and they sometimes demand its strict application. The applicability of this model presupposes linguistic split, i.e., the cleavage of a population through migration. One look at the vast territory covered by the linguistically relatively homogeneous East Eskimo group is enough to convince anyone that migration has indeed taken place in the not all too distant past. Generally accepted cases of this type of language differentiation are the separation of Eskimo from Aleut and that of EE from WE. Within WE, however, another split was certainly caused by the migration of the Sireniks leaving the rest of the then homogeneous WE group to produce linguistic innovations not shared by Sirenik (cf. sound laws no. 67 through 69 below). Within EE there was probably a steady eastward drift, but one Stammbaum-type landmark is definitely the merger *i, *ə > /i/ setting off a then homogenous migrating group from the part of EE that stayed behind in Central Alaska. In such cases, the Stammbaum model undoubtedly gives a realistic picture of the actual development. Then, if "no one, surprisingly, seems to have been foolish enough to attempt seriously a Stammbaum-type classification of all Eskimo dialects" (Krauss 1973:849), it is perhaps high time someone did just that — to the extent that such an enterprise is sustained by the facts. Stammbaumtheorie and Wellentheorie are not, or should not be, mutually exclusive credos of diachronic linguistic approach; they complement each other, each giving part of the truth, the former reflecting the spectacular splits caused by sudden isolation through migration (or by some other dramatic event, such as famine or war, eliminating a neighbouring population), the latter corresponding to the natural undisturbed development of a static population over and above a certain degree of geographic extension (cf., e.g., the very sober

remarks of R. Trautmann, Die slavischen Völker und Sprachen, Göttingen 1947, p. 19).

9.1. Sound changes antedating the fission of the Eskimo-Aleut proto-language

(1) $\begin{bmatrix} +\text{ cons} \\ +\ldots *) \end{bmatrix} > \begin{bmatrix} -\text{ cont} \\ -\text{ nas} \\ +\text{ voice} \end{bmatrix} / \_\_ \left\{ \begin{matrix} \delta \\ \gamma \\ t \end{matrix} \right\} \#$

*) further specification unknown

"Certain consonants are realized as voiced (or lax?) stops before (at least) word-final *-δ, *-γ, and *-*t*". This accounts for some personal endings: 1.du.ie. sg. *-*m*-γ^{45} > *-*b*γ; 2.sg.erg.pl. *-δ-*m*-*t* > *-δ*bt*; 2.du.ie.sg. *-*t*-γ > *-*d*γ; 3.sg.ie.du. (perhaps originally *-γ-*A* >) *-γγ > *-*g*γ; 3.sg.erg.du. (*-γ-*A*-*t* >) *-γγ*t* > *-γ*gt*. Treated in section 3.2.0; cf. also 3.3.4.

(2) $\emptyset > {}^{\circ} / C\_\_ \underbrace{C\ (C)}_{x} \#$

(x = permitted final consonantism, i.e., for clusters, at least *-γ*R* and *-*RC*)

"Anaptyxis between consonant and permitted word-final consonantism". This changes the examples of (1) to *-*b*°γ, *-δ*b*°*t*, *-*d*°γ, *-*g*°γ, and *-γ*g*°*t*. In the 2.sg.erg. possessive forms, the pronoun **tkət* 'thou' was later added (see section 3.3.3). Between (1) and (2), unknown sound laws created new final clusters like *-*m*γ, *-γδ, *-*R*δ, which were not subject to the neutralization of mode of articulation in their penultimate members produced by rule (1). Examples: **kam*γ 'boot' > **kam*°γ, erg. **kam*γ*m* > **kam*γ°*m*, pl. **kam*γδ > **kam*γ°δ; **iRnR* 'son' > **iRn*°*R*; erg. **aluR-m* 'sole' unchanged, likewise, pl. **aluR*-δ and **maRa*γ*R* 'clay'. Treated in 1.1.5 (cf. also 1.2.2.3).

(3) $\emptyset > a / C \_\_ G\ G \left\{ \begin{matrix} \# \\ C \end{matrix} \right\}$

(G = *γ or *R, perhaps also *δ)

"Anaptyxis — as /a/ — after a consonant followed by two voiced spirants (*γ or *R, perhaps *δ) + word boundary or yet another consonant". Examples: **pat*γ-γ*R-paR-a* 'touches him suddenly with his hand' > **pata*γγ*RpaRa*; **panR*-γ*R-ki*γ-*puR* 'has a good ability of being dry' > **panaR*γ*Rki*γ*puR*; *kam*γ-γ-*ka* 'my two boots' > **kama*γγ*ka*, perhaps pl. **kam*γ-δ-*ka* 'my boots' > **kama*γδ*ka*; dual **tupR*-γ 'two tents' > **tupaR*γ. For further treatment of the examples, see rule no. 7. Discussed in 1.2.2.5, 5.1.2, and footnotes 24b and 29a.

(4) $\begin{bmatrix} +\text{voice} \\ -\text{cont} \end{bmatrix} > [+\text{cont}] \ / \ V\_\_$

(4a) $\begin{bmatrix} +\text{voice} \\ -\text{cont} \end{bmatrix} > [-\text{voice}] \ / \ C\_\_$

"Voiced (or lax?) stops are spirantized after vowels and devoiced (strengthened?) after consonants". Examples (from 1-2): *-V-b°γ > *-V-v°γ vs. *-R-b°γ > *-R-p°γ; *-δb°t(-tkət) > *-δp°t(-tkət); *-V-d°γ > *-V-δ°γ (later *-V-z°γ on the analogy of the reflexive?) vs. *-R-d°γ > *-R-t°γ; *-V-g°γ > *-V-γ°γ vs. *-C-g°γ > *-C-k°γ; *-γg°t > *-γk°t. For further treatment, see rules no. 12, 22, 24, 25, and 27. Discussed in 3.2.0 and 3.3.4.

(5) ə > Ø / [+ syll] (X) __ | [+ segm]

"The vowel /ə/ is lost in open internal syllables". Blurred by a certain amount of analogy. Examples: *qulə-liR 'upper' > *qulliR; *nəpə-paγ- '(use) big voice' > *nəppaγ-; suffix *-Rutə 'means of —' > *-Rutə.

(6) R > x / R__ V

"A uvular spirant is devoiced when preceded by another uvular spirant and followed by a vowel". Example: *nuliaRR-°δ 'wives' > *nuliaRx°δ. See section 2.4.

(7) C V G > 1 1 2 / __ $\begin{cases} C \\ /R/ \end{cases}$ (G = /γ/ or /R/)

"A postvocalic velar or uvular spirant is dropped when followed by a tautosyllabic consonant or the phoneme /R/, and the nearest preceding consonant is geminated". Examples: Erg. *aluRm > *allum, pl. *aluRδ > *alluδ, 2.sg.ie.sg. *aluR-t > *allut, refl.sg.ie.sg. *aluR-c > *alluc, refl.sg.erg.sg. *aluR-m-c (restituted for regular *aluRp°c ?) > *allumc; loc.sg. *aluR-m-ni > *allumni, loc.pl. *aluR-δ-ni > *alluδni; pl. *aRnaR-δ > *aRnnaδ 'women', refl.sg.ie.sg. *aRnaR-c > *aRnnac; *pataγγ(R)paRa > *pattaγpaRa (3); *panaR(γ)RkiγpuR > *pannaRkiγpuR (3); *kamaγγka > *kammaγka (3); *tupaRγ > *tuppaγ (3); *nuliaRx°δ > *nuliiax°δ (6); 3.sg.ie.sg. *nuliaRR-a by 6 > *nuliaRxa > *nuliiaxa; *atuŋaγ-liə-puR (?) 'prepares sole skin' by 5 > *atuŋaγ-li-puR > *atuŋŋaliipuR; *cana-Rutə 'carving tool' > *cannautə; *kapə-Rutə 'stabbing tool' > *kappautə; *kuvə-δi-Rutə > 'means of pouring' by assimilation > *kuvəδəRutə, by 5 > *kuvə-δəRutə > *kuvəδδautə; *imaR-liəR-δi-Rutə (or *-liiR-) 'means of providing something with content' > *imaRliəRiiRutə, by 5 > *imaRliəRiiRutə, by 7 > *immaliəRiiiutə. This rule is posterior to the changes *-əδi- > *-əδə- and *-δi- > *-ii- in halftransitives (probably spontaneous). The details are discussed in sections 7.0, 7.1, 7.2 and 6.8.2, 6.8.3.

(8) $\underset{\chi}{\text{ə}} > \text{i}$ (or $\underset{\chi}{\text{i}} > \text{i}?$)

Examples: **immaliəRɣiɣutə* > **immaliRɣiɣutə* (or **immaliiRɣiɣutə* > **immaliRɣiɣutə* ?). Perhaps also **cana-Gvɣəγ* 'workshop', by 7 > **cannavɣəγ* > **cannavɣγ* (or **cana-Gvɣiγ* > **cannavɣiγ* > **cannavɣγ* ?). On the principle, see 7.2 with footnote 41a.

(9) $\underset{\chi}{\text{i}} > \text{i}$ $\begin{cases} /\_\_ \text{ V} \\ / \text{C}_{[-\underset{\chi}{\text{i}}]} \_\_ \text{C}_{[-\underset{\chi}{\text{i}}]} \end{cases}$

"Consonantal /ɣ/ is vocalized in antevocalic position, and also in interconsonantal position, except when contiguous to another /ɣ/ (i.e., in the case of a geminate /ɣɣ/)". Examples: **umiaR-ɣuR-puR* 'makes an umiak', by 7 > **umiɣaɣuRpuR* > **umiɣaɣuRpuR*; **atuŋŋaɣipuR* (7) > **atuŋŋaɣipuR* (if not with **-ɣi-* > **-i-* already by 8). See 7.2.

(10) $\underset{\chi}{\text{u}} > \text{u} / \text{C}_{[-\underset{\chi}{\text{u}}]} \_\_ \text{C}_{[-\underset{\chi}{\text{u}}]}$

"Consonantal /u/ is vocalized when interconsonantal, except when contiguous to another /u/ (i.e., when geminated)". Example: **ənqaR-δuR-Rɣətə-δi-Rɣətə* 'means of subjecting someone to thorough consideration', by assimilation **ənqaRδuR(R)ɣətəδəRɣətə*, by 5 > **ənqaRδuRutδəRɣtə*, by 7 > **ənqaRδuRɣtδδəɣtə*, by 10 > **ənqaRδuRutδδəɣtə*. Further treatment under rules no. 11, 12, 19, 21, and 30. The word is discussed in 6.8.3, the principle in 6.8.1 and 7.2.

(11) $\text{ə} > \text{Ø} / \text{t} \_\_ \#$

"Word-final /ə/ is lost after /t/". Examples: **ənqaRδuRutδδəɣtə* > **ənqaRδuRutδδəɣt*; **cannaɣtə* (7) > **cannaɣt*; **cili-Rɣətə* 'whetstone', by (5) **ciliRɣtə*, by 7 > **cilliɣtə* > **cilliɣt*; **tuqu-Rɣətə* 'cause of death' similarly > (5) **tuquRɣtə* > (7) **tuqquɣtə* > **tuqquɣt*. This rule explains the alternation observed in WG *angut* 'man' vs. *angute-qarpoq* 'there is a man' and *anguta-uvoq* 'he is a man'.

(12) $[-\text{cont}]^1 > [+\text{nasal}] \ /\_\_ \#$

"A single word-final stop is nasalized". Examples: **cannaɣt* > **cannaɣn*, **cilliɣt* > **cilliɣn*, **tuqquɣt* > **tuqquɣn*, **ənqaRδuRutδδəɣt* > **ənqaRδuRutδδəɣn*, all mentioned under rule 11; **kappəɣtə* (7), by 11 > **kappəɣt* > **kappəɣn*; 2.sg. **allut* (7) > **allun*; refl.sg. **alluc* (7) > **alluñ*, **aRnnac* (7) > **aRnnañ*; 1.sg. **-k* > **-ŋ* (Aleut), cf. **-k-a* (Esk.) with preserved stop; 1.sg.ie.pl. **-δ-k* : **-δ-k-a*, whence, through **-δ°ŋ* > **-n°ŋ* : **-δka*, the contamination product **-nka* of Esk. corresponding to Aleut *-nŋ*); 3.sg.erg.du. **-γk°t* (4a) >

*-γk°n. The univerbation with the personal pronoun in the 2.sg.erg. possessive forms has happened by now: *nuna-v°t-tkət gives Proto-Esk. *nuna-vətk with no trace of nasality, while the pronoun itself gives Aleut *txin*. For the application of this rule in the possessive inflexion, see sections 3.3 through 3.5. The rule explains the PE alternation *aŋun, erg. *aŋutə-m* 'man'.

(13) $\tilde{n} > ni / \_\_ \#$

"The palatal nasal /ñ/ changes to /ni/ in word-final position". This explains the refl.sg. possessive forms in /-ni/ with gemination: *alluñ > *alluni, erg. *allumñ > *allumni; *aRnnañ > *aRnnani*. Discussed in section 3.3.4 and footnote 41a.

(14) $\breve{V} > Ø / C_iC_i \_\_\_ |$

"A light internal syllable following a geminate loses its vowel". Examples: *alluni > *allni, *aRnnani > *aRnn(n)i* (13); *atuŋŋalipuR (9) > *atuŋŋlipuR*; *nulḽaxa (7) > *nulḽxa*; *immaliRi(j)iɣtə (8), by 11-12 > *immaliRi(j)iɣun > *immliRi(j)iun*; *umiḽaliuRpuR (9) > *umiḽliuRpuR*. This is the syncopation rule treated in 2.1 and used throughout the present paper.

(15) $t\begin{Bmatrix} l \\ L \end{Bmatrix} > c / \_\_ i$

"The groups /tl/ and /tL/ become /c/ (Eskaleut *c_2 = Esk. *c*, Al. *s*) before /i/". Examples: *kəγut-Liqə-uR* 'has a pain in his tooth' > *kəγuciqə-uR* (I forego the problem of what consonant was pronounced between /ə/ and /uR/, where an old /p/ had been lost); *at°R-ḽəR-paR-a* 'provides him with a name', by 7 > *att°ḽəRpaRa*, by 8 > *att°liRpaRa* (or *-ḽiR- > *-liR-), by 14 *attliR-paRa > *atciRpaRa*; suffixal sequence *-(R)ut-liR* 'useful for –' > *-(R)uciR*. Discussed in 4.1.2 and footnote 40.

(16) $C_1C_2C_3C_4C_5 \ldots > C_1C_2C_3$

"Any longer sequence of consonants is reduced to the first three members". Examples: 3.sg.poss. of diminutive *-ŋŋɣaGR-a*, by 7 > *-ŋŋɣɣaRa, by 14 > *-ŋŋɣɣRa > *-ŋŋɣa; *pi-ŋaR-Rɣətə* 'hunting implement', by 5 > *piŋaRRɣutə*, by 7 > *piŋiaRɣutə*, by 10 > *piŋiaRutə*, by 11 > *piŋiaRut*, by 12 > *piŋiaRun*, by 14 > *piŋiRun* > *piŋiun*. Presupposed by rules 17 and 18. Cf. also the discussion of the form *nulia* in section 2.4 with footnote 22b.

(17) $ɣ > u / CC \_\_$

"Consonantal /ɣ/ is vocalized when preceded by two consonants". Examples: *-ŋŋɣa (16) > *-ŋŋua* 'his small –'; erg. *-ŋŋɣaGR-m* '(of) a small –', by 2 > *-ŋŋɣaGR°m, by 7 > *-ŋŋɣɣaR°m, by 14 > *-ŋŋɣɣR°m, by 16 > *-ŋŋɣ°m > *-ŋŋu°m*. See footnotes 19 and 22b.

(18) j > i / CC ___ V (?)

"The consonant /j/ is vocalized to /i/ when preceded by two consonants and followed by a vowel". This is the most likely generalization to be made from the suffix *-tsiaq* treated in the sub-sections of 2.3. Examples: Inerg. **-δjaγR*, by 7 **-δjjaR* > **-δjiaR* (> WG *-tsiaq*); refl.sg.ie.sg. **-δjaγR-c*, by 7 **-δjjac*, by 12 > **-δjjañ*, by 13 > **-δjjani*, by 14 > **-δjjni*, by 16 > **-δjji* > **-δjii* (> WG *-tsê*).

(19) $C_1C_2C_3 > C_1C_2$

"A sequence of three consonants is reduced to the first two". Examples: **aRnnaδ* (7) > **aRnaδ*; **allni* (14) > **alli*: **aRnni* (14) > **aRni*; **nuljixa* (14), by 16 > **nulija* > **nulia*; **atuŋŋlipuR* (14) > **atuŋŋipuR*; **pinjiun* (16) > **pinjun*; **immliRi(i)iun* (16) > **immiRjiun*; **umjiliuRpuR* (14), by 16 > **umjiiuRpuR* > **umjiuRpuR*; **ənqaRδuRutδδəun* (12) > **ənqaRδuRutδəun*. Examples discussed throughout the paper, see especially section 4 on the *//* zero alternation.

(20) u̯ > Ø / $\left\{\begin{matrix} a \\ i \\ u \end{matrix}\right\}$ ___ C

"Consonantal /u̯/ is lost before a consonant when preceded by any of the vowels /a, i, u/. Examples: **cannau̯n* > **cannan*, **cilliun* > **cillin*, **tuqquun* > **tuqqun*, all mentioned under rule 12. The same change happened in the inflected forms, cf. erg. **cannau̯təm* > **cannatəm*, pl. **cannau̯təδ* > **cannatəδ*.

(21) əu̯ > u

Examples: **kappəu̯n* (12) > **kappun*; **ənqaRδuRutδəu̯n* (12) > **ənqaRδuRutδun*. Perhaps the intermediary stage was **-uu̯n*, which became **-un* by rule 20.

(22) ° > å / [+ labial] ____[+ cont] #

"The anaptyctic vowel /°/ is realized as */å/ (= Aleut /a/, Esk. /u/) when located between a labial consonant and a word-final spirant". Examples: 1.pl. **-v°δ/*-p°δ* (from **-m-δ* by 1, 2, 4) > **-våδ/*-påδ* (Esk. **-vut/*-put*, Al. *-mas*); 1.du. **-v°γ/*-p°γ* (4) > **-våγ/*-påγ* (Esk. **-vuk/*-puk*). See 3.2.0.

(23) ° > o / ___ m #

"The anaptyctic vowel /°/ is realized as */o/ (only Esk. examples, EE /u/, WE /ə/) before word-final /m/". Examples: **kamγ°m* (2) > **kamγom* (Chap. *kamγəm*, WG *kangmup*); erg. **-ŋŋu°m* (17) > **-ŋŋuom* (WG *-ngûp*); erg. **maRaγR-m* '(of) clay', by 2 > **maRaγR°m*, by 7 > **maRRaR°m*, escaping 14

(syncope) by analogy from the uninflected form **maRRaR*, then > **maRRaRom* (EE **maRRaum*). Note that the non-anaptyctic vowel /ə/ is retained: erg. **təmə-m* 'body' (EE **təməm/*timim*, WG *timip*). Discussed in 1.1.2 through 1.1.6.

(24) $^{\circ} > ə$

"Elsewhere the anaptyctic vowel coincides with /ə/ (Esk. /ə/, Aleut /i/". Examples: 2.sg.erg.sg. **-m-t* > (1) **-bt* > (2) **-b°t* > (4) **-v°t/*-p°t* → **-v°t-tkət/*-p°t-tkət* > **-vətk/*-pətk* (Aleut *-mis*); 1.sg.erg. **-m-k* > (2) **-m°k* > (12) **-m°ŋ* > **-məŋ* (Aleut *-miŋ*), with enclitic **-m-k-a* → **-m-ŋ-a* by contamination with **-m°ŋ* (see rule 26); 2.du. **-δ°γ/*-t°γ* > **-δəγ/*-təγ* (Esk. **-zək/*-tək*, Al. *-δix*). See 3.2.0, 3.3.2, 3.3.3, 3.3.4, and 3.5.0.

(25) [+ cont] > [- cont] /__ #

"A word-final spirant is hardened to the corresponding stop". Examples: Pl. **aluR-δ* 'footsoles' > (7) **alluδ* > **allut*; dual **aluR-γ* (7) **alluγ* > **alluk*; **kam°γ* (2), escaping 22 on the analogy of other stems in **-C°γ*, by 24 > **kaməγ* > **kamək*; **aRnaR* 'woman' > **aRnaq*; 1.du. **-vâγ/*-pâγ* (22) > **-vâk/*-pâk*; 2.du. **-δəγ/*-təγ* (24) > **-δək/*-tək* (Esk. **-zək/*-tək*). See footnote 8 and *passim*.

(26) $\left\{\begin{matrix}ŋ\\n\end{matrix}\right\} > Ø / m \_\_$

"The nasals /ŋ/ and /n/ are lost after /m/". Examples: Loc. and refl.sg.erg.sg. **allumni* > **allumi*; 1.sg.erg. **-mŋa* (24) > **-ma*. See especially 2.1.

(27) $δ > Ø / \_\_ \left[\begin{matrix}\text{- cont}\\\text{+ nas}\end{matrix}\right]$

"The spirant /δ/ is lost before a stop or a nasal". Examples: 2.sg.erg.pl. **-δp°t* (4) → **-δp°t-tkət* > **-δp°tk* > **-δpətk* > **-pətk*; loc.pl. and refl.sg.ie.pl. **alluδni* > **alluni*. See 3.2.1 and 2.1.

9.2. Eskimo sound changes not demonstrable for Aleut
(random order)

(28) Rk > q

Examples: **taLiR-ka* 'my arm' > **taLiqa* **tuccaR-kiγ-puq* 'has a good hearing' > **tuccaqiγpuq*; **pannaRkiγpuq* (7, with **-q* by 25) > **pannaqiγpuq*. See 5.1. This is the basis of the well-known synchronic WG rule "*-q + g-* > *-r-*" (*taleq + -ga* → *talera*).

(29) $\begin{bmatrix} +\text{ vocal} \\ -\text{ syllab} \end{bmatrix} > [+\text{ syllab}]$

"Non-syllabic vowels become syllabic". Examples: **nuljaq* 'wife' > **nuliaq*; **piniun* (19) > **piniun*; refl.sg. **nuliaRR-c* 'his own wife', by 7 > **nuljjac*, by 12 > **nuljjañ*, by 13 > **nuljjani*, by 14 > **nuljjni*, by 16 and 19 > **nuljj* > **nulii*; **aŋuaR-puq* 'rows' > **aŋuaRpuq*.

(30) δ > t / R ___

"The cluster /Rδ/ changes to /Rt/". Examples: **ənqaRδuRutδun* (21) > **ənqaRtuRutδun*; act.ptc. **-R-δuq* > **-R-tuq* in all dialects; habitual (with stem-final /R/) **-R-δaR-puq* > **-R-taR-puq*. Then Chap. uvular-stem verbs in /-R-aquq/ like *qaváRaquq* 'sleeps' (derived from *qaváq* 'sleep', cf. *qaváR-vik* 'place for sleeping') or *qamúRaqā* 'drags it along' (*qamúq* 'load to be dragged') are analogical, in that the regular post-uvular allomorph *-taquq / -taqā* has been replaced by the post-vocalic variant *-aquq / -aqā* (with regular loss of **-δ-*), cf. Sir. *qavâχtəqəχtəχ* and *qamčəχtəqəχtəRá* (Kusk. inconsistently *qavartoq* and *qamorâ*, both given with *k-* in Hinz 1944). See especially footnote 12.

(31) ñ > j / $V_{[-i]}$ ___ V

"The palatal nasal /ñ/ becomes Proto-Esk. /j/ in intervocalic position, except when preceded by /i/". Example: **qañaq* > **qajaq* 'kayak'. Another /j/ is seen in **pujuq* 'smoke', **nujaq* 'hair', etc., obviously from old **j*, cf. Aleut *hujuq* 'smoke'.

(32) C > ¢ / $\begin{cases} \#\ (C)\ V\_\_\ V \\ ə\_\_\ V \end{cases}$

(33) C > ¢ / [+ syll] (X) $V_{[-ə]}$ ___ V

"An intervocalic consonant is allophonically weakened; the weakening is of the first degree after the first vowel of a word and after /ə/, and of the second degree after a non-first vowel other than /ə/". This is the obvious common basis of the different lenition rules of the individual dialects. As the weakenings are not phonemic in Proto-Eskimo, they are not marked in the notation of the proto-forms.

9.3. Sound changes between Proto-Eskimo and Proto-East-Eskimo (mostly random order).

(34) $\begin{Bmatrix} δ \\ j \end{Bmatrix}$ j > ts

"The clusters /δj/ and /jj/ yield EE /ts/", cf. the suffix *-tsiaq* (18), refl. **-δjii* > *-tsii*. See 2.3.1, 2.3.2

(35) $\tilde{n} > n / \left\{ \begin{matrix} i \\ \# \end{matrix} \right\} \_\_$

"Palatal /ñ/ becomes EE /n/ when preceded by /i/ or word-initial". Examples: **iñuk* > *inuk* 'human being', **ñaRuja* 'seagull' > **na(R)uja* (see 37): Sir. *jaRȁja*; **ñiRu* 'leg' > **ni(R)u* (37): Chap. *iRu*. See footnote 29.

(36) [+ contin] > [+ voice]

"Non-stops are voiced", i.e. **L* > /l/, **χ̣* > /R/, **x* > /γ/. Examples: **taLiq* 'arm' > *taliq*; perhaps **nuliaχ̣ət* 'wives' (7, with further treatment through 19, 24, 25, 29) > **nuliaRət* (see 37). Note that there is no East Eskimo distinction corresponding to Proto-Eskimo */γγ/ as against */xx/, i.e. (1) **puγγut* in WE **puγut*, EE **puγγut* 'bags' and (2) **axxəR-puq* in WE **axəR-*, EE **aγγəR-puq* 'is on his way' (footnote 3). Thus this rule may also apply to geminates.

(37) [+ spir] > Ø / $V_{[-\,ə]}$ __ V

"An intervocalic spirant (/R/, /γ/, /δ/, and probably also /z/) is lost unless preceded by /ə/". Examples: **naRuja* (35) > *nauja*; **niRu* (35) > *niu*; erg. **paniγom* > **paniom* (from *panik* 'daughter'); **maδa-ni* 'here' > *maani*; **tuzə* 'shoulder' > **tuə*; pl. **nuliaRət* (36) > **nuliaət*. Retention after /ə/ is evidenced by: **nəRə-puq* 'eats' (see 38), **nəγəq* 'north wind', **kəzi-mi* 'he alone'. Older than 38. On /z/, see 3.2.0.

(38) $\begin{bmatrix} - \text{contin} \\ - \text{dental} \end{bmatrix} >$ [+ contin] / [+ syllab] (X) V__ V

"An intervocalic non-dental stop is lenited to the corresponding (voiced) spirant unless it immediately follows the first vowel (mora) of the word". Examples: **nəRəpuq* > **nəRəvuq*, **tulukaq* 'raven' > **tuluγaq*, **taliqa* > **taliRa* 'my arm'. Rules 37 and 38 are responsible for a number of well-known EE consonant alternations like *-Ø-* ~ *-γγ-* or *-R-* ~ *-qq-*. Ulving (1953) recognized most of the sub-rules, but projected them back into a much too distant past, linking the EE alternation with the Fennic "Stufenwechsel".

(39) Ø > v / u __ $V_{[-\,u]}$

"A glide /v/ is inserted between /u/ and a following vowel (other than /u/)". In many present-day dialects, the glide has evidently been deleted again, sometimes with subsequent contraction ("flattening"). Examples: **uγi* 'husband' (Chap. and Aleut *uγi*), by 37 > **ui* > *uvi* (thus WG and Mackenzie; for North Alaska, cf. Wells & Kelly 1890:60 "*Oo we´ga* '[my] husband' ", but Webster & Zibell 1970:4 *ui-ga; *ua-ŋa* 'I' > *uvaŋa* (thus WG, Mck, B [including W & Z 1970], but Imaklik *ōŋa*).

(40) $\emptyset > j / i \_\_ V_{[-i]}$ (?)

"A glide /j/ is inserted between /i/ and a following vowel (other than /i/)". Examples: **niu* 'leg' (37) > *niju*; **paniom* (37) > **panijom*. Rule of doubtful age, located here because of the obvious parallel with (39). If correct, the glide appears to have been deleted again in most dialects.

(41) $t\gamma > \delta\delta$

Examples: WG *pássúpâ* from *patig-pâ* with suffix *-úpâ*, i.e. **patγ-ut-* 'use as a means of touching with hands' > EE **paδδut-*; optative 3.pl.+3.sg. PE **-Li-t-γu* > EE **-liδδu-ŋ* (WG *-lissuk*, Barrow *-lirung*). See 8.3.

(42) $\left\{\begin{matrix}[+\text{ apical}] \\ \text{v (?)}\end{matrix}\right\} > [+\text{ palatal}] / i \_\_$

"Apicals, i.e. /t/, /n/, and /l/, and possibly also /v/ are palatalized when preceded by /i/". Examples: **citamat* 'four' > **cit̓amat* (see 49); **inuk* (35) > **iñuk*; perhaps also **ivalu* 'sinew' > **iv̓alu*, and **civu* 'front' > **civ̓u* (see 52). The palatalization was probably not very strong and was eliminated again in most dialects. Possibly also other (all ?) consonants assumed a palatal timbre after /i/, but only for /t, n, l, v/ did the palatalized variants assume phonemic status in one dialect or another.

(43) o > u

"The 'rounded shwa' becomes EE /u/": **panijom* (40) > **panijum*, **iRnəRom* erg. '(of) the son' > **iRnəRum*. See 1.1.2.

(44) $z\eta > n\eta$

Examples: **kazŋujuγ-puq* 'is ashamed' > **kanŋujuγpuq*, **tuzŋavuq* 'rests on something' > **tunŋavuq*. See 3.2.0.

(45) $m\gamma > m\eta$

Example: Pl. **kamγ-δ* 'boots', by 2 > **kamγ°δ*, by 24 > **kamγəδ*, by 25 > **kamγət* (= PE) > EE **kamŋət*.

(46) $\delta > \dot{z}$

"The dental spirant — where still preserved — develops into a voiced retroflex sibilant". Examples: **paẓ̇ẓ̇ut-*, **-liẓ̇ẓ̇uŋ* (41), PE **əδə* > EE **əẓ̇ə*. As a convenient notation of this phoneme I have used *ż* in the present paper. The details of its realization in the different EE dialects have been treated together with the related questions of orthography by Robert Petersen 1976 (in Greenlandic).

9.4. East Eskimo outside certain peripheral dialects of Alaska

(47) ə > i / __ $\left\{\begin{matrix} C \\ \# \end{matrix}\right\}$

"/ə/ coalesces with /i/ when followed by a consonant or word-final". Examples: **iRnəRum* (43) > **iRniRum*, **kamŋət* (45) > **kamŋit* (WG *kangmit*), **əz̨ə* (46) > **iz̨i*.

9.5. East Eskimo outside of Alaska[46]

(48) ñ > n

"The palatalized /ñ/ is depalatalized". Example: **iñuk* > *inuk*, preserved as *iñuk* in North Alaska. Probably matched by a comparable rule *l′* > *l*. Rules 47–48 reflect linguistic change in a migrating population. The distinction /i/ : /ə/ is reported to still exist in Imaklik (Menovščikov 1965), the Nunamiut dialect of Brooks Range (Bergsland), and perhaps Wales (Jenness). Otherwise, the distinction is said to have been neutralized in Alaskan Inuit (Krauss 1973:830), in which case the palatalized apicals are raised to the status of phonemes.[47] In my opinion this gradual loss of distinctions reflects the course of the EE migration.

9.6. Special (West) Greenlandic sound laws

(49) t′ > s / __ v

Examples: **cit′amat* 'four' (42) > WG *sisamat*, elsewhere *sitamat*; **it′əRpuq* 'enters' > (47) **it′iRpuq* > WG /isirpuq/ (*iserpoq*).

(50) ž > ş

Examples: **iz̨i* 'eye' (47) > WG /işi/ (*isse*); PE **maδδa* 'look here' (8.1.6) > EE **maz̨z̨a* > WG /maşşa/ (*mássa*); PE **ənqaRtuRutδun* (30), by assimilation > **ətqaRtuRuδδun*, by 37 > **ətqaRtuuδδun*, by 46 > **ətqaRtuuz̨z̨un*, by 47 > **itqaRtuuz̨z̨un* > WG /iqqaRtuuşşut/ (*erqartũssut*).

(51) v́ > v / __ i

"The palatalized /v́/ (see rule 42) is depalatalized when followed by the phoneme /i/ (whether from older **i* or **ə*)". Examples: *iverpâ* 'satirizes him in song' (**ivəR-*); **ivizaŋiq* 'woman's breast', by 37 > **iviaŋiq*, by 40 > **ivijaŋiq*, by 42 > **iv́ijaŋiq* > WG /ivi(j)aŋiq/ (*iviangeq*), cf. Kusk. *ivisaiq* (Hinz 1944, Supplement), Nauk. *ivjE·q* (Kn. Rasmussen 1941:40). This rule is necessary in order to keep WG /ivi/ from undergoing the changes expressed by the following four rules. On the whole complex of rules 51–55, see footnote 14.

(52) i > y / ___ v́

"The vowel /i/ is rounded to [y] before the palatalized /v́/, where the latter is still preserved". Examples: **iv́alu* (42) > **yv́alu*, **civ́u* (42) > (**siv́u* >) **syv́u*.

(53) v́ > j

"The palatalized /v́/ changes to /j/": **yv́alu* > **yjalu*, **syv́u* > **syju*. At this stage, /y/ is certainly phonemic.

(54) /y/ > /u/

"The phoneme /y/ is identified with the phoneme /u/": **yjalu* > WG /ujalu/, **syju* > 19th cty. WG /suju/. After /s/, there was no actual phonetic change: the language just did not possess any words with /suj/ of different origin, so a pronunciation [syjo] could now be interpreted as /suju/ (Kleinschmidt *sujo*).

(55) y > i

"The phone [y] changes to [i], thus falling in with the phoneme /i/": [syjo] > [sijo], now phonemically /si(j)u/.

(56) $\begin{bmatrix} + \text{nasal} \\ - \text{velar} \end{bmatrix}$ > [+ uvular] / ___ R

"/n/ and /m/ are uvularized before /R/". Examples: **tanR-un* 'grease, salve' > **taÑRut*; **əmR-om*, erg.of **əməq* 'water', > **imRum* > **i^{w}ÑRum/-up*. The rule may probably be formulated as valid for any nasal followed by /R/, since the surprising change of /ŋR/ to /RR/ observed in *kangeq* 'promontory' → 3.sg.poss. *karra* 'its extreme, high promontory' (**kaŋR-a*, Chap. *kaŋəq* → *kaŋRa*) is probably much older than this (cf. the form *kax'a* 'its point, cape' given for King Island by Jenness 1928:48).

(57) Dialectally different further treatments of 56:

(57a) Northern dialects: R > [+ nasal] / [+ nasal] ___

"/R/ following a nasal is nasalized (to the uvular nasal /Ñ/)": **taÑRut* > *taÑÑut* (spelt *tarngut*), **i^{w}ÑRup* > *i^{w}ÑÑup* (spelt *ervngup*).

(57b) Southern dialects: [+ nasal] R
1 2 > 2 1

"Metathesis of nasal + *R* to *R* + nasal", cf. **taÑRut* > **taRÑut*, **i^{w}ÑRup* > **iR^{w}Ñup*. Followed by a secondary adjustment:

(57ba) $\begin{bmatrix} + \text{nasal} \\ + \text{uvular} \end{bmatrix}$ > [- uvular]

"Uvular nasals are deuvularized", cf. **taRN̈ut* > *taRnut (tarnut)*, **iR^{w}N̈up* > *iRmup (ermup)*. On the whole question of the uvular nasal(s), see footnote 31.

9.7. Sound changes between Proto-Eskimo and Proto-West-Eskimo

(selected rules only).

(58) $C_iC_i > C_i$

"Geminates are simplified". Examples superfluous. The chronology of the Sir. different treatment of **ll* in *uka-čəχ* 'neighbour' (**uka-lliq*) and **LL* in *tasíməŋíj* 'five' (**taLLimat*) as opposed to the preservation of **l* and **L* in e.g. *qíləx* 'sky' (**qilak*) and *nuLa* 'buttock' (**nuLu / *nuLuq*) is unexplained.

(59) $\tilde{n} > \emptyset / |i|$

"/ñ/ is dropped before or after /i/": **iñuk* > **iuk*; **ñiRu* 'leg' (footnote 29) > WE **iRu*.

(60) $i > j / \#\_\_ V$

"/i/ becomes /j/ before a vowel when word-initial": **iuk* > WE **juk* 'human being'. This /j/ probably had a somewhat stronger articulation than word-internal /j/, cf. the dialectal developments *šuk*, *čuk*. The same obviously applies to word-initial /u/ followed by a vowel, cf. strengthenings like Chap. *xwaŋa* 'I' from **u-a-ŋa* or Barnum's *hwē* (i.e. [hwĭ]). The classification of WE dialects based on the initial of **juk* (into "yuk", "čux", and "šuk/suk") proposed by Hammerich (1958:637-9, repeated 1970:9) is of course arbitrary. The only dramatic split within WE is between Sirenik and the rest, though three main dialect areas are fairly distinctly discernible within this rest, viz. Chaplino-Naukan, SW Alaskan (including Nunivak), and SE Alaskan.

(61) $\delta jV > r\bar{V}$ (?)

Siberian *-rāq*, *-rāRəm* from **-δjiaq*, **-δjiaRom*, WG *-tsiaq*, *-tsiaup*. See 2.3.1.

9.8. Special Sirenik sound laws

(62) $\left\{\begin{matrix}\delta\\z\end{matrix}\right\} > r$

**ciŋδaq* 'beach' > **siŋδaχ* > **siŋraχ* (WG *sigssaq*); **aδuk* 'blood' > **arux* (WG *auk*); **kəzi-* 'alone' > **kəri-* (WG *kisi-*).

(63) V > ə / [+ syllab] __ { \| / (C) # }

"A short vowel of the final syllable or an open internal syllable of a word is reduced to /ə/": *siŋraχ > *siŋrəχ; *aki 'price' > *akə (Chap. *akĭ*); *arux > *arəx; *kəri- > *kərə-.

(64) r > č / __ ə

"/r/ becomes /č/ when preceding /ə/": *siŋrəχ > siŋčəχ, *arəx > ačəx, *kərə- > kəčə- (8.2.2).

(65) ə > a / __ #

"/ə/ becomes /a/ in word-final position": *akə > aka; *əδə 'eye', by 62 > *ərə, by 64 > *əčə > əča (WG *isse*).

(66) n̆ > j / # __

"Word-initial /n̆/ changes to /j/": *n̆aRuja 'seagull', by 63 > *n̆aRəjə, by 65 > *n̆aRəja > jaRəja (Chap. *naRuja*, WG *nauja*). This rule is of course later than the Common WE deletion of /n̄/ when contiguous to /i/ (rule 59), cf. *n̆iRu 'leg' > (59) *iRu > (63) *iRə > (65) Sir. *iRa*, or *juk > Sir. *jux* 'human being'.

9.9. Sound laws shared by all non-Sirenik West Eskimo dialects

(66a) ñ > n (cf. rule 66)

(67) i > Ø / c __ [+ dental] (?)

"/i/ is lost between /c/ and a dental phoneme", cf. *citamat* 'four' > Chap. *stāmat*, Kusk. *(t)stauman*, Nunivak *sta'mät* (thus Jenness 1928, Kn. Rasmussen 1941:36 has *staman*), Chugach *štāman*; *cila 'world, weather' > Chap. *sLā*, Kusk. *sla, tla*, Nun. *s'la'*, Chug. *tLa*; *citi 'fox's den' > Nun. *s'ti*. Compare Sir. *sitəməŋij, sila*, WG *sisamat, sise*, all proving *-i-. The evidence of Naukan is somewhat embarrassing, considering that Jenness' *stamät* (1928) stands alone against a number of words in *sit-* like *sitóq* 'white whale', *sitōquq* 'slides downhill', *sítuk* 'nail', and even *sitámat* in Menovščikov 1975. Perhaps the /i/ was only weakened — though apparently very much so — in this environment, to be later restored to full strength in Naukan, while the other dialects lost it altogether.

(68) R > Ø / [+ syllab] (X) V__ V

"/R/ is lost in intervocalic position after a non-first vowel": *ataRuciq 'one' > Sir. *atəRəsəχ* (63), Chap. *atāsiq* (with *au* > *ā*), Kusk. *attauciq* (with gemination before a vowel cluster).

(69) $\delta > \emptyset$ / a ___ $\begin{Bmatrix} a \\ u \end{Bmatrix}$

"/δ/ is lost (at least) between /a/ and either /a/ or /u/": **maδa-ni* 'here' > *maani* (8.1.6): Sir. *mačáγna* 'from here'; **aδuk* 'blood' > *auk:*[48] Sir. *ačəx* (rules 62–64).

9.10. Sound laws peculiar to South West Alaska

(70) $\begin{bmatrix} + \text{voice} \\ + \text{spir} \end{bmatrix} > [+ \text{weak}]$ / $V_{[-\text{ə}]}$ ___ V

"An intervocalic voiced spirant is weakened, unless preceded by /ə/". Perhaps just a manifestation of 32–33. Example: **naγu-δuq* 'grows' > **naɣ̸uδ̸uq*.

(71) [+ weak] > [- weak] / [+ weak] V ___

"A weakened spirant is pronounced with normal strength if the nearest preceding consonant is itself a weakened spirant", cf. **naɣ̸uδ̸uq* > **naɣ̸uδuq*.

(72) [+ weak] > Ø

"A weakened spirant is lost", cf. **naɣ̸uδuq* > **nauδuq*.

(73) $\delta > \gamma$

Example: **nauδuq* > SW Al. *nauγuq*. On rules 70–73, see footnote 4.

9.11. Special Chaplino sound laws

(74) ə > a / ___ [+ uvular] C

"/ə/ changes to /a/ when followed by a cluster-initial uvular". Examples: *aχ̣táquq* 'dawns' with /aRt(ə)-/ from **əRtə-*, cf. Kusk. *ertoq*; suff. *-laRaquq* VV 'begins to —' from **-ləR-(δaR-)*, cf. WG *-ler(-tar)-poq*.

(75) ə > Ø / C^1 ___] [+ segm]

"/ə/ is lost in an open non-final syllable if preceded by only one consonant", cf. **itəR-δaqəuq* 'enters' (see footnote 12) > **itəRāquq* (on /δ/-deletion, see 4.1.2 and footnote 26) > **itRāquq* > *itχ̣āquq*.

(76) ə > Ø / # ___

"Word-initial /ə/ is lost", cf. **ətəq* 'anus' > *təq* (Nauk. *ətəq*, WG *iteq*), erg. **ətR-om* (WG *erqup*) > **ətRəm* > **ətχ̣əm* > **tχ̣əm*, restructured to *təχ̣əm* on the analogy of the inerg., now without loss of /ə/ by 74.

FOOTNOTES

1. For an account of the Pyle-Underhill-Sadock polemics, see Rischel 1974, p. 280–300, where the whole question of "Gemination of consonants" is treated under consideration of postwar publications on the subject (i.e., besides these, also Ulving 1953 and Bergsland 1955 and 1959). Rischel's own approach is predominantly synchronic, and his analysis and results are therefore of limited value to the search for the active factors that brought about this alternation. His conclusion (p. 299) is laudably modest: "One shall then have to speak more vaguely about gemination as compensation for the loss of material". The material lost is identified as "a vowel segment or a preconsonantal consonant segment". As a convenient cover term for the two kinds of vanishing material he chooses the word "mora" and states as an essential part of the broader regularity governing gemination that "when a mora is lost, the nearest preceding consonant is geminated (if possible)" (ibid.). The superordinate regularity thus hinted at is throughout the chapter referred to as a "complex rule" which is nowhere satisfactorily formulated, not even, it seems, in the chapter (p. 208–220) devoted specifically to "Pre-vocalic consonant deletion and the complex rule". The most precise statement is found on p. 215: "there is a COMPLEX CLUSTER ADJUSTMENT RULE which operates on consonant stems marked for its application if these stems are followed by inflectional endings that begin with a consonant. If the rule operates, it removes the final consonant of the stem (and there may be stem internal gemination)". This "complex rule" marking is used as one of the most important criteria for a classification of WG noun stems (p. 416–420). If I understand this correctly, not even plural formations like /ammit/ from /amiq/ 'fur' are considered synchronically predictable; instead the stem is conceived of as /amiC$_q$/ I,B with a marking meaning "no anaptyxis between stem-final and ending, gemination when consonantal endings are added". It may then, I think, be asserted that Rischel's analysis does not go quite as far as even a consistently synchronic analysis could have done (and not nearly as far as a linguist interested in the actual diachronic sequence of cause and effect would have liked it to). The metathesis theory advocated by Pyle and again by Sadock is soberly criticized by Rischel (p. 296): if the derivation of pl. /ammit/ from what is synchronically /amiq/ + /–t/ is held to go through a stage */amqit/, everything is hard to understand, since "uvularity is the very feature that resists assimilation". As Underhill rightly objected (1971:307), the assimilation presupposed for */amqit/ > /ammit/ is contradicted by the pl. of *imeq* 'water' (in Underhill's morphophonemic notation /imq/) which is *ermit*, by almost unanimous

consent believed to have passed through a stage */imqit/. In Underhill's words, "Whatever rules are written to account for either one of these forms will also apply to the other". In Sadock's opinion this "is simply not true" (1972:7), for "assimilations" of the kind **imqit* > *irmit* may have been completed before the metathesis rule created the same cluster anew in **amiq-t* > **amqit*. Both synchronic morphophonemics and comparative evidence clearly show that the stem-final uvular was in fact the spirant /R/ and not the stop /q/, so in Eskimo **əmR-ət* 'waters' no assimilation has occurred at all, and when the pl. of the geminating type is argumenti causa "corrected" to **amiR-t* > **amRit*, the contradiction is made clear and the theory disproved. Underhill's own standpoint is practically the same as Rischel's: "A single consonant [is] replaced by the geminate correspondent in some grammatically-determined environment" (Underhill 1971:307). Although "gemination regularly occurs in nouns ending in -VCVq" (p. 309), "the stems which can undergo gemination [should be] marked in the lexicon", and the rule consequently contains the specification of environment "+ [suffix causing gemination]" (309). Practically the same analysis is given in Underhill 1976:356. — The abstract of the paper by Charlotte Webb (1973) defends a hopeless position: In /amiq/ the stem is held to be /ami-/, the /-q/ being taken as "the absolutive singular morpheme", and a rule of gemination allegedly "doubles the last consonant of the stem just in case the affix is consonant initial" (the uvulars /q/ and /r/ being excluded). This analysis can only be based on ignorance of the existence of stems that do not have any /-q/ in the abs.sg. If the regular plural of a stem /ami-/ is /ammit/, why then is the pl. of /aki/ 'price' /aki-t/ and not */akki-t/? — A special "metathesis" theory has been advanced by Robert Petersen (1970:334-38), consisting in what is termed "iteration of an expression element" (p. 335), i.e. the total or partial anticipation of a phoneme — vowel or consonant —, which thereby comes to stand next to a preceding consonant and produces the geminated counterpart of this by assimilation. In this process, "the terminal phone in the base stem, *-q*, hardly plays any significant role" (p. 336). Robert Petersen makes no explicit statements about the intermediary steps of the change, but, as the theory is formulated, the development of an example like "*nasAq* 'cap': *nasa* + *-up* > *nac'ap*, *nasa* + *-it* > *nac'at*" (ibid.) must be taken to involve a stage **nasuap* **nasiat* with later "assimilation" of *su* and *si* to *ts*! Apart from the bewildering phonetics (and the unfounded vowels of the endings), this theory suffers from the same shortcomings as Webb's: if the uvular of *nasaq* is not part of the stem, why then gemination in *nutsa-t*, but none in *nuna-t*? — The reader of Menovščikov's grammar (1962 and 1967), annoyed at what he believed to be simple typographical inaccuracy in the many Greenlandic forms given without the ' marking gemination (e.g. 1962:102 "qaqaq" and "sako"), is shocked by the later statement (1976:121) that several of the events of gemination treated by Rischel are "scientifically unfounded", "phonologically completely groundless" and "quite unbelievable", this being said to include the plural formations of the

type /nannut/ where "gemination . . . has no relation to the plural form", since "phonologically there is not here produced any quantitative change of the sound". Of all attempts to tackle the problem of gemination, this flat denial of its existence is certainly the boldest. – The two highly sophisticated synchronic descriptions of WG by Henrik Aagesen (1975 and 1977) came to my attention too late to be used in drafting the present paper. In them is presented an elaborate system of morphophonemic symbols designed to convey the analytic information necessary for predicting inflectional forms and derivatives. The sections on gemination (1975:29-33, 1977:§ 29) contain a precise descriptive statement of the transformation and its distribution, but exclusively in synchronic terms with no attempt at diachronic analysis. – It seems, therefore, safe to assert that the question of the actual developmental processes involved in the rise of Eskimo gemination and their conditioning is to a marked degree left open by previous literature. It should be pointed out, though, that a few recent studies pertinent to the problem have not been accessible to me; among these are The Chicago Conference papers and two papers by Miyaoka on metathesis, all mentioned in the brilliant bibliographical and state-of-the-art report by Michael Krauss in Current Trends 10 (1973), as well as J. Rischel's manuscript "Ever again on gemination in West Greenlandic" mentioned in the bibliography of Rischel 1974. [See the Addendum.]

2. The non-occurrence of gemination in Imaklik (on the Diomede Islands in the Bering Strait) as described by Menovščikov 1965 reflects not "a serious inadequacy of the transcription" but rather "the alarming swift loss of what is a fundamental and highly functional consonantal contrast in all other attested Inuit (but not Yupik) dialects" (possibilities given by Krauss 1973:809 as "either . . . or"). The words *utaqi̇roq/-toq* 'waiting, waits' and *utuqaq* 'old' given by Menovščikov 1964:215f (with an obvious misprint making one read *utaqi̇roqtoq* as one word) contain intervocalic *-q-* corresponding to the geminate of WG *utarqivoq utorqaq* (with old geminates, not assimilated clusters, as witnessed by Chap. *utaqi̇̄γa-quq utuqaq*), whereas a simple (EE) **-q-* is lenited to /R/ in intervocalic position, cf. *taRet* 'veins' ~ WG *taqaq* 'vein' (the Imaklik pl. being analogical after the epenthesis class in **-ət* as pointed out by Bergsland 1966a:141), *aRun* 'short oar' = WG *aqût* 'rudder', *ə Rətqeŋuraq* ~ WG *eqerqoq* 'little finger', *aReRuq* 'stomach' = WG *aqajaroq*, or *aRaγiq* 'partridge' = Nauk. *aqarγiq*, Chap. *aqa̋rγiq*, all quoted from Men. 1964:205ff. Thus inflectional forms such as erg. *ama:Rúm* from *ama:Rúq* 'wolf' or *imánun* 'into the sea' occurring in the Imaklik text reported by Men. 1965:83 must be based on levelling within the paradigm surviving as WG *amaroq*, erg. *amarqup* (stated explicitly by J. Petersen 1951) and *imaq*, all. pl. /immanut/.

3. Bergsland's examples of West Eskimo "relics of gemination" are bewildering indeed, but a closer inspection seems to deprive them of their cogency. Kusk.

agger-toq 'is on the way, is coming' = WG *agger-poq* mentioned in 1959:10 and again in 1966:210 and correctly connected with the verbal stem seen in WG *aivâ* 'fetches it', Chap. *āγa-qā* 'goes to it, visits him' (cf. further Nunivak *ay'ox*, Naukan *ai'voq*, Barrow *aiRoq* 'he went home' given by Jenness 1928, [the last-mentioned for *airuq*, cf. Webster & Zibell 1970:126], and Chugach *aγ'Uq* 'walks' in Birket-Smith 1953:242) is strongly suggestive of the suffix given by Schultz-Lorentzen (1927:294) as *-rpoq* VV 'becomes —'. This is the ingressive suffix of such derivations as *qauma-voq* 'is bright' → *qáumar-poq* 'becomes light' or *palu-voq* 'lies on its belly' → *patdlor-poq* 'lies down on his stomach' (semantics from the English translation of Schultz-Lorentzen) treated at some length further on in the text (especially sections 1.2.2.4 and 1.2.2.5), where the underlying form *-γR- is reached. So far, WG *ai-vâ* → *agger-poq* looks very much like Proto-Esk. **aγə-paR-a* → **aγγəR-puq* matching **palu-puq* → **palluR-puq*. But the halftransitive of *aivâ* is given as *aig-dler-poq* (suffix identical with *-ler-poq* VV 'begins to —, is -ing') with a velar proved old by the entry *aik-ler-poq* 'er holt etwas' in Erdmann 1864. The verbal stem therefore obviously contains two velar spirants, and the only form found to account for all varieties of the stem is **aγəγə-*. From such a stem-form the transitive ind. 3.sg.+3.sg., normally made with the morpheme **-paR-a*, would drop the **-p-* after **-ə-*. Consider, for instance, WG *-gâ* = Kusk. *-kâ* NV 'has it for his —' from **-kə-[p]aR-a* or WG intensive *-qaoq* < **-qə-[p]uq*, perhaps also the suffix of coordinate action ("appositional mode") which has a suffix-initial labial after all vowels other than *ə as in WG *nâ-vdlu-go* 'having finished it' contained also in Thibert's (1954:158) *inuk atauserk nâvlugo* 'having finished (counting the fingers and toes of) one man, i.e. twenty' as contrasted with WG *ə-stem forms like *pâra-lu-go* 'guarding him', *ila-ga-lu-se* 'having you along' cited by Schultz-Lorentzen 1952:40. The expected Proto-Esk. **aγəγə-aRa* would give EE **aəγaa*, which would appear to be preserved in Wales-Barrow-Mackenzie *aiγa* given by Jenness 1928. This appears to have been normalized to WG *aivâ*, while in the WE of Siberia, where the prs.ind. was characterized by a succession of the two suffixes **-δaR-* and **-qə-* (see footnote 12), the corresponding point of departure was **aγəγə-δa(R)-qə-aR-a* giving Proto-Esk. **ɕγəγδaqəaRa* → non-Sir. WE **aγəγ-aqaRa* > **aγγaqaRa* > **aγγaqā* > Chap. *āγaqā*. From this stem the derivative **aγəγə-ləR-puq* gave the WG htr. *aigdlerpoq* by regular *ə-dropping in an open, internal syllable (apparently working from right to left and therefore not deleting the first *ə). The ingressive of this was presumably pre-Esk. **aγəγə-γR-puR* with the first *ə in an open syllable, and the ensuing **aγγəγRpuR* thus had a cluster *-γγ- on a chronological stage preceding gemination which underwent the same devoicing described further on in text (2.4) for *-RR- in the word *nuliaq* 'wife'. It was, then, a form **axxəγRpuR* that underwent gemination and cluster simplification to give Proto-Eskimo **axxəRpuq* 'begins to go to someone, is on his way' with phonemically voiceless velar spirants. In WE, the voiceless pronunciation was retained even after the simpli-

fication of the geminate (spelt *-gg-* in Hinz's entry *aggertoq*), whereas EE lost the voice distinction but preserved gemination, which in the case of an underlying non-nasal phoneme gave voiceless articulation by a secondary rule. The agreement of WG *agger-poq* and Kusk. *agger-toq* is therefore only apparent. The example from Nunivak (Bergsland 1966:209f) *xʻγa-* 'cook' vs. *iʻγan* 'cooking-pot' is highly questionable, too, since it is in the latter that gemination is expected: Proto-Esk. **əγa-puq* 'cooks' vs. **əγγa-n* 'cooking utensil' like e.g. **cana-puq* 'works' : **canna-n* 'tool'. Indeed, one should expect Nunivak *γγ-* in both words, as this dialect lengthens a simple consonant after word-initial **ə-* which is regularly dropped, cf. *nʻa* 'house' < **ənə* = WG *ine* 'room' or *Lʻixtox* 'is scorched' = WG *iligpoq*. Whether Nun. *iʻγan*, reported unanimously by Jenness 1928:30 and Knud Rasmussen 1941:33, is indicative of retention of **ə-* before a former geminate or simply represents a loanword may be left open. The normal WE treatment of Esk. **-γγ-* (arising from **-γ-* by gemination) is no different from that of single **-γ-*, cf. Kusk. *nau-qig-toq* 'grows nicely' = WG *naggo-rig-poq*, Kusk. *nau-vik* 'place of growing' = WG *naggu-vik* with the same loss of WE */γ/* as in the simple verb *nau-goq* 'grows' = WG *nau-voq*.

4. The geminates of SE Alaskan Eskimo have been shown to be of relatively late origin, cf. the very precise statement in Swadesh 1952:33, "Except for v or j at the phonemic initial of the word, whenever a consonant located after the first morpho-phonemic vowel of the word comes to be followed by a morpho-phonemic vowel group, the consonant is doubled". A more detailed study has been undertaken by Miyaoka (1971) on a high quality level rare in the field of Eskimo studies. Miyaoka's rule doubling a single intervocalic consonant before a hiatic vowel sequence (§ 2.2.1, p. 221) should, however, probably be refined to apply already at a chronological stage where certain old vowel sequences had not yet received a hiatus-filling */ŋ/* – but after the lenition of **δ*, **γ* and **R* after certain rules (not after **ə*) had produced a bare zero, as is seen from examples like (1) **tumə-u-δuq* > **tummə̆uδuq* (*-δ-* retained on the analogy of stems in */-ə/* as in North Alaskan) >**tummə̆ŋuδ̸uq* >*tummə̆ŋuuq* 'is a footprint' and (2) **qəŋaR-u-δuq* > **qəŋauδuq* > **qəŋŋauδuq* > *qəŋŋauγuq* 'is a nose'. These examples appear as illustrations (no. 9 and 22) to Jang H. Koo's article "The copulative 'u' in Yupik and crossover convention" published together with Miyaoka's paper in IJAL 37 (Koo 1971). My analysis of the examples, however, differs considerably from Koo's, as I do not consider "crossover convention" (something like "morphological metathesis" *after* certain phonetic changes have taken place at the original morpheme boundaries!) realistic as a diachronic solution. I take the indicative marker to be **δ* in most (probably all) of Koo's examples. In my opinion, the four spirants *δ*, *γ*, *R*, and *w* (cover-symbol *G*, the glide *w* arising in Koo's examples in the environment "V__u"), prior to being deleted intervocalically, underwent lenition to an intermediary stage *δ̸*, *γ̸*, *R̸*, and *ψ* (cover-symbol *G̸*), at which period the second of two such spirants flanking

the same vowel was strengthened by dissimilation to a full spirant which was preserved even after the first was lost: VGVGV > VɸVɸV > VɸVGV > VVGV. Where *δ was not lost, it changed to /γ/ (cf. the same sound change in Middle Irish), e.g. **aRnaR-u-δuq* > **aRnaʁuδuq* > **aRnaʁuδuq* > **aRnauδuq* > *aRnauγuq* > Koo's example 18 *arenaugoq* 'is a woman'. It should be noted, though, that none of Miyaoka's rules, for all their solid foundation, produces Kuskokwim *aggertoq* discussed in the preceding footnote.

5. Bergsland 1951:179, 1956:§ 4.2, 1958:626 ("possibly") and again 1959:10. Menovščikov (1967a:388) explicitly mentions a "non-phonemic consonantal length, especially of *m̄ (mm)*, *l̄ (ll)*, *t̄ (tt)* between the vowels of the first syllables, one of which (most often the first) carries dynamic stress: *húm̄aχ* 'side', *nám̄is* 'veins', *ȧt̄akan* 'one', *ȧl̄aχ* 'whale'."

6. E.g. Rischel 1974:297 "very plausible". I am not sure to what extent the statement in Underhill 1971:300, "We will try to show here that Bergsland's approach is correct", commits its author to the details of this theory.

7. A different kind of syncope theory was presented by Jenness (1944:6f). Here the origin of a pl. form like Barrow *taλλit* 'arms' from *taliq* was assumed to be in a development from **taliqi-t* to **talirit* (because "*q* between vowels frequently becomes *r*"), in which the first **-i-* was lost and the cluster **-lr-* then assimilated to -λλ-. For this theory, the phonetic identity between the two **-i-*'s of the proto-form is a mere coincidence, just as the other geminating types just happened to have underlying forms in **-aqa* and **-uqu* giving plurals of the structure **-Caqa-t* > **-CCat* and **-Cuqu-t* > **-CCut*. This idea raises more problems than it solves, and on top of this it combines the disadvantages of the traditional assimilation theory (albeit without metathesis) and Bergsland's syncope theory, both of which I believe to be incorrect.

7a. A similar reservation must be made with regard to actual *phonetic* exactness. From the standpoint of phonological universals, many of the consonantal sequences appearing in the reconstructions of the present paper are certainly unusual — though by no means unique: they do not surpass in complexity what can be readily found in a description of Georgian or Kamchadal, to say nothing of the extreme example of Bella Coola. Strictly speaking, all that can be said about a cluster such as /-tγγRp-/ of the word-form **patγ-γR-paR-a* (1.2.2.5), is that it contained none of the vowels that are known to have existed at that time. Whether it was actually pronounced as one asyllabic sequence or rather relieved by some non-phonemic auxiliary vowel(s), is impossible to know for certain. Sometimes, however, assimilations of neighbouring consonants rather obviously indicate the absence of any intervening vowel, and perhaps the mere fact that these consonantal sequences could not survive unreduced may also be

taken as a general indication of the actual phonetic reality (however transient) of these definitely unstable clusters.

8. The Proto-Eskalaut pronunciation of underlying spirants in word-final position appears to be that of stops, cf. in the Aleut of Veniaminov's grammar (1834) the notation *-q* of what is a voiceless spirant *-x̣* in later sources (Iochel'son Bergsland, Menovščikov). Then also the spirant pronunciation in the dialect of Nunivak and in Sirenik will represent seperate developments posterior to the proto-language: if the majority of modern Eskimo dialects agree with Proto-Eskaleut in pronouncing these phonemes as stops, they must have been stops in the intervening stage of Proto-Eskimo as well. It may be worth while to point out that "underlying (morphophonemic) form" and "(reconstructed) proto-form" are not synonymous labels for any presumed older form of a given linguistic element, even though "underlying" is in fact used in the present paper with reference to some historical reality. In some cases, the analysis in terms of underlying forms brings us well beyond the chronological stage of the proto-language. The Proto-Eskimo reconstruction of WG *atdlut* 'soles' is **allut*, the Proto-Eskaleut proto-form possibly the same, while the underlying form /aluR-δ/, though based on synchronic analysis, recovers an even older chronological layer.

9. The WG forms have regularly lost a voiced spirant (here *-γ-, the other possibilities being *-*R*- and *-δ-) in intervocalic position (except after *ə); /i/ + /i/ is realized as a long vowel [i:], /i/ + /u/ is pronounced with an automatic glide coinciding with the phoneme /j/ (i.e., /iu/ = /iju/ as also /ia/ = /ija/ and /ui/ = /uvi/, /ua/ = /uva/).

10. Kleinschmidt's orthography *kangmup*, *kangmit* strongly suggests an older pronunciation [kaŋmup], [kaŋmit], but the spelling *-ngm-* is also occasionally used for [m:] arising by gemination of /m/ as in *kangmivoq* 'sews boots' from PE **kammipuq* on which see the text further on (section 4).

11. In Swadesh 1952:168 a "reconstruction of spirant γ R in final position for Proto Eskimo . . . is based upon compelling phonological considerations", an attitude that has been commented upon in footnote 8. The earliest explicite statement by Bergsland that I have been able to locate is the reconstruction **ami(rə)m* for WG *ammip* in Bergsland 1958:626.

12. The Chaplino intransitive present indicative forms in (3.sg.) *-(a)quq* are analysed by Menovščikov (e.g. 1967:94f, 103) as consisting of a morpheme *-a-* (after vowel: nil) of present tense + an indicative marker *-qu-*. This is not as bad as Ulving (1971:97-99) makes it appear, "correcting" it to *-aq-* of present tense + *-u-* of intransitive indicative. Indeed, the question whether the *-q-*

belongs to the tense or the mood marker makes very little sense when these always appear combined. Not surprisingly, Menovščikov repeats the analysis *-a-qu-* in 1975 (p. 234) for Naukan. Diachronically, the *-q-* rather obviously belongs morphologically to none of its flanking vowels. The Sirenik morpheme is *-čəqəɣtəɣ* ~ *-təqəɣtəɣ*, and also the Chap.-Nauk. form has a variant with suffix-initial *-t-* restricted to postconsonantal position (e.g., Sir. *matáɣ-təqə́ɣtəɣ* = Chap.-Nauk. *matáɣ-taquq* = WG *mátar-poq* 'undresses'). Now the segment *-quq* is obviously identical with the WG intensive suffix *-qaoq*, continuing Proto-Esk. **-qə-uq* (for **-uq* as a conditioned variant of **-puq*, see footnote 3). As is well-known, any stem-final consonant is deleted before the suffix *-qaoq* (WG *ajoqaoq* 'it is very bad' from *ajor-poq*). Thus, what precedes the *-q-* in the Siberian forms can only be determined as consisting of (1) a consonant giving Sir. *č* ~ *t* and Chap.-Nauk. Ø ~ *t*, (2) the vowel /a/, with or without (3) some suffix-final consonant after it. As (1) can only be the PE consonant **δ*, the only obvious suffix to be seen here is the one appearing as WG *-ssar-poq* ~ *-tar-poq* VV '– usually', like *-qaoq* of very frequent occurrence and often of very slight semantic consequence. This gives a reconstruction **-δa(R)-qə-uq* for Chap.-Nauk. *-(t)aquq* and Sir. *-čəqəɣ-/-təqəɣ-*. The Sir. final *-təɣ* is probably merely an analogical repetition of the ending of the "near past" (< PE act.ptc. in **-δuq*). If the unlenited WG *-qaoq* is in reality the generalized postconsonantal variant – or some other conditioned variant – the real WG correspondence of Chap. *-(t)aquq* may well be the suffix given by Chr. Rasmussen 1888:135 (no. 89) as "*:-araoq*" also meaning 'usually' and showing allomorphs like *-taraoq* (after a velar), *-ssaraoq* (after a vowel), and *-araoq* (after a uvular or dental, which are both retained), thereby clearly pointing to Proto-Esk. **-δaqəuq*. Thus the exact WG counterpart of Chap. *ānaquq* (from **anδaquq* by anaptyxis in **anə-δa-*, cf. Sir. *an-čə-qəɣtəɣ)* is in point of fact the derivative *anissæraoq* 'goes out habitually' given by J. Petersen 1951:228 (suffix entry *-ssaraoq* II).

13. I note in passing that the words **nəqə* 'meat, fish' and **anuqə* 'wind' probably present a hardening of **R* to /q/ in the environment "___ə #" completed at a stage preceding the Eskimo proto-language (and if **nəqə* is etymologically identical with Aleut *qa-ɣ* 'fish', even preceding the Eskaleut proto-language). This assumption is consistent with the fact that Esk. seems to lack words in **-Rə* and would also yield a rather simple explanation of the alternation evidenced by **nəqə* vs. **nəRə-* 'eat' (WG /niqi/ : /niRivuq/, Chap. *nəqa* : *nəRaquq*). The paradigmatic alternation expected in the inflection of this word seems to have been levelled by analogy (e.g., erg.sg. WG /niqi-p/, Chap. *nəqə-m* adjusted to **nəqə*). The regular paradigmatic behaviour of **-Rə* is probably what we have in the singularly aberrant WG forms erg. *anorrup*, pl. *anorrit*, though the material is too scanty to exclude other possibilities.

14. Kleinschmidt's orthography *suj-* for a sequence that started out as **civ-* (Chap. *sivu* = Kusk. *tsio* = WG *sujo* 'front, fore-end of kayak') and ended up as present-day [sij-] must note a vowel which was rounded by (the reflex of) the adjacent /v/ — itself palatalized and later becoming /j/ through the influence of this vowel — but which did not merge with the phoneme /u/ until after this bidirectional assimilation had been completed. As the development "iv > uj" is restricted to cases of /i/ from Esk. **i*, not **ə*, it dates back to a period preceding the merger of *i and *ə in anteconsonantal position. As this merger is shared by all East Eskimo dialects except for a few from the extreme West (Imaklik, Wales, and at least the subdialect of North Alaskan known from Bergsland's Nunamiut materials), it certainly belongs to the oldest innovations made by the migrating group of East Eskimos; and as all other EE dialects outside North Alaska agree in retaining /-iv-/, whether from **-iv-* or from **-əv-*, the active factor triggering the WG development to /-uj-/ cannot have been located in the /i/, but must have been a feature of the following "*-v-*". That is to say, the *-v-* must have experienced a specific coloration dating back to a time when **i* was still distinct from *ə: after **i* there was obviously allophonic palatalization to [v́], while *ə provoked no such change. With the merger of **i* and **ə*, the sequences */iv/ (pronounced [iv́]) and */əv/ ([əv]) were distinguished as /iv́/ vs. /iv/, the palatal timbre now having become phonemic. Outside Greenland the opposition /v́/ : /v/ was eliminated again by loss of the palatal feature, while in Greenlandic the palatal /v́/ (but not /v/) exerted an assimilatory influence on the preceding /i/ changing this to [y]. Later, /v́/ fell in with /j/, and /y/ with /u/, except for the position after /s/ where [y] was retained and later merged with /i/: **ivalu* 'sinew' > **iv́alu* > **yv́alu* > **yjalu* > mod. WG *ujalo* (Labr. *ivalu*); **civu* 'front' > **sivu* > **siv́u* > **syv́u* > **syju* > mod. WG /si(j)u/. In Kleinschmidtian WG, [y] is a mere allophone of /u/, cf. the rule "*u* zwischen *s* und *j* klingt immer wie *ü*" (Kleinschmidt 1851:3) justifying the spelling *sujo*. But in the 18th cty., *-yj-* occurred after all consonants, cf. a spelling like *aglyok* in Egede 1750 (cited from Rischel 1974:53), obviously meaning /aɣlyjuq/, for what was later normalized to *agdlivoq* 'grows' (Chap. *aŋl̃-quq*). For this period, /y/ must be ranked as phonemic since it is found to contrast with both /i/ and /u/: opposed to the /yj/ of */yjalu/ or */kyjalliq/ (mod. WG *kujatdleq* 'southernmost': Thibert *kivadlit* 'those of the south') there was /ij/ in /ki(j)a/ erg. 'who' and /uj/ in *ujamik* 'necklace' (Chap. *ujamik*). The /yj/ even contrasted with /iv/ from **əv*, cf. WG + Labr. *ivavoq* 'hatches eggs (**ə-* reflected by the unstable vowel of *ivanitsoq*/ *uvanitsoq* 'onion', literally 'looking like an egg'), *nivag-pâ* 'shovels it off' (**-ə-* reflected by Wales *nüwak-toq*, *nuak'a* 'he shovels it away' given by Jenness, and by the stem *nəvaɣ-* 'dig' appearing in Hammerich's unpublished Nunivak materials). When followed by the phoneme /i/ (whether from **i* or *ə), both **iv* and **əv* gave WG /iv/: *ivik* 'grass-straw' = Nauk. *ə́vək*, *iver-pâ* 'satirizes him in song' ~ Nunivak *yuaRyun* 'a song' (Jenness 1928:45) from **ivəR-*. It is doubtful exactly what has happened in the interesting pair con-

stituted by the spellings *kangujarpoq* and *kangiarpoq* 'moves east'. The morphological analysis is clear, the word being derived from *kange* 'east, land side' with the suffix **-vaR-* seen also in *kuja-var-poq* 'moves south' or *qutdlarpâ* 'lifts it up' (with unetymological spelling for expected *-vdl-*) = Chap. *qulvaRáqā* from **qulə* 'top'. It is clear, too, that **kaŋi-vaR-puq* would first become /kaŋyjaRpuq/, and it is possible that this is simply the pronunciation expressed by the spelling with *-uj-*, while *kangiarpoq* represents the modern pronunciation as /kaŋijaRpuq/. But it is no less possible that *-yj-* here developed into Kleinschmidtian *-uj-*, in which case the form /kaŋijaRpuq/ is simply a later (or regional) normalization of /kaŋujaRpuq/ formed by reintroducing the stem of the base word /kaŋi/.

15. On the orthographical rendering of clusters with /l/ as their second member, see Rischel 1974:55f, where the development from the richness of 18th cty. sources presenting /vl/ (: /pl/?) : /ll/ : /γl/ : /kl/ : /Rl/ (: /ql/?) to the meagre Kleinschmidtian reality comprising only /ll/ : /Rl/ is described.

16. These are the examples certified by "ordbogêraq" (and in the case of *tarraq* and *kípaq*, by Erdmann's 1864 Labrador dictionary), given here as far as possible with the glossings found in Schultz-Lorentzen's 1927 dictionary. Other examples matching the structure of these words for which the handbooks do not give the necessary particulars are *ínaq* 'full-grown seal', *qarraq* (glossed in "ordbogêraq" as *qaerneq*, obviously the verbal noun from *qaerpoq* 'loses its surface', precise meaning not recorded in the handbooks), *qátaq* 'water tank', *tutsaq* 'hearing' and *unerraq* 'trace from dragging'. A word fitting the structure of these examples but not presenting this type of inflection is *qáqaq, -ap, -at* 'mountain' (no cognate known from WE or western EE, origin of /qq/ therefore obscure). For the suffixes *-rssuaq* 'big' and *-́nguaq* 'small', see footnote 19.

17. Kusk. *maraiyaq* and Nunivak *maRa'ya* (Jenness) 'mud', however, contain a suffix added to the stem which is WG /maRRaq/, and it is not impossible that this suffix would give phonetic conditions such that gemination did not occur, cf. WG *majoriaq* and *maqigiaq* given by Schultz-Lorentzen 1927 as synonymous with *maiorqaq* 'defile, passage over a mountain' and *marqaq* 'portage'. At any rate WE *maRajaq* is not immediately identical with WG *marraq* (which probably corresponds to Kusk. *maraq* 'a plain, low level ground; open country'), as /R/ would be dropped intervocalically, and proto-forms like **maRj-* or **maRδ-* would yield WG **maRaj-* and **maRt-*, cf. on the one hand WG /aRajuγpuq/ 'is bored' → /aRajuppaa/ 'is tired of it' = Labrador (Erdmann 1864) *ariupa*, /aRajuqqavuq/ 'is restless' = Chap. *aRjuqa-quq* (from the base-verb perhaps Chugach *aRajuiq* listed by Birket-Smith 1953:242 with the surprising meaning 'church', probably a nomen loci in *-vik*), and on the other hand active participles like /tusaR-tuq/ 'hearing' as opposed to /sana-ṣuq/ 'working'. Thus, the WG

geminate /RR/ of this word is to be equated with the single /R/ of *maRajaq*, whether this was once a geminate or not.

17a. This is correborated by Aleut (Veniaminov) *cuqaq* 'throat' (Marsh & Laughlin 1956:63 *cuqaR* 'gullet, oesophagus'), obviously identical with Eskimo **cuqqaq* 'baleen'. The initial is Bergsland's **c*$_1$ (B. 1959:11).

18. For clarity's sake the question of gemination or non-gemination of the /l/ in this specific position may be left out of consideration. Even if gemination is, in the main, found to demand two consonants after the vanishing /R/ or /γ/, there are enough indications that biconsonantal clusters of the shape GR (G = /R/ or /γ/) produced gemination even when followed by a vowel. The unexplained contrast between WG /l/ and Chap. /z/ (Naukan *ukajiq*, Sirenik *ukačəx̣*) is without bearing on the present issue.

19. The lack of syncope in **kəppaRom* and **innaRom* is probably analogical after the uninflected forms **kəppaq* and **innaq*. Remains of the regular treatment — with syncope — may be seen in the WG suffixes *-rssuaq* NN 'a big —' and *-ŕnguaq* NN 'a small —', erg. *-rssûp -ŕngûp*, pl. *-rssuit -ŕnguit*. The most likely line of development seems to be: **-RδɣaGR* **-RδɣaGR°m* **-RδɣaGR°δ* (G = /R/ or /γ/) > **-RδɣɣaR* **-RδɣɣaR°m* **-RδɣɣaR°δ* > **-Rδɣɣ̊aR* **-Rδɣɣ̊R°m* **-Rδɣɣ̊R°δ* (syncope in light internal syllable following a geminate) > **-RδɣaR* **-Rδɣ°m* **-Rδɣ°δ* (cluster reduction to the first three of a series) > **-RδuaR* **-Rδu°m* **-Rδu°δ* (vocalization of *ɣ*) > Proto-Esk. **-Rδuaq* **-Rδuom* **-Rδuət* > EE **-Rž̆u(v)aq* **-Rž̆uum* **-Rž̆u(v)ət* > WG /-Rṣu(v)aq/ /-Rṣuup/ /-Rsu(v)it/. It may be noted that the rounded "shwa" of the PE form **-Rδuom* is not phonologically predictable and must be ranked as phonemic.

19a. The underlying form of this morpheme, synchronically obviously *//ni//*, is here retained for the sake of clarity, although it will be argued below (sect. 3.3.4) that its original shape was probably something like **-í*$^{\hat{i}}$ (changing to **-ñ̃* and further to **-ni*). What is of importance here, is merely the fact that by the time the most dramatic change witnessed by these forms, viz. syncopation, happened, the ending certainly already formed a syllable of its own.

19b. It may be pointed out, by way of parallel, that all four examples of syncope in the WG dialect south of Godthåb, reported by Robert Petersen 1975:199, have lost a short vowel in an open syllable following a geminate consonant, just like the pre-Eskimo forms: *cikiLLuta* > *cikiLta* 'when we came', *isissasimavuq* > *isissimavuq* 'he will probably enter', *taſſami / tassami* > *taſmi / tasmi* 'all right', *atturnnata* > *atturnta* 'without touching us'.

19c. When the reconstruction **iRnR-ni* is corrected to **iRnR-c* (cf. footnote 19a and section 3.3.4), the syllabification becomes more difficult to understand. On one hand, gemination and syncope are the effects of a single word-final consonant added to a stem in /-CVG/ (G = /γ/ or /R/); on the other, the single anaptyxis of **iRn°R-"ni"* indicates a syllable boundary between the stem and the ending. In other words, the reflexive ending behaves at the same time as a structure /C/ and as a structure /CV/. This may be due to the presence of an ultra-short vowel, an embryo of the full vowel that was later to develop out of the palatal element of the final consonant. In the development of this vowel, there was obviously a period during which it had only part of the morphophonemic effects of the other vowels. With regard to anaptyxis, this vowel apparently had the same effect on the syllabic structure as the other vowels. In other respects, it had no effect at all: it did not keep the ending **-c* from triggering gemination like any other single final consonant or from being nasalized like other word-final stops. Only by the development **-ñ* > **-ni* (rule 13 in Appendix II) did it assume all morphophonemic properties of a full vowel.

19d. Oblique case forms like all. *ernermut* 'to a son', *atermut* 'to a name', *tupermut* 'to a tent', Chap. (and PE) *iRnəRmun, atəRmun, tupəRmun*, must reflect a certain amount of secondary restructuring. The type **iRnəRmun* may, however, well be phonetically regular: A change **iRnR-m-nun* > **iRn°R°mnun* would be very similar to that of the erg. **iRnR-m* > **iRn°R°m* with double anaptyxis (see the main text), and after the change *mn* > *m*, one /°/ would be liable to drop out: **iRn°R°mun* > **iRn°Rmun*. For **atR-m-nun* and **tupR-m-nun*, however, the same anaptyxis as in the erg. (**atR°m*, **tupR°m*) would give **atR°mnun* > **atR°mun* > **atRomun* and **tupR°mnun* > **tupR°mun* > **tupRomun*, the WG continuations of which would be *†arqumut* and *†tovqumut*. In some pre-stage of the proto-language these forms must have been replaced by simple realignments of the synchronic constituents, i.e. the "stems" /at°R-/, /tup°R-/ and the case-ending /-mun/ (and /-mi/, /-məŋ/, /-mən/ of the other cases), probably on the very model of the type **iRn°R-mun*. The synchronic effect of this analogy was simple metathesis of **atR°mun* to **at°Rmun*, which was thus made to agree with the uninflected form **at°R* like **iRn°R-mun* with **iRn°R*. The analogy did not comprise the type **nanuR-m-nun* > **nannu-mun*, no doubt because in this type the /R/ had already been dropped with gemination, so that no analogical metathesis was possible.

20. Although this is probably analogical for *-jaχaq* (imitating the final sequence of words like *naRuja-Raq*), it certainly indicates that the word had no more than one stem-final consonant.

20a. If Eskimo **ciŋδaq* 'beach' may be equated with Aleut *siŋδaR* 'femur' (re-

corded by Marsh & Laughlin 1956:72) via a meaning 'side' (cf. Latin *costa* 'rib', in Romance also 'side' and 'coast'), the *–δ–* is attested directly. The initial consonant would be Bergsland's $*c_2$ (B. 1959:11f).

21. The final uvular of Sir. *qəčəx* is in disagreement with the form of the word in all other dialects (Chap. *qūk* 'firewood', Nauk. *qəjúk* 'foliage', WG *qissuk*, other EE dialects agreeing on *–uk*, cf. Jenness 1928:65) and with inner-Sir. derivatives showing *qəruγ–/qərux–*. It is definitely not a misprint in Menovščikov's glossary, for the same form appears in the grammar on p. 19 and again in the comparative word-list on p. 213, but it may well be due to an inaccuracy in Menovščikov's field-notes at a more preliminary stage, considering that the expected form *qəčəx* is in fact given on p. 23 and again on p. 52.

22. The spelling *–gss–* means, of course, merely */–s̱s̱–/*, i.e. the gemination product of Proto-Esk. */δ/*. For the validity of this analysis cf. the derivative *qíssatigâ* 'cries over it', literally 'has it for a means of crying' from **qiδδatə–kə–[p]ɣR–a*, and above all the Aleut (Veniaminov) *qiδaq* 'weeping' (whether this be the etymological counterpart of Esk. **qiδa* in WG *qia* = Chap. *qija* or of the form **qiδδaq* here treated).

22a. The vowel-length of de-ergative cases like allative */–tsi(j)aa–mut/* (*umiatsiâmut* 'into the ship') is unexplained. It may be due to the insertion of an anaptyctic */–a–/* in the heavy underlying cluster of **–aGR–mnun*, changing this to **–aGRamnun*, where the **–G–* would drop out with gemination, leaving the Proto-Esk. result **–aRamun*. This would demand a reformulation of the rule given in section 1.2.2.5, and all other forms like *–rssuar–me* and *–ngua–me* (mentioned by Schultz-Lorentzen 1951, § 16) would have to be explained by analogy (which is true of at least one of them anyway).

22b. Other examples of the type *nulia* are furnished by the WG suffixes *–rssuaq* and *–nguaq* (see footnote 19): *igdlo–rssua* 'his big house', *igdlú–ngua* 'his small house', the former developed from **–Rδɣ̱aGR–a* through the stages **–Rδɣ̱ɣ̱aRa* > **–Rδɣ̱ɣ̱Ra* > **–Rδɣ̱a* > Proto-Esk. **–Rδua* > WG */–Rs̱u(v)a/*.

23. The surprising form of WG *uvê* /u(v)ii/ 'her own husband' for expected */u(v)i–ni/* must be either analogical or derived from a stem different from the inerg. *uve*. The PE form of this is **uγi*, cf. Chap. *uγi*, Sir. *uγa* (through **uγə*), Kusk. *ue*, even Aleut *uγi* (Veniaminov). One possibility (perhaps the more probable) is that */u(v)ii/* is simply a normalization of the same kind as WG *arqe* /aqqi/ 'his own name' for expected */atti/* (**at°R–ni* > **att°ni* > **attni* > PE **atti*), which was altered to match the 3.sg. possessive WG *arqa* 'his name' /aqqa/ (from **atR–a*, Chap. *atx–a*), doubtless due to the widespread coalescence of consonant clusters with the old geminates (cf., e.g., WG *kangma* 'his boot'

with /mm/ from /ŋm/ as seen from Chap. *kamγ-a* as opposed to WG *kangme* 4.sg. 'his own boot' with /mm/ from the old geminate of PE **kammi* < **kammni* < **kamm°ni* < **kam°γ+ni*). This analysis of /u(v)ii/ – mere substitution of /-i/ for the /-a/ of 3.sg. /u(v)i(j)-a/ 'her husband' – is suggested by Bergsland 1955:9. It cannot be excluded, however, that /u(v)ii/ is the regular 4.sg. form of a derivative **uviaq*. The situation would then be no different from that of the doublets *use* and *usiaq*, both meaning 'load, cargo'. The lack of information about the plural of *usiaq* in J. Petersen 1951 may be taken to mean that this is *usiat* without any change in the stem, i.e., the same situation as in *nuliaq nuliat*. The 4.sg. possessive of this would regularly be *usi-i**. A suffix **-aq* of barely perceptible function is seen in the correspondence between WG *sake* 'father-/-mother-in-law' and Chap. *sakíq* (pl. *sakíRət*, i.e., with /-ii-/ from a diphthong) 'id.' (Chap. *saki* means 'sister-in-law') or in Naukan *najaγaq* 'sister', as opposed to WG and Chap. *najak*. A good account of the different strata in the history of the structural normalization of these forms is given by Rischel 1974:291f.

24. I am indebted to Jørgen Rischel (personal communication) for a clarification of this important point.

24a. In Miyaoka 1975: Table 5 and Koo 1975:46,64, the sg. and the pl. of 'your (pl.)' are both given as *-ci*. The discrepancy against Hinz's differentiated set *-si* : *-ci* is obviously due to linguistic change: The language described in Hinz's grammar represents *either* a somewhat more conservative dialect than the one described by Miyaoka and Koo *or* simply a somewhat older stage of the same dialect. In cases like this, Hinz's grammar is not to be considered replaced by the younger descriptions.

24b. A special note should be made on dual forms of the type /tuppak/ from WG *tupeq*, PE **tupəq* 'tent', that are kindly brought to my attention by Prof. Bergsland. A number of such forms are recorded by the 18th cty. WG sources:

H. Egede 1741:386 has *kannek* (= *qaneq*) 'mouth' → dual *kannek*, i.e. /qannak/, but also *tikek* (= *tikeq*) 'finger' → dual *tikik* for expected */tikkak/ with /-i-/ from the uninflected form.

P. Egede 1760:14f gives *ernek* (*erneq*) 'son' → du. *ernek* i.e. /iRnak/, *tarnek* (*tarneq*) 'soul' → du. *tarnek* /taRnak/, ibid. p. 19 *ivik* 'grass' → du. *ibek* /ivvak/, *malik* 'wave' → du. *maglek* /mallak/ (with "*-gl-*" from the pl. "*maglit*" or merely graphic for /-ll-/?), but also *sauik* /savik/ 'knife' → du. *sabbik* /savvik/ for expected */savvak/ with /-i-/ from the sg., likewise *umik* 'beard', du. *umik* /ummik/ (instead of */ummak/), also, ibid. p. 54f, *tupek* /tupiq/ 'tent' → du. *tupek* /tuppak/.

Fabricius 1801:70 cites sg. *ernek* 'son' → du. *ernæk*, *kanek* 'mouth' → du. *kanæk*, *marnek (marneq)* 'matter in a wound' → du. *marnæk*, *sàunek (sauneq)* 'bone' → du. *sàunæk*, *onek (uneq)* 'armpit' → du. *onæk* /unnak/, p. 75 *kamik*

'boot' → du. *kamæk* /kammak/, *umik* 'beard' → du. *umæk* /ummak/ (also "*ungmik*" after the pl. *ungmit*).

For Labrador, Bourquin 1891:22 reports a number of already obsolescent examples: *erneq* → *ernăk*, *alleq* 'harpoon strap' → *allăk*, *aiveq* 'walrus' → *aivăk*, *seqineq* 'sun' → *seqinăk* (for /-nnak/?), *attaneq* 'master' → *attanăk* (/-nnak/?), *tupeq* → *tuppăk*, *ipeq* 'dirt' → *ipăk* (for /ippak/), and *nektoralik* 'eagle' → *nektoralăk* (/-llak/).

Finally, the dialect of Cape Prince of Wales has retained this dual formation down to the 20th cty., cf. the following examples, chosen among the very many reported by Jenness 1928: *qäniq* → *qän'ɑk*, *qatik* → *qat'ɑk*, *kamik* → *kɑm'ɑk*, *mölik* → *mölɑk*.

Other dialects that preserve the dual have replaced this type by forms echoing the stem-formation of the plural, e.g. Barrow *irnerik* like pl. *irnerit*, Chaplino *iRnəRək* like pl. *iRnəRət* 'sons' (WG *ernerit*), Chap. *kamγək* like pl. *kamγət* 'boots' (WG *kangmit*), Barrow *ivgik* like pl. *ivgit* 'grasses', etc. Judging by Fabricius 1801:75 "*katik*", du. "*kakkik*" like pl. "*kakkit*" (Modern WG *qatik* 'breast bone of bird', pl. *qagkit*), the same happened in WG before the loss of the dual. The model for this was, of course, the type /nanuq, nannuk, nannut/ where the agreement with the pl. with regard to gemination was inhereted.

The type *kammak*, *tuppak* is evidently restricted to stems in **-Cγ* and **-CR* with PE uninflected sg. in **-Cək*, **-Cəq*. The phonological explanation of the type is not too difficult, given the sound laws hitherto formulated. Descriptively, the transformation of an unquestionable underlying form like **tupR-γ* to an output /tuppak/ involves (1) anaptyxis (by /-a-/), (2) *R*-dropping with gemination, and (3) word-final hardening. Rules governing all these changes (in this order) are in fact known, viz. the *a*-anaptyxis rule (no. 3 in the list of sound laws in Appendix II), the gemination rule (no. 7), and the spirant hardening rule (no. 25). There is the minor exception, though, that the *a*-anaptyxis rule of section 1.2.2.5 was only known to change a sequence -CGGC- to -CaGGC- (G = γ or *R*), while a change -CGG# → -CaGG# is a novelty. From this we may simply deduce a more exact formulation of the rule: anaptyctic /a/ arose in a sequence "C__GG$\left\{\begin{matrix}C\\\#\end{matrix}\right\}$", or, phrased in terms of syllable division, in "C__GG|". The dual forms *tuppak* and /iRnak/ (*ernak*) are, therefore, perfectly regular and reflect a development

tupR-γ > *tupaRγ* > *tuppaγ* > PE **tuppak*
iRnR-γ > *iRnaRγ* > *iRnnaγ* > *iRnaγ* > PE **iRnak*.

It is seen that these rules, all formulated on the basis of different material, by their joint operation give actually recorded forms that are synchronically intransparent and therefore certainly not analogical, a finding that may, I believe, be considered quite strong evidence in support of the rules and the general theory from which they are sprung.

25. On previous attempts at explaining this alternation, see Rischel 1974:290. My own analysis yields an implicit refutation of the metathesis theory of Robert Petersen (1970:334f, the statement, "When /l/ moves forward in this instance and causes the first of the two consonants to become long, it [i.e. the resulting long consonant] becomes so dominant that it assimilates the second consonant: [. . .] *sawik + liɔrp'ɔq* [. . .] becomes *saf'iɔrp'ɔq*" implying an intermediary stage **cavl(i)γiuR-* in accordance with the general theory of "iteration", on which see footnote 1) and support for the main point in Bergsland's assumption of gemination rather than metathesis in the *l*-dropping forms (Bergsland 1955:9). If Rischel is correct in considering this — within the framework of Bergsland's general theory of gemination — another case of the "Überdehnung" assumed in "**amiRət*" > /ammit/, my theory is a refutation of the diachronic overtones of this idea as well. Since "from a synchronic point of view it is not very interesting to set up an elaborate rule sequence to account for these formations, which are obviously lexicalized anyway" (Rischel 290), the theory set forth in the following may claim more than just diachronic relevance in that it avoids just that. The *l*-less forms are — to the extent that they have not been replaced by normalized re-formations — perfectly predictable with the rules we already have. Rischel's honest statement of 1974 (291), "These formations are indeed enigmatic" is thus, I believe, no longer valid. [Cf. footnote 29a.]

26. The Chap. vowel-length appears to be a compensation for the loss of /δ/ according to a sound-law "PE δ V > Chap. V̄ / C ___ ".

27. The same suffix is obviously included in derivations from the names of periods (seasons of the year, time of the day) meaning 'spend —' like WG *ukîvoq* 'spends winter' derived from **ukjuR-li-* (cf. Chap. *uksuq*, Nauk. *ukjuq*) through **ukjjuli-* > **ukjjli-* > **ukji-* > /ukii-/. In *aussaq* 'summer'/-uṣ-/ must represent an old cluster (*-μδ- ?), cf. the lack of gemination in the pl. *aussat* and the lack of lenition (*-δ- > Ø) in *aussaq* itself, two facts convincingly correlated by Rischel 1974:259, who says (against Underhill 1971:301), "if /ṣ/ does not vanish intervocalically it does not geminate either"; therefore "/aaṣaq/ is perfectly regular" (Rischel ibid.), and *aussi-voq* 'spends summer' is the regular derivative with this suffix. Other examples are: *uvdli-voq* 'spends the day' (*uvdloq*, Sir. *umləɣ* < PE **umluq*), *únui-voq* 'spends the night' (*únuaq*), and *uperni-voq* 'spends spring' (← **upernaq* in *upernarpoq* 'has become spring', Chap. *upənRaq*, elaborated [diminutive?] WG *upernâq*).

28. A comparable example with anaptyctic /a/ in the environment "δ__qq" may, however, be seen in the word for 'head'. The material comprises two seemingly irreconcilable stems: (1) EE (from Barrow to WG, see Jenness 1928:86) *niaquq* and Sir. *iĉəqəɣ* agreeing on a reconstruction **n̄iδaquq*, and (2) WE *nasquq* (thus Chap., Kusk., Unaaliq and Kn. Rasmussen's Mainland

dialect), Chugach *naš̈qoq*, Nauk. *najquq* (Imaklik *nasquq*, aberrant within EE, is obviously a WE loanword), indicating a reconstruction **najquq* or **naδquq*, the latter being preferable because of the EE and Sir. **–δ–*. Now the original paradigm must be reconstructed with a regular alternation of these stems, whose distribution becomes evident from an analysis of the WG paradigm *niaqoq*, pl. *niarqut*, i.e., /ni(j)aquq/, /ni(j)aqqut/. In the sg.inerg. the *–q–* has not been lenited to /R/, which means that it cannot have been intervocalic at the time when the EE lenition rules were operative, i.e., the sg.inerg. had a consonant cluster and must be reconstructed as **n̈aδquq*. In the pl. the gemination would be impossible if /q/ were to be the second part of a cluster, i.e. here the reconstruction must be **n̈iδaqqut* with anaptyctic /a/ prior to the operation of the cluster reduction rules. Now a paradigm **n̈aδquq*, **n̈iδaqqut* is completely irregular, but it is not difficult to see how it came about. The pl. contains a stretch **n̈iδa–* which, judging by the sg., may well be from older **n̈aδa–*, i.e., a sequence of two short syllables containing the same vowel and both introduced by a consonant of markedly palatal articulation (cf. what was said about **δ* in the discussion of the suffix *–tsiaq* in 2.3.1 above). This is obviously a stimulating environment for a dissimilation, in the present case the more so as the change from **n̈aδa–* to **n̈iδa–* merely consists in adjusting one of the two identical vowels to the palatal surroundings. The full line of development of WG *niarqut* was, then: **n̈aδquR–δ* > **n̈aδqquδ* > **n̈aδaqquδ* > **n̈iδaqquδ* > Proto-Esk. **n̈iδaqqut* > EE **niaqqut*. In the sg. the EE generalization of the initial stretch *nia–* of the inflected forms was posterior to the EE lenition rules, during the operation period of which the EE sg. must have been something like **natquq*. From a comparison with *ujarak*, *ujarqat* it is seen, then, that both **–δqq–* and **–jqq–* underwent anaptyxis to **–δaqq–* and **–jaqq–*, but only **–jq–* had its plosive spirantized to **–jR–*, while **–δq–* was retained.

29. Discounting obvious late derivations like WG *pí̈ssut* 'means' (from semantically empty /pi–/ + productive suffix /–s̈s̈ut/ of instrument nouns) the geminates /ss/ and /s̈s̈/ appear to be in complementary distribution. As Kleinschmidt rightly points out (1851:27) all nouns presenting the alternation between sg. –Ø– and pl. *–s̈s̈–* have /a/ as their last vowel. As no examples of WG /–s̈s̈–/ (or the equivalent in other languages) from Esk. **–δδ–* in the environment "i__u" appear to be recorded by the handbooks, the normal treatment in this environment could very well be WG /–ss–/ as in *nísut*. The resemblance of this **niδu–* /**niδuR–* to WE *iRu* 'leg' (Kusk. *ero*, Chap. *iRu*, Sir. *iRa*) is too close to be fortuitous; the initial consonant is thus obviously Esk. **n̈–* which was lost in WE when contiguous with /i/ (cf., e.g.,the pair *inuk* : *juk* 'man' from **i̇n̈uk*, not **ɔn̈uk* as suggested by Hammerich 1970:9 [**i–* being proved by Barrow /i̇n̈uk/], nor **iŋuk* as Bergsland has it in 1966:219 [this being irreconcilable with equations like WG *kingu–mut* = Chap. *kiŋu–mun* 'backwards']). One might then surmise that the sg. of an original paradigm **n̈iδuR*, pl. **n̈iδuR–δ* > **n̈iδδuδ*

underwent a sort of dissimilation, the second "palatal" (phonetically probably [δ]) being replaced by an anticipation of the following consonant to yield the form **ñiRu*, of which EE /ni(j)u/ and WE *iRu* are regular continuations. If this is true, it gives a precious corroboration of the ideas of relative chronology expressed above in the text. The obvious reason for the lack of anticipation of /R/ in the pl. form is that **ñiδuRδ* had already become **ñiδδuδ*, and the fact that it was an /R/ that was anticipated in the sg. means, of course, that the hardening of word-final **-R* to **-q* had not yet occurred. This order of events, first gemination with *R*-dropping, later hardening of final spirants, is the same as the one established for the development of the type *ujarak*. The importance of this finding should be seen in its proper perspective: as word-final hardening is shared by Aleut, this chronology is another compelling reason for considering gemination older than the Esk.-Aleut proto-language. A very comparable phonemic sequence is seen in the name of the fish glossed as 'sculpin' or 'sea scorpion'. The material (reviewed by Bergsland 1966:215) comprises for EE a vacillation between /kanajuq/ and /kanijuq/ with (WG) pl. /kanassut/ or /kanissut/, and for WE a stem /kaiju/ (thus Nunivak, in Chap. reduced to /kaju/). A reconstruction **kañiδuq* would reconcile EE /kanijuq/ with WE /kaiju/ (apart from the loss of the final uvular, doubtless due to its unpredictability from inflected forms in dialects without gemination). To account for the stem variant one might, however, reconstruct the paradigm as sg. **kañiδuq*, pl. **kañaδδut*, the pre-forms of which could then be taken to be **kañδuR*, **kañδδuδ*. This would, of course, mean two more ad hoc anaptyxis rules, but in view of **-δaqq-* and **-jaqq-* from **-δqq-* and **-jqq-*, a rule giving **-ñaδδ-* from **-ñδδ-* seems quite possible, and, once accepted, its application in the present paradigm demands the setting up of an ad hoc but irrefutable rule changing **-ñδ-* to **-ñiδ-* in the uninflected form. I fail to see the point in Bergsland's argumentation in 1966:215 advocating a cluster of nasal + /y/ (my /j/) for what I consider a separate phoneme */ñ/*. If in this word **-naju-* was reduced to **-nju-* to trigger the cluster **-nj-* presumed to be dropped by rule in WE, this reduction is clearly restricted to those languages that did not preserve *-naj-* as WG /kanajuq/ did, and then it has no bearing on Proto-Eskimo. A sequence **-aju-* is retained at least in Chap. *qajuq* 'tea, soup' = WG *qajoq* 'soup', so it is hard to see where the rule underlying the explanation "due to the reduction of *-ayu-* to *-yu-*" (B. 215) comes from. It certainly cannot be derived from a correspondence like WG *tarajoq* = Chap. *taRjuq* 'salt', for if the Esk. proto-form was here **taRajuq*, the **-R-* should have been lost in WG (here again we probably have paradigmatic levelling of an old inflection **taRjuq*, pl. **taRajjut*, the latter showing anaptyxis before the geminate /jj/).

29a. Another confirmation of the rule -CGGC- > -CaGGC- (cf. note 24b) is provided by the possessive inflexion of the word for 'tent' in the Wales dialect as reported by Jenness 1944:31. The 1.sg.ie.du. 'my two tents' is given as *tuppɑgə*, doubt-

less for /tuppaγa/ from PE **tuppaγka*. The base word is PE **tupəq*, underlying stem **tupR-* (cf. 2.sg. **tupR-ən* > Wales *tupqin*, WG *tovqit*, or 3.sg. **tupR-a* > Wales *tupqa*, WG *tovqa*), so the underlying form of **tuppaγka* is obviously **tupR-γ-ka*. This first became **tupaRγka*, which underwent regular gemination with *R*-dropping to give the PE form. The pl. form is given as *tuppegə*, no doubt also /tuppaγa/, which is clearly PE **tuppanka* from **tupR-nka* (underlying **-δ-k* + **-a* with nasality from the unextended form **-δ-k* > **-δŋ* > **-nŋ* > **-nəŋ* = Aleut *-niŋ*). As the analysis of this form indicates, the definition of the cover-symbol "G" should perhaps be extended to include also the spirant **δ*. In fact, this would explain the singularly aberrant possessive inflexion of WG *kamik* 'boot'. The form *kangmáka*, phonemically /kammakka/, 'my boots' is then regular not only as a dual form **kamγ-γ-ka* > **kamaγγka* > PE **kammaγka*, but also as pl. **kamγ-δ-ka* > **kamaγδka* → **kamaγnka* > PE **kammanka*. In the ergative sg., the regular form must be *kamingma* from PE **kamə̊γma* < **kam°γmŋa* < underlying **kamγ-m-k* + *-a*, while the regular form of the erg.pl. must be *kangmama*, i.e. /kammama/, from PE **kammama* < **kamaγδmŋa* < underlying **kamγ-δ-m-k* + *-a*. The byforms, erg.sg. *kangmangma* and erg.pl. *kamima*, are obvious analogical perseverations of the two synchronic stems /kamma-/ (over-analysed by Kleinschmidt as "*kamga-*" on the strength of the 3.sg. *kangm-a* from **kamγ-a*) and /kami-/. The total synchronic unpredictability of the stem variants /kamma-/ and /tuppa-/ as opposed to /kamiγ-/ and /tuvəR-/, together with the close correspondence between WG and Wales with regard to their distribution in the paradigm, is probably about as close to a proof of common linguistic heritage as one can get.

30. Above all the dictionaries by Schultz-Lorentzen (1927) and J. Petersen (1951) together with the examples given in the lists of suffixes, p. 303 in the former, pp. 203 and 233 in the latter, supplemented by the older treatments in Kleinschmidt 1851:117 and Chr. Rasmussen 1888:101.

31. This has been vaguely sensed by Rischel, whose chapter "The uvular nasal" (1974:176-81) contains the following suggestion for a solution: "items which sometimes (in some usage or other) occur with /NN/, are ultimately related to stems with /nq/ ~ /niq/ or /mq/ ~ /miq/, whereas items which never have this option have a different morphological status" (p. 180). Some synchronically unanalysable examples are WG *upern(g)âq* 'springtime' : Chap. *upənRaq*, WG *sujorn(g)a* 'last year' : Chap. *sivunRáni* 'formerly', WG *pern(g)aq* 'beginner' = Chap. *pinRaq* 'first day of the month, new moon; sprout', WG *ern(g)er-dlu-ne* 'at once' = Chap. *nəRiR-lu-ni* 'long ago' (being the 4.sg. contemporative of the verb WG *erner-poq* 'does at once', Proto-Esk. **ənRiR-*, in Chaplino with loss of **ə-* and anaptyxis in the resulting cluster), WG *tôrn(g)aq* 'spirit' = Nauk. *tunRaq* 'demon', all with WG *-rn(g)-* corresponding to Siberian *-nR-* as against a number of examples of invariable WG *-rn-* corresponding to Sib. *-Rn-* : *arnaq* = *aRnaq*

'woman', *erneq* = *iRnəq* 'son'. It is significant that WG *-rn(g)-* has not been found to correspond to WE *-Rn-*, nor WG *-rn-* to WE *-nR-*, in a single etymology. The same pattern is revealed by the synchronically analysable forms: WG has *-rn(g)-* when /n/ + /R/ come together in this order as in *uneq* 'armpit' → 3.sg. *orn(g)a*, *seqineq* 'sun' → erg. *seqern(g)up* corresponding to Chap. (dual) *unR-ək* and *siqinRəm* (Aleut *unRiR* 'armpit' in Marsh & Laughlin 1956:64 is probably a back-formation from inflected forms like the erg. *unRim* = Esk. **unRom*, WG *ornup*); cf. also WG *naner-pâ* 'presses him or it downwards' (**nanəR-*) → *narn(g)úpâ* 'presses it down with his weight' (**nanR-ut-*). The same is true of *-rm-/-r(v)ng-* arising from the encounter of /m/ + /R/, cf. the synchronically transparent examples *imeq* 'water' → erg. *ermup*/ *er(v)ngup* = Chap. *məq məRəm* (PE **əməq* **əmR-om*) and *nimeq* 'winding, tie' → erg. *nermup* / *ner(v)ngup* = Chap. *nəməq nəmRəm* as against /R/ + /m/ in *imar-mio* 'sea-dweller, aquatic animal' (cf. Chap. *uŋaziR-mi* 'Chaplino'). There can be no doubt, therefore, that the rules /R/ + /n/ → /Rn/, /R/ + /m/ → /Rm/, /n/ + /R/ → /N̈N̈/ ~ /Rn/, /m/ + /R/ → /(v)N̈N̈/ ~ /Rm/ are valid for the analysis of WG, both on the synchronic and on the diachronic level. The "quite idiosyncratic marking of forms" deemed necessary by Rischel (p. 181) "in order for /NN/ to be introduced by rule" then boils down to the correct marking of the *order* of the underlying elements.

31a. Ethnic names in *-miut* (from **-miRu-t* 'dwellers of —') like *Kuskokwag-miut* certainly do not contain the "morpheme /iút/, *people*", as supposed by Mattina 1970:38.

32. In view of the unanimous extra-Greenlandic evidence for *k-* in the EE forms of this word recorded by Birket-Smith 1928:34, the WG *q-* is no doubt due to assimilation, perhaps starting in the pl. *qôrqut* from (also occurring) *kôrqut*.

33. Miyaoka's 1974 paper on "/ra/ deletion" and the same scholar's 1975 "Sketch of Yupik" only came to my attention after the completion of the original manuscript of the present paper. The first contains a SW Alaskan morpheme cited as *apeč* 'ask' (p. 265), while the second, using a somewhat different notation, gives numerous stems of the same morphophonemic structure, e.g. /apəc/ 'ask', /tuquc/ 'kill' (p. 41), /ayauc/ 'take away' (p. 42). Though it is gratifying to see the same conclusion as to the underlying nature of the stem-final dental reached by another scholar, the SW Alaskan evidence should not be overrated: As the last-mentioned example shows, also dental-stem verbs of group 1 behave morphophonemically as *c*-stems in SW Alaskan. Indeed, Miyaoka 1975:55 has the suffix as "/+$_1$uc/". This can only be due to a Yupik levelling of the two-type situation preserved in WG.

34. The "variant" *-singauq* given by Hinz (1944:104) in examples like

unisingauq = *unîtsimauq* and *qánerusingauq* = *qánerutsimauq* 'he has been told' from *qánerutâ* 'he said to him' is restricted to verbs in a stem-final dental (7 examples in Hinz) and ultimately identical with his suffix *-ngauq / -ngkauq* VV 'is in a condition or state of' (Hinz 95, § 98). The suffix is in itself obviously *-nga-*, cf. *mumig-toq* 'turns round or about' → *mumigi-ngauq* 'it is (or has been) reserved' with anaptyctic *-i-*, *nanger-toq* 'stands up' (Miyaoka 1975:85 *naŋəχtuq*) → *nangera-ngauq* 'is standing' with anaptyctic *-a-* (*-i-* : *-a-* probably being dependent on the preceding vowel, which is **-i-* in the former and **-ə-* in the latter as proved by Chap. *mumixta-quq* : *naŋətərúRa-quq* 'stays in the same place', the rule being supported by Kusk. *eriniaq* 'child' = WG *ermiaq* from **iRn-* as against *eramig-toq* 'washes myself' = WG *ermig-poq* from **əRm-* [ultimately probably **əmR-*], cf. Miyaoka 1975:88 *əγmiγγa* 'he washes him (face)' and the spelling *ə̊rh-mĭq' -tō-ă* 'I wash my face' in Barnum 1901:364). As a variant without anaptyxis is given *nangingkauq*, showing the normal behaviour of uvular stems: *inar-toq* 'lies down' → *inangkauq* 'is lying', *iter-toq* 'enters' → *itingkauq* 'is shut in'. Then, of course, in *-singauq* the *-s-* is merely the stem-final of the base verb and the *-i-* an anaptyctic vowel, an analysis proved correct by the derivative *-ngaitoq* VV 'will not, shall not' (no. 95), which shows the same variation: *tai-goq* 'comes' → *tai-ngaitoq* 'will not come', *tikit-ut* 'they arrived' → *tikis-i-ngaitut* 'they will not come'. This is then another example of /c/ as the stem-final of a "t"-stem appearing as /s/ before a consonant, this change being older than the insertion of anaptyctic /i/.

35. As *-ima-* is restricted to the position after stem-final /-c/, *-uma-* occurring in all other environments, the simplest solution would no doubt be one involving a spontaneous assimilation of the vowel to the markedly palatal articulation of the /c/.

36. The Kusk. form of the suffix *-un* with verbs in a stem-final dental may be seen from examples like *apiun* 'question' from *aptâ* 'asks him' (Hinz 1944, Vocabulary) and /kipujun/ (Barnum 1901:344 *kĕ-pū'-yūn*) 'money' from *kipûtâ* 'buys it'; cf. also *pikiun* (Barnum 1901:226 *pŭkyūn* /pəkjun/) 'monday' from *piktoq* 'moves' (Chap. *pəxtáqā* 'lets it go'). According to Miyaoka 1975:66, the stem of the verb 'ask' is "phonologically" /apəc/ (see footnote 33), and the instrument-noun suffix is given as /+$_1$ut/ (M. 1975:54) with a suffix-initial subscript 1 indicating spirantization of a preceding stem-final /c/ to /z/ as stated by his rule P2 (M. 1975:10). A later rule (P 24, p. 19) changes "prevocalic single *z* next to a boundary" to "y" (my /j/), thus *apəc+$_1$ut* > (2) *apəz+$_1$utə* > (20) *apəz+$_1$un* > (21e) *apz+$_1$un* > (24) *apy+$_1$un* = *apjun*. If the stem-final /c/ is geminated (as is the case in monosyllabic stems — Miyaoka's rule P1), the process stops at /-zz-/, cf. *kic+$_1$ut* > *kizzun* 'sinker' (M. 1975:19) from (Kusk.) *kitoq*, WG *kípoq* 'sinks'. It is seen that these developments demand the one-time existence of a suffix-initial consonant (marked $_1$ in Miyaoka's notation)

and thereby corroborate the analysis of the underlying form as /-Ruɵ/, at least on this not insignificant point.

37. The close correspondence of WG act.ptc. *neri-ssoq* 'eating' and pass.ptc. *neri-ssaq* 'eaten', both pointing to **-δ-*, speaks very strongly in favour of this. Moreover, the socalled "abbreviated" passive participles like WG *sanâq* 'carved, manufactured' from *sana-* and (suffix) *-liaq* 'a manufactured' from *-li-* are perfectly regular if the suffix-initial consonant is posited as **-δ-*. The difference between *-toq* and *-t-aq* therefore seems to lie either in the quality of the following vowel (**-t-δuq/ *-c-δuq* vs. **-t-δaq/ *-c-δaq*) or in a different generalization of the stem-final coronal (**-c-δuq*, **-t-δaq* or **-t-δuq*, **-c-δaq*). A major argument in favour of this identity in suffix-initial consonantism is the parallel relation of the indicative morphemes, Proto-Esk. intransitive **-puq* : transitive **-paR-*. These are themselves probably participles in origin, in which case the syntax becomes understandable: **nanuq taku-puq* 'the bear sees' and **nannu-m nuna taku-paR-a* 'the bear sees the land' are thus originally meant as nominal sentences with unmarked subjects and participial predicates, i.e., "the bear (is) seeing" and "the land (is) the bear's seen (= what the bear sees)". The fact that **-puq/ *-paR-* are no longer participles in Proto-Eskimo is not a bigger problem for the analysis than the fact that the Proto-Esk. participles **-δuq/ *-δaq* have come to be used as indicative morphemes in a number of Esk. dialects in a very illustrative repetition of this process. The objection that the transitive sentence has an unusual word order when analysed as containing a possessive nominal phrase "des Bären Gesehenes" (like **nannu-m amiR-a* 'the bear's fur') is not decisive. The answer to the problem is delivered by Aleut which is reported by Bergsland (1969:26) to have the basic types (1) *tajaRux̣ qax̣ qa-kux̣* 'the man[1] ate[3] the fish[2]' with sbj. and obj. kept apart by word order alone, (2) *tajaRux̣ haqa-kux̣* 'the man came' with sbj. in the inergative case, the ergative case being restricted to type (3) *tajaRu-m qa-ku-*: 'the-man he-ate-it' with the obj. inherent in the form of the verb. This is clearly the older situation: the types **nanuq nuna taku-puq* 'the bear[1] sees[3] the land[2]' and **nannu-m taku-paR-a* 'the bear sees it' are perfectly understandable from the rules of Esk. syntax in general, with the expression with explicit object obeying the rules of word order (SOV) and the variant with "incorporated" object representation agreeing with the syntax of possessive noun phrases (ergative + possessum with personal suffix referring to possessor). Both types are nominal sentences translatable roughly as 'the bear (is) land-seeing' and '(it) is the bear's seen (thing)'. The Eskimo innovation **nannu-m nuna taku-paR-a* thus merely represents a generalization of the possessive expression to *all* transitive expressions including those with an explicitly stated object, which latter is then quite naturally located according to the old rule of word-order, SOV. It will be seen that this analysis, which I hope to be able to present elsewhere in fuller detail and with further implications, gives a consistent and realistic answer to the problems that have provoked so many ingenious, but in my opinion hardly realistic,

hypotheses by Hammerich, Mey, and Rischel (see, e.g., the survey in Rischel 1969).

38. [Note added in proof.] The forms *naγwā-quq* and *tuγā-quq* 'takes' obviously contain [γ^{w}], the development being as follows:

**naγu-δa(R)-* > **naγua-* > **naγ^{w}ua-* > [*naγ^{w}ā-*]

**təγu-δa(R)-* > **tuγuδa-* > **tuγua-* > **tuγ^{w}ua-* > [*tuγ^{w}ā-*]

Because of the preceding /u/, the lip-rounding of [γ^{w}] is not phonemic in [tuγ^{w}ā-]. On the whole question of labialized velars and uvulars, see Krauss' detailed account of "St. Lawrence Island Eskimo phonology and orthography" (Krauss 1975), which did not come to my attention until after the completion of the main text.

39. The morphophonemic details are somewhat unclear, cross-dialectal etymologies with **-Vδua-* being otherwise unknown to me. Is *nala-uarpoq* 'keeps lying' or *napa-juarpoq* 'keeps standing' the regular form with verbs in stem-final /-a/? Was *-juar-poq* originally restricted to verbs in stem-final /-i/, triggering a glide /-j-/? The lack of a variant with suffix-initial /-ş-/, otherwise the expected phenotype of **δ* after **ə*, may be due to the consonantal character of the following /u/. What is the underlying difference between *-r-tuar-* in *autdlar-tuarpoq* 'travels endlessly' and the suffix of *sila-rssuaq* '(big) world'? Could *-tuar-poq* contain a stem-final dental consonant originally belonging to the verb abstracted from cases like WG *nápar-pâ* = Chap. *napaχta-qā* 'places it upright'? And what exactly is the relation of this suffix to Kusk. *-taur-toq* VV 'continues to, remains' (Hinz 1944:102, no. 149)? The latter is apparently only made from situational verbs in *//-ət-//* like *mânitoq* 'is here' (WG *mânipoq*, Proto-Esk. **maδa-ni-əc-*) → *manitaurtoq* 'continues to stay here', so that the *-t-* evidently belongs to the verbal stem. Was there a spontaneous metathesis from **-δuaR-* to **-δauR-* (or **-tuaR-* → **-tauR-* in Hinz's dialect (cf. Miyaoka's /+tuγaγ/ in 1975:56, agreeing with the WG forms and with Barrow *-tuaq-toq* VV 'merely, only, does nothing else but —' given by Jenness 1944:27)?

39a. In Aagesen's opinion (1975:33), WG *kipput* 'cutting implement' shows "strengthening as a compensation for the loss of a stem-final **i*", while "in Common Eskimo words like 'aput' [. . .] 'angut' [. . .] (in North Alaska: *apun, aŋun*) there is no strengthening". The reason for this is said to be that "Greenlandic apparently at a given time made strengthening a quite general process". This view disregards the facts (1) that gemination is not absent from North Alaskan, and (2) that gemination is presented also by inflected forms like pl. *kipputit*, where the "*i*" is not lost. In reality, as shown by the development of **-t* to **-n* common to Eskimo and Aleut, the loss of **-ə* must be older than the separation of Eskimo and Aleut.

39b. Cf. Miyaoka 1975:56, giving /+sqə/ VV 'to want, ask, tell'.

40. The variants *-utaq* and **-uciq* (WG *-useq*) are obviously straightforward extensions of "-ut". The form *-utaq* could be the passive participle of the verbal derivative, WG *-úpâ*. Then WG *iperautaq* 'whip' would not belong directly to *iperarpâ* 'lets go of it, beats him with a whip', but rather to its derivative *iperáupâ* 'strikes it (like a whip) against something' with the original meaning 'struck (like a whip) against something, thing used for whipping'. Likewise Chap. *qəpútaq* 'string, twine' belongs not to *qəpá-qā* 'ties it' (WG *qipi-vâ* 'twines it'), but to *qəpúta-qā* 'ties (something) to it', being originally the participle meaning 'thing tied to something'. In WG this is the regular passive participle of dental stems of type 2, as described in 6.7.3: **tuqu-c-* 'make die, kill' → pass.ptc. **tuqu-c-δaq* > Proto-Esk. **tuqu-taq* > WG *toqutaq* 'killed', in Chap. *tuqútaq* with the specialized meaning 'fresh un-cut caribou carcass'. The normal WG pass.ptc. of stems in underlying **-tə*, however, was found to be of the type *nermússaq* from EE **-žžaq* < PE **-tδaq* < older **-tə-δaq*, so instead of *-utaq* one expects to find *-ussaq* in WG, and the whole analysis cries out for rethinking. In fact, a closer look at the lexicalized examples that are manifestly deverbal in origin reveals that the two types are in complementary distribution. Examples of *-ussaq* are: *tikiússaq* 'brought' (*tikiúpâ* 'comes with it), *nagsiússaq* 'sent along' (*nagsiúpâ* 'sends it for someone'), *súpússaq* 'that which has been washed away' (*súpúpâ* 'washes it away'), *nipangiússaq* 'unspoken, verschwiegen' (*nipangiúpâ* 'is silent about it'), *nermússaq* 'that to which something has been lashed' (*nermúpâ* 'lashes it to something'). The ending *-utaq* is found in e.g.: *quvssautaq* 'chisel' (*quvssar-pâ* 'splits it'), *nangmautaq* 'carrying strap' (*nangmag-pâ* 'carries it on his back'), *nivautaq* 'shovel' (*nivagpâ* 'shovels it off'), *pitûtaq* 'line, tether, fishing line, traces' (*pitug-pâ* 'attaches it to something, tethers it, harnesses it'), *iperautaq* 'whip' (see above). It is clear at once that *-utaq* belongs to verbs in EE /-aut-/ and /-uut-/, while the verbs underlying the participles in *-ussaq* end in /-i(j)ut-/ or /-Cut-/. The obvious rule is now that *-utaq* is taken by verbs in which a stem-final segment /-ut-/ was preceded by a vowel (/a/ or /u/), *-ussaq* by those where /-ut-/ followed a consonant (including the automatic glide /j/). This can only be the reflex of a sound law, a kind of cluster shortening after vowel group, reminiscent of the formula "V·CV" of the southernmost dialects of WG (see Robert Petersen 1970:340 and 1975:197). A prestage of East Eskimo dropped the reflex of Esk. */δ/ in a word-final sequence **-Vutδaq*, but retained it in a sequence **-Cutδaq* (including **-ijutδaq*), thereby giving rise to the Proto-EE types **-Vutaq* and **-Cužžaq*. The exact conditioning of the underlying phonetic law cannot, of course, be determined from this one type of example, but it appears unquestionable (1) that a sound law *is* at work, and consequently (2) that the suffix *-utaq* may very well be the regular passive participle of the corresponding verbs containing the suffix "-ut" in verbal function.

The variant **-uciq* is trickier. I know of only one Proto-Esk. class of phonemes which in the position before /i/ combine with a /t/ to give Esk. /c/,

namely /l/ and /L/. Unless the suffixal extension inherent in *-*uciq* be a hitherto unknown suffix (which it could well be), this can only be the suffix *-*liq* of "geographical adjectives" like WG *kangi-leq* 'situated farther to the east', *ava-leq* 'situated farther outside'. These are opposed to *kangi-gdleq* 'easternmost' and *ava-tdleq* 'outmost' (*-gdl-* and *-tdl-* both arbitrarily for /-ll-/), so they contain no more "comparative" meaning than what is naturally inherent in the lexical items from which they are derived: *ava-* 'what is to the north (originally: far away) from here', *kaŋi-* 'what lies east of here'. This is very clear in expressions like *kange-rput* "our east" = 'what lies east of our place'. Thus the only function that can be ascribed to the suffix *-*liq* is that of changing a "geographical" noun into an adjective. By implication, a derivative made with this suffix from a form in *-*Rɣətə* 'means of -ing' would then simply have the corresponding adjectival meaning, i.e., something like 'useful for -ing'. When substantivized — much like WG *suju-leq* 'predecessor' from older "previous" or like a host of participles — the meaning becomes 'thing useful for -ing', i.e., pretty much the same as 'means of -ing'. If this analysis is correct, and if Menovščikov (1967a:392) is right in equating the Aleut instrument noun suffix *-six* (*halu-* 'sew' → *halu-six* 'needle') with Siberian Eskimo *-siq*, the fusion of *-*tl-* before *-*i* is older than the splitting up of the Esk.-Aleut proto-language, in which it is then to be reconstructed with Bergsland's phoneme *c_2 (Bergsland 1959:11).

41. A few further examples of suffix-triggered gemination mentioned by Bergsland 1955:9 deserve a short comment. (1) One is a true case: *ínugpoq* 'meets human beings' (also 'murders') from *inuk* contains the suffix *-γ- NV 'come across —, get —, kill —', seen in, e.g., *puissi-g-poq* 'has killed a seal' (*puisse*) and *nánu-g-poq* 'has killed a bear' (*nanoq*). The development is regular: *iñuγ-γ-puR and *nanuR-γ-puR drop γ/R ("G") before the following cluster, thereby triggering gemination according to sound law no. 7: PE *iññuγpuq, *nannuγpuq. If the stem ends in *-CR (or *-Cγ), the combination *-CRγp- (*-Cγγp-) is regularly relieved by an anaptyctic /a/ (sound law no. 3), e.g. *aivR-γ-puR > *aivaRγpuR > *aivvaγpuR > PE *aivvaγpuq > WG *auvfagpoq* 'catches walrus', or *əmR-γ-puR > *əmaRγpuR > *əmmaγpuR > PE *əmmaγpuq > WG *ímagpoq* 'absorbs water (examples borrowed from Rischel 1974:195). In Bergsland's analysis (loc.cit.), the suffix is identified with the "*-nïg-*" (i.e. /-niγ-/ < *-nəγ-) of (also occurring) *inu-nig-poq* or *agpa-nig-poq* 'there have come guillemots' (from impersonal "one has come across —"), and the process is considered parallel to the *n*-dropping in the 4.sg. possessive forms. This idea is accepted by Rischel with some reservations (1974:195 "possibly"). But, as we have seen (section 7.0), the spirants /γ, R/ only cause gemination before /Ci/, never before /Cə/ (I am indebted to Prof. Bergsland himself for the information that the suffix is in fact *-nïg-* in the Nunamiut dialect of inland North Alaska). And even if a form "*nanuR-nəγ-puR" did undergo gemination, the outcome "*nannunəγ-puR" should have its /u/, not its /ə/, syncopated by sound law no.14 to

give "**nann(n)əγpuR* > PE "**nannəγpuq*", WG †*nánigpoq*. Therefore, the suffixes of *puissi-g-poq* and *agpa-nig-poq* must be considered unrelated, at least as far as our diachronic scope goes. The examples quoted by Rischel (loc.cit.) in support of an underlying nasal belong to yet another morphological type: *neqínagpoq* 'gets meat' contains Schultz-Lorentzen's suffix *-nagpoq* NV 'gets much —' (Sch.-L. 1927:286). As indicated by the semantics (Sch.-L. translates the example "gets ample meat"), this is an intensive elaboration of the suffix **-nəγ-* (**-nγ-*), and indeed a proto-form **nəqə-nγ-γR-puR* should be treated exactly like the intensives of section 1.2.2.5, giving **nəqənaγγ(R)puR* > **nəqənnaγpuR* > PE **nəqənnaγpuq* > WG *neqínagpoq*. Rischel's other example of this type, *ugpánagpoq* 'gets a thigh', represents a secondary spread of the suffixal conglomerate */-nnaγ-/*, seeing that the stem of *ugpat* 'thigh' in fact ends in **-tə* and the derivative should be expected to end in *-tínagpoq*, as is the case with Schultz-Lorentzen's *sánatí-nagpoq* 'gets enough tools' (*sánat*). (2) Another example of Bergsland's (loc.cit.) is rather obviously spurious: the suffix of *nípagpoq* 'cries, talks loud' from *nipe* 'voice' is in all probability a verbal application of *-pak* NN 'a huge —', Proto-Esk. **nəp(ə)-paγ-*, cf. Chap. *qavax̌-paγ-* 'sleep much' (Menovščikov 1967:64). (3) One is highly bewildering, as the *-rr-* of *pi-nerrar-dlug-poq* 'is a bad hunter' and *pi-nerrar-ig-poq* 'is a good hunter' (segmentation arbitrary, the cut going through the *-r-* < PE **-q-* < **-R-k-*) can hardly be the geminated counterpart of an old **-R-* lost in the normal form of the suffix *-niar-poq* NV 'hunts —', seeing that Sirenik *-niR-* (*ajvəR-nix̌-təqəx̌təx̌* 'is hunting walrus' and other examples in Menovščikov 1964:65) has nothing corresponding to it, and also that the instrument-noun derivative *pi-niut* presupposes absence of any consonant between /i/ and /u/, as does the pl. *arfer-nia-t* 'whale hunters' if this is not analogical. But even if *pi-nerrar-* should be the old form, it would merely be another example of the type *tutsaq* 'hearing' formed with the suffix which was analysed as **-γR* above. There is no need to read the suffix **-nəq* of verbal nouns into these formations, as Bergsland does in the rest of his examples. The two suffixes were merely semantically related, so "variants" like *kîtser-dlug-poq* / *kîsi-ner-dlug-poq* 'is a poor biter, (the dog) will not bite' were not unlikely to occur. For Bergsland's analysis to be correct, one would have to assume loss of /n/ with compensatory gemination in the environment "CV__RC", which admittedly would be hard to disprove, although it must be ranked as improbable in the extreme that gemination should here be due to a different factor from the one active in all other (non-emphatic) cases.

41a. For *-ni*, see section 3.3.4, where an ultimate proto-form **-c* (phonetically [*-t^{s}*] or simply [*-t*]) is suggested, giving **-n̄* and later **-ni*. Assuming adjustments of word-final consonants to be posterior to gemination (as suggested, at least for the hardening of spirants, by the chronology of **n̄iδδuδ* > **n̄iδδut* discussed in footnote 29), the following emendation to the diachronic analysis of

reflexive forms like /alli/ (sect. 2.0 – 2.1) imposes itself: The ultimate proto-form was **aluR-c*, and the developmental steps should be spelt out as **aluR-c* > **alluc* > **alluñ* > **alluni* > **allni* > PE **alli* > WG *atdle*.

42. A number of additional examples are found in Webster & Zibell 1970:111-17: *imma, amma, agga, pamma, piñña* (< **piŋŋa*), *pagga, unna, ta-ugga, kivva*. A complete list of Eskimo demonstratives (28 stems) is found in Miyaoka 1975: Table 10.

43. As **kanna* is merely an emphatic pronunciation of **kana-*, there is no point in setting up different etymologies for the two surface representations to account for the difference (contrary to Bergsland 1955:12 and Bergsland *apud* Rischel 1974:294).

44. The further analysis of the paradigm **u-na *u-δum(-a) *u-kut/ -kuδ-a* is of course open to speculation only, but it seems reasonable to equate the *-a* of the inerg.sg. with the optional particle *-a* of the other forms, and the remaining *-n* with the *-δ-* of the erg., the *-u-* then being of anaptyctic origin (as in the 1.pl. morpheme **-put*). The *-k-* of the pl. could have arisen by assimilation in the dual form, perhaps prior to the insertion of the *-u-*. If we write the alternating consonant tentatively as *D*, we get a paradigm with the endings **-D*, erg. **-D-m*, dual **-D-γ*, pl. **-D-δ*. There would then be no basic difference between nominal and pronominal declension.

44a. [Note added in proof.] On the development of [kiw-], i.e. /kiiγ^{w}-/, from [k^{w}uiγ-], see Krauss 1975:49.

45. The labial consonant marking the 1st person is posited as **m* on the strength of forms like Chap. *xwankut* 'we' < PE **u-a-nkut* (EE **u(v)-a-γut* being analogical to the intr.vb.) and Chap. *unitaq-i-nkut* 'he leaves us' < PE **-a-nkut* (*-i-* analogical) revealing a nasalizing influence on the initial of the pronoun seen in Aleut *timas//tuman*, Esk. (postcons.) **-təkut* 'us' in cases where all three consonants **-tk-m-* came together in postvocalic position.

[Footnotes 46-48 were added in proof:]

46. The geographical term "Alaska" is here used in a broad, linguistic, sense not prejudicing identity (or even similarity) between the linguistic and the political border. In fact, one of the modern dialects of the Mackenzie River Delta is reported to agree with Barrow, e.g. in having /ñ/ and /l'/ (Webster & Zibell 1976: 274).

47. It is unclear to me, however, whether the Krauss' failure (*loc.cit.*) to mention Bergsland's Nunamiut phoneme /ï/reflects a difference of opinion of this point.

48. The Chaplino form, given by Rubcova as *awk*, is for /aak^{w}/ with labialization of the velar and subsequent monophthongization, cf. Krauss 1975:48f and see footnote 38.

REFERENCES

Aagesen, Henrik. 1975. Grønlændernes ord. Sisimiut, mimeographed.
Aagesen, Henrik. 1977. Regler i grønlandsk. Godthåb, mimeographed.

Barnum, Francis. 1901. Grammatical Fundamentals of the Innuit Language as Spoken by the Eskimo of the Western Coast of Alaska. Boston. Reprint Hildesheim-New York 1970.
Bergsland, Knut. 1951. Aleut Demonstratives and the Aleut-Eskimo Relationship. IJAL 17, 167-79.
Bergsland, Knut. 1955. A Grammatical Outline of the Eskimo Language of West Greenland. Oslo, mimeographed.
Bergsland, Knut. 1956. Some Problems of Aleut Phonology. For Roman Jakobson, 38-43. The Hague.
Bergsland, Knut. 1958. Aleut and Proto-Eskimo. Proceedings of the Thirty-Second International Congress of Americanists, 624-31. Copenhagen.
Bergsland, Knut. 1959. The Eskimo-Uralic Hypothesis. Journal de la Société Finno-Ougrienne 61, 1-29.
Bergsland, Knut. 1966. The Eskimo Shibboleth inuk / yuk. To Honor Roman Jakobson, 203-21. The Hague.
Bergsland, Knut. 1966a. Review of Menovščikov 1964. Voprosy Jazykoznanija 1966. No. 4, 140-8.
Bergsland, Knut. 1969. A Problem of Transformation in Aleut. Word 25/3, 24-38.
Birket-Smith, Kaj. 1928. Five Hundred Eskimo Words: A Comparative Vocabulary from Greenland and Central Eskimo Dialects. Report of the Fifth Thule Expedition 1921-24. Vol. III, No. 3. Copenhagen.
Birket-Smith, Kaj. 1953. The Chugach Eskimo. Copenhagen. Chapter "Linguistics" = p. 235-48.
Bourquin, Theodor. 1891. Grammatik der Eskimo-Sprache, wie sie im Bereich der Missionsniederlassungen der Brüdergemeinde an der Labradorküste gesprochen wird. Gnadau-London.
Bugge, Aage et al. = Aa.B., Kristoffer Lynge, Ad. Fuglsang-Damgaard, and Frederik Nielsen. 1960. Dansk-grønlandsk Ordbog. Ministeriet for Grønland. København.

Cearley, Alvin. 1976. Epenthesis, Metathesis and Assimilation in West Greenlandic. In: Hamp 1976, p. 22-42.

Egede, Hans. 1741. Det gamle Grønlands perlustration eller Naturel-Historie (. . .). Kiøbenhavn. (Esp. ch. XVII, Grønlændernes Sprog og Tale, p. 385-90).
Egede, Paul. 1750. Dictionarium Grönlandico-Danico-Latinum. Havniae.
Egede, Paul. 1760. Grammatica Grönlandica Danico-Latina. Havniæ.
Emel'janova, N.M. 1967. O sootnošenii ėrgativnoj i nominativnoj konstrukcij v ėskimosskom jazyke. Ėrgativnaja konstrukcija v jazykach različnych tipov, 269-76. Leningrad.
Erdmann, Friedrich. 1864. Eskimoisches Wörterbuch gesammelt von den Missionären in Labrador. Budissin.

Fabricius, Otho. 1801. Forsøg til en forbedret Grønlandsk Grammatica. Kjøbenhavn.
Fabricius, Otho. 1804. Den Grønlandske Ordbog forbedret og forøget. Kiøbenhavn.

Hammerich, L.L. 1936. Personalendungen und Verbalsystem im Eskimoischen. Det kgl. danske videnskabernes Selskab. Historisk-filologiske Meddelelser 23.2. Copenhagen.
Hammerich, L.L. 1958. The Western Eskimo Dialects. Proceedings of the Thirty-Second International Congress of Americanists, 632-39. Copenhagen.
Hammerich, L.L. 1970. The Eskimo Language. Fridtjof Nansen Minneforelesninger VI. Det Norske Videnskapsakademi i Oslo. Oslo.
Hamp, Eric P. (ed.) 1976. Papers on Eskimo and Aleut Linguistics. Chicago Linguistic Society. Chicago.
Henry, Victor. 1879. Esquisse d'une grammaire de la langue innok. Paris.
Hinz, John. 1944. Grammar and Vocabulary of the Eskimo Language, as spoken by the Kuskokwim and Southwest Coast Eskimos of Alaska. Bethlehem Pa.

Iochel'son, V.I. 1934. Unanganskij (aleutskij) jazyk. Jazyki i pis'mennost' narodov Severa, č. III, 129–48. Moskva-Leningrad.

Jenness, Diamond. 1928. Comparative Vocabulary of the Western Eskimo Dialects. Report of the Canadian Arctic Expedition 1913-1918. 15A. Ottawa.
Jenness, Diamond. 1944. Grammatical Notes on Some Western Eskimo Dialects. Report . . . 15B. Ottawa.

Kleinschmidt, Samuel P. 1851. Grammatik der grönländischen Sprache (mit teilweisem Einschluss des Labradordialekts). Berlin. Reprint Hildesheim 1968.
Koo, Jang. 1971. The Copulative 'u' in Yupik Eskimo and Crossover convention. IJAL 37, 215-18.
Koo, John H. 1975. A Basic Conversational Eskimo (Yuk). Fairbanks.
Krauss, Michael E. 1973. Eskimo-Aleut. Current Trends in Linguistics, vol. 10,2, 796-902.
Krauss, Michael E. 1975. St. Lawrence Island Eskimo phonology and orthography. Linguistics 132, p. 39-72.

Marsh & Laughlin 1956 = Gordon H. Marsh and William S. Laughlin, Human anatomical knowledge among the Aleutian islanders. Southwestern Journal of Anthropology, vol. 12, p. 38-78.

Mattina, Anthony. 1970. Phonology of Alaskan Eskimo, Kuskokwim dialect. IJAL 36, p. 38-45.

Menovščikov, G.A. 1960. O kategorii perechodnosti i zaloga v ėskimosskom jazyke. Voprosy grammatiki, sbornik statej. . . . Meščaninova, 81-102. Moskva-Leningrad.

Menovščikov, G.A. 1962. Grammatika jazyka aziatskich ėskimosov, č. I. Moskva-Leningrad.

Menovščikov, G.A. 1964. Jazyk sirenikskich ėskimosov. Moskva-Leningrad.

Menovščikov, G.A. 1965. Jazyk ėskimosov Beringova proliva. Jazyki i fol'klor narodov Sibirskogo Severa, 69-83. Moskva-Leningrad.

Menovščikov, G.A. 1967. Grammatika jazyka aziatskich ėskimosov, č. II. Moskva-Leningrad.

Menovščikov, G.A. 1967a. Ėskimossko-aleutskaja gruppa. Jazyki narodov SSSR V, 352-406. Leningrad. (Vvedenie 352-65, Eskimosskij jazyk 366-85, Aleutskij jazyk 386-406).

Menovščikov, G.A. 1967b. Ob osnovnych konstrukcijach v ėskimossko-aleutskich jazykach. Ėrgativnaja konstrukcija predloženija v jazykach različnych tipov, 216-8. Leningrad.

Menovščikov, G.A. 1975. Jazyk naukanskich ėskimosov. Leningrad.

Menovščikov, G.A. 1976. Review of Rischel 1974. Voprosy Jazykoznanija 1976, No. 6, 117-21.

Miller, D. Gary. 1976. Reconstruction in the Eskimo-Aleut Verbal System. In: Hamp 1976, p. 179-201.

Miyaoka, Osahito. 1971. On Syllable Modification and Quantity in Yuk Phonology. IJAL 37, 219-26.

Miyaoka, Osahito. 1974. A Note on Yuk Syllable Modification: /ra/ Deletion. IJAL 40, 262-65.

Miyaoka, Osahito. 1975. Sketch of Yupik, an Eskimo Language. To appear in: Handbook of North American Indians, Volume Seventeen, Languages. (Manuscript in the Institute of Eskimology, University of Copenhagen).

Miyaoka, Osahito. 1976. Word-Initial Differentiation in Western Eskimo. In: Hamp 1976, p. 202-10.

Petersen, Jonathan. 1951. Ordbogêraq. Nûngme. Reprint Copenhagen 1968.

Petersen, Robert. 1970. On Phonological Length in the Eastern Eskimo Dialects. Folk 11/12, 329-44.

Petersen, Robert. 1975. Folkemål. In: Palle Koch (ed.), Grønland (supplementary volume to Gyldendals Egnsbeskrivelse), p. 194-204.

Petersen, Robert. 1976. ʃ — Kitâta qerqane atorneqarnera dialektinutdlo avdlanut atássuteqarnera. København.

Petersen, Robert. 1976a. On the Phonological Length as an Element of Expression in the Eastern Eskimo Dialects. In: Hamp 1976, p. 211-20.

Pyle, Charles. 1970. West Greenlandic Eskimo and the representation of vowel length. Papers in Linguistics 3, 112-44.

Rasmussen, Christian. 1888. Grønlandsk Sproglære. Kjøbenhavn. Reprinted Aarhus 1971.

Rasmussen, Knud. 1930. Iglulik and Caribou Eskimo Texts. Report of the Fifth Thule Expedition 1921-24, vol. VI, No. 3. Copenhagen.

Rasmussen, Knud. 1941. Alaskan Eskimo Words. Report of the Fifth Thule Expedition, vol. III, No. 4. Copenhagen.

Rasmussen, Knud & H. Ostermann. 1942. The Mackenzie Eskimos. After Knud Rasmussen's posthumous notes edited by H. Ostermann. Report of the Fifth Thule Expedition, Vol. X, No. 2. Copenhagen.

Rischel, Jørgen. 1969. Some Characteristics of Noun Phrases in West Greenlandic. ALH 13, 213-45.

Rischel, Jørgen. 1974. Topics in West Greenlandic Phonology. Regularities Underlying the Phonetic Appearance of Wordforms in a Polysynthetic Language. Copenhagen.

Rubcova, E.S. 1954. Materialy po jazyku i fol'kloru ėskimosov (čaplinskij dialekt), č. I. Moskva-Leningrad.

Rubcova, E.S. 1971. Ėskimossko-russkij slovar'. Moskva.

Sadock, Jerrold M. 1972. In Defense of Metathesis in Greenlandic. Papers in Linguistics 5:1, 1-9.

Schneider, Lucien. 1970. Dictionnaire esquimau-français du parler de l'Ungava. Nouvelle édition augmentée. Québec.

Schultz-Lorentzen. 1927. Dictionary of the West Greenlandic Eskimo Language. Meddelelser om Grønland 59. Copenhagen. Reprinted 1967. Danish original: Den grønlandske Ordbog. Copenhagen 1927, reprinted 1967.

Schultz-Lorentzen. 1945. A Grammar of the West Greenland Eskimo Language. Meddelelser om Grønland 129.3. Copenhagen. Translation of the following.

Schultz-Lorentzen. 1951. Det grønlandske sprog i grammatisk fremstilling. Copenhagen (first issued 1930).

Schultz-Lorentzen. 1952. Undervisning i grønlandsk. 1. Hefte. Copenhagen (first issued 1939).

Swadesh, Morris. (1951-)1952. Unaaliq and Proto-Eskimo. Series of articles comprising: Unaaliq and Proto-Eskimo. IJAL 17 (1951) 66-70; Unaaliq and Proto-Eskimo II, IJAL 18 (1952) 25-34; III, IJAL 18 (1952) 69-76; IV, IJAL 18 (1952) 166-71; V, IJAL 18 (1952) 241-56.

Thibert, Arthur. 1954. English-Eskimo — Eskimo-English Dictionary. Ottawa.

Uhlenbeck, C.C. 1907. Ontwerp van eene vergelijkende vormleer der Eskimotalen. Verhandelingen der Koninklijke Akademie van Wetenschappen te Amsterdam. Afdeeling Letterkunde. Nieuwe reeks. Deel VIII, No. 3. Amsterdam.

Ulving, Tor. 1953. Consonant Gradation in Eskimo. IJAL 19, 45-52.

Ulving, Tor. 1971. Observations on the Language of the Asiatic Eskimo as Presented in Soviet Linguistic Works. Linguistics 69, 87-119.

Underhill, Robert. 1971. Metathesis vs. Gemination in Greenlandic. Papers in Linguistics 4:2, 299-311.

Underhill, Robert. 1976. The Case for an Abstract Segment in Greenlandic. IJAL 42, 349-358.

Underhill, Robert. 1976a. Noun Bases in Two Eskimo Dialects: A Study in Comparative Morphophonemics. In: Hamp 1976, p. 239-71.

Veniaminov-Geoghegan 1944 = Richard Henry Geoghegan. The Aleut Language, edited by Frederica I. Martin. Washington 1944. In part translated from: I.E. Veniaminov, Opyt grammatiki aleutsko-lis'evskogo jazyka. Petersburg 1846. (Finished 1834 according to preface).

Webb, Charlotte. 1973. Consonant Alternations in Greenlandic. Linguistic Society of America. Forty-eigth annual meeting, December 28-30, 1973, San Diego, California. Meeting Handbook, 178.

Webster & Zibell 1970 = Donald H. Webster and Wilfred Zibell. Iñupiat Eskimo Dictionary. Fairbanks.

Webster & Zibell 1976 = D.H.W. and W.Z.: Report of Canadian Eskimo Language survey, 1968. In: Hamp 1976, p. 272-327.

Wells & Kelly 1890 = Roger Wells and John W. Kelly: Eskimo-English and English-Eskimo vocabularies. Bureau of Education, Circular of Information, No. 2, 1890. Washington.

WORD INDEX

The index includes, in principle, all Eskimo and Aleut words and word forms quoted in the present paper. In the Eskimo index, non-Greenlandic forms are listed under the corresponding WG entries. Failing these, whichever dialect forms come first in the quotation order are used as catchwords. The general order of quotation is: West Greenlandic (WG — forms given in quotation marks are from the early works of the Egedes and Fabricius), Labrador (L), Ungava, Coronation Gulf (Cor.), Thibert's Canadian Eskimo (Thib.), Mackenzie River Delta (Mck), Barrow and other forms of North Alaskan (B), Cape Prince of Wales (W), Imaklik (Im), Kuskokwim and other forms of SW Alaskan Yupik (K), Unaaliq, Nunivak Island (Nun.), Chugach (Chug.), Naukan (N), Chaplino (Ch), and Sirenik (Sir.). The index does *not* include: (1) reconstructed forms (apart from a few personal endings), (2) the personal endings of the tables of sections 3.3.0 and 3.4, (3) word quotations of a trivial nature (some doubtful cases are included), and (4) non-Eskimo-Aleut words quoted as parallels. For Kuskokwim, the phonemicizations of Miyaoka 1975 are sometimes given in the index for the sake of clarity, even where not quoted in the main text.

References are to the *sections* of the main text. Bracketed figures following the section numbers 9.1 through 9.11 refer to the numbered sound laws of that chapter ("Appendix II"). Footnotes are referred to by the letters FN preceding the numbers.

The orthography used for WG is that of Kleinschmidt. The alphabetical order is: *a, c/č, d/δ, f, g/γ, i/e/ə, j (y), k, l/L, m, n, ng (ŋ), p, q, r/R, s, ss, t, u/o, v/w, x/χ, z.*

ESKIMO

(West Greenlandic catchwords are unmarked. Within an entry, dialect labels [WG, B, Ch, etc.] are omitted, if a word belongs to the same dialect as the preceding.)

agsserpâ, agssiorpoq, see *auk*

agtor-pâ, agtu-i-voq 6.7.4; dial. *atturnnata, atturnta* FN 19b

ai-vâ, B *aiRoq (airuq)*, B Mck W *aiγa (aigaa)*, Nun. *ayˈoɣ*, Chug. *aγˈUq*, N *aiˈvoq*, Ch. *āγaqā*; WG *aig-dler-poq*, L *aiklerpok*; WG *agger-poq* FN 3; K *agger-toq* FN 3, FN 4

(ajag-pâ) K *ayag-toq, ayakan, ayén* 6.7.2; K /ayauc-/ FN 33; WG *(ajagutaq)* pl. *ajagútat, ajagut-serpâ* 4.1.2

ajor-poq FN 12; *ajortoq* 6.7.3, *ajortu-liaq* 4.1.5, 4.2.1; *ajoqaoq* FN 12

(ake) Ch. *aki* 9.8 (63), Sir. *aka* 9.8 (65); WG *akê* 2.3.0, *akît* 1.3.1

(aki-voq) N *aki-úq* 6.7.3; WG *akivâtit*, Ch. *akiqātən*, WG *akivavkit*, Ch. *akiqamkan* 8.3

aki-ler-pâ 4.1.2, 6.6.1; K *akîlerá*, Ch. *akíla Ráqā* 4.1.2; WG *akilíssuk*, Ch. *akiLitxu* 8.3; WG *akileqâ* 1.2.2.1, *akiliut* 6.6.1, *akíngitsoq* 4.3.3

(aleq) L *alleq*, du. *allăk* FN 24b

aloq, K Ch *aluq* 1.0.2; WG pl. *atdlut* FN 8; loc.sg. *atdlume* 2.0, 2.1; du. *atdlungne* 2.1; pl. *atdlune* 2.0, 2.1; 4.sg.ie.sg. *atdle* 1.0.2, 2.0, 2.1, FN 41a; erg. *atdlume* 2.0, 2.1; 4.sg.pl. *atdlune* 2.0, 2.1

alug-pâ, B *aluktoq*, /aluun/, WG *alug-ssar-poq, alugssa-ut* 6.3.2

Ch *ama-nĭRaquq* 2.3.0

amaroq, erg. *amarqup*; lm. *ama:Rúq*, erg. *ama:Rům* FN 2

ameq 1.0, FN 1, K *ameq* 1.0, Ch. *amiq* 1.0, 2.3.1, Sir. *amax* 2.3.1; erg. WG *ámip* 1.3.0, FN 11; pl. *ámit* 1.0, 1.1.0, 1.3.0, 1.3.1, 2.3.0, FN 25, K Ch *amit* 1.0; 2.sg.erg. pl. K *amerpit*/ *ámivit* 3.1; 4.sg. WG *áme* 2.3.0

(ameq) ám-iorpoq 4.1.7

(ameq → amigssaq) amigss-iorpâ 4.1.7

(ameq) Ch *amĭRăq*, Sir. *amĭrax* 2.3.1; Ch *amĭr-ĭRaquq* 4.1.7

(ameq) amer-pâ 6.6.1, 6.7.4; *amívoq* 6.7.4; *amîsit, amiut* 6.6.1

B *amma* FN 42

L *amna, apsoma*, see *av-*

-an 3.sg.erg.sg. 3.3.5

K *-an* conjunctive 6.7.2

K *âna, ânavut, ânase, ânasing* 3.1

(ani-voq) K *anoq (annuq)*, N *ânuq*, Ch *anuq*, Sir. *ančax** 6.7.3; WG *ani-ssaraoq* FN 12, Ch *ānaquq* 6.7.2, FN 12, Sir. *ančaqəxtəx* 6.7.3, FN 12; Ch *an-uma-ŋa* 6.7.2; K *anertorâ, anertúmauq* 6.7.2.

(ánoráq) ánorá-lugpoq, ánorâr-dlugpoq 4.3.4

anore, Ch *anuqa* 1.2.1; WG erg. *anorrup*, pl. *anorrit* FN 13

Ch *anjaq* 1.2.1, Iglulik *agʒaq* 6.6.1; Ch pl. *anjat* 1.2.1; 3.sg. *anjā* 1.2.1, 6.6.1; 2.sg. K *angiarpit / angiavit* 3.1; Ch *anja-Luk* 4.3.4; *anja-pik*, Sir. *anjá-pix* 7.1

anguar-poq, angût 6.3.3

angut 9.1. (11), FN 39a, B *aŋun* FN 39a; WG *angute-qarpoq, anguta-uvoq* 9.1 (11); *angusissarpoq* 4.1.9; K *angutsiortoq* 4.1.7, 4.2.2; *angûtluk* 4.3.4

api-voq, Ch. *apà-nRān* 6.3

K *apt-á* /apəc/ FN 33, FN 36; *"apəč"* FN 33; *apiun* FN 36

aput 6.3, FN 39a; erg. *apútəm* 6.3; B *apun* FN 39a; N *apa* /ápun, Sir. *apəta* 6.3; WG L *apuseri-voq* 4.1.1

aqajaroq, lm. *aReRuq* FN 2

aqigsseq 2.3.1; lm. *aRaγiq* FN 2; Ch *aqə́rγīq* 2.3.1, FN 2; N *aqarγiq* FN 2

(Ch *aqsákak*) Ch *aqsakəx-Líqaquq* 4.1.1

N *-a-qu-*, Ch *-aquq/ -taquq, -aqâ/ta-qā* 9.2 (30), FN 12

aqût, lm. *aRun* FN 2

arajug-poq, arajúpâ, L *ariupa*; Chug. *aRajuiq*; WG *arajorqavoq*, Ch *aRjuqaquq* FN 17

(Sir. *aRax-təqəxtəx*) Sir. *aRaR-a, aRax-si* 8.3; *aRaRat-aqəxtəmkan* 6.7.2; *aRaR-at-i-čəqəxtəx* 6.7.3, 6.7.4; *aRaRas-əma-rə-mkan* 6.7.2

:-araoq/ -taraoq/ -ssaraoq FN 12

(arfeq) arfer-niat FN 41

ikípâ, ikit-si-voq 6.6; *ikitsit* 6.6, 6.8.4

ikior-pâ, ikiu-i-voq; K *ikaiorâ, ikaior-i-oq* 6.7.1; B *ikayoq-sima-lanniari-phin* 6.7.2

Ch *iknáqə-lRi, iknáqə-rāR-inaq* 2.3.1

ila, 3.sg. *ilâ* (Esk.) 1.2.1; *ila-ga-lu-se* FN 3; (*ila-voq*) *ila-ssi-voq* 6.7.1, 6.7.4

"EE *ilaa*" 2.3.0

ilig-poq, Nun. *L'ixtox* FN 3

(*ili-voq*) *ili-ssi-voq* 6.7.1, 6.7.4; *iliveq*, Ch *Livəq* 6.7.1

K *itle* 2.3.0

Iluliar-miu-t 7.1

im- : *ima, ivna*; Ch *imáni, imna*; WG (*ta-*)*imane*; Ch *ta-zima-vək, ta-zima-kən* 8.2.2

-ima-, see *-sima-*

imaq; loc. *imanut*, Im. *imánun* FN 2; WG *ima-vik, imar-pik*, K *imar-pik* 7.1; WG *imar-mio* 7.1, FN 31; *ima-er-pâ*, Ch *imi-lŋuq*, Sir. *imáRə-lŋux* 6.6.1; WG L *im-er-pâ*, Ch *im-lRaqā* 4.1.2, 6.6.1; K *im-erâ* 4.1.2; WG htr. *im-í-voq* /imm-i-i-vuq/, *imît*, Chug. *imin* 6.6.1

imeq 4.1.5, FN 1, FN 31; erg. *ermup, er(v)ngup* 9.6, FN 31; pl. *ermit* FN 31; Ch *məq, məRəm* FN 31; WG *imer-ter-pâ*, htr. *imer-ter-i-voq* 6.7.4; *imagpoq* FN 41; *imiaq* 4.1.5

B *imma* FN 42

imúpâ, imorqut 6.5

-in 3.sg.erg.pl. 3.3.5

inápâ 6.6.1, 6.7; *inássut* 6.7; *inat-si-voq, inatsit* 6.6.1

-inaq, Ch *-ŋ-inaq* 1.2.2

K *inart-oq, inangkauq* FN 34

ine 4.1.7, FN 3; Nun. *n'a* FN 3; Ch *na, nə-t* 4.1.7; Ch *nə-líRaquq* 4.1.7

iner-poq, iner-sima-voq 1.2.2.4; *iner-pâ, ini-ler-pâ* 4.3.2; *inaq* 1.2.2.4, FN 16, *inaup** 1.2.2.5

inuk 1.1.2, 9.3 (35), 9.5 (48), 9.7 (60), 9.8 (66), FN 29, FN 41; L *inuk* 4.1.8; B *ĩnuk* 9.5 (48); WE *juk* FN 29; Chug. *ĕuk, ĭuk* 9.7 (60), Ch *juk*, Sir. *jux* 9.8 (66); WG erg. *inûp* 1.1.2; L *inu-lipogut* 4.1.8; WG *inu-nig-poq, inugpoq* FN 41; (*inû-voq*) *inûvik, inûvfik* 5.2

iŋ- : Ch *iŋâ-ni, iŋna iŋkut* 8.2.2; Sir. *iŋna iŋčama iŋkəra* 8.1.1; Ch *ta-ziŋani, ta-ziŋna ta-ziŋkut* 8.2.2

ingnerq, ingnerup; Ch *kənəq, kənRəm* 6.8.4; WG *ingner-si-voq* 7.1

L *ipeq*, du.*ipăk* /ippak/ FN 24b

iperar-pâ, iparáupâ, iperautaq FN 40

(*ipípâ*) *ipit-er-pâ, ipiterut* 6.3.4

(*ipo*) *ipu-lerpâ, iperpâ*; Ch *pū-liRaqa* 4.2.3 (3)

-ipoq 4.1.8

(*iput*) *ipusiaq* 4.1.5, *ipusiorpoq* 4.2.2

eqaluk, pl. *eqatdlut, eqatdl-iat*; Ch *iqáLuk*, Sir. *iqəLux* 4.2.3 (note)

eqerqoq, Im *əRətqeŋuraq* FN 2

eqiter-pâ, eqiter-ut, Ch *qətáqā* 6.3.4

-eraoq, -erivoq 4.1.1

ermig-poq; K *eramig-toq*, *aγmiγγa'*, *ĥ-mĭq-tā-ă* FN 34

N *əRnáq*, Ch *aRnəq* 1.2.2.1; N *əRvíγaq*, Ch *aRvíγaq* 1.2.2.1; see also *ertoq*

erneq 1.1.7, FN 31, "*ernek*" FN 24b; erg. *ernerup* 1.1.7, 1.2.2.6; pl. *ernerit* 1.1.2, 1.1.7, FN 24b; du. /tRnak/ "*ernæk*", "*ernæk*" FN 24b; all. *ernermut* FN 19d; 1.sg. *ernera* 2.2; 3.sg. *ernera* 1.2.1; 4.sg. *erne* 1.0.2, 2.2; L *erneq*, du. *ernăk* FN 24b; B du. *irnerik*, pl. *irnerit* FN 24b; Ch *iRnəq* 1.1.7, FN 31; erg. *iRnəRəm*, du. *iRnəRak*, pl. *iRnəRət* 1.1.7, FN 24b; *iRnəRmun* FN 19d; 1.sg. *iRnəqa* 2.2, 3.sg. *iRnəRa* 1.2.1; WG *ern-i-voq* 4.1.5, 4.1.7, 4.1.11, 4.2.3, 7.1, 7.2; K *erin-i-oq* 4.1.5, 4.1.11, 4.2.3; Ch *iRn-i-quq* 4.1.11, 4.2.3; WG *ern-i-or-poq* 4.1.7; *ern-iaq*, K *erin-iaq* 4.1.5, FN 34.

erner-poq, ern(g)er-dlu-ne, Ch *nəRiR-lu-ni* FN 31

-erpâ NV 4.3.2

erqar- : B *itqaq-tuq*, Ch *nəqáR-aqā* 6.8.3; (WG *erqar-tor-pâ*) *erqartûpâ*, htr. *erqartûssivoq* 6.7; *erqartûssut* 6.7, 6.8.3, 9.6 (50); *erqartûssinera, erqartûssissoq, erqærtûssivik, erqartûssit, erqartûssíssut* 6.7

-erssârpoq 4.1.4

ersser-poq, ersserqigpoq 5.1.2

-ersorpâ 4.1.3

K *ertoq*, Ch *axtáquq* 4.3.4, 9.11 (74). See also N *əRnáq*.

isigak, pl. *isigkat*; L *itigak*, pl. *itikkat*; L *itik-ittárpok* 4.2.3 (note); Ch *itáγaq*, Sir. *itəγəx* 4.2.3 (note)

iser-poq 9.6 (49), K *iter-toq* FN 34, Ch *itx-âquq* 6.7.2, 9.11 (75); WG (dial.) *isissasimavuq, isissimavuq* FN 19b; *iser-ter-pâ, iser-ter-i-voq* 6.7.4; K *itingkauq* FN 34; N *itxútã* 6.7.3; Ch *itxumaŋa* 6.7.2

Sir. *askâ-sta-, askâ-čax, skati-čaqaxtax* 6.7.4

isugdleg 1.2.2

isuma, isúmap, isúmat, isúm-erpâ 4.2.3 (3)

-issarpoq 4.1.9

isse 2.3.1, 9.6 (50); Sir. *ača* 2.3.1, 9.8 (65); WG *issi-lerivoq* 4.1.1; *isserpâ, ersserpoq, ersserqigpoq* 5.1.2

-it (= *-git*) 8.3

-it 3.pl.ie.pl. 3.3.5

-ita 3.pl.erg.pl. 3.3.5

iteq, erg. *erqup;* N *ataq;* Ch *taq*, erg. *taxəm* 9.11 (76)

-iorpoq 4.1.7

-iúpâ 4.1.7, 7.2

WG L *ivavoq*, WG *ivanitsoq / uvanitsoq* FN 14

N *iváxtuRã-qâ, iváxtuR-ê-quq, iváxtuR-i-naq* 6.7.1

iviangeq, K *ivisaiq*, N *ivjE'q* 9.6 (51)

ivik, N *ávak* FN 14; WG du. /ivvak/ "*ibek*"; B du. *ivgik*, pl. *ivgit* FN 24b

-ivik 4.1.10

iver-pâ 9.6 (51), FN 14; Nun. *yuaRyun* FN 14

ivssoq, ivss-erpâ, ivssivoq 6.6.1

-ivoq 4.1.11

-îvoq 6.6.1

Ch *javuqũn, javuqũtət, javuqutə-li-* 4.2.2

Ch *-jaxaq* FN 20

Ch *-jəŋ*, K *-siŋ* 3.2

-juarpoq, -tuarpoq, -uarpoq; B *-tuaqtoq;* K *-taurtoq*, /+tuɣaɣ/ FN 39

-ka 3.5.0

kamik 1.1.7, erg. *kangmup* 1.1.7, 9.1 (23); pl. *kangmit* 1.1.7, 9.4 (47), FN 10; du. /kammak/ "*kamæk*" FN 24b; 3.sg. *kangma*, 4.sg. *kangme* FN 23; 1.sg.du./ pl. *kangmâka, kamingma, kangmama, kangmangma, kamima* FN 29a; W *kamik*, du. *kam'ak* FN 24b; Ch *kamək* 1.1.7; erg. *kamɣəm* 1.1.7, 9.1 (23); du. *kamɣək* FN 24b; pl. *kamɣət* 1.1.7, FN 24b; Ch *kamə-Luk* 4.3.4; WG *kangm-i-voq* FN 10; *kangm-ior-pâ* 4.1.7, 6.3.3; Ch *kam-ĩR-aquq* 4.1.7; WG *kangm-iut* 6.3.3; *kangm-eraoq / kangm-erivoq* 4.1.1

kan- : *kâna, kanane, kâna katuma kâkua;* B *kanna kat'uma;* K *kanâne, kâna katum kankut;* Ch *kanani, kana kankut;* Sir. *kana kankəra* 8.1.10; WG *(ta-)kanane*, B *tak-* 8.2.2

K *-kan* 6.7.2

kanajoq kanásut, kanioq kanísut; Nun. *kaiju*, Ch *kaju* FN 29

kange FN 14; *kange-rput* FN 40; *kangi-leq, kangi-gdleq* FN 40; *kangujarpoq / kangi-arpoq* FN 14

kangeq, 3.sg. *karra;* King Island *kax'a;* Ch *kaŋəq, kaŋRa* 9.6 (56); WG *Kángiarpoq (Kangeq)* 4.1.6

kángusugpoq, B *kanŋusuktuq*, K *kasinguɣugtoq*, Ch *kajŋújuɣáquq*, Sir. *kajŋəjux-táqaxtax* 3.2.0

kapi-vâ 6.2, 6.7.4; *kapi-ssi-voq* 6.3.1, 6.7.4; *kápúpâ* 6.2, 6.5; *káput* 6.2, *káporqut* 6.5; N *kapún;* Ch *kápaqâ* 6.2

kávfarigpoq 5.1.2

kávigpoq, kávig-tuarpoq 5.1.2

kiag-poq, kia-lârpoq 4.3.3

kig- : *kigga, kigane, kinga kigssuma kigkua;* W *kiɣata;* L *kingna;* K *kax-* /kxxaani/ ("*qráne*") 8.1.7; *(ta-)kigane*, B *tatk-* 8.2.2; Cor. *tátkiɣa* 8.1.7

kigarpâ, kigerpoq, kiggípâ, kiggerqut 6.5

kigut 1.1.2, 4.1.1, 6.3; L *kigut* 4.1.1; WG erg. *kigutip*, pl. *kigutit* 1.1.2; Ch *xũta* 4.1.1, 6.3, pl. *xũtət* 4.1.1; Sir. *kəɣata* 6.3; WG L *kiguserivoq* 4.1.1, Ch *xũsiqaquq* 4.1.1, 4.2.2

-kək 3.3.5

-kən 3.3.5

kikiak, kikíss-iúpâ 4.1.7

Ch *kəlɣúta-quq*, Sir. *kəlɣəti-mə-čax* 6.7.2

kilorraq 1.2.2

K *kinkâ, kink-i-oq* 6.7.1

kingu-mut, Ch *kiŋu-mun* FN 29

kipaq 1.2.2, 1.2.2.4, 5.1.6, FN 16; erg. *kipaup* 1.2.2.5; L pl. *kippait*

kipi-vâ 1.2.2.4, 6.2; htr. *kipi-ssi-voq* 6.3.1; Ch *kapáqa* 1.2.2.4, 6.2; K *kipâtâ* FN 36; WG *kivneq* 1.2.2.4, 6.2; *kipineq* 1.2.2.4; Ch *kapnəq* 1.2.2.4, 6.2; WG *kiput* 6.2, FN 39a; pl. *kiputit* FN 39a

kipoq, K *kitoq, kizzun* FN 36

kisi- 9.8 (62), *kisime*, Ch *kəzíRmi, kəzəmá-Raq* 8.2.2; Sir. *kəča-* 9.8 (64), *kačəməlŋux* 8.2.2

kisi-ner-dlug-poq, kitser-dlug-poq FN 41; see also *ki-vâ*

kitâ, kitâ-liaq 4.1.6

-kitdlivoq, *-kitdliorpoq* 4.1.7

ki-vâ 6.3, 6.7.1; K *kɔxaa*, Unaaliq *kxxaa*, Chug. *kix-maR-tuq*, N *kaxáqâ* 6.3; cf. also *kigut* and *kisi-*

kivʃaq; K *kivgaq*, *kivg-iorâ*; Ch *kavγaq* 4.1.7

B *kivva* FN 42

kui-vâ, htr. *kui-ssi-voq*, ptc. *kuississoq* 6.7, 6.7.1; *kuíssut* 6.7, 6.8.3; K *kuvâ*, *kuv-ùma-uq* 6.7.2; Ch *kuvaqâ*, *kuviquq* 6.7.1

kujak, 4.sg. *kujane* 3.5.2

(kujat) kujatdleq, Thib. *kivadlit*, WG *kuja-var-poq* FN 14

Ch *kujŋá*, *kujŋâ-râq* 2.3.1

kûk, Ch du. *kiwak*, Sir. *kučax*; WG *kugssiorpoq* 8.2.1

kuvdloq, L *kublo*, Ch *kumlu*; L *kublo-lerivoq*, Ch *kumlu-Liqaquq* 4.1.1

-lárpoq VV 4.3.3

-li- FN 37

-liaq/-iaq NN 'manufactured' 4.1.5, FN 37

-liaq/-iaq NN 'travelling' 4.1.6

-liarpoq/-iarpoq 4.1.6.

-lik, Ch *-lak* 4.3.2

-lípoq/-ípoq 4.1.8

-leq FN 40

-leraoq/-eraoq, *-lerivoq/-erivoq*, Ch *-Liqaquq/-iqaquq* 4.1.1

-ler-poq, *-ler-pâ* 'begin', Ch *-laR-aquq* 4.3.2, 9.11 (74); WG *-ler-tar-poq* 9.11 (74), *-ler-tor-poq* 6.8.3

-lerpâ/-erpâ 'supply' 4.1.2, 4.3.2; *-lersorpâ/-ersorpâ* 4.1.3; *-lerssârpaq/-erssârpoq* 4.1.4

-lissarpoq/-issarpoq 4.1.9

-lissuk 8.3, 9.3 (41); B *-liŋung* 9.3 (41); Ch *-Litxu* 8.3

-liuk, Ch *-Liγu* 8.3

-liorpoq/-iorpoq, L *-liorpoq* 4.1.7; *-liúpâ/-iúpâ* 4.1.7, 7.2

-livik/-ivik 4.1.10

-livoq/-ivoq 4.1.11

-lívoq/'-ívoq 6.6.1

-lu-/-vdlu- FN 3

Sir *lu*, 1.pl. *lu-pu*, 4.pl. *lu-təŋ* 3.1; see also *igdlo*

-luk, K *-tluk*, Ch *-Luk* 4.3.4

-lutaq/-utaq 4.3.1

-ma 3.5.0

majoriaq FN 17, *majorqaq* 1.2.2, FN 17

makípoq 5.1.2, 6.7.1; K *maktoq* 6.7.2, N Ch *makətaquq* 5.1.2, 6.7.1; WG *makítoq* 6.7.3; K *makiskan*, *maktshan* 6.7.2; WG *makitípâ*, N *mákasitaqâ*, *mákasiščquq* 6.7.1; WG *makita-voq*, *makítaq*, *makítarigpoq* 5.1.2

malik 4.1.2, 4.1.7, FN 24b; du. /mallak/ "*maglek*", pl. "*maglit*"; W *mölik*, du. *mölɔk* FN 24b; WG *magdl-erpoq* 4.1.2, *magdl-iorpoq* 4.1.7

manigpoq, *manípoq* 6.5

mánik, Ch *manik* 4.1.7; WG *máni-liorpoq*, Ch *mani-líRaquq* 4.1.7, 4.2.1

Ch *maŋnəRraq* 2.3.0

maqigiaq FN 17, *marqaq* 1.2.2, FN 17

marneq, "*marnek*", du. "*marnæk*" FN 24b

marraq 1.1.2, 1.2, 1.2.0, 1.2.2, 1.2.2.1, 1.2.2.2, 1.2.2.4, 1.2.2.6, 1.3.1, 2.3.2, 3.5.2, FN 17; erg. *marraup* 1.1.2, 1.2, 1.2.0, 1.2.2, 1.2.2.1, 1.2.2.2; pl. *marrait* 1.1.1, 1.2, 1.2.0, 1.2.2, 1.2.2.1, 1.2.2.2, 1.3.1, 3.5.2; K *maraq* FN 17; K *marayaq* 1.2.2; WE *maRajag*, K *maraiyaq*, Nun. *maRa'ya* FN 17

/mas-/ : massa, mâne, mâna matuma mákua; K *mane, mâna matum makut;* Ch *mâ, mâni, mana matum makut;* Sir. *mana makəra, mačəγna*, WG *mânga*, Sir. *marámu* 8.1.6; further, WG *mâne* 9.3 (37), *(ta-)mâne* 8.2.2; WE *mâni*, Sir. *mačəγna* 9.9 (69); WG *mánipoq*, K *mánitoq*, *mánitaurtoq* FN 39; WG *massa* 9.6 (50)

mátarpoq, N Ch *matáxtaquq*, Sir. *matáxtəqəxtax* FN 12.

mato 4.1.7, 4.2.3; *matulerpâ* 4.2.3 (3), *matuliúpâ* 4.1.7, 4.2.3 (3), 7.2; *matserpâ*, *matserfik*, *matsiúpâ* 4.2.3 (3)

mâtut, *mâtuserpâ* 4.1.2

K *-miginuk* /-məγnuk/ 1.du.erg.sg./pl. 3.3.1

mikigpâ, 1.2.2.4, *mikagpoq* 1.2.2.4, 1.2.2.5

W K *minguk* 6.6, 6.7.1; K *mingugâ*, Chug. *mingug-i-uq* 6.7.1; W *míngerivoq*, *míngerit*, *míngerisit* 6.6

méraq, pl. *mérqat* 1.2.1, 2.5

merqut, *merqusivik* 4.1.10

merssorpoq, *merssorqigpoq* 5.1.2

Ch *məRútLuk* 4.3.4

mísiligpâ, *mísilívoq* 6.7.4

Ch *məsúnâquq*, *məsúnâqâ*, *məsuniLəq* 6.7.1

-mio 6.6.1, 7.1; Ch *-mí*, Sir. *-məRa* 6.6.1

B *-mnuk*, WG *-vnuk* 3.3.1

-mta 3.5.0

K *mumigtoq*, *mumigingauq*, Ch *mumixtaquq* FN 34

-nagpoq FN 41

nagsiúpâ, nagsiússaq FN 40

(nagtoralik) L *nektoralik*, du. *nektoralak* FN 24b

najak, N *najaɣaq*, Ch *najak* FN 23; WG 4.sg. *náine* 3.5.2

(nâlagpoq) nálagtoq 6.7.3, *nála-terivoq* 4.1.1

nalavoq 1.2.2.4, *nala-uarpoq* FN 39, *natdlarpoq* 1.2.2.4, 1.2.2.5

naluvoq, Ch *naLâquq* 6.7.4

nalunarpoq; nalunaerpoq, K *natlunaerâ* Ch *naLúniRaqâ* 6.5; *nalunaerut* 1.3.4, 6.5, K *natlunaerun*, Ch *naLúniRun* 6.5; WG *nalunáipoq, nalunaerqut* 6.5, 6.7, 6.8.1

naner-pâ, narn(g)úpâ FN 31

nanoq / nano 4.2.3 (3), du. *nánuk* FN 24b; pl. *nánut* FN 1, FN 24b; *nánu-g-poq* FN 41, *nán-erivoq* 4.2.3 (3)

K *nangertoq* /naŋəχtuq/, *nangerangauq, nanginghauq*, Ch *naŋátərúRaqaq* FN 34

nangmag-pâ, nangmaut, nangmautaq 4.3.1, FN 40

Ch *nâŋnaq* 2.3.0

napavoq 1.2.2.4; *napa-juarpoq* FN 39; *náparpâ*, Ch *napaχtaqâ* 1.2.2.4, 6.5, FN 39; WG *náparqut* 6.5

nâpîpâ, nâpîsimavât 6.7.2

nâq, pl. *nássat* 2.5, 4.1.1; L *nâk, nakset*, WG *násserivoq*, L *natserivok* 4.1.1

K /na'qa'/ *nâkai, nakioq* 6.7.1

naqîpâ, naqitsivoq, naqitsit 6.6.1; *naqitarâ, naqitarivâ* 6.3; *naqitarssivoq* 6.3.1, *naqitarut* 6.3

nasaq, erg. *natsap*, pl. *natsat* FN 1

Ch *naɪpátaqâ*, N *nájpataqâ* 6.8.3

nâtisimavoq 6.7.2

(natseq) natsiaq, Ch *nazíRaq*, Sir. *načiRax* 8.2.2

nauja 1.2.1, 9.3 (37), 9.8 (66); Ch *naRuja* 1.2.1, 9.8 (66); Sir. *jaRəja* 9.3 (35), 9.8 (66); WG *naujáq* 1.2.2.1; Ch *naRujaRaq* 1.2.2.1, FN 20

nauvoq 1.2.1, 6.7.4, FN 3; K *naugoq* 6.7.2, 9.10 (73), FN 3; Ch *naɣwâquq* 1.2.1, 6.7.4, FN 38; K *naungan, naukan* 6.7.2; WG *nagguvik, naggorigpoq*, K *nauvik, nauqigtoq* FN 3

nâvdlugo, Thib. *návlugo* FN 3

-ni 2, 3.3.6, FN 41a

niaqoq, pl. *niarqut* 4.1.1, FN 28; EE *niaqoq* FN 28; Im., Unaaliq, Mainland *nasquq* FN 28, K *nasqoq* 6.8.3, FN 28; Chug. *naśqoq* FN 28; N *najquq* 6.8.3, FN 28; Ch *nâsquq* 4.1.1, 6.8.3; Sir. *iŋəqəx* FN 28; WG *niarq-era-oq, niarq-eri-voq*, Ch *nâsq-iqaquq* 4.1.1, 4.2.3 (1)

-niar-poq FN 41, Ch *-niR-* 2.3.0, Sir. *-niR-* FN 41

-nig-poq FN 41

nimeq 6.7.3, FN 31; erg. *nermup, ner(v)ngup* FN 31; Ch *námaq* 6.7.3, FN 31; erg. *nəmRəm* FN 31; WG *nimer-pâ*, Ch *nəmRáqâ* 6.7.3; *nermúpâ, nerngúpâ* 6.7.3, FN 40; Ch *nəmRûtaqâ* 6.7.3; WG *nermûssaq* 6.7.3, FN 40.

nipe, nipagpoq FN 41; *nipangiúpâ, nipangiússaq* FN 40

neqe, Ch *nəqa;* erg. WG *neqip*, Ch *nəqəm* FN 13; WG *neqi-lior-poq*, Ch *nəqə-liRaquq* 4.2.1; WG *neqínagpoq* FN 41

neriwoq 1.2.1, 5.2, FN 13; Ch *nəRaquq* 1.2.1, FN 13; WG *neri-guk* 8.3, *neri-ssoq* 6.7.3, FN 37; *neri-ssaq* FN 37; *nerri-vik* 5.2

-ner-poq 7.1

nio 4.2.3 (3), 9.3 (37, 40), 9.8 (66), FN 29; pl. *nîsut* 4.2.3 (3), FN 29; 4.sg. *níse* 4.2.3 (3); K *ero* FN 29; Ch *iRu* 9.3 (35), 9.8 (66), FN 29; Sir. *iRa* FN 29; WG *níseraoq, nîserivoq* 4.2.3 (3)

(niuver-poq) L *niuverte, niuvertik, niuverti-liarpoq* 4.1.6

nivag-pâ FN 14, FN 40; B *nivaktuq*, W *nüwaktoq, nuak'a*, Nun. *nəwaɣ-* FN 14; WG *niva-ut-aq* FN 40

K *nivo, nivû-liortoq* 4.1.7

-nka 3.5.0

Ch *-nkut* FN 45

nuia, nuiaq, nuissat, nuiss-erpoq 4.2.3 (3)

nujaq 2.5, pl. *nutsat* 1.1.0, 2.5; K Ch *nujaq*, Sir. *nujəx* 2.5

nûk, Ch *nuvuk;* WG *Nû-liarpoq* 4.1.6

nukaq, 4.sg. *nugke* 2.3.0; *nukagpiaq* Mck B W *nukâtpiaq*, L *nukáppiaq*, Thib. *nukapiak*, Ch *nukaLpiɣaq* 8.2.2

Sir. *nuLa* 9.7 (58)

nuliaq 1.2.2.1, 1.2.2.2, 2.4, FN 3, FN 23; pl. *nuliat* 2.4, FN 23; Ch *nuliq* 1.2.2.1, 2.4; erg. *nuliχəm* 1.2.2.1; pl. *nuliχat* 1.2.2.1, 2.4; Sir. *nučix* 2.4; 3.sg. WG *nulia* 2.4, FN 22b; K *nulerra* 2.4

nuna, nunap, nunat, 3.1; *nuname nunane* (loc. and 4.sg.) 2.0, 2.1; poss. *nunama, nunat, nunavit / nunarpit, nunagpit, nunavit, nunâ, nunâta* 3.1; *nunai* 2.3.0; *nunarput, nunarse, nunât, nunâta, nunartik* 3.1; Ch *nunami, nunani* (loc. and 4.sg.) 2.1; *nunavək, nunaxpək, nunavək* 3.1; B *nunakput, nunaksi, nunating* 3.1; WG *nuna-lipoq* 4.1.8

norraq, Ch *nuRaq* 1.2.2

nutâq, nutaggarik, nutaggarigpoq 5.1.2

K *-ngauq/-ngkauq/-singauq; -ngaitoq* FN 34

-ngila- 4.3.3

Ch *-ŋ-inaq* 1.2.2

ⁱnguaq 6.8, FN 19; erg. *ⁱngûp* 9.1 (23), FN 19; pl. *ⁱnguit* FN 19; 3.sg. *ⁱngua* FN 22b; loc. *ⁱngua-me* FN 22a

B *pagga* FN 42

-pak, -pagpoq, Ch *-paɣ-* FN 41

palase, palasi-liarpoq 4.1.6

paler-pâ, patdlarigpoq 5.1.2

palu-voq 1.2.2.4, FN 3; *patdlorpoq* 1.2.2.4, FN 3; ptc. *patdlortoq*, K *palortoq* 1.2.2.4

B *pammu* FN 42

(pana) Ch *pana-vut, panazi, panajəŋ* 3.1; *pana-rāq, -rāRəm, -rāRət* 1.2.2.1, 1.2.2.2

panik 1.1.7, erg. *paniup* 1.1.7, 9.3 (37), pl. *panît* 1.1.7; 3.sg.pl. *punê* 2.3.0; 4.sg. *pâne* 3.5.2; Ch *panik, paniɣəm, paniɣət* 1.1.7

panerpoq, panertoq, pánarigpoq 5.1.2

(pârâ) pâra-lu-go FN 3

pærnaerut, N *paqnêRun* 6.3.4

patig-pâ 1.2.2.4, 5.2.2; Ch *patxaqā* 1.2.2.4; WG *patigfik* 5.2.2; *pátagpâ* 1.2.2.4, 1.2.2.5, 5.1.2, 5.2.2; *pâtagpoq, pâtagfik* 5.2.2; *pássúpâ* 8.3

Ch *patəmiɣaqā* 1.2.2.4

pateq 1.1.7, 6.3.4; erg. *parqup* 1.1.7; pl. *parqit* 1.1.1, 1.1.2, 1.1.7; Ch *patəq patχəm patχət* 1.1.7; WG *pater-pâ, pærq-ut*, Ch *patəχtaqā* 6.3.4

paor-poq, pautit, parrúpâ 6.3.2

pav- : *pavfa, pavane, pavna pavssuma pavkua;* B *pavva, pavani;* K *pavâne* 8.1.5; WG *(ta-g)pavane*, B *tatp-* 8.2.2

-pik/-vik 7.1

pik- : *pika, pikane, pinga pigssuma pigkua;* Cor. *piŋna*, W *pika;* Ch *píká, pikáni, pikna pikəxkut;* Sir. *pikna pixkəra* 8.1.2; WG *(ta-g)pikane*, L *tatpikane*, Cor. Mck B *tatpika* 8.2.2

K *piktoq*, Ch *pəxtáqā*, K *pikiun* /pəkjun/ "*pŭkyūn*" FN 36; *pikiutâ, pikiuts-i-oq* 6.7.4

pi-ler-pâ, pi-ler-sor-pâ 4.3.2

(pilerpoq) pilertorpoq 4.3.2

B *piñña* FN 42

pi-niar-poq 6.3.3; *pi-nerrar-dlug-poq, pi-nerrar-ig-poq* FN 41; *pi-ni-ut* 6.3.3, FN 41

pern(g)aq, Ch *pinRaq* FN 31

pêrpâ 4.3.2

pe-rqig-poq 5.1.2

pissut FN 29

pitdlarpâ, pitdlarqigpoq 5.1.2

pitugpâ, pitûtaq FN 40

pivdluarquvâ, pivdluarqu-ssi-voq, pivdluarqússut 6.7.

pugtavoq, pugtaqut 6.5

puisse, puissi-g-poq FN 41; *puissi-ngniarpoq* 2.3.0

pujor-sior-poq, pujorsiut 6.3.3

-poq, -puk, -put; -voq, ⁱ-puk, ⁱ-put 3.5.1

pôq 2.5, pl. *puggut* 1.1.0, 2.5

(puto), putuliût, putsiorpâ 4.2.3 (3)

K *puvoq*, Ch *puvuq* 6.7.3

qaivoq; qaigit, qaigitse; qarrît, qarrîtse 8.3; *qaerquvâ* 6.7, 6.8.3; B *qai-tqo-ga* 6.8.3; WG *qaerqu-ssi-voq, qaerqússut* 6.7, 6.8.3; *qaerqu-ssi-ner-a* 6.7

qajaq 2.5, 5.1, 4.1.7, 4.1.10; pl. *qáinat* 2.5, 4.1.7; Ch *qajaq*, Sir. *qajəχ* 2.5; K *qayarpit / qayavit* 3.1; WG *qajarigpoq* 5.1; *qáin-iorpoq* 4.1.7; *qâin-i-vik* 4.1.10; *qaja-lik*, K *qajalək* 4.3.2; WG *qajartu-tdlarqigpoq* 5.1.2

qajoq 6.6.1, FN 29; Ch *qajuq* FN 29; WG *qajûtaq*, Ch *qajûtaq*, Sir. *qajəR-ətáx* 6.6.1

qalipak, qalipagpâ, qalipa-i-voq 6.7.1

qalu-ssi-voq 6.7.4

qam- : *qáma, qamane, qavna qavssuma qavkua;* K *qamâne, qamina qamum qamkut;* Ch *qama, qamani, qāmni qamkut;* Sir. *qamamu, qamna qamkəra* 8.1.8; WG *(ta-r)qamane*, B *tatq-* 8.2.2

Ch *qamaxt-aquq*, prt. *qamaxtuq*, Sir. *qamáxtəχ* 6.7.3

K *qamorá*, Sir. *qamčəχtəqəχtəRá* 9.2 (30)

qamîpâ, qamitsivoq, qamitsit 6.6.1

Ch *-qamkən*, WG *-vavkit* 8.3

Ch *qamúq, qamúRaqā* 9.2 (30)

qaneq "kannek", du. /qannak/ *"kannek"*, *"kannæk"*, W *qäniq*, du. *qän·ɑk* FN 24b; K *qánerutá, qánerusingauq, qánerutsimauq* FN 34

qâq, Sir. *qačəχ* 4.1.2; WG *qáss-erpâ* 4.1.2

qáqaq, -ap, -at FN 16

qarraq FN 16

qasigiaq, Ch *qaziɣjaq*, Sir. *qačiɣjəχ* 8.2.2; WG *qasigiarniarpoq*, Ch *qaziɣjaRniRaquq* 2.3.0; *qaziɣjaRaq* 2.3.0

qatik, pl. *qagkit*, du. *"kakkik"*, pl. *"kakkit"*, W *qatik*, du. *qat·ɑk* FN 24b

Ch *-qātən*, WG *-vâtit* 8.3

qâtaq FN 16

qauma-voq, qáumærpoq FN 3; *qáumat* 8.2.1

-qaoq FN 3, FN 12; N Ch *-quq* FN 12

qav- : *qavfa, qavane, qavna qavssuma qavkua;* B *qava;* Ch *qawā, qawāni, qawxkut* 8.1.4; WG *(ta-r)qavane* 8.2.2

sisu-voq 6.7.4, 9.9 (67); N *sitôquq* 9.9 (67), Ch *stâquq*, prt. *stûmâq*, VN *stuLəq* 6.7.4; Ch *staRaR-*, Sir. *sitəRčaR-*, Ch *stâRâtaqâ*, Sir. *sitəRčax-təqəxtəx*, *sitəRčaR-iti-čəqəxtəx*, Ch *stâRaR-vik*, Sir. *sitəRčaR-vəx* 6.7.4

N *-sit-/-sisi-*, K *-cit-/-citi-*, Ch *-st-/-sti-* 6.7.1

N *situk* 9.9 (67)

N *sitóq* 9.9 (67)

K /+sqə/ "*skâ*" FN 39b; Ch /-sqə-/ "*-sqa-*", prt. *-sq-uma-*, N /-sqə-/ "*-ʒqa-*" 6.7.4

sujápâ, *suja-lárpâ* 4.3.3

sujo 9.6 (54, 55), FN 14; K *tsio*, Ch *sivu* FN 14; WG *sujugdleq*, Ch *sivuliq* 1.2.2, 2.4; WG *sujuleq* FN 40

sujorn(g)a, Ch *sivunRâni* FN 31

so, K *tsha* 4.1.5

su-liaq, K *tsha-liaq* 4.1.5

su-li-voq, K *tsha-li-oq* 4.1.5, 4.1.11; WG *sulí-ssuti-gâ*, *sugdlisit* 6.7

sungaq, *sungárpoq*, *sungárqigpoq* 5.1.2

supi-vâ, K *tshupâ*, Ch *sûpaqâ* 6.2; WG htr. *supi-ssi-voq* 6.3.1, 6.7.1; *súput*, Nun. *cupun* 6.2; WG *súpúpâ*, *súpússaq* FN 40; L *supórut*, *supôrusijarpoq* 4.1.9

-sor-poq, see *-tor-poq*

sorqaq 1.2.2, 2.3.2; erg. *sorqaup* 1.3.1; Ch *suqaq* 1.2.2, 1.2.2.1; *suqam*, *suqat* 1.2.2.1

Ch *sχápaγáquq*, *sχápaγútaqâ* 6.7.4

-ssar-poq / *-tar-poq*; *-ssæraoq/-æraoq/-taraoq*; N Ch *-(t)aquq*, Sir. *-čəqəx-/-təqəx-* FN 12

-ssi-, K N Ch *-i-* 6.7.1

-ssi-voq, *-ssivoq* 6.8.3

-ssuk, Ch. *-t-xu* 8.3

K *-shor-toq* / *-tshor-toq* 6.7.4

-ssut 6.0, 6.7, 6.7.5, 6.8.3

-t ("*-ut*") 6.0, 6.6.

'—t ("*-ut*") 6.0

ta- 8.2.2

ta-gpavane, B *tatp-* 8.2.2

ta-gpikane, Cor. Mck. B *tatpika* 8.2.2

K *tai-goq* 6.8.3, FN 34; Unaaliq ipv. *tai* 8.3; Ch *taγi-quq*, prt. *taγimaŋa* 6.7.2; ipv. *taγi* 8.3; K *tai-ngaitoq* FN 34, *tai-skâ* 6.8.3

ta-ikane 8.2.2

ta-imane, Ch *ta-zim-* 8.2.2

ta-kanane 8.2.2

tá-kigane, B *ta-tk-* 8.2.2

(takuvoq) ipv. *taku-guk* / *takúk*, *taku-si-uk* 8.3; *takordlûgaq*, *takordlûgkerssârpoq*, *takordlôrneq*, *takordlôrni-lerssárpoq* 4.1.4

taleq 3.1, 9.2 (28), 9.3 (36); B *taliq* FN 7, Ch *taLiq* 3.1; pl. B *taλλit* FN 7; 1.sg. WG *talera* 3.3.1, 5.1, 9.2 (28), Ch *taLiqa* 3.3.1, 5.1; 2.sg. WG *talerpit tatdligpit tatdlivit*, Ch *taLixpək taLixpək taLixpək* 3.1; WG *taler-pik*, K *tatler-pik* 7.1

tálutaq, L *tálutak* 4.3.1

ta-máne 8.2.2

(tanï-) N *tanáquq* 6.7.1, Ch *tânaqâ* 6.4, 6.7.1; htr. N *tanêquq* 6.7.1; VN Ch *tánə-Ləq* 6.4, 6.7.1; WG *tanípâ* 6.4; *tarn(g)ut* 6.4, 9.6 (57, 57ba)

Sir. *taŋaR-a* 1.2.1

N Ch *-taqâ*, *-taquq*, see *-aqâ*, *-aquq*

taqaq, Im. pl. *taRet* FN 2

K *táq-oq*, Chug. *tarquq*, Ch *táqaquq*; K *táqkan*, *taq-ngan* 6.7.2

-taraoq/-ssaraoq/-æraoq FN 12

tarajoq, Ch *taRjuq* FN 29

tarneq "*tarnek*", du. /taRnak/ "*tarnek*" FN 24b

Ch *taRnuχaq*, *taRnuχakək* 3.3.1

-tar-poq/-ssar-poq FN 12

ta-rqamane, B *tatq-* 8.2.2

ta-rqavane 8.2.2

tarraq 1.2.2, FN 16; *tarrípoq*, *tarris-ima-voq* 6.7.2

ta-samane 8.2.2

tatdlimat, Ch *taLimat* 2.4; Sir. *tasíməŋíj* 2.4, 9.7 (58)

B *ta-ugga* FN 42

tá-una 8.0, 8.2.1; *táussuma*, "*táursoma*", *táukua*, "*tâuko*", L *tâmna*, *tâpsoma*, *tâpkua*; Ungava *tanna*, *tatsoma*, *takkoa*; B *taamna*, *taavruma*, *taapkua*; K *tauna*, *taum*, *taukut*; Ch *tâna*, *tâm*, *tâkut*; Sir. *tâna*, *tačəma*, *tavəkara*; WG *tássa*, Mck *tagva* (etc.); K *toi*, *tua*, *toine*; Ch *táwa*, *tawáni*; Sir. *tava*, *tavəni* 8.2.1; WG *tássane* 8.2.1, 8.2.2; *taʃʃami*, *tassami*, *taʃmi*, *tasmi* FN 19b

K *-taurtoq* FN 39

Ch *ta-ziγna*, *ta-ziŋkut*, *ta-ziŋani* 8.2.2

Ch *ta-zima-kən*, *ta-zima-vək* 8.2.2

K *tigilig-toq* /təγlγ-/ 6.7.3

tigu-vâ, Ch *tuγáquq* 6.7.4, FN 38; WG *tigu-* 6.7.1; *tigumiaq*, *tigumisserpâ*, *tigumissivoq* 6.6.1

(tikípoq) *tikigit*, *tikítit*, *tikíssuk* 8.3; *cikiLLuta*, *cikiLta* FN 19b; *tikitsoq*, *tikítoq* 4.3.3, 6.7.3; K *tikitut* FN 34; WG *tikiúpâ*, *tikiússaq* FN 40; *tikiútoq* 6.7.3; *tikis-i-ngaitut* FN 34

tikeq, "*tikek*", du. "*tikik*" FN 24b

time 1.1.2; *timip* 1.1.2, 1.1.7, 9.1 (23); *timit* 1.1.7

(tingi-voq) K *tingoq* /təŋŋuq/, N *təŋuq*, Ch *təŋuq*, Sir. (*)*təŋčəx,təŋčəqəxtəx* 6.7.3; WG *tíngúpâ*, N *təŋútâqâ*, *təŋús-ê-quq* 6.7.1

Sir. *-tɐqɐχtɐχ*, see *-čɐqɐxtɐx*

-típâ, -titsivoq, K *-tsitâ/-tstâ*, N *-sîtâqâ*, Ch *-staqâ, -stiquq* 6.7.1

-tdlar-poq 5.1.2

-tsiaq 2.3, 2.3.0, 2.3.1, 9.1 (18), 9.3 (34), 9.7 (61); *-tsiaup* 2.3.1, 9.7 (61); *-tsiait* 2.3.1; *-tsé* 2.3.0, 2.3.2, 9.1 (18), 9.3 (34); NAl. *-tsiai* 2.3.0, 2.3.2; WG *-tsiâmut* FN 22a; Ch *-rāq* 2.3.1, 9.7 (61); *-rāRəm* 9.7 (61); Sir. *-raχ* 2.3.1

-tsivoq 6.7.3

-tsit 6.7.5

-tuarpoq, B *-tuaqtoq*, K *-taurtoq* FN 39

Ch *tuγāquq, -qā* 6.7.4, FN 38; *tuγutaqā, tuγús-imā* 6.7.2; see also *tigu-vá*

(tugto) Thib. *tuktu-si, tuktu-wut* 3.1; Ch *tuŋtu-ŋ-aquq* 2.3.0

tuluvaq, pl. *tulugkat*, L *tulugak* 2.5, 8.3

(tume) K *tummɐŋuuq* FN 4

tunivá, tunissoq, tuni-ssi-ssoq 6.7; *tunissut* 6.7, 6.7.5

(túngavik) túngavi-lerpâ, L *tungavilerpâ*, K *tusingavi-lerâ* 4.1.2

tupeq 4.1.9, FN 24b, FN 29a; *"tupek"*, du. /tuppak/ *"tupek"*, L *tupeq*, du. *tuppak* FN 24b; WG 2.sg. *tovqit*, 3.sg. *tovqa*; W *tuppaga, tupqin, tupqa, tuppega* FN 29a; WG *túp-issarput* 4.1.9

-toq 4.3.3; *-ťoq, -t-aq* FN 37

toqu-voq 5.2, 6.7.3, 6.7.4, 6.7.5; *toqussoq* 6.7.3; *torquvik* 5.2; *torquti-gâ, toqússut* 6.7; *toqúpâ* 5.2, 6.7.1, 6.7.3; *toqutsivoq* 6.7.1, 6.7.4; *toqutaq* FN 40; *toquvfik* 7.2; Ungava *torquti-, toqoguti* 6.7; K *toqun* 6.7.5; *toqûtâ* /tuquc-/ 6.7.1, 6.7.2, 6.7.4, FN 33; *toqûtsioq* 6.7.1, 6.7.4; *toqûtsimauq* 6.7.2; N *toqútâ* 6.7.3; Ch *tuqáquq* 6.7.4, *tuqutuq* 6.7.3, *tuqútaq* FN 40; Sir. *tuqáčɐx* 6.7.3

tôrn(g)aq FN 31; K *túneraq, tunerioq* 4.1.11; N *tunRaq* FN 31

K /+tuɣaγ/, see *-taurtoq*

-torpoq/-sorpoq 6.8.3

tusar-poq 5.1.1, FN 41; *tusarit, tusaritse* 8.3; *tusartoq* FN 17; *tusar-ner-poq, tusar-nî-poq* 7.1; *tutsaq* 5.1.1, FN 16, FN 41; *tutsarigpoq* 5.1.1, 5.1.2

tuve(q) 3.2, 9.3 (37); B *tui*, K *tusa*, Ch *tuja*, N *tujə* 3.2

-uarpoq FN 39

K /+$_1$uc/ FN 33, FN 36

ûgaq/ ûvaq 4.2.3 (note), 8.3; *úvkat* 4.2.3 (note); Ch *ukaq* 8.3

B *ta-ugga* FN 42

úg-pâ, ússerpâ, K *vigá* 8.2.1

ugpat, ugpánagpoq FN 41

ugssuk, Sir. *uγčɐx* 6.7.3

ujalo 9.6 (54), FN 14; L *ivalu* FN 14

WG Ch *ujamik* FN 14

ujarak, ujarqat 4.2.3 (2, note), FN 28; Ch *ujRák*; WG *ujarq-erivoq*, L *ujarkerivoq*, Ch *ujR-íRaqâ* 4.2.3 (2, note)

ujoruk, Ch *ujRú* 4.2.3 (2, note)

-uk 8.3

ukaleq, N *ukajiq*, Ch *ukaziq*, Sir. *ukačɐx* 1.2.2.1, FN 18; WG *ukaliaq*, Ch *ukaziRaχaq* 1.2.2.1

Ch *ukaliq*, Sir. *ukačɐx* 2.4

K *ukfar-toq, ukfaran, ukfaqan* 6.7.2

Ch *ukiniquq, ukiniq* 6.7.3

(ukioq) N *ukjuq*, Ch *uksuq*; WG *ukîvoq* FN 27

ulâput 6.2, 6.3.1; Ch *ulāpaquq*, WG *ulapipoq* 6.2

ulima-voq, ulímavik 5.2; Ch *ulímāquq* 5.2, *ulimāq* 6.7.3, *ulima<ma>ŋa* 6.7.2, *ulímavik* 5.2; *ulimastaqaŋa, ulimastiquq* 6.7.1, *ulimasta* 6.7.4; Sir. *učámačáqɐxtɐx* 6.7.2; *učɐma-čɐ-ŋ* 6.7.3, *učɐma-mɐ-čɐ-ŋ* 6.7.2, *učámasta* 6.7.4

-uma- 6.7.2, FN 35; K *-umauq*; Ch *-umāq, -umá* 6.7.2

umiaq 4.1.7, 4.3.2; *umîorpoq* 4.1.7; *umiatsiâmut* FN 22a; *umialik*, Ch *umîlək* 4.3.2; K *umyuar-tlugtoq* 4.3.4

umik, du. /ummik/ *"umik"*, /ummak/ *"umæk"*, *"ungmik"*, pl. *ungmit* FN 24b

K *-un / -tsun* FN 36

una, see *uva-*

unâq, unarrat 1.2.1, 2.5

uneq FN 24b, FN 31; *"onek"*, du. /unnak/ *"onæk"* FN 24b; erg. *ornup*, 3.sg. *orn(g)a*, Ch du. *unRak* FN 31

unerraq FN 16

K *unîtâ* 6.7.2; *unîtsimauq* 6.7.2, FN 34; *unisingauq* FN 34; Ch *unitaq-i-nkut* FN 45

N *unəxtaqâ, unəxs-ê-quq* 6.7.1

B *unna* FN 42

únuaq, únu-ivoq FN 27

Ch *uŋaziR-mi* FN 31

-úpâ 6.7.2, FN 40; *-ússaq, -utaq* FN 40

-utaq/-lutaq 4.3.1

upern(g)áq, Ch *upənRaq* FN 27, FN 31; WG *upernarpoq, upernivoq* FN 27

oqaq 1.3.1, 4.1.6, 4.3.4; pl. *orqat* 1.3.1, 4.1.6, L *Oqaq, Oq-iarpoq* 4.1.6; WG *oqa-lugpoq* 4.3.4; *oqalorqigpoq, oqatdlorigpoq* 5.1.2; *oqar-poq* 6.7.4; *oqáupâ* 6.7, 6.7.4, 6.7.5; *oqáussivoq* 6.7, 6.7.4; *oqáussut* 6.7, 6.7.5

orssoq 4.1.1, 4.1.2; K *oqoq*, Ch *uqûq*, Sir. *uqčɐx* 4.1.2; WG *orss-erivoq*, L *orqss-erivoq* 4.1.1; WG *orss-erpâ*, L *orkserpa*, K *oq-erâ*, Ch *uq-íRaqâ* 4.1.2

use; usiaq, usiat FN 23

ALEUT

ADDENDUM: The Chicago Conference Papers.

Upon completion of the main manuscript, I received the congress report "Papers on Eskimo and Aleut Linguistics" (Hamp 1976). The following individual papers of the volume are of relevance to problems discussed in the present paper:

1. Alvin Gearley's paper "Epenthesis, Metathesis and Assimilation in West Greenlandic" (p. 22-42) could have been of decisive importance, had its solutions been realistic. To Gearley, *amiq* 'skin', *qiŋaq* 'nose', and *aluq* 'sole' are underlyingly **am + qi*, **qiŋ + qa*, **al + qu* with three different suffixes of unknown function added to otherwise unknown word-stems, a circular solution designed only to obey the rules specifically formulated to apply to such structures. The decisive rule is here one of metathesis of *+qi → +iq* (and *+qa → +aq*, *+qu → +uq*) in word-final position, e.g. **am+qi → am+iq = amiq*. In inflected forms, assimilation is assumed: *am + qi + t* → pl. *ammit*. In *ujarak*, pl. *ujarqat*, a suffix *+ka* is said to have been metathesized to *+ak*. Now, the Esk. morpheme of 1.sg. possessive was exactly *+ka*, which is *not* metathesized, cf. Chap. *nuna-ka* 'my country'. This means that not even the reservation expressed in a note (p. 41), "I would now claim that most of the rules of this paper are morphological, rather than phonological", can save any of the solutions proposed in the paper. — One minor point may be noted: WG *âq* 'sleeve', pl. *atsit*, which C. finds himself unable to analyse (p. 42), is, of course, simply Proto-Esk. **ajiq*, pl. **ajjit*, cf. Thibert's *"aek"* (Barrow *asiq* is a back-formation from the pl.).

2. D. Gary Miller: Reconstruction in the Eskimo-Aleut Verbal System (p. 179-201) gives the consonant of the indicative morpheme (WG *-voq/-poq*) as *zero*, taking the actual /-v-/ as a glide, and the allomorph /-p-/ as a development from this **-v -*. In this, as elsewhere, he simply disregards the problem of gemination (as his footnote 5 on p. 189 in fact expressly states for WG *táko* 'sight', i.e. /takku/, which is consistently treated as if it were simply /taku/): If Labrador *malikpoq* 'follows' is /malik-wu-q/ (M., p. 189) why then does the same morpheme in /akivuq/, /akipput/ geminate as a *#p#*?

3. Osahito Miyaoka's paper "Word-Initial Differentiation in Western Eskimo" (202-210), treating of underlying /iV-/ and /uV-/, is interesting in that it arrives independently at the reconstruction **iñuk* of the word for 'human being' given in my footnote 29, a very gratifying agreement of views, indeed.

4. Robert Petersen: On the Phonological Length as an Element of Expression in the Eastern Eskimo Dialects (p. 211-220) is a condensed version of his 1969 paper already discussed in footnote 1.

5. Robert Underhill's long expected paper on "Noun Bases in Two Eskimo Dialects: A Study in Comparative Morphophonemics" (239-271) has a few

interesting statements on anaptyxis. The difference between the two uvular-stem types, (1) *arnaq arnap arnat* without anaptyxis and (2) *sorqaq sorqaup sorqait* with the same anaptyxis as velar stems, is said to lie in the stem-final consonant: for type (1) the underlying form is set up as /arnaq/, for type (2) as /surqar/. Rules of Q-deletion (and gemination, where possible) and lack of anaptyxis apply therefore only to type (1). The rules in fact explain the material selected for investigation, but they are easily refuted by a glance at the language as a whole. As the paradigm *mêraq* 'child', pl. *mêrqat* proves, there is no deletion of intervocalic /q/, not even after non-first vowel mora, where it is merely lenited to East Eskimo /R/: /miiRaq/, /miiqqat/ is from Proto-Esk. **miCiqaq*, **miCiqqat* (where C is a voiced spirant). Furthermore, Underhill's /-r/ does not explain the constant geminate in the uninflected forms of the type *sorqaq*, *marraq*, *norraq* etc., and not at all the intrusive /-a-/ of *inaq*, both of which phenomena are regularly triggered by my *-γR of section 1.2. — Another point of interest to the present study is the problem of underlying vs. anaptyctic shwa, a decisive difference in the development of ergatives like (1) **ciγutə-m* > WG *siutip* 'ear' vs. (2) **iRn°R°m* > WG *ernerup* 'son'. This difference is explained by Underhill (p. 266) as governed by the underlying position of the morpheme boundary: "/siutə+p/" vs. "/irnər+əp/". As a diachronic solution, this is of course unrealistic.

Travaux du Cercle linguistique de Copenhague.

Published by The Linguistic Circle of Copenhagen.
Distributed by C. A. Reitzels Boghandel A/S,
Nørregade 20, DK–1165 Copenhagen K, Denmark.

Vol. V. Recherches structurales 1949. Interventions dans le débat glossématique (1949). 2nd ed. 1970. 307 p.

Vol. X,1. *H. J. Uldall:* Outline of Glossematics. Part I: General Theory (1957). 2nd ed. 1967. 92 p.

Vol. XI. La structure classique de la civilisation occidentale moderne: Linguistique. (= Acta Congressus Madvigiani vol. V). 1957. 235 p.

Vol. XII. *Louis Hjelmslev:* Essais linguistiques (1959). 2nd ed. 1970. 275 p.

Vol. XIII. *Jacob Louis Mey:* La catégorie du nombre en finnois moderne. 1960. 149 p.

Vol. XIV. *Louis Hjelmslev:* Essais linguistiques II. 1973. 278 p.

Vol. XV. *Louis Hjelmslev:* Sprogsystem og sprogforandring. 1972. 159 p.

Vol. XVI. *Louis Hjelmslev:* Résume of a Theory of Language. Edited and translated with an introduction by Francis J. Whitfield. 1975. 280 p.

Vol. XVII. *Peter Harder & Christian Kock:* The Theory of Presupposition Failure. 1976. 72 p.

Vol. XVIII. *Jens Elmegård Rasmussen:* Anaptyxis, Gemination, and Syncope in Eskimo. 1979. 152 p.

Vol. XIX. *Una Canger:* Five Studies Inspired by Nahuatl Verbs in *-oa* (In press).

ISBN 87-500-1877-9