An Introduction to
West Greenlandic

Stian L. Lybech

version 1.3

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July 20, 2020

v. 1.3

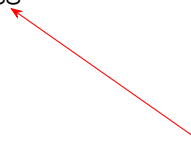|	
Typesetting:	X͡ͅTEX engine
Font:	11pt TEX Gyre Schola, Charis SIL, Lukas Svatba
Illustrations:	Ti*k*Z

First edition (v. 1.0)   August 19, 2019

To cite this work please use *both* the year *and* the version number (v. 1.3), that also appears on the front page. Correspondence about this work should be addressed to the author at `stianlybech a-jusaq gmail naggat com`.

This means 'at' in Greenlandic

And this means 'dot'

Contents

4 The spoken word 53

My notation for pronunciation strictly follows the rule of 'only one sound for each symbol.' In this chapter I describe the sound represented by each of these symbols, as well as the notions of a place *and* manner *of articulation;* voice*; and the* weight *of a syllable which determines its* pitch.

5 The written word 73

The last transformation, from speech to writing, is almost already complete, since I chose my notation for pronunciation to be as close to the new orthography as possible. Thus, in this short chapter I only describe those cases where the new orthography deviates from the rule of using one and only one symbol for each sound.

6 Special sound and sandhi processes 83

The previous chapters described the general sound and sandhi processes. However, especially noun stems may *display a few extra oddities with certain endings and affixes, including* nasalisation, metathesis, gemination*, and* replacivity. *To explain these, I introduce the important notions of* strong *and* weak q-stems *for nouns. There is also a special class of verbal stems, the* ut(ə)-stems *which behave as either vowel or consonant stems, depending on context.*

II Endings 109

7 A play on words and endings 111

I present an overview of the system of endings for verbs and nouns in Greenlandic and introduce some common terminology for describing endings, such as mood *and* case*, and the very important notions of grammatical* persons*,* valency *of verb stems,* transitivity *of verbs and* possession *of nouns.*

8 Nominal endings 125

I introduce two important sets of personal markers *for absolutive and ergative, used to form possessive endings for nouns in all the eight cases; alone in the two grammatical cases, and in combination with six* prepositional morphemes *in the six prepositional cases. I then describe how*

the prepositional cases are verbalised. *Lastly, some stems display variation w.r.t. how endings are added onto them; to capture this I introduce two major subdivisions, the* p-declined *and the* up-*declined stems.*

9 Verbal endings 149

I explain the system of intransitive and transitive endings for all moods. Some moods can only be used with specific combinations of persons, and I introduce the important notion of co-reference *to explain some of the gaps in moods.*

III Appendices 187

A The system of demonstratives 189

Greenlandic has twelve demonstrative roots *used in expressions where you need to indicate some direction. From these twelve roots, hundreds of lexicalised particles have been generated. They function as* adverbs, pronouns *and pure* exclamations. *In this chapter I describe the underlying patterns in these many forms.*

B Ordering affixes 207

Sometimes affixes can appear in different order, yielding words with different meanings. In other cases, reordering would yield meaningless words. In this chapter I describe both a simple and a more complicated heuristic for ordering affixes within a word. The latter is based on grouping affixes into certain categories, *and I also provide a list of the affixes belonging to each group.*

Annotated Bibliography 251

Preface

Dear reader!

If you want to learn Greenlandic – *Kalaallisut* – then this book is for you. Even if you already know the language, you might still find something of interest within these pages. But let me state it clearly here at the outset: This book is *not* a course-book in Greenlandic, nor a traditional grammar. It is an attempt to describe the *rules and regularities* that pervade the language, written by someone (namely me) who has learnt the language and discovered for himself the usefulness of these rules. My hope now in setting them forth in this book is that you too will find them useful.

About the book (and the author)

That's me!

I came to Greenland in 2010 with (amongst other things) a clear intention of learning Kalaallisut. This clear intention led me to try all the usual tricks and techniques I had been taught in school for how one *usually* learns a foreign language: I tried reading books about Greenlandic, books *in* Greenlandic, and even newspapers and road signs. I listened to the language, to music, to the news; I tried to memorise some common phrases, and I worked my way through some of the self-study materials usually recommended to foreigners, available in the bookshop and the library. In short, I tried very hard for about a year, and achieved very little.

And so I began to doubt myself. *Could it really be the case that I should be unable to learn this language? I, who had learnt both English, German, Spanish and Latin in school? What a disconcerting thought! No, that could not possibly be the case. Ah! It must be* the language *that is the problem. Surely, this language is* so *alien and difficult that it will require a super-human effort to learn, as obviously evidenced by the fact that no one else (apart from the native speakers!) seems to have managed to learn it either. Clearly, it is hopeless…*

Many of the books I own are filled with my scribbles in the margins, and thus I could not resist the idea of also occasionally adding a few lines in a book written by me. This also provides me with a way of commenting on my own way of presenting the material. You may ignore these scribbles or see them as mere ornamentation on the page, or you can read them to get an impression of my thoughts at that point of writing. This is, of course not my real handwriting, but people who know me will probably say that it is not far off.

I doubted myself. Then I doubted the language. However, it did not occur to me to doubt *the method* I was using – most likely because I was not even aware at that point in time that I was applying a particular method to the problem of learning Greenlandic, or that there even might *be* other ways of doing it. The turning point for me came, when a friend showed me a slim and somewhat tattered book he had found in the local library; it was Per Langgård's *Forsøg til en forbedret grønlandsk pædagogisk grammatica* (Langgård, 1997a), and I had myself, in fact, seen it in the library on a previous occasion, and cursorily flipped through its pages, but ultimately deciding that I would not bother borrowing it, because *surely* such a complex language as Greenlandic could not *possibly* be adequately described in so few pages. Instead I had opted for Stig Bjørnum's voluminous grammar (Bjørnum, 2003) with its endless tables of endings *ad nauseam* – more than fifteen hundred! – which (in hindsight) probably did as much to dishearten me as my lack of progress with all other methods combined.

The moral of this anecdote is that less sometimes *is* more: In his book Per describes a few, general rules for sound changes in the language, that (amongst other things) are responsible for generating the myriad of endings found in Bjørnum's grammar. The pattern was there all along, but rather than emphasising it, Bjørnum (and many other authors of books on the Greenlandic language) have obfuscated it completely by their insistence on showing only the generated forms, and not the *rules* that generated them.[1] Per's book provided me with the first stepping stone into the language, and the present book surely owes much to his work, although I have expanded on it and also draw on many other sources. You can find a complete list of these on page 253.

Much later, a friend and I taught Greenlandic grammar in an evening class for adults, and, like others before us, we felt that none of the available teaching materials quite suited our purposes, so we naturally decided to write our own.[2] It became a condensed compendium of everything we could think of concerning Greenlandic grammar, filled with abstruse technical terms. It was quite unreadable. No wonder that our students complained! *"Do we really have to know all this stuff about 'sound rules' and 'polysynthesis' to learn Greenlandic? Can't you just teach us some phrases about going to kaffemik[3] or going shopping?"* This taught me another valuable lesson: There is no point in writing a book such that the intended audience cannot read it.

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[1]If you have no idea what I am talking about here, then do not worry; you will see soon enough.

[2]I sometimes wonder how many Greenlandic grammars and self-study materials actually came about in this way.

[3]The word 'kaffemik' is used for almost any kind of celebration where Greenlandic food and an abundance of cakes are served – and, of course, coffee. There is something quite hobbit-like about this aspect of Greenlandic culture.

I call this kind of technical language *'Grammaric'* – like 'Greenlandic' – because it really *does* seem like a whole new language one has to learn, in order to learn Greenlandic. But, as one of my frustrated students also once remarked, it surely ought not to be *necessary* to have a degree in linguistics just to learn Greenlandic! And so I began to wonder if it would be possible to present the material in a more natural style, using ordinary, everyday language; a book that could be read by anyone without special prerequisites, but, equally importantly, also without making the presentation superficial. Thus my experience with teaching Greenlandic led me to begin writing a new book, which I named *Grønlandsk Grønspættebog for Flyfriske Danskere* (a quite untranslatable title) or GGFFD for short. It was written in a light, informal (sometimes even silly) style, and based on one central tenet, of which I also hope to convince you during the course of the present book: That *Greenlandic is a highly* regular *language, and thus also* easy *to learn. In fact, it is so regular that one might even construct an* algorithm *for generating the language.* You can think of the present book as just such an algorithm, given in a natural language.

I never quite got around to finishing the GGFFD – at least not as of the present time of writing, although a number of people have read the manuscript at various stages of completion. However, it still survives in the form of the present book, which is really just a translation, update and abbreviation of the GGFFD. It occurred to me that there are very few accessible sources about Greenlandic available to people who do not happen to know Danish: Any non-Dane wishing to learn Greenlandic would likely need to firstly learn Danish in order to be able to read the books (written mostly in Grammaric!) about Greenlandic – a bootstrapping process that surely will deter many from ever even attempting. And thus I decided that rather than simply revising the GGFFD-manuscript, I might just as well also translate it into English.

About you (and the book)

As I stated at the start of this chapter, this book is not a course-book – you should not expect to learn Greenlandic just by reading it – but I do hope you will find that you can use this book together with whatever self-study or course materials you have access to; as a source of heuristics and *explanations* for the structures in the language. From what I experienced during my first year in Greenland, these kinds of explanations are precisely what is often *missing* from most of the available self-study materials. Instead they must be sought out in obscure, and often quite old grammars – the oldest one I have is Christian Rasmussen's **Grønlandsk Sproglære** (Rasmussen, 1888), written in blackletter font

– and always filled with abstruse Grammaric terminology, because these books were not written for the common man, but for learned academics, who seemingly have a preference for dreariness and convoluted sentence-construction.

In contrast, this book is not meant as an academic exposition on the Greenlandic language or grammar – I have read quite a number of those, and in my opinion they all suffer from the same great deficit: They are unreadable by ordinary people who just want to learn the language without having to look up every other word on Wikipedia. And thus we come to my assumptions about *you*, the reader, to whom I write. You may, of course, be nothing like the ordinary 'average Joe' who abhors theoretic meanderings and just want to get on to 'the practical stuff' of learning some words so you can start *using* the language – you may even have a deep interest in languages (and you probably do, since you are reading a book about an obscure language with only some fifty thousand of speakers) – but (recalling my disheartened students) I have nevertheless decided to *assume* that you do not have a background in linguistics, nor that you have any particular knowledge about grammar in general, other than what is normally taught in school. Of course, you *may* have, and therefore find some of my explanations tedious, but then you will probably be able to skip lightly over those parts. Furthermore, I shall also write directly to you, as if we were having a conversation, and in general try to avoid the dreary and artificially impersonal academic style that effectively puts most ordinary people to sleep.

In fact, during the course of writing, I have tried to imagine you sitting aboard the plane to Kangerlussuaq and reading this book: It is a four hour flight from Copenhagen, and since it is mostly over sea there is little of interest to see from the windows, except sea, sea and some more sea. Iceland provides a brief break from this monotonic vision, and then there is nothing but sea again, until you suddenly reach the mountains on the east coast of Greenland. Thence the monotonic blue is replaced by monotonic white that stretches on for about another hour of flight, before you finally reach Kangerlussuaq on the west coast. In other words, there is not much to do aboard the plane, and what better way to pass the time then, than by reading a book about the Greenlandic language?

These assumptions may of course be completely wrong without affecting your ability to read and use the book, but I found that it made the writing easier – especially with respect to the level of detail and amount of explanation – if I imagined you to be essentially in the same situation that I was in, when I first came to Greenland in 2010. I have since then pondered, how different my experience with learning the language would have been, if I had begun by reading a book that clearly explained to me how different Greenlandic is from all the European languages I had previously learnt; pointed out the common pitfalls, and in general given me *some advice on how I should go about learning the language*.

x

This is precisely what I have attempted to do with the present book: To write an introduction to Greenlandic that I believe I would myself have found both useful and enjoyable to read, when I sat aboard the plane, back then in 2010. How well I have succeeded, though, will be for you to judge.

Organisation of the book

Presently, the book consists of two parts which should be read in the order in which they appear: Part I describes the fundamental rules for sound changes and word-formation in West Greenlandic that create the myriad of word forms. Part II describes the system of endings for nouns and verbs. Greenlandic has a quite large number of such endings; approximately five hundred – or *fifteen hundred* according to Bjørnum (2003) and others. However, there is a relatively systematic pattern in the form of these endings, and in this part I explain how you can derive these many endings (no matter how you decide to count them) from a small set of just around 60 'building blocks.'

Throughout the book I use three differently coloured boxes to aid me in this presentation, as you can see in figure 1.

> **DEFINITION 0.1:**
>
> This is a definition; usually of some important concept or rule. *Never* skip these.

> **EXAMPLE 0.1:**
>
> This is an example. Throughout the book I provide a number of examples of the usage or application of some rule or principle. These examples will also often contain a small glossary; you should make a note of these – perhaps on a sheet of paper – and use them to expand your own vocabulary.
>
> You *can* skip these if you think that the definitions and explanations were perfectly clear.

> **ASIDE 0.1:**
>
> **This is an aside**
>
> I use asides to add some further context to a subject, for instance to comment (often quite irreverently)[a] on the courses, exercise books, grammars and other self-study materials commonly used in the teaching of Greenlandic as a foreign language. They reflect my own, personal opinion, and are typically based on reflections on my own observations and experience with learning Greenlandic, during that aforementioned first year where I tried very hard, and achieved very little. I now understand better *why* that was the case, and my purpose with the asides is often to try to convey this insight to you.
>
> You can safely skip these.
>
> ---
> [a]And I shall undoubtedly be doing some people an injustice here. Sorry.

Figure 1: My colour coding scheme for definitions, examples and asides, in descending order of importance.

Part I

Words
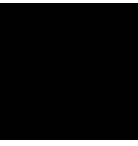
The units of meaning

If you know nothing about Greenlandic, then you might think it odd that I should devote several chapters just to the topic of *words*. After all, are they not merely bits of language that you have to memorise and gather in your mental dictionary – as many and as quickly as possible – such that you can get on to the *real* task of parsing and constructing sentences? How much can there be to say about words?

Quite a lot, it turns out, because Greenlandic is very different from all the Indo-European languages like English, German, French etc.: Greenlandic is a *polysynthetic* language, which means that words are constructed on-the-fly by the speakers. This in turn implies (amongst other things) that there are *infinitely* many words in Greenlandic, just as there are infinitely many *sentences* in e.g. the English language – a single Greenlandic word can correspond to a phrase or entire sentence in English. Thus it is obviously hopeless to try to learn the language by merely memorising *words* – imagine attempting to learn English by memorising e.g. every sentence in the collected works of William Shakespeare! Instead, you need to learn the *rules* for constructing words, and how to take words apart again to find their basic building blocks.

1.1   Problems posed by polysynthesis

As I said above, polysynthesis means that words are *constructed:* They are composed of a set of 'building blocks' – called *morphemes* in Grammaric – strung together in a particular order. Example 1.1 should give you an impression of

EXAMPLE 1.1:

The word *inuusuttooqqissuusaalaarallarlanga* is split in the following way:

inuusutto	o	qqis	su	usaa	laa	rallar	langa
young	is	again	one who	act like	a bit	for a while	let me

If you think the 'translation' of the individual bits does not quite make sense, then try reading it in reversed order; that is, from right to left. The word means something like: *"Let me just for a while behave like I'm young again"* – a word I found on a friend's Facebook page, so this is an actual word and not just a contrived example – and within a Greenlandic word the order of the 'building blocks' is almost exactly the reverse of the word order in the corresponding English sentence.

what this looks like. It also illustrates a number of problems you face, if you want to learn Greenlandic:

1. The *order* of the morphemes within a word: As you can see from the example, the internal order is almost the reverse of what you would have in an English sentence. It is not random; you cannot simply string the morphemes together in any order you like. In some cases a reordering of the morphemes will change the meaning of the word, but, in most cases it will just turn out to be gibberish. Fortunately, as you will see later on, the ordering is governed by a few, simple and quite intuitive rules.

2. The *form* of a morpheme: In example 1.1, I said e.g. that the segment -laa- is a morpheme that can be translated as 'a bit' (or 'a little' perhaps). However, this morpheme can also have the form -laa**r**- depending on the *context* – that is, depending on the surrounding morphemes. In general, a sound may deleted or (less commonly) inserted at the boundary between any two morphemes in a word. Whether and when this happens can be determined either by the morphemes themselves – some morphemes will always delete a preceding consonant, whilst others will inject one if the previous morpheme ends in a vowel – *or* by a set of 'sound laws' that govern the structure of syllables in the language. The former is something you need to remember for each new morpheme you learn, along with its meaning, spelling etc., whilst the latter (in this case) amounts to a single,

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exceptionless rule: *A consonant cluster can* at most *consist of two conso-nants.* Easy, right? Look at the word in example 1.1 again; there are never more than two consonants standing side by side.

3. The *sounds* in a morpheme: In example 1.1 I translated the segment -o- as 'is' (or 'am' or 'are' – there is no distinction in Greenlandic). This is true, but it is not the *whole* truth, since this morpheme could also be spelt -u- or -a- depending again on the context. For instance, 'I **am** a Dane' (or 'I am Danish') would be *qallunaaju̲vunga*, whilst 'I **am** a man' is *anguta̲avunga*. It *is* the same morpheme in all three cases, but it is pronounced differently depending on the context, and thus also *spelt* differently, because the Greenlandic orthography was made to reflect pronunciation.[1] This is precisely one of the reasons why it is exceedingly difficult to learn Greenlandic just by *listening* to the language – the bits that *mean* the same do not at all *sound* alike!

1.2 Morphemes and phonemes

The purpose of the previous paragraph was (amongst other things) to hopefully convince you that you cannot learn Greenlandic by merely memorising words. How often would you expect to need a word like *inuusuttooqqissuusaalaarallar-langa* (unless you happen to be writing a book about Greenlandic)? Probably never. But you would certainly often need some of the *morphemes* used within it, like for instance the one meaning 'is.' This however poses a new problem: Since the morpheme can take three different forms, -u-, -a- and -o-, which form should you learn? All three of them? Many morphemes can have three or four different forms (and some even more), so if you were to learn *all* forms of every morpheme *and* remember in which context to use each of the forms, you would likely soon run out of memory (or go mad).

As another example, consider the words *sinik**kusup**putit* (you **want to** sleep) and *ise**rusuk**kuit* (if/when you **want to** enter). The highlighted segments are actually the same morpheme, but at first glance they look very different. However, these *sound changes* are extremely common in Greenlandic – they actually happen almost every time two morphemes are joined. Thus rather than writing both -kusup- and -rusuk- (and the countless other forms this morpheme can take) I will instead use a kind of *base form*, written in curly braces {-}, whence

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[1] Actually there are *two* official orthographies for Greenlandic. The one I employ throughout this book – because it is the most commonly used – is called 'the new orthography' and was introduced in 1973, but the 'old orthography' made by Samuel Kleinschmidt around 1800 has never been officially abolished, and some still prefer to use it (including me, as you will later see).

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you can *always* derive the correct form a morpheme should take in any context, by applying a small set of *sound rules*. For example, I will henceforth write the morpheme meaning 'want to' like this: Vb{(q)gusuk}Vb. The purpose of this and the following chapters is to introduce this notation and the sound rules, and show you how to use them. Aside 1.1 contains some further comments on the problem of how to represent morphemes.

Thus far I have also been using this fancy Grammaric term 'morpheme' as a kind of short-hand for 'word building-block' but without saying clearly what it is: A morpheme is an indivisible *unit of meaning*. All words are made of morphemes – even words in English. Consider an expression like "The dog's tail." It contains four morphemes, that is, four units of meaning:

<div align="center">

{the}   {dog}{s}   {tail}

definite article

dog (noun)   tail (noun)

genitive/possession

</div>
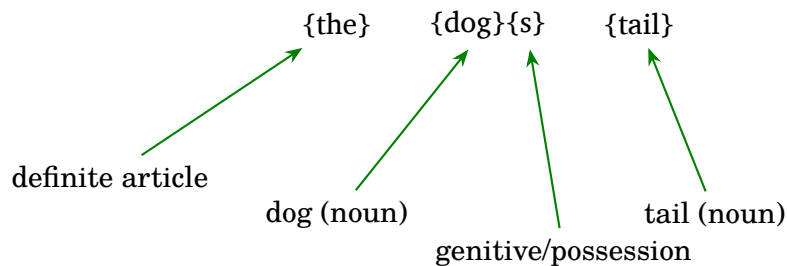
As you can see, each morpheme is a unit of meaning, and, incidentally, the only word with more than one morpheme pr. word is 'dog's', because the final 's' is in itself a morpheme marking the dog as the owner (or *possessor*) of the following noun – its tail. Thus you can also see that a morpheme does not have to be a syllable; it can be multiple syllables or a single sound, or even *the absence* of a sound. This is also the case in Greenlandic, where morpheme boundaries in general do not coincide with syllabic boundaries. But as you can see, morphemes are not unique to polysynthetic languages; the difference between a polysynthetic language like Greenlandic and a language like English lies in the *ratio* of morphemes to words. In the example above there was only one morpheme per word, except for 'dog's' that had two, but in a polysynthetic language you have a *high* morpheme-to-word ratio; 5-6 morphemes per word is certainly not uncommon in Greenlandic.

Another point concerns my use of the word *indivisible:* In some cases a certain combination of morphemes has attained a special meaning that cannot be unambiguously determined from the parts alone. Consider e.g. a word like 'football' from {foot} and {ball}; this could hypothetically also mean for instance a ball made from the foot of something, but instead it has become 'frozen' – or *lexicalised* in Grammaric parlance – as a word referring to a certain kind of ballgame, or the ball used in the game. Such words also exist in Greenlandic, e.g.

ASIDE 1.1:

How to make a Greenlandic dictionary

I am certainly not the first to propose a notation for morphemes; on the contrary, it can often seem like every author invents his own notation. The problem especially pertains to *dictionaries;* since there are infinitely many words, a dictionary cannot be a list of *words* like in e.g. English – it must be a list of *morphemes*. But since morphemes, as you have seen, can adopt very different forms, a choice must be made: Should all forms be listed as separate entries, or only one 'canonical' form? And in the latter case, which form should it be?

The currently most popular dictionary, DAKA,[a] is based on the new orthography. It has adopted the first approach and lists all forms, but always using the same ending (the 3rd person, indicative). Thus you would find -rusuppoq, -kkusuppoq for the morpheme I write as Vb{(q)gusuk}Vb. I find this choice particularly stupid, because it repeats information and doubles (or triples) the number of entries. Furthermore it makes the dictionary almost *useless* for someone who wants to learn the language, because the entries only show, in a rather implicit fashion, when each form should be used.

A very different approach is taken by Fortescue et al. (2010) in their *Comparative Eskimo Dictionary*: Here entries are given in a reconstructed language called 'proto-eskimoic' that supposedly diversified into the current inuit languages, and thus the morpheme Vb{(q)gusuk}Vb is here listed as 'yuɣ'. This dictionary is without any doubt the most useful, despite the quite abstract notation with many uncommon symbols. Sadly, it is also quite rare, and thus also expensive.

My own morpheme notation is sometimes quite close to the one used by Fortescue et al. (2010), albeit adapted specifically to Greenlandic, and by learning it you might even find that you will also be able to decipher words from some of the other inuit languages, like for instance *Inuktitut*. The idea of adding join-markers 'Vb' and 'N' around the braces is, however, from Langgård (1997a), although I have expanded on its usages. Langgård (1997a) also adopts the approach of using one 'basic' form for each morpheme, albeit with a somewhat different notation, that in some cases also carries slightly less information than mine.

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[a]'DAKA' is an acronym for 'Dansk/Kalaallisut.' Incidentally, in Denmark it is also the name of a destruction facility for dead farm animals. The two are presumably unrelated. You can find the DAKA dictionary online at `http://www.ilinniusiorfik.gl/oqaatsit/daka`

inuusuttoq (a youth/young person) from {inuk}N (human), N{-u}Vb (be), an ancient morpheme Vb{cuk}Vb with unclear meaning, and lastly Vb{ðuq}N (someone who). In cases like this I shall treat the whole combination as a single morpheme and thus write {inuucukðuq}N instead of the individual bits.

You might now be wondering about this strange-looking glyph `ð' I used just before in the morpheme Vb{ðuq}N. Indeed, words are built from morphemes, but of what are morphemes themselves made? Or posed differently: What do the letters/symbols/glyphs *represent*? The answer, of course, is that the symbols represent *sounds*, just like letters usually do in writing.[2] However, since sounds can change (greatly) within a morpheme depending on the context, we must have that each symbol can represent a *group* of sounds, rather than just a single sound – each symbol is an abstraction from this variation. To put it differently, *every* symbol within a morpheme – that is, within the curly braces in my notation – are *placeholders* for a sound; they each denote that "in this position I occupy shall *one* of the sounds that I represent be inserted, when the word is to be pronounced." Such an abstraction over a group of sounds is called a *phoneme* in Grammaric, and when I speak about a phoneme or a string of phonemes, I shall write them between slashes, /-/. For instance, the phoneme /ð/ can take either an sh-like sound [ʃ] (like in the word '**sh**e') or a d-like sound (like in the word '**d**oor') as well as a couple of other sounds. How exactly this sound is selected is not important here; it is determined by the *sound rules* that I describe in detail in chapter 3.

1.3   Levels in the language

Morphemes, phonemes and sound – or, perhaps more properly, *pronunciation* – these concepts are so important in Greenlandic that I use three different sets of delimiting symbols to distinguish between them: Curly braces for the morphemes, forward slashes for the phonemes, and square brackets for pronunciation. You may actually consider them as three different *levels* in the description of the language, to which a fourth (and more recent) can also be added: *Writing*. When I want to emphasise that focus is on the way a word is *written* (or spelt), I shall henceforth use double quotation marks as delimiters, like "this".

Incidentally, these four levels also correspond to the four *stages in the production* of a word: When you construct a word in Greenlandic you start out by selecting the morphemes with the appropriate meanings from your mental dic-

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[2]This is, of course, only moderately true in English, where 'tough' rhymes with 'stuff' because they end on the same *sounds* although they are spelt very differently for no obvious reason. This is one of the great absurdities of the English language.
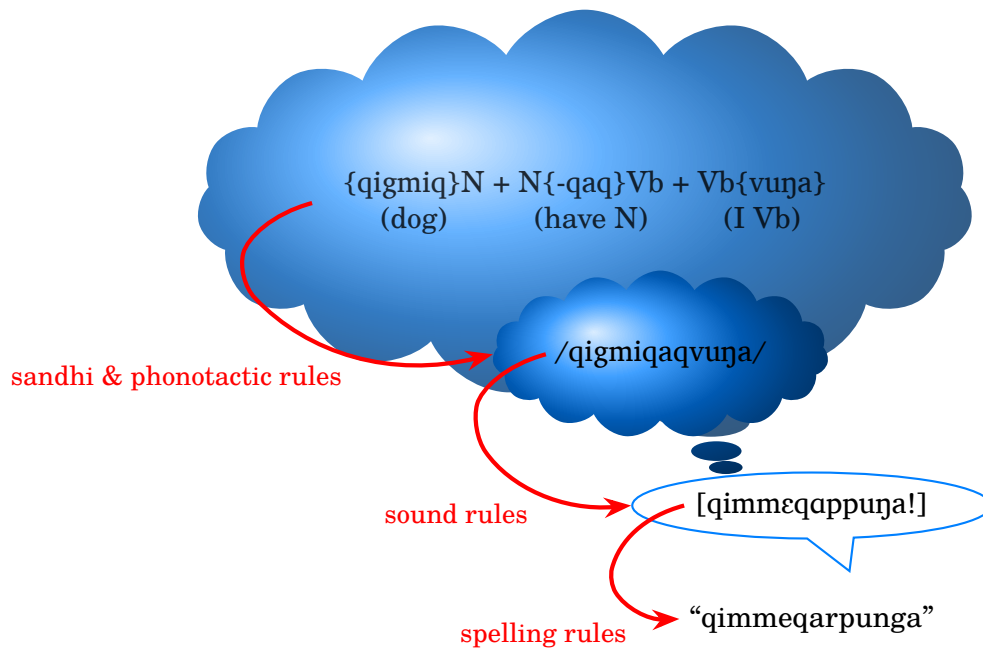
Figure 1.1: Stages in the production of the word *qimmeqarpunga* (I have a dog).

tionary. Then you join them together, deleting or inserting phonemes at the boundaries according to the sound laws and *sandhi* (or 'join') rules, which yields a string of phonemes. Then you apply the *sound rules*, one by one, to this string to determine the correct sound/pronunciation for each phoneme. Now the word is ready to be pronounced; or you may instead optionally write it down, using the rules for spelling.[3] The procedure is really quite mechanical, and thus *easy*, since there is no ambiguity; only a finite number of discrete steps. You may have to practice it first on paper, but, believe it or not, once you have done it sufficiently many times you will be able to do it all in your head.

I have attempted to give a high-level illustration of the process in figure 1.1 with a very simple example: Suppose you wanted to express the sentence "I have a dog." You would then go through the following four stages:

1. From your mental dictionary you would select the three morphemes:

    • {qigmiq}N meaning 'dog'

---

[3]This last step is particularly easy, if you use the new orthography, since, as I have previously mentioned, it was constructed such as to reflect the pronunciation.

- N{-qaq}Vb meaning 'to have an N'
- Vb{vuŋa} an ending denoting 'I Vb'.

2. By joining the three morphemes together you obtain the string of phonemes /qigmiqaqvuŋa/. As you can see, a /q/ has been removed, but otherwise this string is simply the concatenation of the three morphemes.

3. After application of the sound rules the string is transformed into the pronunciation [qimmɛqɑppuŋa]; observe in particular that there has been an assimilation of consonant clusters such that no two different consonant sounds occur within the same cluster.

4. Lastly "qimmeqarpunga" may be obtained by transforming the pronunciation into writing. There are a few differences; most notably, [ŋ] is spelt "ng", using *two* symbols although they only represent a single sound, and [ɑpp] is spelt "arp", but otherwise this last transformation is fairly obvious.

My point with this extended example is merely to emphasise that *whenever we move from one level to another, we apply a set of transformation rules*. To construct a word from a selection of morphemes you perform this procedure forward, like I have just described, and to *parse* (or understand) a word, you perform the procedure in reverse. In both cases you must move between the levels of morphemes, phonemes, pronunciation and spelling.

I shall in general try to avoid unnecessary Grammaric parlance, but I hope you will agree that these concepts are useful enough to merit their admission into our discussion. It is very difficult to describe a language, wholly different from English, without concepts to capture the differences. Thus, to summarise the concepts I have introduced so far:

- *Morphemes* are the building blocks of words; they are indivisible units of *meaning*. I write morphemes in curly braces, with optional join markers at the left and/or right. Examples include Vb{ssa}Vb (shall Vb), N{-qaq}Vb (have an N), {suli}Vb (work), {qigmiq}N (dog) and Vb{vuŋa} (I Vb).

- *Phonemes* are placeholders for sounds; they are abstractions over a group of *actual* sounds (or pronunciations), such that the phoneme may come to be pronounced with any of these sounds. I write phonemes between forward slashes, like for example /aəiu/, which is a string consisting of all vowel phonemes in Greenlandic, or /qigmiq/ which is a string of mixed consonant and vowel phonemes that happen to exactly match the morpheme {qigmiq}N.

10

I had to make an important design choice here: How to spell the morpheme *{qigmiq}*. Fortescue spells it "qikmiq" and thus Kleinschmidt uses "kingmek" with "ng" for a /k/ assimilated to the corresponding nasal sound. But if I wrote "k" like Fortescue and in general changed all syllable-final consonants to their corresponding stops, then *{iglu}* would become 'iklu' and thus obscure the relationship to the word 'igloo.' In practice though, it matters little whether a syllable-final consonant is written as a nasal, fricative or a stop, since these sounds are always changed by the sound rules.

- *Pronunciations* are the actual sounds selected for each phoneme within a word. As is customary, I write pronunciations in square brackets, e.g. [qimmɛq]. The symbols *within* the brackets represent actual sounds, and thus each symbol must be associated with *one and only one* sound. For this purpose I *could* have decided to use the International Phonetic Alphabet, but since that would have required you to learn yet another system of notation, I have instead decided to write pronunciation in a way that is *as close as possible* to the way words are actually spelt, using the new orthography, but without compromising the requirement that each symbol shall describe one and only one sound.

- *Spellings* (or writings) are the forms we use to represent words in ordinary writing, and when I wish to emphasise that focus is now on the *spelling* of a word, I use double quotation marks as delimiters. In this book I shall primarily use the *new orthography* of 1973, since it is the most commonly used today, and thus for example I shall write "qimmeq" (new orthography) rather than "ĸingmeĸ" (old orthography).

1.4   Types and classes of morphemes

There are many word classes in English; for example *nouns, verbs, adjectives, adverbs, conjunctions* etc., each with their own set of rules, endings and whatnot. In Greenlandic it is much easier; there are only three classes of words: *Nouns, verbs* and *particles*. However, since the units here are *morphemes* rather than whole *words*, we should instead speak of 'noun-ish morphemes' and 'verbal morphemes' etc. Examples of nounish morphemes would be {iglu}N[4] (house) or Vb{ðuq}N (someone who Vb's), whilst verbal morphemes are {suli}Vb (work) and N{-qaq}Vb (have an N).

However, morphemes can also be grouped in another way, completely orthogonal to the nounish/verbal distinction: A morpheme can be either a *base*, an *affix* or *enclitic*, or an *ending*. These categories are mutually exclusive: A morpheme cannot be both e.g. a base and an affix, and thus every morpheme will belong to exactly one of these categories. For example, {iglu}N and {suli}Vb are both bases; Vb{ðuq}N and N{-qaq}Vb are both affixes, and Vb{vuŋa} is an ending. Being a base means that the morpheme can *only* occur as the very first morpheme within a word, whilst an affix can *only* occur after a base or another affix. Then, an ending can (obviously) *only* occur at the end of a word – that is, after

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[4]Fun fact: This morpheme was actually borrowed into english as *igloo* (a snow hut), although {iglu}N just means any kind of house in Greenlandic, and not in particular one made of snow.
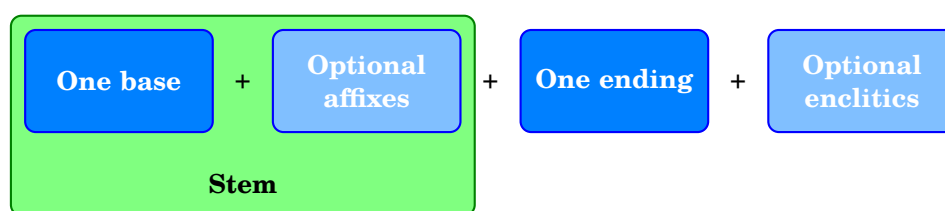
Figure 1.2: The structure of a word. The light-blue segments may be repeated zero to many times, and are thus in effect optional, whilst the darker blue segments must appear exactly once, and are thus mandatory.

a base or an affix – and there must be one and only one ending on each word. Lastly, *enclitics* can be added onto any finalised word, including onto other enclitics; some very common examples include ∗{lu} (and), ∗{li} (but) and ∗{luunniit} (or).

In other words, a word must always start with *one and only one* base, then followed by *zero to many* affixes: The combination of base and optional affixes is also called the *stem* of the word; and onto the stem is then added *one and only one* ending, which lastly again may be followed by *zero to many* enclitics. Thus, one base and one ending are mandatory components of every word, whilst affixes and enclitics are optional – at least as far as word formation is concerned. I have attempted to illustrate this in figure 1.2.

1.5   Join markers

In the preceding sections I have been using the symbols 'N' (for '**n**oun') and 'Vb' (for '**ver**b') around the morphemes without actually explaining what they denote. As you may already have guessed, however, they show how morphemes may be joined: An N may (only!) be joined onto another N, and a Vb may (only!) be joined onto a Vb. This succinct notation can actually encode both the type (base, affix, ending) and class (nounish, verbal, particle) of a morpheme:

- A *nounish base* is written $\{M\}$N and a verbal base $\{M\}$Vb. Note that here, and in the following, I shall use the symbol 'M' to stand for *any* morpheme belonging to the type/class denoted by the join markers. 'N' represents a nounish base, and 'Vb' a verbal base, and since the join markers only occur on the *right hand* side of the morpheme, we can immediately see that these morphemes are *bases*, because these morphemes can only occur at the head (the left-most position) of a word.

- An *affix* is written with join markers on *both* sides of the morpheme. Here, the left-hand join marker denotes *onto what kind of stem the affix can be added*, whilst the right-hand join marker, like above, shows what class of morpheme it is (nounish or verbal). Thus Vb{M}N and N{M}N will both form nounish stems (because N stands on the right), but Vb{M}N may only be added onto a verbal stem (and thus forms a nounish stem from a verbal stem), whilst N{M}N may only be added onto a nounish stem (thus forming a new nounish stem). Conversely, both N{M}Vb and Vb{M}Vb form verbal stems, but the first forms it from nounish stems, whilst the latter forms it from another verbal stem.

- An *ending* is the mirror image of a base; it is written N{M} for an ending forming a *noun*, and Vb{M} for an ending forming a *verb*. Again, these morphemes must obviously be endings, because the join marker only appears on the *left hand* side, and thus nothing (save only enclitics) could be added onto them. They 'complete' the word, and once a stem has received an ending I shall speak of it as a 'noun' or 'verb' proper (compared to 'nounish' and 'verbal').

- Lastly, *enclitics* may be added only onto finalised words, including onto other enclitics. Thus I have chosen to write them as *{M} where the symbol '*' should be reminiscent of a kind of 'wildcard' character.

You can see a schematic representation of this, with some examples of actual morphemes from each type/class, in figure 1.3. Notice in the figure that I have *not* written the two particles "aamma" (and) and "kisianni" (or) as morphemes at all: This is because particles alone of all Greenlandic words are *always* 'completed': They do not change, and nothing can be added onto them, except for enclitics. This is thus the only group where it makes sense to regard (and list) the members as complete words.

Another nifty feature of this notation is that it allows for a more compact representation without any loss of information, by letting us write a set of morphemes as explicitly joined; we simply write the morphemes with join markers interspersed, instead of repeating them. Thus, consider again the example sentence 'I have a dog' – it may be written in either of two ways, as I illustrate in figure 1.4.

1.6   Rewriting rules and word generation

At last we arrive at another way of describing the construction of a Greenlandic word, by using the right-hand join markers as symbols representing the *next*

	Nounish	**Verbal**		**Particles**	
Bases	{iglu}N	{suli}Vb		"aamma"	
	{qigmiq}N	{ilinniaq}Vb		"kisianni"	
	{panik}N	{aglak}Vb			
Affixes	N{ŋŋu(aq)}N	Vb{ssa}Vb		∗{lu}	**Enclitics**
	Vb{ðuq}N	N{-qaq}Vb		∗{li}	
Endings	N{mək}	Vb{vuŋa}			

Figure 1.3: The relationship between type/class of the morphemes and the join markers. You have already seen some of these examples previously, whilst the new are {panik}N (daughter), {ilinniaq}Vb (learn), {aglak}Vb (write), N{ŋŋu(aq)}N (a (sweet/cute) little N), Vb{ssa}Vb (shall Vb/future), and lastly N{mək} that can denote either the instrument of an action, or the object (and several other things).

$$\{qigmiq\}N + N\{\text{-}qaq\}Vb + Vb\{vuŋa\}$$

Join

$$\{qigmiq\}N\{\text{-}qaq\}Vb\{vuŋa\}$$
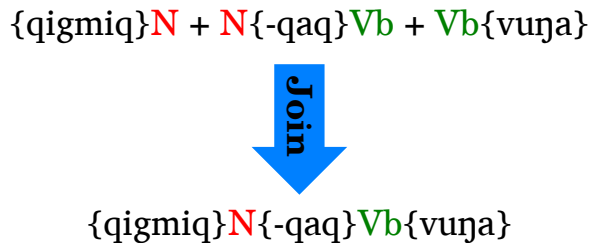
Figure 1.4: The 'verbose' notation with join markers may also be converted to a more compact notation, without any loss of information or clarity, where morphemes are joined directly on their join markers.

morpheme to be inserted in a sequence. It adds nothing new to what I have said above, so I introduce it solely to let you familiarise yourself with the idea of rewriting rules, or symbol manipulation rules, since these will become crucial further on.

The idea is quite simple: A *rule* consists of a symbol or pattern of symbols on the left-hand side of an arrow, $\rightarrow$, and then a right-hand symbol or pattern of symbols that constitute the *replacement* of the left-hand side. Thus e.g. $Ab \rightarrow aa$ would be a rule saying that whenever you have the string Ab, you may replace it with the string aa. A slightly more complicated rule like $A \rightarrow a|b$ says that whenever you have an A you may choose to replace it with *either* an a *or* a b – that is, the vertical bar $|$ means 'or'. A *set* of such rules is actually called a

grammar, although it has very little to do with what people usually associate with the word 'grammar.'[5]

Now consider the following grammar:

$$W \to \{M\}N \mid \{M\}Vb$$
$$N \to \mathbf{n}\{M\}N \mid \mathbf{n}\{M\}Vb \mid \mathbf{n}\{M\}E$$
$$Vb \to \mathbf{v}\{M\}N \mid \mathbf{v}\{M\}Vb \mid \mathbf{v}\{M\}E$$
$$E \to \mathbf{e}\{M\}E \mid \epsilon$$

W (for 'word') is the *start symbol*, and from this symbol you can generate a string of $\{M\}$ interspersed with n's, v's and e's – I use these lowercase variants as join markers here to avoid confusion with the symbols on the left-hand side in the grammar, and 'e' is here used rather than $*$ to represent enclitics. The special symbol ϵ just means 'nothing' – it allows the generation to terminate.

Try it for yourself: Write the symbol W on a piece of paper, and then replace it according to the rules. This is called a *derivation*, and it could for instance go like this:

$$W \implies \{M\}N$$
$$\implies \{M\}\mathbf{n}\{M\}Vb$$
$$\implies \{M\}\mathbf{n}\{M\}\mathbf{v}\{M\}E$$
$$\implies \{M\}\mathbf{n}\{M\}\mathbf{v}\{M\}\epsilon$$

I use the arrow $\to$ in the *definition* of a rule, and $\implies$ in the *application* of a rule. You can read it as 'yields' or 'derives'. Similarly, I use $\implies^*$ to mean 'yields in a number of of steps' when I wish to indicate that I have left out some irrelevant and/or obvious steps in the derivation.

This little sequence that I here derived should already seem familiar to you. Again, I have used the symbol 'M' to mean *any* morpheme from the type/category denoted by the join markers, so each of these rules actually represent a *set* of morphemes; I have chosen this way of writing it because the actual 'contents' of the morphemes – the string of phonemes that go between the curly braces – do not change the derivation. I could just as well have written the rules out, using each of the *actual* morphemes within each type/category set, but it would only have made the rules much longer. Instead you can now simply *select* a morpheme from each set, and insert it instead of the 'M' in the sequence. Here is one possible selection:

---

[5]There are several kinds of such grammars; the one I shall be using here is called a 'regular' grammar, because the language it generates is a 'regular' language. This might mean nothing to you, but if you have ever heard about regular expressions then it should ring a bell or two. The idea of describing languages by the rules that generate them is due to the linguist Noam Chomsky in his seminal paper "Three models for the description of language" (Chomsky, 1956).

N{*M*}N

{*M*}N   N   N{*M*}

→ W   Vb{*M*}N   N{*M*}Vb   E   ∗{*M*}

{*M*}Vb   Vb   Vb{*M*}

Vb{*M*}Vb
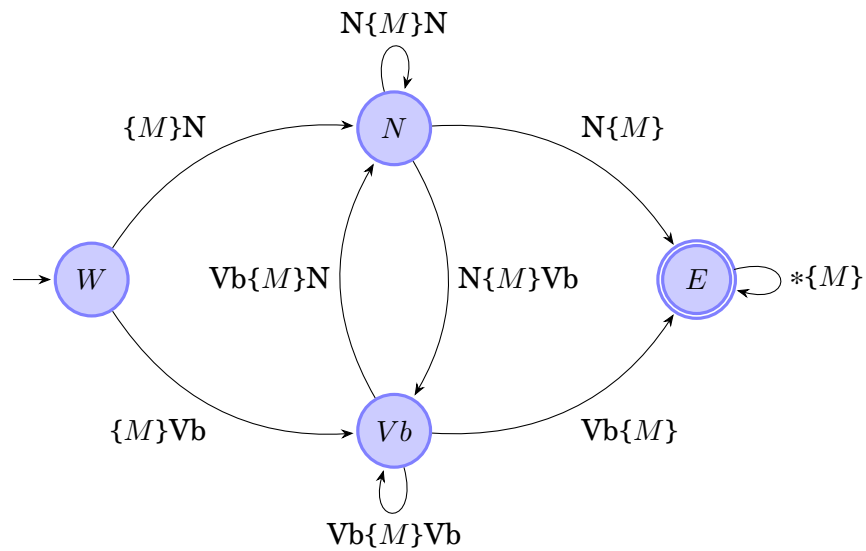
Figure 1.5: A finite automaton that recognises the language of joined morphemes: This is yet another way of representing the structure of a Greenlandic word, using the join markers.

{qigmiq}n{-qaq}v{vuŋa}

A sequence with which I am certain you are quite familiar by now. And all this can yet again be represented in another way; as the graph in figure 1.5. It is actually nothing more than a visual representation of the aforementioned grammar rules; it is called a 'finite automaton', but you may think of it as a *map*, starting on the node labelled *W*. Your goal is to reach the node labelled *E* (the one with a double ring) by following the arrows. Whenever you make a transition, you add a morpheme from the type/class as indicated by the label on the pathway. As you can hopefully see, you can create arbitrarily long – and thus infinitely many – 'words' by tracing out paths on this map; just like there are (at least theoretically) infinitely many possible Greenlandic words.

And my point with all this? It is merely to show you that word formation in Greenlandic is a well-structured process, and in fact so simple that it can be done automatically.

CHAPTER **2**

Sandhi rules and sound laws

The previous chapter introduced the idea of 'levels' or stages in the production of a word. This chapter then deals with the first transformation, from a list of isolated morphemes to a single string of phonemes.

2.1 Phonemes in Greenlandic

In the previous chapter I introduced you to the notion of phonemes; the *abstract placeholders for sounds*. What I mean by this phrase is really just that a phoneme is a 'mark' that denotes 'insert one of my sounds here.' What these possible sounds are, and how a specific sound is chosen, is determined by the sound rules, so I will postpone the description of the actual sounds until after the introduction of the sound rules, and instead treat the phonemes as a set of more or less abstract symbols for now. These symbols are:

DEFINITION 2.1:

- /aəiu/ are the *vowel phonemes*. I also use the symbol V to refer to an arbitrary vowel phoneme.

- /cðgjklmnŋpqrstv/ are the *consonant phonemes*. Here I use the symbol C to refer to an arbitrary consonant phoneme.

I may furthermore use an index (a number or letter) on V's and C's to indicate whether I speak about the *same* or two *different* phonemes from the group. Thus e.g. C_1C_2 or C_xC_y would mean two *different* consonant phonemes, like for instance /km/, whilst C_1C_1 or C_yC_y would mean two of the *same* phoneme, like /pp/, and likewise for the vowels; V_1V_2 could be e.g. the pair /iu/ whilst V_xV_x could be /aa/.

You will also eventually encounter examples of morphemes, where I write some of these phonemes in small, capital letters, like ɢ, ᴋ or ǫ. I use this to indicate that these phonemes behave in a particular way in that particular morpheme, but the phonemes themselves are not different from their 'un-capitalised' variants /gkq/. In other words: Just ignore it for now.

2.2 The laws of sound

You will probably agree that *angst* sounds like an English word, but that e.g. *ngast* does not. This is because no proper English word can begin with the sound [ŋ], denoted by the spelling 'ng.' However, in other languages (particularly some of the Asiatic languages) it is perfectly normal to have [ŋ] appearing in a syllable-initial (and thus also word-initial) position. The *phonotactics* of a language is set of rules for where the different sounds may appear in a word (and syllable): I call these rules the *sound laws*, and you need to know two of them, because they directly influence how phonemes sometimes *must* be deleted or inserted at the boundary between two morphemes.

Morpheme-final phonemes (and word-final sounds)

A morpheme may *only* end in a vowel V or a stop: That is, only /aəiu/ or /ptkq/. In particular, this also implies that no *word* can ever end in anything but one of these eight phonemes – this is obvious, since the rule must apply to every morpheme in a word, including the last one, and thus it also applies to the word as a whole.

In fact, when we only look at whole words, rather than the morphemes within them, this rule becomes even more restrictive: No *word* may end in any other *sound* than [a], [i], [u] or [t], [k], [q] – and *very rarely* [p]. There exists *one* grammatical ending for nouns, that ends in a [p], but this is the only case where [p] can appear in this position.[1]

---

[1]Notice that when I switched to speaking of words rather than morphemes, I also switched to speaking of *sounds* rather than phonemes. Morphemes and phonemes are abstract entities existing in the head of the speaker. Words and sounds are 'real' in the sense that they have either been uttered or written down.

An obvious consequence of this rule is that my name cannot be a Greenlandic word: My name is *Stian*, and 'n' is not amongst the allowed word-final sounds, so to actually say my name in Greenlandic I need to add a sound at the end. My name thus becomes *Stiani*. In fact, whenever a foreign name or word is used in Greenlandic, it must be 'Greenlandized' in this way:

- Nouns, including names, are nowadays almost always Greenlandized by adding an /i/, if the word does not already end in a vowel or one of the allowed stops. In some cases, the final sound is reinterpreted as one of the allowed sounds, so e.g. *whiskey* is allowed, even though 'y' is not a vowel in Greenlandic, because it is *pronounced* like an [i]. This is also the case for many Danish loan-words that end in an 'e' such as e.g. *æble* (apple) – the 'e' is reinterpreted as an /i/, so the word becomes *iipili*.

- Verbs, including nouns used as verbs, are Greenlandized by first adding /i/, if the word does not already end in a vowel, and then always adding a /q/. Thus e.g. to drive a car (from the Danish noun 'bil') becomes {biil**iq**}Vb[2] – first an /i/ is added to the end to Greenlandize the word, and then a /q/ on top of that to turn it into verb.

The structure of a syllable

Every syllable in Greenlandic follows a very simple pattern, consisting *always* of a vowel phoneme, that may be single or optionally doubled, and with a *single, optional* consonant at the beginning and/or at the end. We can represent this pattern in the following way:

> **DEFINITION 2.2:**
>
> Every Greenlandic syllable is of the form
>
> $$(C)V_x(V_x)(C)$$
>
> where the parentheses indicate optional parts.

Thus, the smallest possible syllable consists in a single vowel. A word such as *uia* (her husband) therefore consists of *three* syllables: [u-i-a].[3] Another word

---

[2]The /i/ in 'b**i**l' is doubled to *b**ii**li* because Greenlandic uses doubling to denote long sounds. This has nothing to do with the /i/ added to end of the word.

[3]Notice that syllables are *actual* sounds, so when I speak about syllables, I am referring to the pronunciation level.

such as *Nuuk* (the capital city of Greenland) consists of a single syllable – the doubled /u/ is one long sound [uu], not two discrete sounds.

This rule also implies that there can *never* be a consonant cluster consisting of more than *two* consonants in a Greenlandic word: Since there can at most be *one* consonant at the beginning of a syllable, and at most *one* at the end, then *no* combination of any two syllables can possibly result in more than two consonants standing directly beside each other. There is no way $(C)V_x(V_x)(C)(C)V_y(V_y)(C)$ can ever yield a consonant cluster larger than two.

Another important implication of this rule is, that *no morpheme can ever* end *in a consonant cluster*. Or in other words, *every* morpheme must end in V or VC. Can you see why this must be true?[4]

2.3 Phonotactically truncative morphemes

Morpheme boundaries do not have to coincide with syllable boundaries: For instance, many morphemes begin with a consonant cluster, like N{**kk**ut} (through N) and Vb{**ss**a}Vb (shall Vb/future). However, when these morphemes are joined onto other morphemes, the resulting word must still abide by the sound laws, and thus a morpheme like Vb{**ss**a}Vb cannot be added directly onto a morpheme like {sinə**k**}Vb (sleep), since this would yield the consonant cluster /kss/ at the boundary, which does not follow the syllable structure. There is one consonant too many.

The solution to this is brutally simple: The final consonant /k/ is exterminated by the /ss/. Or deleted. Or *truncated*, if you like. This leads to a general rule that follows directly from the structure of a syllable:

> **DEFINITION 2.3:**
>
> Any morpheme beginning with a consonant cluster can *only* be joined onto a vowel phoneme. If the preceding morpheme ends in a consonant phoneme, that phoneme is deleted.

Morphemes beginning with two consonants are thus 'phonotactically truncative' – they are truncative, that is, they delete a preceding consonant, because phonotactics dictate that they *must* do so. Example 2.1 provides an illustration of this.

---

[4]Any morpheme could in principle come to stand as the last in a word (since there exist null-morphemes, consisting of nothing). Thus the last part of any morpheme could form the last syllable of a word, but since *every* syllable ends in $V(C)$, then so must every morpheme.

EXAMPLE 2.1:

To say 'I shall sleep' you join the morphemes {sinək}Vb (sleep), Vb{ssa}Vb (shall Vb) and Vb{vuŋa} (I Vb) in the following way:

$$\{sinək\}Vb\{ssa\}Vb\{vuŋa\} \implies /sinəssavuŋa/$$

2.4   Sandhi or 'joining' rules

Some morphemes have a built-in preference as to whether they will join onto a consonant or a vowel. This preference is *not* determined by the morpheme's *form*, such as was the case with phonotactically truncative morphemes, and thus (unfortunately) *not* something for which you can learn one general rule, like 'does the morpheme begin with two consonants or not?' Instead, you must learn the morpheme's preference, along with its meaning, spelling, type and class (i.e. join markers). I use the Grammaric term *sandhi* ('joining') to denote this built-in preference, and I mark it on the morphemes by using a few extra symbols:

DEFINITION 2.4:

Let M be an arbitrary string of phonemes that form (part of) a morpheme, and let J be an arbitrary join marker:

- Some morphemes are *sandhi truncative*, meaning they will only be joined onto a *vowel*, thus deleting a consonant phoneme, if the preceding stem ends in a consonant. I use the symbol '-' to denote this. You have already seen two examples of sandhi truncative morphemes, namely the morpheme N{-qaq}Vb (have an N) and N{-u}Vb (be an N). Abstractly expressed:

  $\{M_1 C\}J\{-M_2\} \to /M_1 M_2/$ Delete final $/C/$
  $\{M_1 V\}J\{-M_2\} \to /M_1 V M_2/$ Attach to final $/V/$

- Some morphemes have the opposite preference; they are *sandhi epenthetic*, or 'sound inserting', meaning they will only be joined onto a *consonant*, and if the preceding stem ends in a vowel, these morphemes will therefore *insert* their own consonant phoneme. I use the symbol

21

(C) to denote this preference, where C is the consonant to be optionally inserted. Sometimes this consonant can be completely arbitrary, whilst it in other cases is a particular consonant (very often /q/). You can think of these morphemes as like a guest who brings his own folding chair to a party, ready to set up if there is no chair of his preferred type to sit on. An example of such a morpheme is the ending Vb{(v)vut} (they Vb). Abstractly expressed:

$$\{M_1C_y\}J\{(C_x)M_2\} \rightarrow /M_1C_yM_2/ \quad \text{Attach to final } /C_y/$$
$$\{M_1V\}J\{(C_x)M_2\} \rightarrow /M_1VC_xM_2/ \quad \text{Inject } /C_x/ \text{ after vowel}$$

- Lastly, some morphemes do not care whether they are joined onto a consonant or a vowel. If sandhi denoted morphemic sexual orientation, these morphemes would be bisexuals. I might occasionally use the symbol '+' to denote sandhi additivity, if I wish to emphasise that a morpheme uses this joining strategy, but, in general, I shall not be using any particular symbol to mark it, since sandhi additivity is the most obvious, straightforward way of joining two morphemes. An example is the morpheme Vb{ðuq}N (one who Vb's), and the ending Vb{vuq} (he/she/it Vb's). Abstractly expressed:

$$\{M_1C\}J\{M_2\} \rightarrow /M_1CM_2/ \quad \text{Attach to final } /C/$$
$$\{M_1V\}J\{M_2\} \rightarrow /M_1VM_2/ \quad \text{Attach to final } /V/$$

See example 2.2 for a few illustrations of these different joining strategies.

Intermediate cases: g-sandhi

A small handful of morphemes are neither clearly additive nor truncative; that is, on some stems they behave additively, and on others truncatively. This group includes all morphemes beginning in /g/ *that attach to noun-stems*. Their sandhi rules are as follows:

DEFINITION 2.5:

$$\{Mk\}N\{gM\} \rightarrow /MgM/ \quad \text{truncative on /k/ stems (special!)}$$
$$\{Mq\}N\{gM\} \rightarrow /MqgM/ \quad \text{additive on /q/ stems}$$
$$\{MV\}N\{gM\} \rightarrow /MVgM/ \quad \text{additive on vowel stems}$$

In other words, these morphemes behave like normal, additive morphemes, *except* on stems ending in /k/. There they behave like sandhi truncative morphemes instead and delete this /k/. Some very common examples include N{ga} (my N) and N{gə}Vb (have as N). As an example, compare how N{ga} attaches to {panik}N (daughter, a k-stem) and {aliqaq}N (older sister to a boy, a q-stem):

$$\{pani\mathbf{k}\}N\{\mathbf{g}a\} \implies /pani\mathbf{g}a/ \quad \text{(my daughter, delete /k/)}$$
$$\{aliqa\mathbf{q}\}N\{\mathbf{g}a\} \implies /aliqa\mathbf{qg}a/ \quad \text{(my sister, attach to /q/)}$$

Most endings and affixes that attach to *verbal stems* do *not* behave in this way; they behave instead like completely normal morphemes, using the ordinary sandhi rules. One of the few verbal affixes that *does* behave in this odd, intermediate way, is the affix Vb{gə}Vb (think it is so Vb), but notice that it, apart from its join markers, looks completely similar to the aforementioned N{gə}Vb, which is probably also why it behaves in the same way.

In general, for affixes that begin in /g/ and attach to *noun stems*, I shall use no explicit symbol to denote that they use this special sandhi rule, because they *all* use it. It is the regular default behaviour for them. On the other hand, for morphemes beginning in /g/ that attach to *verbal stems*, I *shall* explicitly note, if they use this special sandhi rule, since for them it is a deviation from the default.

2.5   Phonotactic epenthesis

As you have seen, morphemes can delete a stem-final consonant phoneme *either* because of their own preference (the sandhi truncative) *or* because phonotactics dictate that they must (the phonotactically truncative). In a similar fashion, morphemes can also be forced by phonotactics to *insert* phonemes, and just like phonotactic truncativity this follows directly from the structure of a syllable. Imagine what would happen if you had a morpheme ending in /uu/, and you tried to add another morpheme *beginning* with /u/ onto that: That would result in /uuu/, but by the syllable structure, a vowel may be *single* (V_x) or doubled (V_xV_x), but *no more* than that. It cannot be tripled.

Here, the solution is that a phoneme must be inserted at the boundary between the morphemes, such that the new, adjoining /u/ can isolate itself from the preceding /uu/. In this case, a /j/ is inserted, so the result is /uuju/. This sound insertion can *only* happen before a morpheme *beginning* with a vowel pho-

EXAMPLE 2.2:

For the purpose of these examples I shall need a few new morphemes: {aŋutə}N (a man), {suli}Vb (to work), and {ukiuq}N (a year). The latter is, amongst other things, useful when you want to say, that you have a particular *age*, since you express this by saying that you have (N{-qaq}Vb) some *years* (and then you say the number).

Firstly, consider the two cases for sandhi truncative morphemes. Suppose you want to express, that 'I have some (number of) years' (I have an age), and 'I am a man' respectively; then you must perform the two following joins:

$$\{ukiuq\}N\{-qaq\}Vb\{vuŋa\} \implies /uki\mathbf{uq}aqvuŋa/$$
$$\{aŋutə\}N\{-u\}Vb\{vuŋa\} \implies /aŋut\mathbf{əu}vuŋa/$$

The morpheme N{-qaq}Vb is sandhi truncative, so it deletes the final /q/ in {ukiuq}N. N{-u}Vb is also sandhi truncative, but in this case there *is* a vowel, /ə/, to join on, so nothing needs to be deleted.

Next we have the two cases for sandhi epenthetic morphemes; suppose you want to express 'they sleep' and 'they work' respectively:

$$\{sinək\}Vb\{(v)vut\} \implies /sinə\mathbf{k}vut/$$
$$\{suli\}Vb\{(v)vut\} \implies /sul\mathbf{iv}vut/$$

In the first case, there *is* a stem-final consonant phoneme, /k/, so the epenthetic /(v)/ is not inserted, whilst in the second case, the stem ends in a vowel /i/, thus triggering the insertion of /(v)/.

Lastly, to illustrate the two cases for the sandhi additive morphemes, we can reuse the bases above, but just say 'he' instead of 'they':

$$\{sinək\}Vb\{vuq\} \implies /sinə\mathbf{k}vuq/$$
$$\{suli\}Vb\{vuq\} \implies /sul\mathbf{iv}uq/$$

Clearly, this example is the easiest, because as you can see, it makes no difference whether the stem ends in a consonant or a vowel. Vb{vuq} joins onto both in the same way.

neme, and it is *this* vowel phoneme that determines which consonant phoneme must be inserted. The rule is as follows:[5]

> **DEFINITION 2.6:**
>
> /uu.u/ → /uu**j**u/   (insert /j/ before /u/)
> /ii.i/ → /ii**v**i/   (insert /v/ before /i/)
> /aa.a/ → /aa**v**a/   (insert /v/ before /a/)
>
> Here I have used the symbol '.' to indicate the morpheme boundary, where optionally a consonant phoneme may have been removed.

The rule itself is quite simple: A /j/ is inserted before a /u/. Otherwise a /v/ is added; that is, before /a/ or /i/. However, one major complication concerns *when* this insertion happens: A vowel-initial sandhi truncative morpheme[6] like e.g. N{-a} (his N) will delete a stem-final consonant, but if the vowel *before* that consonant is long (that is, doubled) such as in the morpheme {q**aa**q}N (surface), then (depending on the combination of vowels) one of the three aforementioned situations could arise, as it does in this case, since:

$$\{qaaq\}N\{\text{-}a\} \;\not\Rightarrow\; /q\mathbf{aaa}/$$

A triple-vowel is disallowed by the syllable pattern, and thus in order to avoid violating the sound laws of the language a *new* consonant phoneme must be inserted again, by the present rule. This is actually my reason for the *order* in which I have described the rules in this chapter – phonotactic truncation, sandhi rules, and lastly phonotactic epenthesis – because this is the order in which you must *apply* the rules. If you do that, then everything I have said in this paragraph will follow obviously from the rules.

There is also another complication, caused by one of the sound rules to be described in the following chapter: It is a rule saying that *any vowel following*

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[5]There is *one* notable exception to this general rule: The morpheme N{innaq}N (just an N) and its verbal counterpart Vb{innaq}Vb (just Vb'ing) insert a /g/ instead of the expected /v/, but this is precisely an *exception*, not a *rule*, and thus you should not waste your time on actively trying to *learn* this. You will pick it up eventually. I always advocate this principle of learning the general rules before the infrequent exceptions.

[6]Actually, *all* morphemes beginning in vowels are (as far as I know) sandhi truncative. Thus, I could also have decided to formulate this as a general rule, but decided not to do it, because I could not *derive* this rule from the syllable pattern. There are, however, a few of such regularities that in reality make it quite easy to remember which morphemes are sandhi truncative: For instance, all morphemes beginning in one of /Vkŋpqr/ and *most* beginning in /l/ are sandhi truncative.

EXAMPLE 2.3:

For the purpose of these examples I shall need a few new morphemes: {ilinniaqnəqtuuq}N (a student), N{-irut(ə)}Vb (N is gone), {politiiq}N (a policeman, a loan-word from Danish) and {qavlunaaq}N (a Dane). Consider the following examples illustrating the normal cases of phonotactic epenthesis or 'forced sound insertion':

{ilinniaqnəqtuuq}N{-u}Vb{vuŋa}	(I am a student)
⟹ /ilinniaqnəqt**uu.u**vuŋa/	(sandhi: Delete /q/)
⟹ /ilinniaqnəqt**uuju**vuŋa/	(epenthesis: Insert /j/)
{politiiq}N{-irut(ə)}Vb{vuq}	(the police is gone)
⟹ /polit**ii.i**rut(ə)vuq/	(sandhi: Delete /q/)
⟹ /polit**iivir**ut(ə)vuq/	(epenthesis: Insert /v/)
{qaaq}N{-a}	(its surface)
⟹ /q**aa.a**/	(sandhi: Delete /q/)
⟹ /q**aava**/	(epenthesis: Insert /v/)

The next two examples illustrate the 'special' cases where we also need to insert a phoneme after a double /a/ to avoid ending up with a triple [aaa] once the sound rules are applied:

{qaaq}N{-i}	(its surfaces)
⟹ /q**aa.i**/	(sandhi: Delete /q/)
⟹ /q**aavi**/	(epenthesis: Insert /v/)
{qavlunaaq}N{-u}Vb{vuŋa}	(I am a Dane)
⟹ /qavlun**aa.u**vuŋa/	(sandhi: Delete /q/)
⟹ /qavlun**aaju**vuŋa/	(epenthesis: Insert /j/)

Notice that in all cases – both the 'normal' and the 'special' – that the phoneme to be inserted is determined by the *adjoining* vowel phoneme – /j/ before /u/, and /v/ before /a/ and /i/ – and not by the preceding vowel phonemes onto which it it joined.

an [a] will itself become an [a]. Thus, if the preceding vowel is, *or will become*, a double [a], then the present rule must also be invoked to ensure that a triple-a *sound* will not arise. Consider what would happen, if we added the morpheme N{-i} (his Ns) to {qaaq}N:

$$\{qaaq\}N\{-i\} \implies /q\textbf{aai}/ \nRightarrow [q\textbf{aaa}]$$

The /q/ would be deleted, thus leaving /i/ to directly follow the double /aa/, but because of the aforementioned sound rule, this *would* cause the /i/ to become [a], which again would leave us with [aaa], violating the syllable structure. Therefore we must also use epenthesis *whenever the combination otherwise* would have *violated the syllable structure*; that is, whenever you join a morpheme beginning with a vowel unto a stem, that ends in, or *will come to end in*, a double [a].

Admittedly, this does sound somewhat complicated, because it requires a bit of 'look-ahead' to see what the result after a number of steps will be. However, I believe you will find this more intuitive once we have actually been through the sound rules. Presently, a few examples will hopefully make matters clearer, so see example 2.3 for an illustration of the various cases. I have also added an aside 2.1 with an extended discussion of why it makes sense to learn these abstract rules, even though they may seem complicated at first.

<div align="center">∗ ∗ ∗</div>

In this chapter I have presented the rules for joining morphemes to form a single string of phonemes, a kind of 'proto-word' that is the first step in producing an actual word from a train of morphemes, as you can see from figure 1.1 back on page 9. All that now remains is to figure out how the word is to be pronounced; that is, which sound shall be assigned to each phoneme. For this, you need the sound rules; the topic of the next chapter.

ASIDE 2.1:

A note on other grammars

No other grammar or self-study materials I have seen distinguish between morphemes that are truncative because phonotactics dictate that they *must* be, and morphemes that are truncative for their own reasons; that is, between phonotactically truncative morphemes and sandhi truncative morphemes. In books like Stig Bjørnum's grammar (Bjørnum, 2003) they are all just called 'truncative' no matter the *reason* for their 'truncativeness.' This is also true for the DAKA-dictionary, Estrid Janussen's grammar, *Håndbog i grønlandsk grammatik*, (Janussen, 1987) and the affix list, *Grønlandsk tilhængsliste*, of Olsen and Hertling (2011), except that they do not use the word 'truncative' – in fact, they use no word at all, but only mark affixes by either - or +, or, in the case of DAKA, by '-' or '-:'.

Why does it matter? Am I not just making things overly complicated by my insistence on making the distinction? Consider for instance the morpheme N{-u}Vb: To *learn* this morpheme, you will have to remember its meaning (is an N), its type/class (the join markers) *and* its join pattern (truncative). That is *three* pieces of information. Now consider a morpheme like Vb{ssa}Vb: You still have to remember its meaning (shall Vb/future) and type/class, but by learning *one* abstract rule about syllable structure (that you are going to need later on anyway), you can tell *just by looking* at the morpheme that it *must* be truncative, because it begins with a double consonant. There is no reason to spend mental resources on *actively* remembering this fact.

A similar reasoning underlies my distinction between sandhi epenthesis and phonotactic epenthesis: Both the DAKA and Olsen and Hertling (2011) (and indeed every book I have seen that uses the new orthography) lists *two* entries for the morpheme N{-u}Vb; both "-uvoq" and "-juvoq", and without any explanation for when and why this /j/ appears.[a] To learn the morpheme by their method you would thus have to actively remember *both* forms *and* when to use which form. I hope you will agree that this is a pointless waste of your mental resources.

Abstract rules may seem difficult at first, but their purpose is to help you by *reducing* the amount of information you have to remember. This is my reason for giving a rule-based presentation of the Greenlandic language.

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[a]They actually also list a third form, "-avoq", but more on that later.

CHAPTER 3

Sound rules

We are come, at last, to the sound rules. These rules will tell you how to assign a specific sound to each of the phonemes in strings such as /qigmiqaqvuq/ or /aŋutəuvuŋa/, thus transforming them into actual, pronounceable words – the second transformation in figure 1.1.

The sound rules are not my invention; I first learned of them from Per Langgård's book (Langgård, 1997a), and the presentation I give in this chapter is very much based on his presentation. My main contribution in this regard, apart from some changes of notation and extended examples, has been to find an *ordering* for the rules, such that they can be applied mechanically, in a stepwise fashion. This is also the order in which I will present the rules here.

For each rule I shall give one or more examples of their usage, including intermediate steps in the process. Rather than simply reading the rules, I will encourage you to take out a sheet of paper and for each example try to do the derivation yourself. In that way you can relatively easily acquire some skills in using the rules and become accustomed to applying them in a step by step fashion, in the proper order. This is, unfortunately, the only kind of training I can recommend, since you will almost certainly not find any exercise books or other self-study materials that use the sound rules – apart from Per's own, of course. I have written some further comments on this situation in aside 3.1. To illustrate the usages I shall also introduce a number of (very) commonly used morphemes, so if you have not done so already, you should also reserve another sheet of paper for noting these down. In that way you can create your own mini-dictionary and use it to build up your vocabulary.

ASIDE 3.1:

On the works of Graphemists

The sound rules are not common knowledge. Despite their supreme use-fulness, you will not find any mention of them in many of the grammars or self-study materials that are usually recommended to foreigners want-ing to learn Greenlandic, including the grammars of Bjørnum (2003) and Janussen (1987), the (in)famous *Qaagit!* book by Hertling (1994) or *Qanoq* by Brochmann (1998).[a]

Common to all these books is that they describe the language solely on the level of *spelling*, using the new orthography from 1973, and as I have previously mentioned, this writing system is constructed such as to reflect the *pronunciation* of words; not the underlying *phonemes*. But the sound rules operate on strings of phonemes, transforming them *into* pronuncia-tions; they belong on a level *before* (or below) the pronunciation and spelling level. Thus the aforementioned books could not use the sound rules, due to their choice of language description level, even if their authors knew *of* the sound rules' existence (which I doubt). I call this tradition, of describing the language on the spelling level, for the *Graphemistic Tradition*, and its adherents the *Graphemists*, from the Grammaric term 'grapheme' which is the unit of spelling/writing (i.e. the letter).

These Graphemistic books have dominated the scene of Greenlandic for-eign language teaching for quite a number of years now; you should not be surprised to find that even people who *teach* Greenlandic today may them-selves have been taught using these very same materials, which of course implies that they, in turn, most likely know next to nothing about sound rules and underlying phonemes. It is as if all knowledge of underlying pho-nemes – or perhaps even of phonemes in general – was eradicated in the spelling reform of 1973.

Therefore, if you happen to be taking a course in Greenlandic and ask your teacher about anything from my book, you should not be surprised if she has no idea what you are talking about.[b]

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[a]One notable exception is a recent book, *Vestgrønlandsk grammatik*, by Nielsen (2019). He gives a brief description of the sound rules, based on Per's work, but his presentation is condensed and technical, yet lacking a clear ordering of application. It is hardly readable by an ordinary person – in my opinion it is about as Grammaric as a book can get.

[b]Unless of course she happens to be teaching by Per's materials.

3.1 The ð-rule

$$/C\eth/ \rightarrow /Ct/$$
$$/V\eth/ \rightarrow /Vc/$$

This rule says that whenever /ð/ follows any *consonant* phoneme, it becomes a /t/, but if it follows any *vowel* phoneme, it becomes /c/.

EXAMPLE 3.1:

In the following examples I use the ending Vb{ðuŋa} (that I Vb) as well as some verbal bases you already know:

{sinək}Vb{ðuŋa}	(that I sleep)
⟹ /sinək**ð**uŋa/	(sandhi additive)
⟹ /sinək**t**uŋa/	(this rule: /kð/ ⟹ /kt/)
{suli}Vb{ðuŋa}	(that I work)
⟹ /suli**ð**uŋa/	(sandhi additive)
⟹ /suli**c**uŋa/	(this rule: /ið/ ⟹ /ic/)

/ð/ is an ancient consonant phoneme that at some point lost its own pronunciation, and instead 'borrowed' the pronunciation of other consonant phonemes depending on context. It became a *variable* phoneme. This rule detailing its behaviour is extremely important in Greenlandic, because many morphemes – both endings and affixes, including some of the most commonly used – begin with this variable phoneme. Examples of very common affixes include Vb{ðaq}Vb (habitually Vb) and Vb{ðuq}N (one who Vb's).

Note that Langgård (1997a) uses the symbol 'T' for this variable phoneme, and likewise does Nielsen (2019). However, Fortescue et al. (2010) use the symbol 'ð' and I have decided to follow them, to keep my notation in accordance with the entries in their Comparative Eskimo Dictionary. Using different symbols for the same thing is of course unfortunate, but now at least you know what to look for, in case you read these works. Other works, such as Bjørnum (2003), Janussen (1987), Brochmann (1998), Hertling (1994), the affix list by Olsen and Hertling (2011) and, of course, the DAKA, make *no* distinction between affixes beginning with /ð/, and affixes beginning with a 'real' /t/. Thus, these works would list e.g. the morpheme Vb{ðaq}Vb as both '+tarpoq' and '+sarpoq', side by side with other morphemes beginning in 't' or 's' that do *not* alternate.

3.2 The t-to-s rule

$$/\text{i}(C)\text{t}V/ \rightarrow /\text{i}(C)\text{s}V/$$

This rule says that a /t/ that stands after an /i/ – optionally with *one* consonant phoneme in-between them – *and* followed by a vowel, is changed to an /s/.[1] The condition that the /t/ must be followed by a vowel is just another way of saying that this /t/ cannot be the last sound in the word. This follows from the sound laws (see page 18), since no word can end on an [s] sound.[2]

EXAMPLE 3.2:

In these examples I use the base {pikkurik}Vb (is proficient/good at s.t.) and the affix N{tuq}Vb (eat/drink N):

	{kavvi}N{tuq}Vb{vuŋa}	(I drink coffee)
⟹	/kavv**itu**qvuŋa/	(sandhi additive)
⟹	/kavv**isu**qvuŋa/	(this rule: /itu/ ⟹ /isu/)

	{pikkurik}Vb{ðuŋa}	(that I am proficient)
⟹	/pikkur**ikðu**ŋa/	(sandhi additive)
⟹	/pikkur**iktu**ŋa/	(The ð-rule: /kð/ ⟹ /kt/)
⟹	/pikkur**iksu**ŋa/	(This rule: /iktu/ ⟹ /iksu/)

It should come as no surprise to you that I in the second example *first* need to apply the ð-rule, and then apply the present rule to the result. This is precisely why an *ordering* of the rules is necessary to ensure that you obtain the correct result. If the rules had been applied in the opposite order, nothing would have happened by the present rule, because there would have been no /t/ to operate on.

---

[1]This process is also called *assibilation* in Grammaric.

[2]There is actually a further condition, that *if V = /ə/ then* this /ə/ must also be followed by another phoneme (it does not matter which one; any phoneme will do). The reason for this, as you will see below, is that a word-final /ə/ will disappear, which again would leave us with a word-final [s].

3.3 The g-rule

$$/qg/ \rightarrow /r/$$

This rule is almost unbelievably easy; it says that whenever a /g/ is added onto a /q/, they fuse to form an /r/. It always happens, unconditionally.

EXAMPLE 3.3:

To illustrate this rule I shall need two new morphemes; {niri}Vb (eat s.t.) and Vb{(q)gusuk}Vb (want to Vb):

{niri}Vb{(q)gusuk}Vb{vuŋa}	(I want to eat s.t.)
$\implies$ /niri**qg**usukvuŋa/	(sandhi epenthesis: /q/ is inserted)
$\implies$ /niri**r**usukvuŋa/	(this rule: /qg/ $\implies$ /r/)

If you think it seems arbitrary that /qg/ should become /r/, then consider the following: The basic sound of /q/ is a *uvular plosive* in Greenlandic (but certainly not in English!), and the basic sound of /g/ is a *palatal fricative* (again, unlike in English). The fusion combines the *place* of pronunciation from /q/ (uvular) with the *method* of pronunciation from /g/ (fricative), thus yielding a *uvular fricative* which is exactly the basic sound of /r/ in Greenlandic (completely unlike in English).[3]

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[3]And if this all sounds like Greek to you, then do not worry: It will hopefully make sense when you have read chapter 4 on pronunciation.

3.4 The ə-rule

$$/\text{ə}C/ \rightarrow [\text{i}C]$$
$$/\text{ə}V/ \rightarrow [\text{a}V]$$
$$/\text{tə}\emptyset/ \rightarrow [\text{t}]$$

This is another case of an ancient phoneme that has lost its own individual sound, and now instead borrows the basic sounds of other phonemes. This vowel, for which I use the symbol 'ə', is traditionally called *schwa* in the 'phoneme-aware' parts of the literature, e.g. Fortescue et al. (2010). This rule, the *schwa-rule*, then says that when /ə/ is followed by any *consonant* phoneme, it takes the sound [i], but when it is followed by any *vowel* phoneme, it takes the sound [a]. There is also an addendum: Many noun bases end in /tə/, but when /tə/ is not followed by anything – here denoted by the symbol $\emptyset$, called 'null', 'nil' or 'nought' – then the /ə/ takes no sound at all; it becomes silent.

EXAMPLE 3.4:

For this example I shall use two nounish endings, N{ga} (my N) and N{-a} (his/her/its N). The base {aŋutə}N normally means 'a man', but with one of these endings, it becomes a formal expression for 'father'. Lastly, the ending N{$\emptyset$} – an ending consisting of nothing – just denotes 'singular noun'.

	{aŋutə}N{ga}	(my father)
$\implies$	/aŋutəga/	(sandhi additive)
$\implies$	[aŋut**ig**a]	(this rule: /əg/ $\implies$ [ig])

	{aŋutə}N{-a}	(his father)
$\implies$	/aŋutəa/	(sandhi truncative, nothing deleted)
$\implies$	[aŋut**aa**]	(this rule: /əa/ $\implies$ [aa])

	{aŋutə}N{$\emptyset$}	(a man)
$\implies$	/aŋutə$\emptyset$/	(sandhi additive)
$\implies$	[aŋu**t**]	(this rule: /tə$\emptyset$/ $\implies$ [t])

The ə-rule neatly explains a phenomenon that often baffles foreigners trying to learn Greenlandic by the Graphemistic method: The sudden appearance of an 'i' or an 'a' in places where no vowel seemingly was before. You can read more about this in aside 3.2.

ASIDE 3.2:

'i$_2$' and other misnomers

Bjørnum (2003) and other Graphemists occasionally refer to the existence of an 'i$_2$' although they do not explain what it is. As you may well have guessed, an 'i$_2$' is really a schwa: To call it 'i$_2$' seems at best an arbitrary choice, since it might just as well have been called 'a$_2$'[a] Worse still, they make no distinction in their notation between the true i's and these mysterious i$_2$'s.[b] Neither does the DAKA dictionary, so a base like {aŋutə}N will be listed as *angut* with no indication whatsoever that the 't' is followed by a silent vowel. In fact, *every* noun listed in the DAKA, that *appears* to end on a 't' in singular is really a schwa-stem; that is, it ends in /tə/!

Imagine the confusion caused by this kind of 'explanation' when students are told e.g. that the plural marker for nouns is 'to add t to the stem' – that is, N{t} in my notation. An exchange between a teacher an student might then proceed along the following lines:[c]

Teacher: " 'A man' is *angut* but 'men' is *angut**it**."

Student: "But where did that extra 'i' suddenly come from?"

Teacher: "Well, that is just an *injected i*" the teacher would answer with an indulgent smile.

Student: "Then what about when I want to say *I am a man?* Then I would add *-uvunga* to *angut*, but this becomes *angut**a**avunga*. Why is there now suddenly an 'a'?"

Teacher: (the smile now slightly strained) "But dear Student, that 'a' is a *supporting vowel*."

Student: "So an 'i' appearing out of thin air is an 'injected i' but an 'a' is a 'supporting vowel' … so how do I know when i's are injected and a's turn up to support?"

Teacher: "An 'i' is injected after 't', and you use *-aavunga* on angut; that's what you are supposed to learn! And now let us proceed to something else…"

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[a] Or even 'u$_2$' since /ə/ can also (in a few special cases) take the sound of [u]!

[b] In all fairness, neither did Kleinschmidt or the users of the old orthography.

[c] Any likeness to real events is probably intended.

The ə-rule and the t-to-s rule

One reason why the ə-rule must appear *after* the t-to-s rule is that only *real* /i/ phonemes can change a /t/ to an /s/, but the ə-rule makes an /ə/ appearing before a /t/ indistinguishable from a real /i/. Thus, to obtain the correct result the t-to-s rule *must* be applied first.

   This is also the reason for that somewhat cumbersome extra requirement on the t-to-s rule that *if* the vowel *following* /t/ is a /ə/, then some other phoneme must follow /ə/, if the rule is to be applied. Consider a base like {autla**itə**}N (a rifle) with the null-ending N{∅} for singular. Without this extra requirement we would get */autla**isə**∅/ by the t-to-s rule, and then *[autla**is**] by the ə-rule. But no Greenlandic word can end on an [s]-sound!

   The cleanest solution would probably be to choose another symbol, instead of [i], to represent the sound taken by /ə/ before consonants, and then switch the order of the two rules. It would however require extra rules to handle the pronunciation of this new symbol, and so for the sake of simplicity I decided against this solution, because it seemed to add too much complexity for the sake of handling a marginal case.

   The interplay between the ə-rule and the t-to-s rule (and the ð-rule, for that matter) is certainly a complicated affair, but it would be no less complicated if we simply forgot about the rules and only considered the way words and affixes are *written* like the Graphemists do. To me, this is perhaps the strongest argument for a rule-based approach, and I have added no less than two extended asides about it at the end of this chapter (on page 47 and page 50).

When schwas don't matter

Consider a base like {iglu}N (house). If I were to follow Fortescue et al. (2010) and distinguish *every* 'i' that originally was a 'ə' then I should write this base as {əŋlu}N instead. I have, however, decided not to do this – again for the sake of simplicity. This /ə/ can never become anything but an [i]; it stands too far to the left in the morpheme. As a general rule, if the morpheme cannot be subdivided into smaller, recognisable morphemes, then only a /ə/ in the *last* syllable will make any difference, and these are thus the *only* schwas I will distinguish.

Further complications of the ə-rule

   The ə-rule is mainly relevant for stems that end in /tə/ – that is, nouns ending in 't' according to the DAKA dictionary – and to distinguish between the 'true' /i/ phonemes that may cause assibilation (transform a /t/ to an /s/); the so-called

This section may seriously confuse you. Read on at your own peril!

36

i$_1$'s according to Bjørnum (2003), and those that may not (i.e. the schwas or i$_2$'s in Bjørnum's terminology).

The alternations between [i], [a] and nought are actually *only* happening when schwa is stem-final; that is, when it is the last sound in a morpheme, such as is the case for all morphemes ending in /tə/. When a /ə/ is stem-*internal*, it will historically have taken on one particular sound, and it will then keep this sound despite later changes to the stem caused by e.g. deletion of a final consonant phoneme. As an example, consider the base {atəQ}N (a name). Here the /ə/ is stem-internal, so it will take the sound [i] regardless of what may happen to the final /q/. If you wanted to say e.g. 'it is a name', adding the affix N{-u}Vb (is) and Vb{vuq} (he/she/it Vb's), then the result will be *ati**u**voq*, and not **ataavoq*. The schwa is 'frozen' into the sound of [i], so to speak.

It would undoubtedly be much clearer, if I had written the base as *{atiQ}N instead. Despite the benefits, one of my reasons for *not* doing this is that it would make you think a morpheme beginning in /t/, that is added onto *{atiQ}N, should be subjected to the t-to-s rule. But this is *not* the case. Even when schwas historically have taken the sound [i], they *still* cannot cause assibilation.

There is also another (small!) group of morphemes, where the phonotactics has forced a stem-final /ə/ to take a sound. The most common examples are {puicə}N (a seal), {nipə}N (a voice), {tipə}N (a smell) and {inə}N (a room), where in each case the /ə/ cannot become silent, because the final sound would then *not* be one of [t], [k] or [q] or a vowel, as required by the phonotactics. There is also {uqaluktə}N (an interpreter), where the stem would end in a double consonant /kt/ *if* the schwa were to have become silent, which again is disallowed by phonotactics. In each of these cases the /ə/ takes the sound /i/, but here the /ə/ *is* stem-final, so it is *still* subject to alternation by the ə-rule. Thus, for instance {inə}N{-a} (his room) becomes [in**aa**].

This may also have happened in *endings*, where e.g. the ending N{vta} (our N's s.t.) actually comes from the morpheme {vtə}. Here again the /ə/ could not have become silent because of phonotactics, since it is preceded by the consonant cluster /vt/, and final consonant clusters are not allowed. However, here it has instead taken the sound [a], and this is generally the case within *endings*. Fortunately, unlike normal words, endings are not subject to arbitrary recombination of morphemes, so this is not something you have to worry about, but if I *should* formulate a general rule for this, then it seems to be something like: When forced by phonotactics, schwas will take the sound [i] in *stems*, but [a] in *endings*.

In general, schwas are a source of great confusion, even when we know what they are.

3.5   The a-rule

$$[aV] \rightarrow [aa]$$

This is the a-rule I have mentioned before. It simply says that *any* vowel sound following an [a] sound, will itself become an [a] sound. You could say that [a] sounds are contagious; they *assimilate* other vowel sounds progressively. This of course also happens if the vowel bearing the [a] sound is in reality a /ə/, that has *taken on* the sound [a] precisely *because* it is followed by a vowel. This two-step pattern is quite common.

EXAMPLE 3.5:

For this example I shall need but one new morpheme, the base {aqnaq}N (a woman). We shall see how to say 'I am a woman' and 'I am a man' respectively:

	{aqnaq}N{-u}Vb{vuŋa}	(I am a woman)
$\Longrightarrow$	/aqn**au**vuŋa/	(sandhi truncative, delete /q/)
$\Longrightarrow$	[aqn**aa**vuŋa]	(this rule: [aV] $\Longrightarrow$ [aa])

	{aŋutə}N{-u}Vb{vuŋa}	(I am a man)
$\Longrightarrow$	/aŋut**ə**uvuŋa/	(sandhi truncative, nothing deleted)
$\Longrightarrow$	[aŋut**au**vuŋa]	(ə-rule: /əu/ $\Longrightarrow$ [au])
$\Longrightarrow$	[aŋut**aa**vuŋa]	(this rule: [au] $\Longrightarrow$ [aa])

3.6   The t-rule

$$[ti] \rightarrow [t^si]$$

The sound of a Greenlandic [t] is normally unaspirated; that is, it sounds like 'd' in the words '**d**uck' and '**d**oor.' In fact, it is a well-known joke that you can pronounce something that closely resembles *Ittoqqortoormiit* – the name of an East-Greenlandic town, in East-Greenlandic – by saying "eat duck cut door meat." The present rule then says that when a /t/ stands before an [i] sound (whether from a schwa or a true /i/), it gets a little s-like sound added to it. This means it comes to sound much more like the way we are used to have t's sounding in English; something like the 't' in '**t**urn' and '**t**ime.'

EXAMPLE 3.6:

The morpheme N{-qaq}Vb (have N) can also mean "there are N" with the ending Vb{vuq} (he/she/it Vb). Suppose we wanted to say "There are men":

{aŋutə}N{-qaq}Vb{vuq}	(There are men)
⟹ /aŋutəqaqvuq/	(sandhi truncative, nothing deleted)
⟹ [aŋut**iq**aqvuq]	(ə-rule: /əq/ ⟹ [iq])
⟹ [aŋu**tˢi**qaqvuq]	(this rule: [ti] ⟹ [tˢi])

3.7   The vowel rule

$$[(a)ar/q] \rightarrow [(\alpha)\alpha r/q]$$
$$[(i)ir/q] \rightarrow [(e)er/q]$$
$$[(u)ur/q] \rightarrow [(o)or/q]$$

Both [r] and [q] are *uvular* sounds in Greenlandic; that is, they are pronounced at the very *back* of your mouth (and none of them sound anything like what you are used to associate with these symbols in English). This rule then says that when a vowel sound – either a single or a double – stands before one of these uvular sounds, then the vowel sound becomes *open*. It literally means that you must pronounce the vowel sound with a more open mouth. It will feel quite natural, once you know how to pronounce [r] and [q], since it is almost impossible to pronounce a preceding vowel *without* making it open.

I use the symbol [e] to signify the open variant of [i], and [o] to signify the open variant of [u]. Unfortunately, our alphabet has no conventional symbol that can be used to represent the open variant of [a], so for this I use the standard IPA[4] symbol for this sound, which is [ɑ].

EXAMPLE 3.7:

I shall skip the derivational steps this time and only look at three nounish bases: {aqnaq}N (a woman), {iqnəQ}N (a son), and {uqcuq}N (blubber):

$$[\textbf{aqnaq}] \implies [\textbf{ɑqnɑq}] \quad \text{(this rule: } [aq] \implies [ɑq])$$
$$[\textbf{iqniq}] \implies [\textbf{eqneq}] \quad \text{(this rule: } [iq] \implies [eq])$$
$$[\textbf{uqcuq}] \implies [\textbf{oqcoq}] \quad \text{(this rule: } [uq] \implies [oq])$$

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[4]International Phonetic Alphabet

40

3.8 The consonant rule

$$[C_1 C_2] \to [C_2 C_2]$$

This rule is fairly simple, but with profound consequences for the way words are pronounced. It says that whenever two consonants (C_1 and C_2) stand next to each other, then the *first* consonant (C_1) will take the sound of the *last* consonant (C_2). It is *regressively assimilated*[5] and we thus always end up with two of the last sound.

EXAMPLE 3.8:

For this example, we shall need the nounish ending N{mut} (to N), and the verbal base {aglak}Vb (write).

> {Nuuk}N{mut}   (to Nuuk)
> $\implies$ /Nuu**km**ut/   (sandhi additive)
> $\implies$ [Nuu**mm**ut]   (this rule: [km] $\implies$ [mm])

> {aglak}Vb{vuŋa}   (I write s.t.)
> $\implies$ /a**gl**a**kv**uŋa/   (sandhi additive)
> $\implies$ [a**ll**a**vv**uŋa]   (this rule: [gl] $\implies$ [ll]; [kv] $\implies$ [vv])

> {uqcuq}N{∅}   (blubber)
> $\implies$ /**uq**cuq/   (sandhi additive)
> $\implies$ [o**qc**oq]   (vowel rule: [uq] $\implies$ [oq])
> $\implies$ [o**cc**oq]   (this rule: [qc] $\implies$ [cc])

Notice in the last example with {uqcuq}N how a vowel, that has become open by the vowel rule because it stands before an uvular consonant, *remains* open, even when that uvular consonant is subsequently assimilated to some other, non-uvular sound, like in this case a [c]. That is why the vowel rule *must* come earlier in the process than the present rule.

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[5]'Regressive' here means 'going from right to left.' Conversely, 'progressive' means 'going from left to right.' Thus, the a-rule describes progressive assimilation by [a] sounds, and the consonant rule describes *regressive* assimilation by any consonant sound.

3.9   The fricative rule

$$[vv] \rightarrow [pp] \; \textit{or (rarely)} \; [ff]$$
$$[gg] \rightarrow [kk] \; \textit{or (rarely)} \; [xx]$$
$$[ll] \rightarrow [ɬɬ]$$
$$[jj] \rightarrow [cc] \; \textit{or} \; [t^{s}t^{s}]$$
$$[rr] \rightarrow [qq] \; \textit{or (rarely)} \; [XX]$$

This very important rule says that *whenever a voiced fricative sound is doubled, it must become voiceless*. Without going too much into details about pronunciation at this point, a *voiced* sound is any sound that you produce by using your voice. Try placing your fingers on your throat and say a prolonged [llllll]. You should be able to feel a slight vibration, made by your vocal cords. The sound [l] is *voiced*. Conversely, try saying a prolonged [ssssss]. You should not be able to detect any vibration, because the sound [s] is *unvoiced*. For another example, try comparing the 'w' in **witch** and **which**. In English, 'unvoicedness' is typically marked by an 'h', so you should be able to detect a difference in the two pronunciations of 'w' – at least if you are a moderately conservative speaker.

A *fricative* is a consonantal sound produced by restricting the air-flow, compressing it through a narrow channel that you form on the point of articulation by using your lips, teeth or tongue. For instance, [f] is one of these sounds; it is impossible to say an [f] with wide-open mouth (try it yourself!).

In Greenlandic, the *voiced fricatives* are the sounds [v], [g], [l], [j] and [r], and the present rule says that whenever one of these sounds becomes *doubled*, e.g. because of the consonant rule, then it must become one of its corresponding *unvoiced* sounds. This process is very common – and hence this rule is very important – often occurring several times within a single word.

Here a *corresponding* consonantal sound is any consonantal sound that is produced at the same *point* of articulation in the mouth, but using a different *manner* of articulation. For instance, the Greenlandic [v] is produced with both lips, almost like the English 'w' (in 'witch', *not* in 'which'). The sound [p] is *also* made with both lips (the point of articulation), but instead of merely restricting the air-flow, you stop[6] it completely by closing your lips tight for an instant, before letting the air-flow pass again. The point of articulation is the same for [v] and [p], but the manner is different.

In other words, the sound changes dictated by the present rule are not merely arbitrary substitutions, although they may seem so to you at the moment, if you are not familiar with phonetics, the subject of human speech. In that case, it

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[6]And for this reason, [p] is called a *stop* sound.

will hopefully make more sense after you have read the next chapter, where I describe the actual pronunciation of these symbols.

When to choose which sound

As you may have noticed, the present rule gives *two* possible transformations, a common and a rare, for each of the doubled, voiced fricatives. These correspond to the common and rare *reasons* for the formation of the doubled sound:

- [vv] is most commonly formed in verbal stems by the consonant rule. For instance, a good number of common verbal affixes and almost half of all verbal endings begin in a /v/, and whenever these are added onto a stem ending in a consonant, [vv] will be formed by the consonant rule. Thus, in these (very!) common cases, [vv] becomes [pp].

  [vv] is *rarely* formed in nounish stems, and when they are, it is almost solely because of a single affix, Vb{(v)vik}N (a place where s.o. Vb's). Thus, within nounish stems [vv] becomes [ff]. There also exists a rare sound process called *gemination* or consonant-doubling, where the addition of a morpheme causes a consonant somewhere in the preceding stem to become doubled. If a [vv] is formed in this way, then it also becomes [ff].

- [gg] is also most commonly formed in verbal stems by the consonant rule, because, again, many common verbal affixes, and more than half of all verbal endings, begin in /g/. Thus, in these (again very!) common cases, [gg] becomes [kk].

  [gg] can also arise through gemination, although this again is quite rare, and in these (few) cases [gg] becomes [xx]. There are also a few cases of stems, where this has happened historically, forming a morpheme where the sound [xx] is now 'frozen', for example the base {a**gg**iq}Vb (approach s.t.). Here /gg/ will always become [xx], so we might just as well regard /x/ as an actual phoneme and write the base as {a**xx**iq}Vb instead.

- [ll] always becomes [ɬɬ], so this case is easy.

- [jj] is a rare cluster that (at least as far as I know) solely arises through gemination. It can become both [cc] and [t^{s}t^s], and there is, unfortunately no clear rule, so this is something you will have to learn for each morpheme where it might occur. They are, fortunately, a small group, so this is not something you should worry about presently.

43

● [rr] is also a quite rare cluster that only arises through gemination. It almost always goes to [qq], especially when gemination is caused by an ending on a noun, but there are some (very, very few!) cases of affixes that can also cause gemination, and here it goes to [XX]. One example is a variant of the 'place where' affix, Vb{'vik}N. Together with the base {nirə}Vb (eat s.t.) it has formed the word [neXXivik], meaning a (dinner)table (literally, a place where one eats something). This word has become lexicalised with this special meaning,[7] so we might again just as well regard /X/ as an actual phoneme, and consider this combination as a single morpheme {niXXivik}N.

In general, if you are going to memorise this rule, you should focus on the common cases; that is, remember that [vv] $\implies$ [pp], that [gg] $\implies$ [kk], and always that [ll] $\implies$ [ɬ]. The rest are unimportant details.

EXAMPLE 3.9:

For this example I introduce a new verbal ending, Vb{gama} (when/because I Vb'ed):

    {aglak}Vb{vuŋa}   (I write s.t.)
$\implies$ /aglakvuŋa/   (sandhi additive)
$\implies$ [allavvuŋa]   (consonant rule: [gl] $\implies$ [ll]; [kv] $\implies$ [vv])
$\implies$ [aɬappuŋa]   (this rule: [ll] $\implies$ [ɬ]; [vv] $\implies$ [pp])

    {aglak}Vb{gama}   (when/because I wrote s.t.)
$\implies$ /aglakgama/   (sandhi additive)
$\implies$ [allaggama]   (consonant rule: [gl] $\implies$ [ll]; [kg] $\implies$ [gg])
$\implies$ [aɬakkama]   (this rule: [ll] $\implies$ [ɬ]; [gg] $\implies$ [kk])

    {aglak}Vb{(v)vik}N   (place where s.o. writes, e.g. writing desk)
$\implies$ /aglakvik/   (sandhi epenthesis, (v) not inserted)
$\implies$ [allavvik]   (consonant rule: [gl] $\implies$ [ll]; [kv] $\implies$ [vv])
$\implies$ [aɬaffik]   (this rule: [ll] $\implies$ [ɬ]; [vv] $\implies$ [ff])

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[7]Compare it with the 'usual' combination of these two affixes: {nirə}Vb{(v)vik}N{∅} $\implies^*$ [neriffik] which would have the general meaning 'a place where someone eats'; i.e. it could refer to *any* such place, and not just a dinner table.

3.10   A not-quite rule

There seems, at least historically, to have been a rule that made an initial /j/ – written /y/ in the Comparative Eskimo Dictionary (Fortescue et al., 2010) – alternate with a /g/, whenever it is added onto a *consonant*; that is, precisely in the cases when /g/ will be changed by other sound rules.[8]

This behaviour is not *regular* – it certainly does not happen with *all* /j/ phonemes – but there are a handful of very common morphemes that display this alternating pattern, and you will encounter the sooner or later. Therefore I have decided to use an extra symbol to denote such an 'alternating /j/' – I write it /y/, following Fortescue et al. (2010) – and to create this additional rule to describe its behaviour. Note, this rule must obviously be applied *before* the g-rule:

$$/Vy/ \rightarrow /Vj/$$
$$/Cy/ \rightarrow /Cg/$$

EXAMPLE 3.10:

A very common example of an affix using this rule is Vb{yuma}Vb (would like to Vb)

	{sinək}Vb{yuma}Vb{vuŋa}	(I would like to sleep)
$\Longrightarrow$	/sinə**ky**umavuŋa/	(sandhi additive)
$\Longrightarrow$	/sinə**kg**umavuŋa/	(this rule: /ky/ $\Longrightarrow$ /kg/)
$\Longrightarrow^*$	[sinikkumavuŋa]	

	{suli}Vb{yuma}Vb{vuŋa}	(I would like to work)
$\Longrightarrow$	/sul**iy**umavuŋa/	(sandhi additive)
$\Longrightarrow$	/sul**ij**umavuŋa/	(this rule: /iy/ $\Longrightarrow$ /ij/)
$\Longrightarrow^*$	[sulijumavuŋa]	

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[8]Because there are only three possibilities: It can be added onto a vowel, a /q/ thus becoming /r/ by the g-rule, or onto any other consonant, thus becoming [kk] by first the consonant rule and then the fricative rule.

3.11   A contrived example

I have constructed one last extended example to illustrate (almost) all of the sound rules together. I have – because of limited page width – not written exactly *what* is changed by the application of each rule, although I have indicated the place(s) of application with bold text, so to test your knowledge you can also try to fill in these details yourself.

EXAMPLE 3.11:

For this example I shall use the morphemes {autlaitə}N (a rifle), N{-qaq}Vb (have N), Vb{(q)gusuk}Vb (want to), Vb{niq}Vb (wonder/might), Vb{ðuŋa} (that I) to construct a single word with the, admittedly somewhat unusual, meaning "that I might want to have a rifle."

	{autlaitə}N{-qaq}Vb{(q)gusuk}Vb{niq}Vb{ðuŋa}	
$\Longrightarrow$	/autlait**əqaqg**usu**kniqð**uŋa/	(sandhi)
$\Longrightarrow$	/autlaitəqaqgusukni**qt**uŋa/	(ð-rule)
$\Longrightarrow$	/autla**isə**qaqgusukni**qsu**ŋa/	(t-to-s rule)
$\Longrightarrow$	/autlaisəqa**r**usukniqsuŋa/	(g-rule)
$\Longrightarrow$	[autlais**iq**arusukniqsuŋa]	(ə-rule)
$\Longrightarrow$	[**aatlaa**siqarusukniqsuŋa]	(a-rule)
$\Longrightarrow$	[aatlaas**eqɑ**rusukn**eq**suŋa]	(vowel rule)
$\Longrightarrow$	[aa**ll**aaseqɑrusu**nn**essuŋa]	(consonant rule)
$\Longrightarrow$	[aa**ɬ**aaseqɑrusunnessuŋa]	(fricative rule)

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* * *

I know this chapter, perhaps more than any of the others, may seem 'mechanical' or 'algorithmic' – you perform a number of sequential operations on your morphemes, step by step changing them into a pronounceable word. When I have presented this 'rule based' approach, people have sometimes commented that 'the language becomes like mathematics' – whereby the commenters apparently mean something like that it all becomes so logical that it becomes incomprehensible (!?). But that *is* how the language is, no matter what the Graphemists might say, and it is not just something I have invented. There are a number of simple rules that must be applied in sequence. And that is really all there is to it. But again, compared to English this kind of regularity must seem alien indeed – English is hardly a language in danger of becoming 'like mathematics.'

ASIDE 3.3:

"Warning: Keep out of the reach of foreign learners"
I sometimes think that both the DAKA dictionary and the affix list (Olsen and Hertling, 2011) ought to bear a warning label with this inscription, because, whatever their other merits may be, they will certainly not be of much help to you, if you are trying to learn Greenlandic and want to understand what is going on with word formation. As previously mentioned, these works are both Graphemistic – all entries are represented at the level of *writing*, according to the new orthography.

For instance, the affix I write as Vb{ðaq}Vb (Vb habitually/repeatedly) is given[a] as both "-:tarpoq" and "-:sarpoq", and the only direction it gives, as to when you should use one form or the other, are some concrete examples of usage with no explanation:

-:sarpoq *0-0*
    amiisarpoq plejer at male [usually paints]
    anorlersarpoq det plejer at blæse [it is usually windy]
…
-:tarpoq *0-0*
    ingittarpoq plejer at sætte sig ned [usually sits down]
    nassartarpoq har altid noget med [usually brings s.t.]
    tutsiuttarpoq lader som regel høre fra sig [usually keeps in touch]

I have added English translations in hard brackets, but the actual meaning of the words are not relevant here. The important point is: Do you believe that you – without knowing the sound rules – would be able to figure out when to use the form beginning with 's' and the form beginning with 't'? I doubt it. Note the following:

- All entries are given *with an ending* – here the ending Vb{vuq} (s/he/it Vb's) – even though the ending is not a part of the affix. That is why there is a 'poq' at the end in both cases. That is certainly both confusing and a waste of space, since it is quite unlikely that you will need this particular ending – or that there should be any ending at all; you might want to have 4-5 other affixes following it instead!

- In *amii**s**arpoq* the /ð/ has of course become a [c] by the ð-rule, and this sound is spelt 's' in the new orthography. But in the next example – *anorler**s**arpoq* – the affix *is* attached to a consonant! Here /ð/ has

first become a /t/ by the ð-rule, and then subsequently an /s/ by the t-to-s rule. The two examples illustrate two different processes, but they still stand side by side!

Furthermore, both forms of the affix Vb{ðaq}Vb stand right beside the affix N{tuq}Vb (eat/drink N), that likewise is listed as both "-:torpoq" and "-:sorpoq":

-:sorpoq *t-o*
  amersorpoq spiser fiskeskind [eats fish skin]
  kaffisorpoq drikker kaffe [drinks coffee]
  mannissorpoq spiser æg [eats eggs]
…
-:torpoq *t-o*
  iffiartorpoq spiser rugbrød [eats rye bread]
  inoruutitorpoq spiser noget som han har været vant til fra barn af
  mattattorpoq spiser mattak [eats whaleskin]

Here the alternation between 't' and 's' has nothing to do with the ð-rule; it is caused solely by the t-to-s rule because of the presence or absence of a preceding 'true' /i/, but how on earth should a foreigner wanting to learn Greenlandic be able to perceive that, merely by looking at these examples? And it becomes completely impossible in the *inoruu**it**orpoq* example, where /t/ even appears to actually *be attached* onto an /i/, but this time *without* being transformed into an /s/.

This happens, of course, because it really is not an /i/ at all, but a /ə/ – the base is {inuruut**ə**}N – but how should you hope to realise this without knowing the ə-rule? Or even knowing that there are really *four* vowels, and not just three? The new orthography (in general), and the DAKA dictionary along with all the other Graphemistic works (in particular) have done much to obscure the patterns in the language and make it impenetrable to a foreigner trying to learn it.

Vb{galuaq}Vb (is/was Vb'ing, but…) and similar affixes beginning with a /g/ are also listed in no less than *three* forms – one for each form a /g/ can take – which seems even more unnecessary, because all these forms are regularly and completely determined by the g-rule, the consonant rule and the fricative rule. And to further increase the confusion, affixes with the alternating /j/ like Vb{yuma}Vb are of course listed in *four* forms – where

48

one starts with a "j" and another with a "u" – side by side with an affix like N{-u}Vb, which is given in *three* different forms:

Vb{galuaq}Vb is listed with three forms:
  -:galuarpoq   (on vowel stems)
  -kkaluarpoq   (on consonant stems, except q)
  -raluarpoq   (on q-stems)

Vb{yuma}Vb is listed with four forms:
  -jumavoq   (on stems ending in "a" or "u")
  -umavoq   (on stems ending in "i")
  -kkumavoq   (on consonant stems, except q)
  -rumavoq   (on q-stems)

N{-u}Vb is listed in three forms:
  -uvoq   (following "i" or single "u")
  -avoq   (following "a" (and /ə/!))
  -juvoq   (following "uu" and "aa")

Unless you know the sound rules – or are uncommonly enlightened – you would surely have a hard time reaching the conclusion that the "j" in "**+j**umavoq" is an alternating /y/, whilst the "j" in "**-j**uvoq" is a meaningless consonant that has been injected solely for the sake of phonotactics. Nevertheless, this is precisely what the Graphemistic materials require you to do – but, of course, without telling you that there even *is* such a conclusion to be reached.

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[a]The following examples are all taken from the DAKA dictionary. The affix list of Olsen and Hertling (2011) is made in exactly the same way and contains no explanations either.

ASIDE 3.4:

How to eat a bicycle in Greenlandic

A final note of warning is in order: The t-to-s rule probably faces an uncertain future. The ə-rule, the a-rule and the new orthography together are conspiring to eradicate it. As you now know, only true /i/ phonemes can change a /t/ to an /s/ – *not* a schwa, even if it has taken on the sound of an [i]. The problem is that no one today can remember which [i] sounds are schwas and which are true /i/ phonemes. Not even Kleinschmidt recorded the difference.

Furthermore, the new way of spelling means that some /i/ phonemes (and /ə/ phonemes for that matter) are *written* as "a" because they have come to be *pronounced* as [a] by the a-rule, and thus only people who have learned the old orthography will remember which "a" *letters* actually represent assimilated /i/ phonemes (because in the old orthography these /i/'s and /ə/'s were still written as "i"). Remember that almost no one who has Greenlandic as their first language will ever have learned, or even heard about, the kind of rule-based systematics I have presented in these chapters – they already know what the words should sound like, so they do not need to learn this abstract kind of rules.[a]

Thus, you are likely to experience an awful mess with respect to this rule. Many younger speakers (who have only learned the new orthography) do not use it at all; or they use it only infrequently and irregularly, and you should therefore not be surprised if they 'correct' you when you say e.g. the (correct!) [pikkori**ss**uŋa] – they might tell you it should be [pikkori**tt**uŋa] instead! I have on several occasions found myself in a heated debate with someone, because I insisted on using the t-to-s rule, and they insisted that it was wrong. If there is one area where a Dane should tread carefully then it is on the subject of what anything is called in (correct) Greenlandic.

On the other hand, more conservative speakers – often the elderly, who were taught the old orthography in school – still use the rule. Thus, if you decide *not* to use the rule, then *they* will probably tell you that what you say is wrong. In other words, this rule puts you in a catch-22 situation: Whether you decide to use it or not, someone will likely tell you that you are saying something incorrect, or saying it incorrectly.

I cannot advise you on whom you should disagree with. You will have to decide this for yourself – or vary your language usage depending on whom you are talking to. But even if you decide not to *use* the t-to-s rule yourself, you will sooner or later encounter cases where it, at least historically, *has*

been active, and thus you still need to *know of* the rule to see the pattern
and understand what is (or has been) going on.

Let me give you a few examples: A rifle is *aallaat* in Greenlandic. You
can deduce that the stem actually ends in a /ə/, so this should come as no
great surprise. But when you add other morphemes onto it, strange things
happen:

"A rifle" is *aallaat*
"*My* rifle" is *aallaasiga*   (add N{ga})
"I *have* a rifle" is *aallaaseqarpunga*   (add N{-qaq}Vb + Vb{vuŋa})
"Rifles" is *aallaasit*   (add N{t})

Why is that? Why does the final "t" suddenly become an "s" when some-
thing is added to this base? If you are thinking this has something to do with
the t-to-s rule, then you are right: The morpheme is {autla**itə**}N. When used
on its own, the t-to-s rule cannot change the final /t/ to an /s/, because the
final *sound* in the word then would be [s], which is disallowed by phonotac-
tics. The rule is thus suppressed *until* something (affix or ending) is added
onto this base. Then the rule is applicable, changing /t/ to /s/.

I have heard words like *aallaat* described as 'irregular', but this is really
nonsense. The word behaves completely regular *if* you know the morphemic
form. In fact, it behaves just like *inats**it*** (a law), *ikits**it*** (a match) and several
others. Rather, the problem is that when the word is written using the new
orthography, its behaviour is no longer *predictable* from the way it is spelt.
This was not the case with the old orthography, where the word was spelt
*autdla**it***.

Another example: I have often heard a mysterious 'myth' in the teaching
of Greenlandic as a foreign language, that the 'consumption' affix N{tuq}Vb
– which you saw in aside 3.3 – should have a certain 'delicious' form with "s"
instead of "t" to be used with the four, traditionally luxurious, imported del-
icacies *kaffi* (coffee), *kaagi* (cake), *viini* (wine) and *whiskey*. "I drink coffee"
is, in fact, *kaffi**sor**punga*.

This 'myth' is all nonsense, of course: The forms with "s" are all caused
by the t-to-s rule. An /i/ has been added to these loan-words, triggering the
rule when N{tuq}Vb is later affixed onto it, just as it does with other nor-
mal, Greenlandic stems like in *amer**sor**poq* and *mannis**sor**poq*, as you saw
in the examples from the dictionary in aside 3.3. But this will presumably
also happen when you consume other loan-words! Thus, if I eat a bicycle,

it should (at least in principle) also be *sikkili**sor**punga*, although this is unlikely to be a delicacy.

Or it might not be. I admit, the rule *is* no longer quite regular: For instance, when you drink tea, you say *tii**tor**punga*, so here the rule is *not* activated (or the two [i] sounds are not interpreted to be true /i/ phonemes). Reality is unfortunately not always quite as simple and predictable as our rules; but as long as the rules can help us predict and understand reality in *most cases*, then we are certainly still better off *with* the rules than without them.

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[a]Or at least they *think* they know how the words should sound. Unfortunately, they do not always agree on it, which can put you in an awkward position as a foreigner wanting to learn the language, if you are of one opinion and those with whom you are speaking are of another.
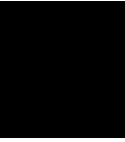
The spoken word

If you have followed the steps outlined in the previous chapters, you should now have a new string of symbols in hard brackets, like for instance

[aaɬaaseqɑrusunnessuŋa]

Each symbol represents one unique, distinct sound. But *what does it sound like?* The purpose of the present chapter is to answer that question.

Describing pronunciation by means of voiceless words on a page is, unfortunately, not a very efficient way of conveying to you the mapping of sounds onto symbols. It would be so much easier, if you could just listen to my voice.

In other words, unless you are well-versed in phonetics, you should not expect to actually learn how to pronounce Greenlandic words just by reading this chapter. The best I can hope for is to provide you with an insight into the *systematics* of the pronunciation, because even when it comes to speech Greenlandic follows a set of regular, well-defined rules.

4.1   A note on notation

As you may have noticed, I have decided not to use the standard IPA[1] notation to describe pronunciations. There are two reasons for this choice: Firstly, as I said above, if you are not used to reading phonetics notation, it will look like a string of mostly unfamiliar symbols that will mean nothing to you. There are already

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[1]International Phonetic Alphabet

many strange and abstract symbols in my presentation, and I saw no reason to increase their number further, when I could use (mostly) familiar symbols instead. And secondly, as you will see later, my way of writing pronunciation is *very* close to the way words are actually *spelt* according to the new orthography, which will make the last conversion – from pronunciation into writing – very easy. In fact, all I have done is to take the new orthography and patch it up with a few extra symbols (like [c], [ɑ] and [ŋ]) to ensure that each symbol corresponds to one and only one sound.

However, the IPA can still be useful in my presentation of the sounds in Greenlandic, because if my other attempts at describing a sound fail completely, then you can still look it up somewhere else and e.g. find a recording of its pronunciation. For this reason, I use [IPA: -] to indicate the corresponding IPA-notation. You can also click on the symbol; it is a hyperlink to a page on Wikipedia with further details on its pronunciation.

4.2   The long and the short of it

A sound in Greenlandic can be either *short* or *long*, in a literal sense: If you pronounce a short variant of a sound for e.g. n milliseconds, then you should spend $2n$ milliseconds on pronouncing the long variant. The intuition here is quite clear: A sound written doubly in my notation of pronunciation should of course take you twice as long to produce as a sound written singly; or, in other words:

> **Definition 4.1:**
>
> A single sound is pronounced *short*, a double sound is pronounced *long*, and this applies to both vowel and consonant sounds. Thus e.g. both [u] and [p] are short, but [uu] and [pp] are long.

This distinction is *very* important in Greenlandic, because it can be a *minimal difference* between two words; that is, it can be the only thing that distinguishes between two words with very different meanings. Consider for example the pair [in**u**vik] (a real human, short [u]) and [in**uu**vik] (birthday, long [uu]).

To give another example; a common joke in Greenland is to ask a foreigner to pronounce the word "u**ss**uk" which is pronounced [u**cc**uk] and means a bearded seal. If the unsuspecting victim is used to Danish (or English) phonology, then he is likely to say this with a *short* (that is, single) [c], rather than the double

[cc], because in Danish, as well as in English, a double consonant usually means that the *preceding vowel* must be pronounced short (and open), whilst it makes no difference for the length of the consonantal sound itself.

Consider a pair of words like *co**mm**a* and *co**m**a*. If your pronunciation is anything like mine, then you are saying the first word with a short, open o, and the second with a long, closed o, but the length of the 'mm' and the 'm' will be about the same. This is emphatically *not* how you should do it in Greenlandic, because if you do, you will be saying [u**c**uk] instead of [u**cc**uk]. And [ucuk] means penis.

4.3   Vowel sounds, open and closed

When it comes to pronunciation there are really only three vowel phonemes of interest; /a/, /i/ and /u/. Schwa does not count, since it always takes on the sound of one of the others.

As mentioned above, each of these can be short, or they can be long if two of them happen to stand next to each other, but that only affects the *length* of the sound, you should produce, and not the sound itself; that is, e.g. [u] and [uu] have the same *sound*, but just different *length*. This means we can ignore the length here and only concern ourselves with describing the actual sounds taken on by these phonemes; that is, I will describe only the single (short) phonemes (sounds), because the double variants are the same, just twice as long.

The phonemes /a/, /i/ and /u/ will normally take the 'usual' or *closed* sounds [a], [i] and [u], except when they are followed by one of the uvulars /r/ or /q/; then, by the vowel rule, they take instead the *open* sounds [ɑ], [e] and [o]. In other words, we have six different sounds to worry about:

	/a/	/i/	/u/
closed	[a]	[i]	[u]
open	[ɑ]	[e]	[o]

The words 'closed' and 'open' refer[2] to the position of your lips when you pronounce the sounds: Closed sounds are pronounced with only a small opening of the lips, whilst open sounds are pronounced with a (relatively) greater opening. Both kinds of sounds also exist in English:[3]

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[2]This is not entirely in accordance with the way IPA use these terms. It holds for [i] vs. [e], and [u] vs. [o], but according to the IPA, the difference between [a] and [ɑ] is also a difference of *frontness* vs. [backness], rather than (only) openness or closedness.

[3]Note, by point of reference here is British English, *not* American English.

- [a], [IPA: æ] like *m**a**n, h**a**t, c**a**t*. Greenlandic: [**a**n**aa**n**a**] (mom), [**a**t**aa**t**a**] (dad).

- [i], [IPA: i] somewhat like *b**ee**p* or ***i**terate*, with lips as closed as you can make it. Greenlandic: [**i**nuk] (human), [**ii**p**i**l**i**] (apple, a Danish loan word).

- [u], [IPA: u] somewhat like *b**oo**t* or *t**oo**th*, again with lips as closed as you can make it. Greenlandic: [k**uu**k] (a small water stream), [in**u**k] (human).

The open sounds are pronounced (more or less) in the same position, but just with your mouth more open. Thus you may be able to find the sounds just by pronouncing the corresponding closed sound and then opening your mouth:

- [ɑ], [IPA: ɑ] like ***a**rmour, c**a**rbon* Greenlandic: [**ɑ**nn**ɑ**q] (woman).

- [e], [IPA: ɛ] like 'ai' in *h**ai**r*. Greenlandic: [**e**nn**e**q] (son).

- [o], [IPA: ɔ] like 'ou' in *th**ou**ght*. Greenlandic: [**o**cc**o**q] (blubber).

4.4   Consonant sounds

We are come now to the description of consonant sounds. These can be organised into series, based on the *manner* of articulation, as well as in groups based on the *place* of articulation. This is depicted in figure 4.1, where the rows correspond to manner, and the columns correspond to place.

You should think of this figure as a depiction of your own mouth, viewed from the side (see also figure 4.2): Turn your face towards the left side of the page, and feel your way with the tip of your tongue along the upper part of your mouth: The first place of articulation, corresponding to the first column, is the lips. Then come your upper front teeth (second column), and immediately behind them is the hard ridge of your gums; this is called the *alveolar* ridge, corresponding to the third column. After the ridge, the roof of your mouth caves upwards; this area is the *hard palate* (fourth column), and when it feels like your tongue stands at a nearly 90 degrees angle you can feel this roof of your mouth suddenly becoming soft; this piece of soft tissue is called the soft palate or velum, and sounds produced here are called *velars* (fifth column). Lastly, at the very back of your mouth, the velum drops downwards and becomes a droplet-shaped piece of tissue known as the uvula (sixth column). You will probably not be able to touch that with the tip of your tongue without feeling that you are about swallow your tongue.

	lips (labial)	teeth (dental)	behind teeth (alveolar)	hard roof of mouth (palatal)	soft roof of mouth (velar)	back of mouth (uvular)	
aspirated unvoiced		t^s					} stops (plosives)
unaspirated unvoiced	p		t		k	q	
voiced	m		n		ŋ		nasals
voiced	v		l	j	g	r	} fricatives
unvoiced	f	s	ɬ	c	x	X	

Figure 4.1: Approximate characterisation of the pronunciation of consonants. This is a simplified version of the IPA table; the sounds are organised in columns corresponding to the place of articulation within the mouth, and in rows corresponding to the manner of articulation.

The point of articulation is the place where you do *something* with your tongue (not necessarily the tip). The rows of the table in figure 4.1 then group the consonants into *series* depending on *what* it is you are doing: You can block the airflow from your lungs (stops), you can let it pass out through your nose instead (nasals), or you can restrict the airflow such that it can only pass through a narrow opening formed between your tongue and the point of articulation (fricatives). This last series can again be subdivided into two, depending on whether you pronounce them with or without the use of your *voice*. In the following sections I shall go through each of these series in turn.

Nasal cavity

Alveolar ridge (alveolars)　　*Palate (palatals)*　　*Velum (velars)*

[j]　　　　　[k]

[t]　[c]　　　[ŋ]

[tˢ]　[n]　　　[g]

[s]　[l]　　　[x]

[p]　　　[ɬ]

[m]　　　　　　　　[q]

[v]　　　　　　　　[r]

[f]　　　　　　　　[X]

Lips (labials)

Tongue

Uvula (uvulars)

Vocal cords
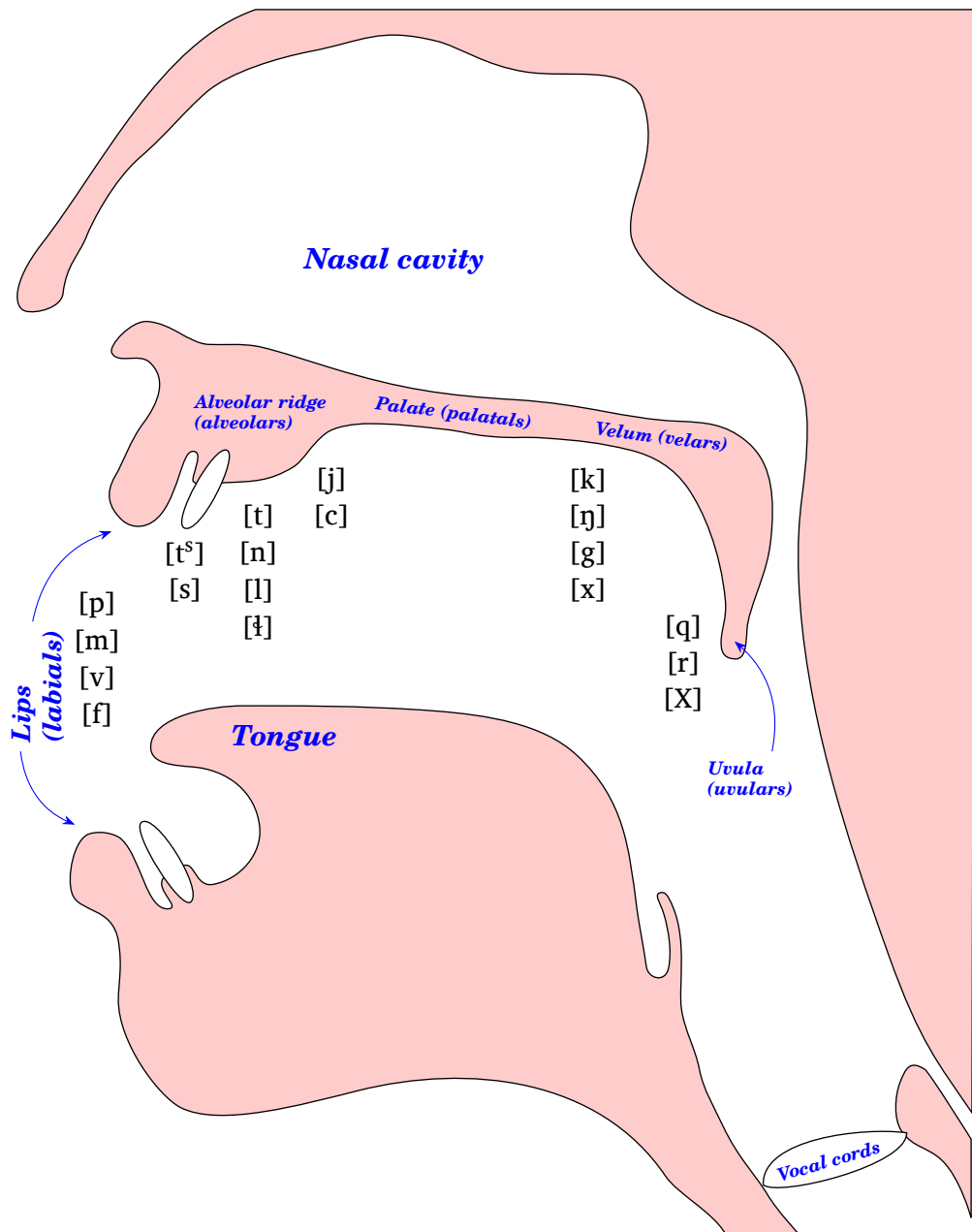
Figure 4.2: Cross-section of a mouth with approximate characterisation of the places of articulation for Greenlandic consonants. [Image modified from Wikipedia]

58

4.5 First series: Stops

The *stops* (or plosives in Grammaric) are so named because you articulate them by completely stopping the airflow for a moment – either with your lips (in the case of [p]) or with your tongue – building up air pressure in your mouth which you then release by opening your lips or moving your tongue again, thus articulating the sound.

The Greenlandic stops are the sounds [p], [t], [t^s], [k] and [q]. Of these, only [t^s] is clearly *aspirated*, meaning that you release a noticeable puff of air when you say it. The others are *unaspirated*; that is, they are pronounced *without* this puff of air, which most likely is not what you are used to associate with these symbols: If you try saying e.g. a normal 'p' in English – for instance the word '**p**ost' – whilst holding your hand close to your mouth, you should be able to clearly feel it. You could probably blow out a candle by saying '**p**ost' close enough to the flame. This is because the consonant 'p' is aspirated in English. Now try the same with the word 's**p**ort' – the puff of air on the p-sound should be only barely detectable, and surely not enough to blow out a candle. This is because stops following an s-sound become *unaspirated* in English. However, in Greenlandic stops are *always* unaspirated, *except* for the sound [t^s].

- ⬤ [p], [IPA: p] like *spoon, sport*. Greenlandic: [**pup**ik] (mushroom).

- ⬤ [t], [IPA: t] like *study, stone*. Greenlandic: [**tuttu**] (caribou).

- ⬤ [k], [IPA: k] like *sky, skill*.[4] Greenlandic: [**kuuk**] (stream of water, river), [**kakkaak**] ('oh my…!', an exclamation).

- ⬤ [q], [IPA: q] like nothing in the English language, unfortunately. Or in any of the other well-known European languages, for that matter. It is a sound made 'like' the aforementioned [k] sound, but farther back in your mouth: Notice that when you say the [k] sound, your tongue arches upwards such that approximately its middle area touches the roof of your mouth. To say the [q] sound, first let your mouth be wide open and *keep* it open; then try to say the [k] sound without moving your jaw. The easiest way to do this is by letting the back-part of your tongue block the airflow at the uvula. If you can manage this,[5] then you are actually saying the [q] sound. Greenlandic:

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[4]In English, this sound is very often spelt with a 'c' instead of a 'k', e.g. in *scan, score*. It is exactly the same sound, but English uses two different symbols for it.

[5]If you are doing this now and think that you sound as if you were trying to deep-throat a banana, then do not worry. Everyone sounds like that when they are trying to learn how to say the [q] sound. It does not actually sound like that – Greenlanders certainly do not go around

[**qeqq**a] (its middle), [**qɑqqɑq**] (mountain), [**qɑqqɑqɑqɑɑq**] (there are an awful lot of mountains).

All the aforementioned sounds in the stops series were unaspirated, but there is one aspirated stop in Greenlandic pronunciation: The sound [tˢ]. As you may recall from the t-rule (see page 39) any /t/ phoneme will take on this sound, if it stands before an /i/ phoneme (or a schwa that has taken on the sound of /i/). That is the most common way in which this sound can arise.[6]

- ● [tˢ], [IPA: tʰ] like *time, turn* with a very clear pronunciation of the t-sound. This is probably the sound you are used to associate with the symbol 't' so it should be quite straightforward.

EXAMPLE 4.1:

This is just a curious little example to show you how the ə-rule can make a /t/ alternate between the sounds [t] and [tˢ].

Consider the base {uqalukðə}N (interpreter, literally 'one who speaks for s.b'). If you wanted to say just the word 'interpreter' you would use the null-ending N{∅}, and thus the word becomes

	{uqalukðə}N{∅}	(interpreter)
$\Longrightarrow$	/uqalukðə/	(sandhi: additive)
$\Longrightarrow$	/uqalu**kt**ə/	(ð-rule: /kð/ $\Longrightarrow$ /kt/)
$\Longrightarrow$	[uqaluk**ti**]	(ə-rule: /ə/ must become [i])
$\Longrightarrow$	[uqaluk**tˢi**]	(t-rule: [ti] $\Longrightarrow$ [tˢi])
$\Longrightarrow$	[**oq**aluktˢi]	(vowel rule: [uq] $\Longrightarrow$ [oq])
$\Longrightarrow$	[oqalu**tˢtˢ**i]	(consonant rule: [ktˢ] $\Longrightarrow$ [tˢtˢ])

/ə/ *cannot* become silent here, even though it stands at the end of the string of phonemes, following a /t/, because that /t/ itself follows another consonant; that is, if /ə/ became silent, it would leave a consonant cluster at the end of the word, but that is disallowed by phonotactics. Thus /ə/ *must* become [i] here, by the 'extended' ə-rule, and therefore [t] becomes [tˢ] by

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sounding like they are deep-throating elongated objects all the time – and with some practice you will hopefully be able to isolate the [q] sound from all the gagging sounds.

[6]There are also a few special cases where some morphemes beginning in /ð/ or /c/ are joined onto a morpheme ending in /t/, but these are, as I said, *special cases* and not even all dialects of West Greenlandic have them.

60

the t-rule, which in turn assimilates the /k/ by the consonant rule, so we get [tˢtˢi] at the end of the word.

Now suppose instead you wanted to say '*I am* an interpreter'. You would do this by joining N{-u}Vb (to be) and Vb{vuŋa} onto the base instead of the null-ending N{∅}:

	{uqalukðə}N{-u}Vb{vuŋa}	(I am an interpreter)
⟹	/uqalukðə**uv**uŋa/	(sandhi)
⟹	/uqalu**kt**əuvuŋa/	(ð-rule: /kð/ ⟹ /kt/)
⟹	[uqalukt**au**vuŋa]	(ə-rule: /əu/ ⟹ [au])
⟹	[uqalukt**aa**vuŋa]	(a-rule: /au/ ⟹ [aa])
⟹	[**oq**aluktaavuŋa]	(vowel rule: [uq] ⟹ [oq])
⟹	[oqalu**tt**aavuŋa]	(consonant rule: [kt] ⟹ [tt])

This time /ə/ is followed by a vowel /u/ and thus takes the sound [a], which in turn means that it does *not* cause the /t/ to take the sound [tˢ]. Instead /t/ just automatically takes its default sound [t], and it is now *this* sound [t], rather than [tˢ] that assimilates the preceding [k] sound.

The moral of this story is that even the same base can come to be pronounced in quite different ways depending on what is joined onto it. If you only consider the base part of the two words for a moment, then [oqalutˢtˢi] and [oqalutta-] will sound like two different words – especially to the untrained ear that knows nothing about sound rules.

4.6 Second series: Nasals

Nasals are a group of sounds that you pronounce a bit like the stops: You close off the stream of air at the point of articulation in your mouth, but instead of just blocking the stream and building up pressure, you let the air flow out through your *nose* instead; hence the name *nasals*. These are thus the kinds of sounds you cannot say whilst holding your nose (or when you have a cold). They are also always *voiced* – if you put your fingers on your 'voice box' (larynx; front of your throat) whilst saying them, you should be able to feel the slight vibrations from your vocal cords.

This may all sound fairly technical, but it is actually very easy: The Greenlandic nasals are [m], [n] and [ŋ], and they are pronounced exactly like in English.

⬤ [m], [IPA: m] as in ***m**an*. Greenlandic: [**m**u**m**ik] (the reverse side of s.t., e.g. a page in a book).

- [n], [IPA: n] as in ***nun, man***. Greenlandic: [**nann**ut] (polar bears).

- [ŋ], [IPA: ŋ] . This symbol represents the sound that is often *spelt* 'ng' in English, e.g. in *si**ng**er, ba**ng***. Greenlandic: [a**ŋ**uvu**ŋ**a] (I catch/caught a seal).

Notice that even though two *symbols* – 'n' and 'g' – are used in the English spelling, it only represents *one* sound. As you will see later, Greenlandic has adopted the same way of writing this sound, but even though it is *written* using two symbols, it still only represent a *single* phoneme.

You might also want to check figure 4.1 and convince yourself that [m] and [p] are pronounced in the same *place*; that is, your mouth, lips, tongue etc. are in the exact same position when you pronounce the two sounds, the only difference being that you in the first case let the air pass through your nose, whilst in the latter case you block it off. You should also convince yourself that the same is true of the pair [n], [t], and the pair [ŋ], [k]. This *correspondence* between sounds within the same column is important, but also useful because you can use it to identify sounds you do not already know, by pronouncing a well-known sound in the same column and then changing the manner of articulation.

As a final exercise for the nasal sounds, try to pronounce word

[Nuummiiŋŋaanniit]

meaning 'from Nuuk', and see if you can also make the distinction clearly between short and long (i.e. single or double) sounds.

4.7   Third series: Voiced fricatives

Fricatives are a group of sounds you produce by forming a narrow channel (with your lips or tongue) at the point of articulation, such that the air flow becomes restricted and compressed. This group can be further subdivided into *voiced* and *unvoiced* fricatives, depending on whether you use your voice or not when you produce the sound. As you know from the fricative rule, this distinction between voiced and unvoiced is of great importance in Greenlandic, so I shall consider the voiced and unvoiced fricatives as two different series, and only deal with the voiced fricatives in this section. The Greenlandic voiced fricatives are [v], [l], [j], [g] and [r].[7]

---

[7]A phonologist might here object that I am mixing up fricatives and approximants. I know, and I do not care. The distinction is not important here.

- [v], [IPA: β] . This sound does not exist in English. It is pronounced *somewhat* like the 'v' in **v**ine, **v**enom, but there is a difference: Notice when you say the 'v' in **v**ine, **v**enom that your lower lip touches your upper front teeth. Now try to say the words again, but this time with your lower lip touching your *upper lip* instead. The sound [v] is *bilabial* in Greenlandic, meaning it is produced with *both* lips.[8] Greenlandic: [suli**v**uŋa] (I work), [aŋutˢi**v**ik] (a real man).

- [l], [IPA: l] like **l**ike, a**l**one etc. It is the sound you would usually associate with the symbol 'l'. Greenlandic: [u**l**u] (a woman's knife).

- [j], [IPA: j] like 'y' in **y**ou, **y**oung. Note that this is most likely *very* different from the sound you would usually associate with the symbol 'j'. Greenlandic: [a**j**a] (aunt), [u**j**ɑrak] (a stone).

- [g], [IPA: ɣ] . This sound does not exist in English, but it exists in other languages like e.g. Spanish i**g**ual. You pronounce it 'like' the sound [k], but without stopping the airflow completely. You may be able to find the sound by pronouncing [k k k k …] and then relaxing your mouth and tongue slightly for each new [k]. At some point your tongue will no longer close completely against the soft tissue (velar), and you will now be pronouncing a fricative, rather than a stop. If you also use your *voice* whilst saying this sound, then you will be pronouncing the Greenlandic [g]. Greenlandic: [i**g**a] (pot), [i**g**a**g**a] (my pot), [i**g**a**g**i**g**a] (that it is my pot).

- [r], [IPA: ʁ] . This sound does not exist in English either, unfortunately. It is, however, the standard pronunciation of 'r' in Danish, e.g. in u**r**o, or German **R**itter. In English, you will probably pronounce 'r' with your tongue positioned almost as if you were to say 'l'; that is, with a place of articulation near your front teeth (an alveolar sound). But here instead you must pronounce [r] at the very *back* of your mouth, almost in your throat. If you managed to find the [q] sound, then you can work your way towards the [r] sound by a procedure similar to the one I described above for [g], by saying [q q q …] and progressively relaxing your mouth and tongue. Otherwise you may also be able to find the sound by starting from the *unvoiced* velar fricative [X] (described below) and then just *adding* voice. Greenlandic: [u**j**ɑ**r**ak] (stone), [u**j**ɑ**r**ɑɑ**r**ɑq] (small stone, pebble).

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[8]Conversely, the normal English 'v' is *labio-dental* meaning it is produced with lips *and* teeth. If the bilabial sound is too difficult for you, then you *can* use the labio-dental sound instead, until you master the correct pronunciation.

4.8   Fourth series: Unvoiced fricatives

The *unvoiced* fricatives form the last series of consonantal sounds in Green-
landic. With the exception of [s] and [c] (which can be single), these sounds
arise because of the fricative rule, and thus they will always be doubled. This
is also the only 'full' series with a sound for each place of articulation, as you
can see if you refer back to figure 4.1 on page 57. The Greenlandic unvoiced
fricatives are [f], [s], [ɬ], [c], [x] and [χ].

- [f], [IPA: ɸ] . Recall that [v] was 'like' a normal English 'v' except that
  you pronounce it with your lower lip against your upper *lip*, rather than
  against your upper *teeth*. If you pronounce a normal, English 'f' as in e.g.
  father you will notice that you produce this sound in exactly the same way
  as your usual 'v'; that is, with your lower lip against your upper teeth. The
  only difference is, that when you say the English 'f' you do it without using
  your voice. Thus, to say the *Greenlandic* [f], you do the exact same as with
  [v]: You say an 'f' but with your lower lips against your *upper lips* instead.
  The sound is a *bilabial unvoiced fricative*. Greenlandic: [af**f**ɑq] (a half),
  [sini**ff**ik] (a bed, literally 'a place where one sleeps').

- [s], [IPA: s] , like ***s**ing, **s**ang, **s**ung*, the usual sound you associate with the
  symbol 's'. Greenlandic: [**s**uli**ss**aaŋa] (I shall work).

- [ɬ], [IPA: ɬ] . Depending on your pronunciation you *may* have this sound
  in a word like *p**l**ace*, because 'l' may become devoiced after a plosive. Espe-
  cially if you try to whisper the word. Another way to identify the sound is
  to begin by saying a prolonged [lllllllll] sound. Keep producing the sound.
  Now stop using your voice, and just blow air out, whilst still keeping your
  mouth and tongue in the same position as when you pronounce the normal
  [l]. If you can manage this, then you are now pronouncing the Greenlandic
  unvoiced l sound [ɬ]. Greenlandic: [i**ɬɬ**u] (house), [i**ɬɬ**it] (you), [i**ɬɬ**i**ɬɬ**u] (and
  you too).

- [c], [IPA: ʃ] , like 'sh' in ***sh**e, **sh**eep* etc. You may not be used to associate
  this sound with the symbol 'c'; however, I have chosen this symbol to keep
  my notation in accordance with the entries in the Comparative Eskimo Dic-
  tionary of Fortescue et al. (2010).[9] Greenlandic: [u**cc**uk] (a bearded seal),

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[9]In the old orthography this sound was spelt 'ss', e.g. *pivfig**ss**aʁ* (time). However, I could
hardly have done the same, since 'ss' in my notation would look like *two* phonemes – and thus a
double sound – rather than a single phoneme with *one* sound.

[piffi**cc**aq] (time), [iluli**cc**at] (icebergs; also the name of town on Greenland's west coast near an ice fjord).

- [x], [IPA: x] . This sound does not exist in English, but you have it in many other languages where it is often spelt with the double symbol 'ch', e.g. Scottish *lo**ch*** or German *Na**ch**t*. If you managed to find the *voiced* velar fricative [g] above, then you can find the *unvoiced* sound [x] in a manner similar to the one whereby you found [ɬ] from [l]. Conversely, if you know the sound [x], but could not find [g], then you may now be able to find [g] from [x] simply by saying [x] and then *adding* voice. Greenlandic: [i**xx**u] (how cute! an exclamation), [a**xx**eppuŋa] (I am approaching s.t.), *i**xx**avik* (kitchen, literally 'place where one cooks s.t.').

- [X], [IPA: χ] . This sound does not exist in English, but it is common in Spanish where you may have heard it in words like ***J**orge, Rio**j**a, **j**alapeño* etc. Like above, if you *did* manage to find the voiced uvular fricative [r], you can thence find the unvoiced variant [X], and conversely, if you could not identify [r] but know the sound [X], you can use it to find [r]. Greenlandic: [ne**XX**ivik] (dinner table, literally 'place where one eats s.t.'), [ɑɑ**XX**it] (walruses).

4.9   Patterns in the fricative sound changes

In the preceding sections I have several times alluded to the correspondence between sounds within the same column; that is, sounds with the same *place* of articulation (but different *manner*). This correspondence is actually the basis for the sound changes induced by the fricative rule (see page 42). This is illustrated in figure 4.3.

The arrows illustrate how each of the voiced fricatives changes when it becomes doubled, and thus by the fricative rule must become *unvoiced*. The red arrows depict the shift to *plosives* (or stops), so [vv] becomes [pp], [gg] becomes [kk] etc. The red arrows are also the most *common* change in the cases where there are two possibilities. The green arrows then depict the shift to *unvoiced* fricatives, so [vv] becomes [ff], [jj] becomes [cc] etc. The case of [ll] becoming [ɬɬ] is special in this regard, since it is not only the most common shift for a doubled [ll], but actually the *only* possible shift for this sound; [ll] *never* becomes a doubled plosive.[10]

---

[10]At least not in *West* Greenlandic. However, in *East* Greenlandic we have the opposite: There [ll] *always* becomes [tt], and e.g. [vv] *always* becomes [pp]. Thus for instance /ka**vv**i/ (coffee) actually becomes [ka**pp**i] in East Greenlandic, instead of [ka**ff**i] in West Greenlandic.
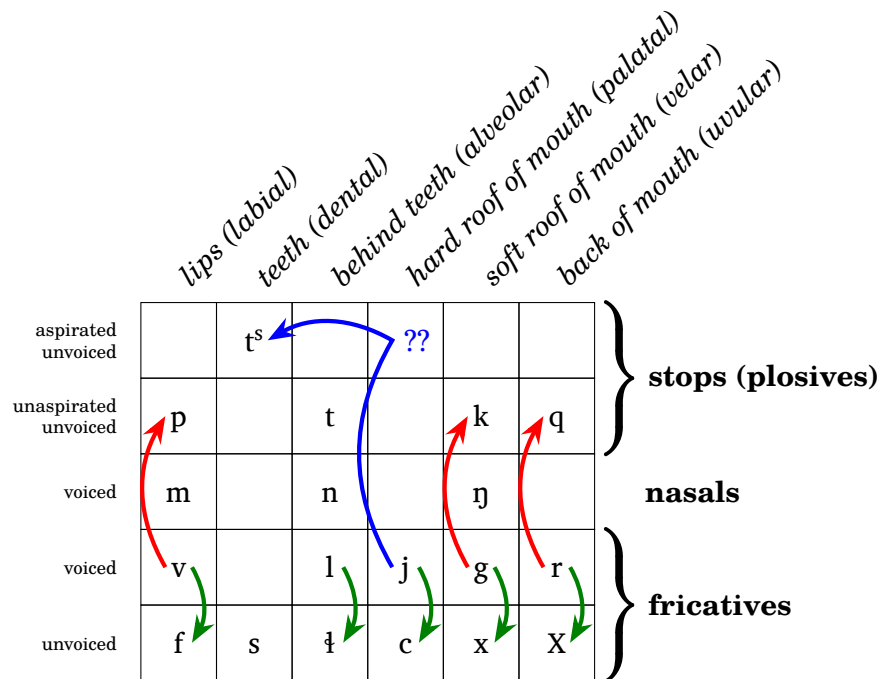
Figure 4.3: Visual illustration of the fricative rule: Red arrows represent shifts to stops (plosives), green arrows to unvoiced fricatives. The sound [j] has no immediately corresponding plosive, so when no usable sound is found by searching upwards, the nearest is chosen from another column; the sound [tˢ]. This 'search path' is represented by the blue arrow.

The blue arrow also depicts a special case: As you can see from the figure, there is no plosive corresponding to [j]; that is, the column above [j] is empty. Instead, another plosive sound is chosen for [jj]; the sound [tˢtˢ]. You may think of this as a kind of 'search path' where we first search upwards in the column, and, when no suitable sound is found, we are forced to continue vertically to the nearest sound; in this case [tˢtˢ], which in fact is the only available choice in this row.

Hopefully, this little illustration will help to convince you that the sound changes induced by the fricative rule are not just arbitrary shifts, but generally patterned movements in this table of sounds. Furthermore, the concepts of *place* and *manner* of articulation will now also help you to better *remember* which sounds become what by the fricative rule.

66

4.10 The weight of a syllable

In English, the notions of accent, or *stressed* and *unstressed* syllables, also play an important role in pronunciation. It is something that must be learned for each individual word – at least when the word consists of two or more syllables. However, this is (as usual) *not* the case in Greenlandic: Consider a word like

$$[\text{pisiniarumagaluaqigama}]$$

meaning something like 'because I would actually very much like to go shopping.' If you listen for any kind of stress in this word, you will find none. All the syllables are apparently pronounced with the same stress. This is because Greenlandic does not use *stress* on syllables. Instead, syllables are pronounced with a different *pitch*; that is, the *height* of the tone of your voice, and (as usual) this 'tone-height' or pitch can be determined by using a small set of rules. These are known as *Kleinchmidt's Syllable Weights*.

The syllable weights rely on the pattern of syllables (page 19), which, as you may recall, is of the form $(C)V_x(V_x)(C)$. Each syllable is assigned a weight, based on the number of consonants and the length of the vowel, by the following rules:

> **DEFINITION 4.2:**
>
> An initial consonant weighs 0. A vowel weighs 2, and thus a double vowel weighs 4. A final consonant weighs 1. With this formula and the syllable pattern you can calculate the weight of any possible syllable. There are actually only four cases:
>
> | | | | |
> |---|---|---|---|
> | $(C)V_xV_xC$ | $=$ | 5 | (long, high) |
> | $(C)V_xV_x$ | $=$ | 4 | (long, low) |
> | $(C)VC$ | $=$ | 3 | (short, high) |
> | $(C)V$ | $=$ | 2 | (short, low) |
>
> The words in parentheses are just another way of referring to each type of syllable: I call a syllable with a single vowel *short*, and with a double vowel *long*; if it ends in a consonant I call it *high*, because its weight will then be higher, and if it does not *low*.[a]
>
> ---
>
> [a]Other authors might use the terms 'open' and 'closed' instead of low and high, but I would rather not use these, since the word 'open' could be confused with the vowel quality of being 'open' (uvularised), which has nothing to do with the syllable structure.

EXAMPLE 4.2:

Consider the first two lines from the traditional Greenlandic birthday song:

[inuuvicciottoq piɬɬuɑrit]
[qanottoq inuummɛssorit]

By breaking each word up into syllables and assigning each syllable its weight, you can actually visualise the rising and falling pitch in the pronunciation of each word, by writing the syllables lower or higher depending on their weights. By adding help lines between the strata of weights, you obtain something that looks almost like a few bars from a sheet of music:

5:								nuum	
4:	nuu								
3:		vic	ot toq	piɬ	rit	not toq		mɛs	rit
2:	i		ci	ɬu ɑ	qa		i	so	

To use the syllable weights you obviously first need to break up a word into syllables. This is relatively straightforward: A pattern like $(C)V_xV_y(C)$ is split into $(C)V_x$-$V_y(C)$; that is, when you have two different vowels next to each other, then they belong to different syllables. Thus e.g. [ui] (husband) consists of two syllables, [u-i]. Similarly, a pattern like $VCCV$ is split into VC-CV; that is, you always split between two consonants, so e.g. [uccuk] consists of two syllables, [uc-cuk]. Both these cases are completely obvious; they can be inferred directly from the syllable pattern.

The only *unobvious* case is when you have a pattern like VCV; that is, with a single consonant between two vowels, like the word [iga] (a pot). Should this consonant belong to the first or the second syllable? That is, should it be split like VC-V or V-CV? Both are 'legal' according to the syllable pattern, so here we need one extra rule: *A pattern of the form VCV is always split into V-CV.* You could also say that you must always split a pattern such that each syllable will have the lowest possible weight; an initial consonant weighs 0, so by splitting the pattern such that every single consonant between two vowels becomes syllable-initial, you keep the weights down. However you prefer to think of it, the word [iga] must therefore be split like [i-ga].

The purpose of all this is one simple rule of pronunciation: *The higher the*

weight, the higher the pitch. A syllable with weight 3 must be pronounced using a higher tone than when pronouncing a syllable with weight 2, and so on. Each word becomes almost like a small piece of melody, as you can see in example 4.2.

Statements and questions

There are a few minor complications to this general pattern of rising and falling pitch:

- The rule may not always be quite true for the *last* syllable in a word. In particular, if you have a word consisting of exactly two short, high syllables (a bi-syllabic word), with a double consonant, then you need to have a *falling* tone from the first syllable to the second, such that you say e.g.

  uc
    cuk   and   iɬ
                              ɬu   etc.

  This will also help you to more clearly pronounce the double consonant *as* double, such that you do not risk suddenly saying [ucuk] when you meant to say [uccuk].

- In a normal *statement*, you will generally have a *rising* tone on the last syllable, whilst in a *question* you have a *falling* tone on the last syllable. Greenlandic has a special set of verbal endings for questions, but they may not always be applicable, so in some cases this falling tone may be the only thing that clearly marks an utterance as a question.

<center>* * *</center>

This has, admittedly, been a lengthy chapter: Describing pronounciation without the aid of the voice seems almost as difficult as describing colours to a colour-blind. If the feeling is mutual, then do not despair: You *will* need a proper course in pronounciation at some point,[11] if you want to use the language for more than reading and writing, and once your mouth has learned all the sounds, you may return to this chapter and hopefully discover that it all makes a lot more sense.

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[11] If you do not have the option of participating in an actual, 'physical' course, then I can highly recommend the electronic materials from `https://learngreenlandic.com`. They are a digital reincarnation of Per Langgårds original teaching materials (Langgård, 1997a,b) with video lectures by the man himself.

Irrelevant sound rules

There are three further sound rules which I did not bother to include in the previous chapter for two reasons: Firstly, because it does not cause mis-understandings if they are not used, and secondly, because you will almost certainly *come* to use them quite automatically, even without knowing them, because they follow from the pronunciation. However, you might still want to know about them, and I have therefore shunted them aside into this aside instead.

Irrelevant rule 1

$$[uvi] / [uve] \rightarrow [u^v i] / [u^v e]$$
$$[uva] / [uvɑ] \rightarrow [u^v a] / [u^v ɑ]$$

Remember that [v] is a *bilabial* sound. You do *almost* the same with your lips when you pronounce it as when you pronounce the vowel [u]. This means that a solitary [v] following an [u] will tend to merge with it, especially when the following vowel is either [i] or [a], or their uvularised variants [e] or [ɑ]. Here [v] becomes an almost inaudible sound. This is not something you need to actively remember, though; you can hardly avoid saying [v] in this way, if your pronunciation of each of the sounds is correct. Thus e.g. [inu**uvi**k] (day of birth) actually comes to be pronounced like [inu**u**ᵛik], and [at**uva**gɑq] (book) like [at**u**ᵛ**a**gɑq].

Irrelevant rule 2

$$[ij] \rightarrow [i^j]$$

This rule is very similar to the one above: Your mouth and tongue will be in almost the exact same position when you pronounce the vowel [i] and the consonant [j], and therefore any [j] following an [i] will tend to become almost inaudible. Thus e.g. [ilul**ij**ɑq] (iceberg) actually comes to be pronounced like [ilul**i**ʲɑq].

Irrelevant rule 3

There is one sound for which I have not included a special symbol in my notation of pronunciation: It is a variant sound for the phoneme /a/, where the sound [a] has become 'squeezed flat', quite similar to the sound of 'e' in English words 'l**e**t' or 's**e**t' etc. Suppose for a moment that we introduced

a new symbol for this sound, say, the symbol [æ]. The rule for when this sound arises would then be the following:

$$[C_1 a C_2] \rightarrow [C_1 æ C_2] \qquad \text{where} \quad \begin{array}{l} (C_1 = [m] \text{ or } C_1 \neq \text{labial}) \\ C_2 \neq (\text{labial or uvular}) \end{array}$$

This is an extraordinarily complicated way of saying that a number of conditions must hold:

1. The [a] must be single and stand between two consonants, so $[C_1 a C_2]$.

2. The first consonant, C_1 can be any consonant sound *except* one of labial sounds [p], [v] or [f]. Any other consonant sound, including the labial [m] is fine, though.

3. The last consonant, C_2 must not be a labial or an uvular; that is, it must *not* be any of the sounds in the leftmost nor the rightmost columns in figure 4.3, page 66.

If all these three conditions hold simultaneously, the [a] becomes flattened to an [æ]. Thus, e.g. [so**qaŋŋ**ilɑq] (there is nothing) is actually pronounced like [so**qæŋŋ**ilɑq]; [sulim**mat**] (when/because he worked) is pronounced like [sulim**mæt**], and [**tac**ca!] (that's enough!) like [**tæc**ca!].

If you listen to spoken Greenlandic you will undoubtedly soon notice this flattened [æ] sound, and now you know what it is. However, there is no need to waste your precious mental resources on trying to remember this complicated rule. The alternation between [a] and [æ] can *never* be a minimal distinction between words; that is, it will never cause a misunderstanding if you say [a] instead of [æ], so just keep saying the [a] sound. Sooner or later your mouth will automatically fall into the habit of saying [æ] in the right places. And if it does not, then it does not matter.

71

CHAPTER 5

The written word

We are finally come to the last transformation, from speech into writing. Compared to the other transformations, this is almost unbelievably easy, as long as you use the new orthography, because the words are almost spelt like my notation for pronunciation.

Almost, but not entirely, because the creators of the new orthography decided in some cases to use the *same* symbol to represent *more than one* sound (a usage I consider ambiguous), or to use *two* symbols to represent a *single* sound (a usage I consider confusing). This was done partly for historical reasons (a bad excuse) and partly to ensure the writing system would only use latin characters (a better excuse). However, if the goal was to create a writing system that clearly and unambiguously reflects pronunciation, then the result appears less than optimal. Thus *caveat lector,* there are a few oddities ahead.

5.1 Open vowels and assimilated uvulars

$$[aCC] \rightarrow \text{``ar}C\text{''} \text{ and } [a] \rightarrow \text{``a''}$$
$$[eCC] \rightarrow \text{``er}C\text{''}$$
$$[oCC] \rightarrow \text{``or}C\text{''}$$

This rule is just a complicated way of saying that *an assimilated /q/ is* written *as an* "r". As you may recall, a vowel takes on an *open* (uvularised) sound when it stands before a /q/, even if this /q/ is later assimilated to some other,

non-uvular consonant by the consonant rule. This rule then says that such an assimilated /q/ is *written* as "r", even though – as you now know from the pronunciation rules – it is still *pronounced* like whatever consonant sound that follows it.

This is certainly confusing enough, but furthermore the creators of the new orthography decided that *two* of the three vowels, /i/ (and /ə/) and /u/, should be written with the special symbols "e" and "o" when uvularised, just as I have done in my notation. However, for bizarre historical reasons,[1] an uvularised /a/, which I write as [ɑ], is *not* written with a special symbol; instead it is just written with the *same* symbol that is also used for the regular, *non-uvularised* [a]-sound, namely the symbol "a".

The words [**ɑn**nɑq] (woman), [**en**neq] (son), [**oc**coq] are thus spelt "**ar**naq, **er**neq, **or**soq" by this rule. So beware; when you read written Greenlandic and see such an "r" in combination with another consonant, then remember that this "r" is not at all the *phoneme* /r/, but instead an *assimilated* /q/, that by the consonant rule must be *pronounced* like the following consonant.

In case you are in doubt, I find this unfortunate decision to use special symbols for *some* open vowels, but not *all*, highly inconsistent and confusing.

5.2   First series: Stops

$$[t^s t^s] \rightarrow \text{"ts"}$$
$$[t^s] \rightarrow \text{"t"}$$

This rule says that a double $[t^s t^s]$ (no matter how it may have arisen) is spelt [ts]. Any other remaining *single* $[t^s]$ can only have arisen, because it stands before a /i/, or a /ə/ that has taken on the sound of /i/, and these are just spelt with a normal [t].

If you instead consider this from the perspective of reading aloud written Greenlandic, then this rule simply says that any "ts" must be *pronounced* $[t^s t^s]$, and any "t" that stands before "i" or "e" must be pronounced $[t^s]$. All other t's are just pronounced in the usual way, as [t]. Thus e.g. [**t**ˢimi] (body) is written "timi" and [nuna**t**ˢ**t**ˢinni] (in our land) is written "nuna**ts**inni".

In other words, when you see a written "t", you have to check the following sound to be able to determine if it should be pronounced like [t] or $[t^s]$. A particularly unfortunate example is the word [ilinniɑ**t**ˢ**t**ˢi**t**ˢ**t**ˢicoq] (teacher) which is spelt "ilinnia**rtits**isoq". Here you can see the conflict between the desire to

---

[1] Kleinschmidt did the same in the old orthography. It was not a good decision then, and it has not become better by being imported into the new orthography.

use "r" to represent an assimilated /q/ and the idea of using "ts" to represent the sound [tˢtˢ], because how should [tˢtˢi] be written, when the first consonant is an assimilated [q]? Apparently as "rti".

5.3 Second series: Nasals

$$[ŋŋ] → \text{"nng"}$$
$$[ŋ] → \text{"ng"}$$

This rule says that a single [ŋ] is written "ng" but a *double* [ŋŋ] is written as "nng", and not *"ngng" as we might otherwise have assumed. Similar to the case above for [tˢtˢ] this also means that when the first consonant of such a cluster is an assimilated /q/, then it comes to be written as "rng" (although that is a rare combination). A few examples: [aŋivuŋa] (I am big) is written "a**ng**ivu**ng**a" and [ajuŋŋilɑq] (it is OK) is written "aju**nng**ilaq".

For an example of that rare combination, the word [eŋŋup] (the water's s.t.) is written "e**rng**up". You can think of it as a two-step transformation:

$$
\begin{array}{ll}
[eŋŋup] & \text{(the water's s.t.)} \\
\implies \text{"}\mathbf{er}ŋup\text{"} & \text{(Uvularised vowel: } [eŋ] \implies \text{"er")} \\
\implies \text{"er}\mathbf{ng}up\text{"} & \text{(This rule: } [ŋ] \implies \text{"ng")}
\end{array}
$$

Everywhere else the new orthography obeys the rule that *one symbol represents one phoneme*, so the use of a double symbol "ng" to represent a *single* sound [ŋ] is a very inconsistent and confusing choice. It is all too easy to mistakenly think "ng" represent *two* consonants, which of course wrecks havoc in the pronunciation; especially in the calculation of syllable weights. Thus beware when you read written Greenlandic: Whenever you see an "ng", you must *think* [ŋ].

5.4 Third series: Voiced fricatives

$$[uva] → \text{"ua"}$$
$$[uvi] → \text{"ui"}$$
$$[ij] → \text{"i"}$$

As I mentioned in aside 4.1 on page 70 the sounds of [v] and [j] automatically come to almost disappear in the pronunciation in particular contexts; namely between [u] and either [a] or [i], in the case of [v], or after an [i] in the case of [j].

The present rule then simply says that these sounds, that have become almost inaudible, are not written at all. Thus e.g. [at**uva**gɑq] (book) is written "at**ua**gaq", [inu**uvi**k] (day of birth) as "inu**ui**k", and [ilul**ij**ɑq] (iceberg) as "ilul**i**aq".

Given that the purpose of the new orthography is to represent pronunciation, the decision to not write these inaudible sounds seems rational. However, just because the sounds are not spoken does *not* mean that the underlying *phonemes* have disappeared, and it can be a source of great confusion when they suddenly show up, seemingly out of nowhere. You can read more about this in aside 5.1 on page 78.

5.5 Fourth series: Unvoiced fricatives

[ɬ] → "l"
[c] → "s"
[x] → "g"
[X] → "r"

These are just four individual cases so I shall consider each in turn:

- [ɬ] is just written as "l". This does not obey the rule of 'one symbol for one sound', but it causes no ambiguity: A double [ll] *always* becomes [ɬɬ] by the fricative rule, with no exception. Thus, whenever you see a double "ll" in writing, you just have to remember to pronounce it unvoiced, as [ɬɬ]. This of course also includes the cases where the first sound is an assimilated /q/; this is written as "rl" similar to the other cases, but it is still pronounced as [ɬɬ]. Thus e.g. the morpheme {i**gl**u}N (house) comes to be pronounced as [iɬɬu], but it is written as "illu". The morpheme {kaŋ**iql**uk}N (fjord) comes to be pronounced as [kaŋ**eɬɬ**uk] but it is written as "kang**erl**uk".

- The new orthography does not distinguish between [c] and [s]. Both are just written as [s], and many speakers do not distinguish regularly between the two sounds either in their pronunciation; or they do not distinguish at all. This loss of a sound may not exactly have been *caused* by the new orthography, but I do not doubt that it has accelerated the process. Thus you may experience both speakers who still do distinguish regularly – often elderly people who where taught the old orthography in school – and speakers who never say the sound [c]. Here the new orthography will be of no help to you w.r.t. pronunciation, if you want to make the distinction yourself. "suli**s**arpunga" and "kaffi**s**orpunga" are both spelt with the letter "s", but the first is a [c] whilst the latter is an [s].

● The sound I write as [xx] is spelt "gg" in the new orthography. This is not an entirely unreasonable choice, since the sound [xx] precisely *is* the sound of a double, unvoiced [g]. A written "gg" could never represent anything *but* the sound [xx], since this is the sound a doubled /g/ attains by the fricative rule – unless it becomes [kk], of course, but if it *had* become [kk] it would also be *spelt* as "kk". Similar to "ll" above, this decision to use "gg", to represent the unvoiced sound, does not cause any ambiguity w.r.t. pronunciation. Thus for instance [a**xx**eppuŋa] (I'm approaching) is written "a**gg**erpunga".

● Exactly the same applies to [XX]. This symbol represents the doubled, unvoiced [r] sound, and it is therefore just written as "rr". Thus e.g. the word [ne**XX**ivik] (dinner table) is written as "ne**rr**ivik".

Apart from the point about [c], this rule can be summarised quite simply: Whenever you see "ll" or "gg" or "rr" in writing, just remember to mentally apply the fricative rule, such that you will pronounce them as their unvoiced variants [ɬ], [xx] and [XX].

5.6   From morphemes to writing (and back again?)

The entire procedure of converting a train of morphemes into one pronunciation can actually be represented in a single figure. Let M represent an arbitrary string of phonemes, that can form (part of) a morpheme, and let '.' denote the morphemic boundary, where two morphemes have joined. Then figure 5.1 shows the essential steps in the transformations. There you have it; more than fifty pages of explanation neatly summarised in a single illustration. You could make a poster of it and hang it above your bed.

The spelling rules can be similarly summarised, as I have done in figure 5.2. In fact, the only reason why they are in a separate figure is because I could not exactly fit them on the same page as the other rules.

My reason for making these figures – apart from creating a handy place to set a bookmark – is to show you, that there really are not *that many* rules to remember. They just require an awful lot of explanation. But all the core concepts are here, condensed into this abstract notation of rewriting rules.

Your main problem at this point is *not* the transformation from morphemes to word per se; you will have to perform this procedure some number of times to become accustomed to it, but that is just a matter of practice. Rather, your main problem is that of *acquiring new morphemes* to build up your vocabulary. I have tried to provide you with many common morphemes during the course of

ASIDE 5.1:

The echo of a ghost sound

'An iceberg' is written as "ilul**ia**q" but 'icebergs' in plural is "ilul**issa**t", which is also the name of a town on the west coast near the famous Ilulissat Icefjord. But where did this "ss" suddenly come from?

That is certainly a question I have heard more than once from Danes who have tried to learn Greenlandic by the teachings of Graphemists. Remember, all the Graphemists see are words in these *written* forms, so when a sound like [cc] (which is what this "ss" sounds like) suddenly shows up in the middle of a word, it seems almost like the appearance of a ghost.

This is not the only case where it happens either; Bjørnum (2003) gives a lengthy list of examples of these 'ghost sounds' that suddenly show up, e.g. when a noun is suffixed with the plural ending N{t}. It happens by a process called 'sound doubling' or *gemination* in Grammaric.[a] A seemingly 'invisible' sound stands betwixt the "i" and "a", but when it doubles, it suddenly becomes audible, like an echo of a ghost. It becomes the sound [cc].

This is another case of a regular sound change that has come to seem irregular because of the way words are written. The morphemic form of this word is {ilul**ij**aq}N and by the spelling rule for voiced fricatives, this /j/ will not be written at all, because, as I mentioned in aside 4.1 a [j] after an [i] tends to become barely audible. But even though it may be neither heard nor written *it is still there*. Gemination causes this ghostly /j/ to double, becoming [jj], which by the fricative rule then becomes [cc], which then in turn by the new orthography is *written* as "ss".

Something similar may also happen in verbs: Consider the word "atuarpaa" (he reads it). Here "atuar-" is the stem, as a Graphemist would write it, and the rest is an ending. But I can add the affix Vb{'-t(ə)}Vb onto this stem, causing gemination of a weak sound within it, and suddenly the word becomes "atu**ff**appaa" (he reads for him); a word that at first glance hardly even seems recognisable as related to our stem "atuar-" above.

The morphemic form is actually {at**uva**q}Vb with a /v/ standing inbetween the /u/ and the /a/. Again by the aforementioned rules, this /v/ becomes almost inaudible and therefore not written, but when it is doubled to [vv] (by gemination), then [vv] becomes [ff] by the fricative rule. It has suddenly become audible where seemingly no sound existed before.

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[a]See further section 6.6 (page 95) about when and why gemination happens. It is not a general sound process, so it is not relevant for our purpose presently.

Sandhi & phonotactics

$$\{MC\}\{C_1C_2M\} \;\rightarrow\; /M.C_1C_2M/ \;\;;\;\; \{MV\}\{C_1C_2M\} \;\rightarrow\; /MV.C_1C_2M/$$

$$\{M_1C\}\{-M_2\} \;\rightarrow\; /M_1.M_2/ \;\;\;\;;\;\;\;\;\; \{M_1V\}\{-M_2\} \;\rightarrow\; /M_1V.M_2/$$

$$\{M_1C\}\{(C_1)M_2\} \;\rightarrow\; /M_1C.M_2/ \;\;\;;\;\; \{M_1V\}\{(C_1)M_2\} \;\rightarrow\; /M_1V.C_1M_2/$$

/uu.u/ $\rightarrow$ /uuju/ $\left(\begin{array}{c} \text{/aa.u/} \;\rightarrow\; \text{/aaju/} \\ \text{/aa.i/} \;\rightarrow\; \text{/aavi/} \end{array} \right)$

/ii.i/ $\rightarrow$ /iivi/

/aa.a/ $\rightarrow$ /aava/

Sound rules

$/C\eth/ \;\rightarrow\; /Ct/$; $/V\eth/ \rightarrow /Vc/$ $\left(\begin{array}{c} /Cy/ \;\rightarrow\; /Cg/ \\ /Vy/ \;\rightarrow\; /Vj/ \end{array} \right)$

$/i(C)tV/ \;\rightarrow\; /i(C)sV/$

$/qg/ \;\rightarrow\; /r/$

$/\eth C/ \;\rightarrow\; [iC]$; $/\eth V/ \rightarrow [aV]$; $/t\eth\emptyset/ \rightarrow [t]$

$[aV] \;\rightarrow\; [aa]$

$[ti] \;\rightarrow\; [t^si]$

$[(a)ar/q] \;\rightarrow\; [(\alpha)\alpha r/q]$; $[(i)ir/q] \rightarrow [(e)er/q]$; $[(u)ur/q] \rightarrow [(o)or/q]$

$[C_1C_2] \;\rightarrow\; [C_2C_2]$

$[vv] \;\rightarrow\; [pp] \mid [ff]$

$[gg] \;\rightarrow\; [kk] \mid [xx]$

$[ll] \;\rightarrow\; [\textrevers{ɬ}]$ **fricative rule**

$[jj] \;\rightarrow\; [cc] \mid [t^st^s]$

$[rr] \;\rightarrow\; [qq] \mid [XX]$

Figure 5.1: From morphemes to pronounciation on a single page. Peripheral rules are given in parentheses.

$$[\alpha CC] \;\rightarrow\; \text{``ar}C\text{''}$$
$$[eCC] \;\rightarrow\; \text{``er}C\text{''}$$
$$[oCC] \;\rightarrow\; \text{``or}C\text{''}$$
$$[\alpha] \;\rightarrow\; \text{``a''}$$

uvularised vowels & assimilated /q/

$$[t^s t^s] \;\rightarrow\; \text{``ts''}$$
$$[t^s] \;\rightarrow\; \text{``t''}$$

Stops

$$[\eta\eta] \;\rightarrow\; \text{``nng''}$$
$$[\eta] \;\rightarrow\; \text{``ng''}$$

Nasals

$$[uva] \;\rightarrow\; \text{``ua''}$$
$$[uvi] \;\rightarrow\; \text{``ui''}$$
$$[ij] \;\rightarrow\; \text{``i''}$$

Voiced

$$[\ɬ] \;\rightarrow\; \text{``l''}$$
$$[c] \;\rightarrow\; \text{``s''}$$
$$[x] \;\rightarrow\; \text{``g''}$$
$$[X] \;\rightarrow\; \text{``r''}$$

Unvoiced
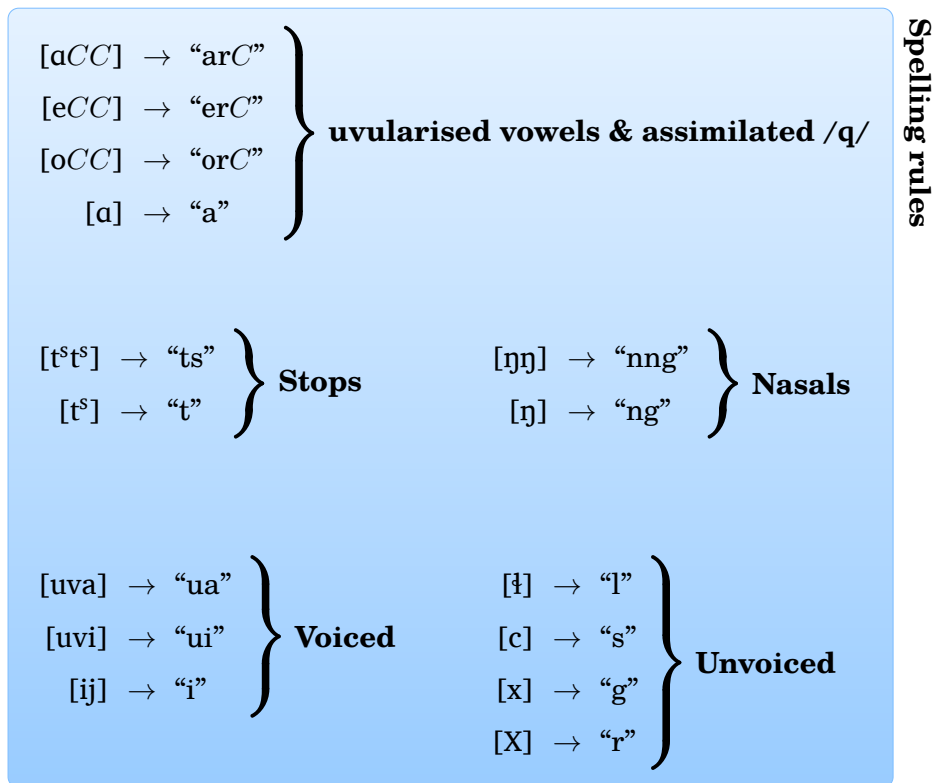
Figure 5.2: The spelling rules

this lengthy exposition, but this book is not a dictionary, so at some point you will have to start finding morphemes on your own.

This will be difficult because, as you can see, information is *lost* in every step of the transformation: Phonemes can be deleted by the phonotactics and sandhi rules; they can be changed or merged by sound rules, where especially the a-rule and consonant rule will completely obscure the true underlying phonemes. These rules in particular are the reason why it is said of Greenlandic, that 'any sound can become any other sound.'

If your sole source of new morphemes is a dictionary in the new orthography, like the DAKA, then you will often have to *infer* which rules were used to produce the final, written form – the *only* form in which entries in these dictionaries are given. There is a high level of *ambiguity* in the forms produced by the rules; or, in other words, it will involve a lot of *guesswork* on your behalf to find your way back to the morphemic form of a base or affix.

A *morphemic dictionary* would surely be the best possible source of new morphemes, but unfortunately, there does not exist a dictionary that exactly uses my morphemic notation. The best alternative is undoubtedly the Comparative Eskimo Dictionary of Fortescue et al. (2010), although it is also a both rare and expensive book. Since you mostly need to recombine *affixes*, then a very good (and affordable) alternative is Fortescues *Comparative Manual of Affixes* (Fortescue, 1983). Another option would be to get your hands on one of the grammars or dictionaries written using the old orthography, such as (Schultz-Lorentzen, 1951) or (Schultz-Lorentzen, 1958), because the old orthography is 'phonemic' whilst the new orthography is 'phonetic' – that is, the old orthography retains more information on the underlying phonemes than does the new orthography, which on the other hand purports to reflect the pronunciation. In either case, a dictionary written using the *new* orthography, such as the DAKA, should be your very last resort!

CHAPTER **6**

Special sound and sandhi processes

In every step of the transformation from a train of morphemes to a completed word there are a number of general sound processes involved; phonotactics, the sandhi rules and especially the sound rules. They are *general* in the sense that they always apply, everywhere in the language. Therefore, they are important. You cannot learn Greenlandic without also learning the rules of these sound processes. Even people who learn Greenlandic in a Graphemistic way will learn them – or give up – they just do not *know* that they are learning them, because the rules are not made explicit.

However, these sound processes are not the only ones in Greenlandic; there are also a few, special processes that you sooner or later will encounter. They are not necessarily rare – some apply quite frequently – but they are *special* in the sense that they only apply to a (small) group of morphemes, unlike the general sound processes that always apply.

This chapter is devoted to these special sound processes, and you may regard it as simply an extended aside: Unlike the general sound processes of the previous chapters, the special sound processes are not *important* – at least not from a communicational perspective – because it will hardly ever lead to misunderstandings, if you do not apply them. They are like the rule in English that says you must inject an 'n' between the indefinite article 'a' and a noun beginning in a vocalic sound. It would surely never lead to misunderstanding if somebody said "**a a**eroplane" instead of the correct 'an'. It just sounds wrong.

But, of course, if you are ever going to read or listen to *real* Greenlandic, produced by a native speaker, then you will certainly encounter the effects of these special sound processes, and you will therefore need to know something about them, to be able to understand what it going on.

6.1   Specialities versus irregularities

When you take a rule-based approach to language description, as I have done in this book, and say that word-forms are governed (or generated) by rules – whichever way you like to think about it – you will sooner or later come up against cases not covered by the rules. The question is: What to do about these cases? In English, for instance, we could make a rule saying that the *past tense* of a verb is formed by adding the morpheme {ed} to the verbal base. This rule will handle words like *work, work**ed*** and *look, look**ed***, but what about words like *write, wrote, wri**tten*** or *sing, s**a**ng, s**u**ng*? These are remnants of older systems: They are not *irregular* in the sense of 'not following *any* rules' but they certainly follow *other* rules than the general pattern. But the question remains: What to do about them?

From a communicational perspective, the simplest choice would be to do nothing at all: If I wrote *write**ed** and *sing**ed** instead of 'wrote' and 'sang' you would surely be able to understand what I meant.[1] The lack of a specific rule would not destroy our ability to communicate. If we were having a conversation, you might correct me, or simply use the correct forms in later sentences, and I would thereby soon acquire these special variations. After all, that is how children learn their first language: They certainly do not learn all the rules first, before starting to use the language!

Alternatively, we *could* just make more rules to handle the special cases. These rules would then only apply to a subgroup of words, as a kind of overlay to the general system; one pattern applied on top of another. In this way, no word is truly *irregular* in the sense of 'not following any rules', since *we* make the rules, and for every deviating word we could make a new rule to account for its behaviour. But when taken to its extreme this would defy the whole purpose of using rules in the first place, as a means to *simplify* the learning process, if the rules become as numerous as the words (or morphemes) in the language.

Some patterns are more important than others in a given language; and having rules for everything and insisting that people should be taught all the rules simultaneously, *as if* they were all equally important, is precisely the kind of

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[1]unlike if I used the deviant pattern for *all* words and wrote e.g. **wirk, *work, *wirk**ten*** instead!

approach to foreign language teaching that makes so many adults allergic to grammars, because they are reminded of unpleasant encounters with foreign language teaching in their schooldays. Or so I believe, anyway. I wish to stress this point, because you *will* sooner or later encounter morphemes that do not behave entirely according to the neat rules I have laid out in the previous chapters. Some of them will form subgroups which we can handle with just a few extra rules: I regard these as *specialities* and I try to cover a good number of them in this book, though always with an emphasis on the fact that these special patterns are *deviations* from the general, and thus should not be given as much attention as the general regularities.

However, when a subgroup becomes so small as to contain just a single morpheme, I shall instead regard it as an *irregularity*. A few of them are so frequently used as to be unavoidable,[2] so I shall comment on these as well, where appropriate, but they should of course be given *even less* attention than the specialities. In general, though, I believe these irregularities belong in a dictionary of derivational morphemes, and not in a book about regularities.

6.2 Sound weakening (nasalisation)

The fricative rule is really a two-in-one: It describes both a *process* of 'sound strengthening' (or *fortition* in Grammaric), *and* it gives a condition for when this strengthening happens. The converse of this process is (obviously) called sound *weakening* (or *lenition* in Grammaric), and it also occurs in Greenlandic under some special circumstances. Here, a plosive sound, [p], [t], [k] or [q] – which is a 'strong' sound – is shifted to a corresponding, 'weaker' sound. This is usually a *nasal*, and this particular kind of weakening is hence called *nasalisation*.

Consider again our well-known table of sounds, given in figure 6.1. I have highlighted the row of plosives and drawn arrows to their corresponding nasal sounds: It illustrates that through nasalisation [p] will become [m], [t] will become [n] and [k] will become [ŋ].

A new sound in town

Now, what about [q]? If you recall the original table of sounds, the field for the uvular nasal, corresponding to [q], was empty. You *can* of course nasalise [q]; it becomes a sound that is usually written [IPA: N] and for want of a better symbol,

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[2]Like for instance the future affix Vb{ssa}Vb, and in particular the negation affix Vb{ŋŋit}Vb since it takes a number of unique endings not used by any other morpheme. I describe this in section 9.8 on page 183.

	labial	dental	alveolar	palatal	velar	uvular	
aspirated unvoiced		tˢ					} **stops (plosives)**
unaspirated unvoiced	p		t		k	q	
voiced	m		n		ŋ	N	**nasals**
voiced	v		l	j	g	r	} **fricatives**
unvoiced	f	s	ɬ	c	x	X	

Figure 6.1: An illustration of nasalisation: The plosive sounds (highlighted row) are weakened to their corresponding nasals. However, [N], the uvular nasal corresponding to [q] may not necessarily be used, and instead [q] may go all the way to the voiced, uvular fricative [r], indicated by the dotted line.

I shall use this as well. As is usual with the uvular sounds, this one does not exist in English either, but you can find it quite easily: Just open your mouth as wide as possible and try to say the nasal [ŋ]. The sound [N] is made by closing off the air stream with your tongue against the uvula, so if you open your mouth wide enough and try to say [ŋ], your tongue will automatically reach the uvula first and close of the air stream there, before it can reach the velum (where you would normally be pronouncing [ŋ]).

An ambiguity in the new orthography

There is no Greenlandic phoneme with [N] as its default sound, and I did not include it in the original sound table, because not all speakers use it: Instead, when [q] is weakened, they will let it go all the way to [r]. Alternatively, depending on context, some speakers may instead pronounce a normal velar [ŋ] *but* simultaneously also uvularise a preceding vowel; that is, give it an 'open' pronunciation.

This rather confusing situation is reflected by a similar confusion in the orthography. The sound [N] is spelt "rng" but notice how this uses no less than *three* symbols for a single sound. The usual spelling rules say that "rng" should

represent a double consonant [ŋŋ], where the first is an assimilated uvular; that is, a combination /**q**ŋ/, and it *does* represent that. However, this combination can also be realised as [NN] instead. A word like "e**rng**up" (the water's s.t.) can thus be pronounced as *either* [eŋŋup] *or* [e**NN**up], depending on the speaker. So far, this is unproblematic; we can simply say that the latter is a variant pronunciation of the first (this is called an *allophone* in Grammaric).

However, it can also happen that a *single* [q] is weakened. If the speaker decides to weaken it to [N], rather than [r], then this *single* [N] would still have to be *spelt* as "rng" even though it only represents a *single* phoneme, and not two. For example, when the enclitic ∗{aasiit} (as usual) is added onto a word that ends in [q] like [oqappo**q**] (he said s.t.), the final [q] will be weakened, and some speakers will say [r], whilst others will say [N]. The word (he said s.t. as usual) can therefore come to be pronounced, and thus also *spelt*, in either of two ways:

[oqappo**r**aasiit] $\implies$ "oqarpo**r**aasiit"
[oqappo**N**aasiit] $\implies$ "oqarpo**rng**aasiit"

In the second case, even though it is only *one, short* consonant sound, it must still be *spelt* as "rng" because there is no single symbol in the orthography for a single [N] sound. This is unfortunate, since it could lead us to believe that this particular "rng" should be pronounced as a double [NN] – or even a double [ŋŋ] – instead (which it should not). And even worse, we could conversely be led to believe that "e**rng**up" should be pronounced with just a *single* [N], as [e**N**up] (which it should not). The orthography is ambiguous with respect to this sound.

There is unfortunately no clean solution to this mess. My best advice is to use the following heuristic:

1. Whenever you see "rng" *within* a word, like e.g. "e**rng**up" or "paa**rng**aq" (berry), assume it is a *double* consonant and pronounce it as [ŋŋ] (with uvularisation of the preceding vowel) or as [NN]. Either sound is fine, but it must be *double*.

2. When you see "rng" at the *boundary* between a word and an *enclitic* like ∗{aasiit}, assume it is a *single* consonant, and pronounce it as [N] or, alternatively, as [r], since it here represents a single, weakened /q/, and both [N] and [r] are legal sounds for this weakening. Either sound is fine, but it must be *single*.

∗{aasiit}	"as usual"
∗{guuq}	"it is said" (note, nasalises [kk] $\implies$ [ŋŋ])
∗{lu}	"and" / "furthermore"
∗{una}	"it is"

Figure 6.2: A few example of some common enclitics and their meanings.

6.3   Enclitics and their sandhi

In the previous chapters I described how bases, affixes and endings are joined together to form complete words. I also briefly mentioned the existence of a small group of morphemes, called *enclitics*, that are joined onto *completed* words, rather than onto a stem like affixes, but otherwise I have said very little about them. My reason for this omission is partly that enclitics are few in number – you can find a list of all or most of them in appendix B (see section B.14, page 249) – and they *mostly* behave like any other morpheme that is joined onto something, and partly because they sometimes have a few specialities. You can see a few examples of enclitics and their meanings in figure 6.2.

As I have previously mentioned, almost all morphemes beginning in a *vowel* are sandhi truncative. However, the one major exception to this rule of thumb is precisely the enclitics: All enclitics are *additive* – even those beginning in a vowel.[3] They are more like separate words, pronounced rapidly after the word to which they are added – some of them, like e.g. ∗{una} *are* even (also) separate words, although with a somewhat different meaning.

You join enclitics directly onto completed words; that is, you join *sounds*, not phonemes, so no final schwa will change its sound, no matter what enclitic you add onto it, and no [t] will change into an [s] etc. Apart from that, you apply the sound rules as usual, and then, lastly, if you add a *vowel-initial* enclitic onto a *plosive*, then you weaken it by nasalisation – or, in case of [q] you can choose to weaken it to [r] instead. Let me give you a few examples:

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[3]There may even be apparent exceptions to this rule. Some complete words (including ending) may have become lexicalised with a specific meaning, like *naling**anut*** which means 'on the amount' – something you would say when you pay with a credit card. It is a noun, {nalək}N (value) bearing the ending N{anut} (to its N). But now people may even add the affix N{-innaq}N (just) on top of this to express "*only* on the amount" which thus becomes *nalingan**ui**nnaq* with deletion of /t/. Should {-innaq} now be regarded as an affix (which cannot normally be added to endings) or as an enclitic? There is no clear answer, but people may do it anyway.

- *angut* "man" has base {aŋutə}N with a final schwa, that has become silent. "The woman **and** the man" is *arnaq angullu*. Notice that *{lu} is added onto the final *sound*, which is [t], and *not* onto the silent /ə/.

- "**It is** a man" is *angu**n**una*, with *{una} added directly onto [t], which is a stop, so it is nasalised to [n].

- There exists a pronoun *uanga* meaning 'I' (or 'me'). "**It is** I (or me)" is then *uanga**ana*** with the [u] in *{**u**na} assimilated to [a] by the a-rule.

- *{guuq} has the speciality that it will also nasalise any consonant onto which it is added, except [q], since [q] and [g] just merge to [r] as usual by the g-rule. *Arna**r**ooq* thus means "It is said, that a woman…" but *angu**nng**ooq* means "it is said that a man…"

6.4 Nominal stem-types and their sandhi

In the previous chapters I have described all morphemes as generally alike, and to a large extent they *are*. However, some groups of *noun stems* display a few extra peculiarities when certain types of *endings* are added onto them. Further-more, two of the special sound processes – sound displacement (metathesis) and sound doubling (gemination) – which I shall describe in this chapter, also con-cern *nominal stems* in particular: They also *may* occur when certain endings are joined onto noun stems that end in certain phonemes.

Thus to provide a bit of context for the following descriptions we should begin by grouping the nominal stems by their final phonemes: At the highest level we have two groups, the *vowel stems*, which are all stems ending in one of /aəiu/ including those ending on /tə/; and the *consonant stems*, which are all stems ending in either /k/ or /q/.[4] The q-stems can further be divided into *weak q-stems* which end on a normal /q/, and *strong q-stems* which end on /əq/; these in particular may do odd things, and I signal this in the notation by using the special symbol /Q/ for the stem-final sound. Figure 6.3 depicts this subdivision. I shall have more to say about these different stem-types in section 8.7 (page 142) on the topic of nominal endings and their sandhi.

Any *affix* you join onto any of these stem-types will be added according to the usual sandhi-rules, so here the distinction does not matter at all. However, with *endings* the case is not quite as simple: Here the relevant distinction lies

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[4]Since no *noun stem* can end in /t/ or /p/. A noun may come to end on the *sound* [p] or [t], but that is something altogether different.
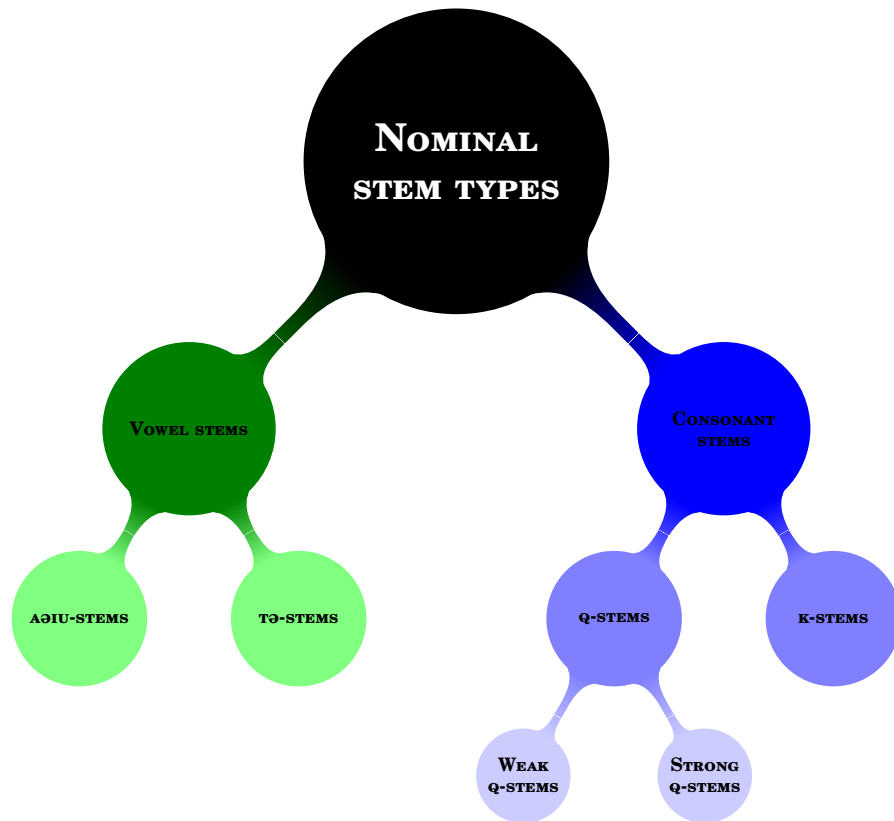
Figure 6.3: The division of noun stems into groups based on their final phoneme(s). The division is particularly relevant for the discussion of sound processes that occur when certain endings are joined onto certain types of stems (sound displacement and sound doubling), but also w.r.t. sound replacement which occurs when certain affixes are joined onto stems ending in /tə/.

in how these various stem-types take a *consonant-initial* ending like N{**m**ut} (to N) and a *vowel-initial* ending like N{-**a**} (his N).

● The *vowel stems*, including those ending on /ə/, are stems like {iglu}N (house) and {inə}N (room) and many others. All endings are added in a completely regular fashion, like *illu, illu**mut**, illu**a*** etc.

● The *tə-stems* are all stems ending in /tə/, like {aŋutə}N (man), {autlaitə}N (rifle) etc. They are generally also completely regular and behave like any other vowel stem, with endings added onto schwa (and thus making the /ə/ take a sound, to the great confusion of Graphemists), like *angut, angut**imut**, angut**aa*** and so forth.

There is one small complication: *Singular endings* beginning in a *nasal*[5] may *optionally* be added directly to /t/. This is called 'schwa elision' in Grammaric, but in reality it means that you *may* say (and hear) both *angut**imut*** and *angu**mmut*** (to the man), *angut**ini*** and *angu**nni*** (his own father)[6] etc.

● The *k-stems* which are generally every stem ending in /k/, like {kaŋiqlu**k**}N (fjord/inlet), Vb{(v)vik}N (place where you Vb) and {pani**k**}N (daughter), and many others. Endings are added according to the usual sandhi rules, although a few of them will have a special form, as I explain in section 8.7 (page 142). However, for the present purpose it is enough to say that they also behave completely regularly, so by adding the aforementioned endings, we get *pani**k**, panim**mut**, pani**a*** etc.

These three groups of stem-types are all regular and thus easy to handle. The main difficulty lies in the two types of q-stems.

Weak q-stems

The *weak q-stems* are *almost* every stem ending in /q/, like {aqna**q**}N, {aliqa**q**}N (older sister to a boy) N{miu**q**}N (a citizen of N), {kalaaˈli**q**}N (Greenlander), {qigmi**q**}N (dog), the name *Piita**q*** and many, many more. In other words, *almost* all nouns that end on the sound [q] will actually be weak q-stems. I use no special notation to indicate that a stem is a weak q-stem, because this is by far the most common case. Thus, whenever you see a stem ending in /q/, you should simply assume that it is a weak q-stem.

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[5]That is, /m/ or /n/ here, since no ending begins with /ŋ/.

[6]Not 'his own man', because when you own a man in Greenlandic, then it is your father. And similarly, when you own a woman, then it is your mother.

The special thing about them (and the reason they are called 'weak') is that they will automatically *throw away* this final /q/ when a *consonant-initial ending* like N{t} (plural) or N{mut} (to N) is joined onto them, regardless of the ending's sandhi, so e.g. {qigmiq}N{t} $\implies^*$ *qimmi**t*** (dogs) and {qigmiq}N{mut} $\implies^*$ *qimmi**mut*** (to the dog). In both cases the stem-final /q/ has disappeared, even though the endings are not marked as sandhi truncative.

We can capture this behaviour with an extra sandhi rule as follows, where M represents any string of phonemes including possibly /∅/:

$$\{Mq\}N\{CM\} \to /MCM/$$

Here {Mq}N is any weak q-stem, and when the consonant-initial ending N{CM} is joined onto it, the /q/ is removed. Another way of saying this is that weak q-stems behave exactly like *vowel stems*. However, remember that this is a *special* sandhi rule for this particular type of stem only, and that it *only* concerns *endings*; before normal affixes, the /q/ is kept or removed according to the usual sandhi rules.

There is also *one* notable exception to this pattern: The ending N{ga} (my N) is added directly to /q/, so 'my older sister' is *aleqa**ra*** with the usual fusion of /qg/ by the g-rule.

Strong q-stems

The *strong ǫ-stems* are a smallish group of stems ending in /q/, which I in my notation write as /Q/. They include {iqnəQ}N (son), {atəQ}N (name), {tupəQ}N (tent) and the affix Vb{nəQ}N (abstract noun, 'the Vb'ing'). They might, perhaps more appropriately, be called 'the əq-stems' because as far as I can tell, these stems all end in /əq/, and this second-to-final /ə/ in particular seems to be the source of their apparently erratic behaviour.

The special thing about these stems is that all *vowel initial* endings are added *directly onto* /Q/, generally similar to to the way a vowel-initial enclitic would be added onto any word ending in [q]; that is, /Q/ is not removed, but merely *weakened* to [r], the corresponding voiced fricative. Even though these endings are normally sandhi truncative, they cannot remove this final /Q/. The *consonant-initial* endings are however added in a completely normal fashion, using the ordinary sandhi rules, so in a sense these strong q-stems are the exact opposite of the weak q-stems, that behaved normally with vowel-initial endings, but did odd things with consonant-initial endings. Thus with e.g. *erneq* we get *erner**mut***, but {iqnəQ}N{-a} $\implies^*$ *erne**ra*** and so forth.

We can again capture this behaviour with a special sandhi rule as follows:

$$\{M\textschwa Q\}N\{\text{-}VM\} \to /M\textschwa rVM/$$

Here $\{M\textschwa Q\}N$ is a strong q-stem, and when any vowel-initial ending $N\{VM\}$ is joined onto it, the stem-final /q/ is simply weakened to /r/, but not removed, regardless of the ending's preferred sandhi, which normally would be truncative precisely since it is vowel-initial.

This rule capture the *regular* sandhi behaviour of strong q-stems. However, as you will see below, they may display even more complicated behaviour.

6.5 Sound displacement (metathesis)

Sound displacement is a process that does exactly what the name implies: It switches the order of certain phonemes within a stem. This is process is also known as *metathesis* in Grammaric, and it *may* occur when a *vowel-initial ending* is joined onto a *strong q-stem*.[7] You may thus regard the symbol /Q/ as an indication that a stem *may* display metathesis, but let me emphasise that you cannot be certain that all speakers will use this process. Metathesis is a remnant of an old system, and especially younger speakers will tend to forget it and simply add endings in a completely ordinary fashion.

So what does this sound displacement look like? Suppose I wanted to add the vowel-initial ending N{-a} (his N) to {at\textschwa Q}N to say "his name". All vowel-initial endings are normally sandhi truncative, so using the ordinary rules we should expect that {at\textschwa Q}N{-a} $\implies^*$ *atia*, and that is also what you may hear some people say. If we instead applied the special sandhi rule for strong q-stems (see above), we should expect to get *ate**ra***, and that may also be a possibility with some speakers. But with metathesis, the result instead becomes *a**qq**a*.

What happens is that a stem displaying metathesis will take the vowel-initial ending directly onto /Q/ like any other strong q-stem, but in addition /\textschwa/ *disappears*, creating a consonant cluster, and then the usual sound rules then apply, such that you end up with *a**qq**a*. The derivation thus proceeds as follows:

	{at\textschwa Q}N{-a}	(his name)
$\implies$	/a**tq**a/	(metathesis: /t\textschwa Q/ $\implies$ /tqa/)
$\implies$	[a**qq**a]	(Consonant rule: /tq/ $\implies$ [qq])
$\implies$	[**ɑq**qa]	(Vowel rule: [aq] $\implies$ [ɑq])
$\implies$	*a**qq**a*	

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[7]Or, in a few, extremely rare cases, in /\textschwa k/. Two examples are {kam\textschwa k}N (boot), plural *kanngit*, and {tip\textschwa k}N (smell) with N{-a} (his N) becoming *tikka*.

Strictly speaking, this process even violates the ordinary order of the sound rules, since the displaced /q/ will assimilate /t/ *firstly*, and then [a] will *afterwards* be uvularised by the [q] sound that used to be /t/. This is just an artefact of my fixing the order of application of the rules to allow me to describe it as a linear process. This ordering holds for the *general* (and thus most important) cases, but not quite for metathesis, as you can see.

In other cases, this stem-final /q/ can wander even further into the stem: Take a base like {iməQ}N (water), and suppose you want to add the vowel-initial ending N{-up} (N's s.t.) to it. Schwa still disappears, but here /q/ will move to stand *before* /m/, where it will be assimilated. It may even (optionally) also cause nasalisation of the consonant cluster to [NN]! Thus {iməQ}N{-up} ⟹ /i**qm**up/ ⟹* ***erm**up or **erng**up*, depending on the speaker.

Lastly, /q/ may even retain its place of articulation, even though it is assimilated by another consonant, to yield a merge between the two. Take the base {aavəQ}N (walrus) and add the plural ending N{-it}. This yields {aavəQ}N{-it} ⟹ /aa**qv**it/ which can *either* become *aa**rfi**t* by the usual sound rules, *or aa**rr**it* – a double, unvoiced *uvular fricative* [XX], inheriting its *manner* of pronunciation from /v/ (fricative), but its place from /q/ (uvular). Both forms are possible; it is up to the choice of the speaker, although it is my impression that the latter is the most common form.

The previous three examples illustrate three slightly different patterns of sound displacement that nevertheless yield rather different outcomes. Which pattern is chosen is determined by the *type of consonant* preceding the /ə/:

- If the consonant is a *plosive*, like in {atəQ}N, then the only change is that /ə/ is deleted, yielding /tq/, and we thus get *ateq, a**qq**up, a**qq**it, a**qq**a* etc. Other common words following this pattern are {mitəQ}N (eider duck) becoming *mi**t**eq, me**qq**it* etc.; {itəQ}N (anus) becoming *i**t**eq, e**qq**it* etc.; {tupəQ}N (tent) becoming *tu**p**eq, to**qq**it* etc.; and {qitəQ}N (middle) becoming *qi**t**eq, qe**qq**it* etc. The town centre of Nuuk is actually called *Nuup Qeqqa*, literally "Nuuk's middle," and if you look at a map of Greenland, you might find *Qeqqata Kommunia* which is the name of one of the municipalities – the one in the middle.

- If the consonant is a *nasal*, like in {iməQ}N, then we get the slightly more complicated pattern where schwa still disappears, but /q/ furthermore is displaced to the *left* of the nasal, yielding /qm/, which may *optionally* also result in a merge between the two sounds' manner and place of articulation, such that we get *either* [mm] (usual assimilation) *or* [NN], merging place (uvular) from /q/ with manner (nasal) from /m/. Nouns following this

pattern are {im**ə**Q}N (water) becoming either ***erm**up* (usual assimilation) or ***erng**up* (merging), and many bases that were historically formed with the affix Vb{nəQ}N,[8] like {siqinəQ}N (the sun) becoming *seqi**neq, seqe**rn**up* or *seqe**rng**up*, and {apqucinəQ}N (road). In Nuuk, there is a road named *Borgmesterip Anniitap Aqquse**rng**a* with the ending N{-a} (his N), literally "Mayor Anniita's Road".

- 🔵 If the consonant is a *fricative* – or more specifically, if the stem ends in /**v**əQ/ – then it behaves similar to the case of nasals above, but the end result is different, since the optional merge of /q/ and a fricative will yield [rr] (an uvular fricative) instead of [NN] (an uvular nasal). {aa**v**əQ}N (walrus) will thus become *aar**f**it* (usual assimilation and fricative rule) or *aa**rr**it* (merging), and similarly for a stem like {ilivəQ}N (graveyard), which can become either *ile**rf**up* or *ile**rr**up*.

Figure 6.4 illustrates this process, where a vowel-initial ending is joined onto a noun-stem displaying metathesis: Here M represents any string of phonemes including the empty string /∅/, and the type of the consonant C – the third-to-last sound in the stem – determines the pattern.

This may all sound rather complicated when we try to capture it with rules, but it is really a lot easier than it may seem. However, if you find this rule too confusing, you can also decide to simply ignore it. Instead, whenever you have a stem displaying metathesis, you just have to remember its metathetic form along with its usual morphemic form: If you know e.g. {qitəQ}N becomes [**qeqq**a] with the vowel-initial ending N{-a}, then you can simply learn this 'metathetic stem' [qeqq-] and use it whenever you add *any* vowel-initial ending, because the stem will *always* take this form. In this case the rules may be more complicated than simply remembering this extra piece of information, but now at least you know how the process of metathesis produces these (sometimes radically) altered forms.

6.6 Sound doubling (gemination)

Sound doubling, also known as *gemination* in Grammaric, is a process that also does exactly what the name implies: One (usually consonant) sound is doubled, becoming two sounds. There are a few affixes which may cause gemination in

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[8]Only historically. Today, this affix behaves less radically with vowel-initial endings: The stem-final /q/ is just weakened to [r], so it becomes *-neq, -ne**r**up, -ne**r**it, -ne**r**a* etc.

$$\{MC\text{ə}\mathrm{Q}\}\mathrm{N}\{VM\}$$

C = plosive

delete /ə/

$$/MC\text{q}VM/ \implies^* [M\text{qq}VM]$$

apply usual sound rules

otherwise

$$/M\text{q}CVM/ \implies^* [MCCVM]$$

shift /q/

C = nasal

$$\implies^* [MNNVM]$$

optional merging

C = fricative

$$\implies^* [MXXVM]$$
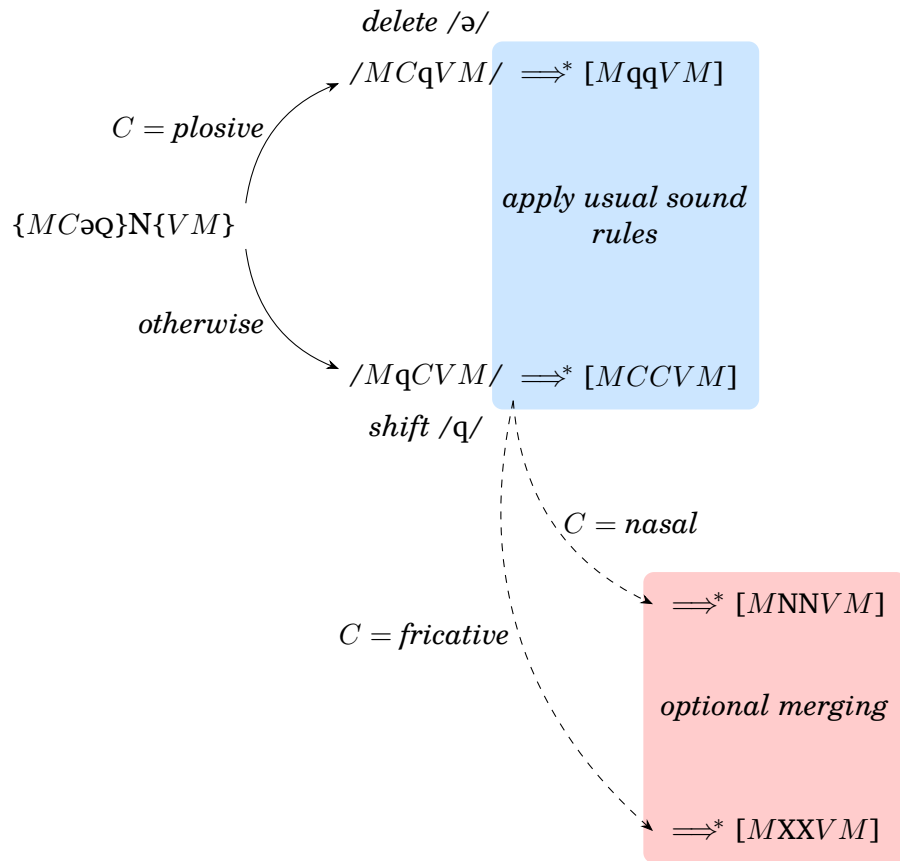
Figure 6.4: The process of metathesis in noun-stems: M can be any string of phonemes including $/\emptyset/$, and the pattern is determined by the type of the consonant C. The dashed arrows represent the optional possibility of merging, which may yield a consonant cluster of either [NN] if C is a nasal, or [XX] if C is a fricative.

96

the stem they are joined onto,[9] but the process most commonly (and regularly) occurs when *consonant-initial endings* are joined onto nominal *weak q-stems*. For example, the noun base {mii'**r**aq}N (child) is such a weak q-stem, and the plural ending N{t} is (obviously) a consonant-initial ending. If I join them together the result is {mii'**r**aq}N{t} $\implies^*$ *mee**qqa**t* (children); /r/ is doubled to /rr/ which by the fricative rule then becomes [qq].

Gemination *regularly* occurs *precisely* when weak q-stems throw away their final /q/; that is, before a consonant-initial ending. The rule for *regular* gemination is then as follows: If the *third-to-last* sound in the stem is a *single, voiced fricative* – one of /vljgr/ – then this sound will be doubled, and then later strengthened by the fricative rule. If we again let M be any string of phonemes including /∅/, and let F be any one of the fricatives /vljgr/, then regular gemination can be captured by the following rule, which is an elaboration of the special sandhi rule for weak q-stems:

$$\{MVFVq\}N\{CM\} \to /MVFFVCM/$$

N{CM} is a consonant-initial ending, and when it is joined onto the weak q-stem {$MVFVq$}N /q/ disappears as is always the case for weak q-stems, but here in addition $/F/$ is doubled to $/FF/$. This rule thus explains why a base like {atuva**g**aq}N (book) in plural becomes *atua**kk**at*, and {iluli**j**aq}N (iceberg) becomes *iluli**ss**at* etc. See aside 6.1 for another very common example of this process.

Unfortunately, this rule does not capture all occurrences of gemination when consonant-initial endings are added to stems. Other consonants than voiced fricatives may geminate, and it may also happen with other types of stems, apart from weak q-stems; usually with vowel-stems, but even in a few cases also with k-stems. I call these occurrences *irregular* gemination, but since some of them are quite frequent I shall (for lack of a rule) instead give you an incomplete list of the some of the most common cases:

- 🔵 The affix N{-**t**aq}N geminates /t/ to /tt/. This affix is also used in a number of common words like *ilaqu**taq*** (family member) and *nalunaaqu**taq*** (a clock), which thus e.g. in plural become *ilaqu**tt**at, nalunaaqu**tt**at*.

- 🔵 The affix Vb{-u**c**iq}N (manner of Vb'ing) and its variant Vb{ccu**c**iq}N (Vb-ness) both geminate /c/ to /tt/ (pronounced [t^{s}t^s] because of the following /i/). They also occur in some common words like *ata**aseq*** (the number one),

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[9]Especially Vb{`-vik}N which is a variant of Vb{(v)vik}N (place where s.b. Vb's), and also Vb{`-t(ə)}Vb which is a variant of Vb{-ut(e)}Vb (does Vb with it).

ASIDE 6.1:

Why is the language called *Kalaallisut*?

Consider the word "Engli**sh**". The emphasised segment is a morpheme {(i)sh} meaning 'like', just like in 'noun-ish', 'small-ish' etc., so the word "English" literally means 'like English(men),' because English is *like* how the Englishmen speak.

Greenlandic has an *ending* for nouns with this 'like' meaning: The so-called *equative case* ending N{tut}, so e.g.*illu**tut*** means 'like a house/houses' or 'house-ish' for short.

Now, the base {kalaa**'liq**}N means 'a Greenlander'. It is a weak q-stem, displaying gemination of the /l/, and the last vowel is a true /i/ that will activate the t-to-s rule. Thus, when we add the ending N{tut} to {kalaa'liq}N, we obtain a word meaning 'like the Greenlanders (speak)' and the derivation proceeds as follows:

	{kalaa'liq}N{tut}	('like the Greenlanders')
$\implies$	/kalaa**ll**itut/	(gemination: /'l/ $\implies$ /ll/)
$\implies$	/kalaall**is**ut/	(t-to-s rule: /it/ $\implies$ /is/)
$\implies$	[kalaa**ɬ**isut]	(fricative rule: [ll] $\implies$ [ɬɬ])
$\implies$	"kalaa**ll**isut"	(spelling rule: [ɬɬ] $\implies$ "ll")

So the word *kalaallisut* is literally just "Greenlandic" translated into Greenlandic!

The names of other nations and languages are often borrowed into Greenlandic from Danish,[a] like e.g. "span**sk**" (Spanish), where the equivalent of the English {(i)sh} is {sk}. Such a word must of course be 'Greenlandised' by adding an /i/ to the base, but even though the word already contains this notion of 'like-ness' the N{tut} ending is still added on top of it to produce a word denoting the language. Thus *spanski**sut*** would be understood as the name of the language Spanish.

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[a]One notable exception is actually the word for English: An Englishman is a {tuluk}N, and the language English is thus {tuluk}N{tut} $\implies^*$ *tuluttut*.

so with an ending like N{mut} it becomes *ataa**ts**imut* (one o'clock). In fact, all stems ending in /ciq/ will behave in this way.

● Nasals may also geminate, so {na'**n**uq}N (polar bear) becomes *na**nn**ut* in plural, {i'**m**aq}N (sea, contents of s.t.) becomes *i**mm**at* (seas, contents), and {qi'**ŋ**aq}N (nose) becomes *qi**nng**at* (noses). There are also examples of vowel stems geminating in this way: {isu'**m**a}N (mind) becomes *isu**mm**at* (minds).

● Even plosives may geminate: {nia'**q**uq}N (head) and {u'**q**aq}N (tongue) will both geminate this single /q/ to /qq/, thus becoming *nia**qq**ut, o**qq**at*, and similarly will the affix N{-tu'**q**aq}N (an old N), so *illuto**qq**at* means "old houses".

● Lastly, there are also a few cases of k-stems that display gemination and throw away their final /k/ as if they were weak q-stems. The most common examples are probably {isi**g**ak}N (foot) $\implies^*$ *isi**kk**at* (feet), and {uja**r**ak}N (stone) $\implies^*$ *uja**qq**at*.[10]

Gemination is not exactly a nice and well-behaved phenomenon, and even though you may use the regular rule as a heuristic to capture *many* of the occurrences, there will also be some cases not covered by it. I have therefore decided to generally indicate gemination in my notation by an apostrophe before the geminating consonant: That is why I write {mii'**r**aq}N and {kalaa'**l**iq}N etc. However, as you have also seen, some affixes like N{-**t**aq}N also display gemination, and it may not in general always be possible to insert (or make do with) a simple apostrophe. A complete description of which stems display gemination and what the geminating consonant becomes, is, in my opinion, best achieved in a proper, morphemic dictionary. Unfortunately, such a dictionary does not exist. Fortunately, though, you can handle gemination in much the same way I recommended you might handle metathesis: You have to remember the *geminated stem-form* along with the usual morphemic form – e.g. [mee**qq**a-] alongside {mii**r**aq}N – because the geminated stem will *always* take this form, no matter which consonant-initial ending you add onto it.

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[10]There is also the affix N{-**l**ək}N (equipped with N), which in plural becomes -***ll**it*, but unlike the others this affix does *not* in general throw away its final /k/ and geminate /l/ before consonant-initial endings; only before plural N{t} and ergative singular N{p}. In other words, it is *-lik, -**ll**ip, -**ll**it*, but *-**lim**mut, -**lin**nik* etc., with endings like N{mut} and N{nik}. This confusion is probably caused by this stem originally having displayed *k-metathesis* instead, so /k/ moved to stand before /l/ and /ə/ disappeared, so e.g. N{-lək}N{it} $\implies$ /-klit/ $\implies^*$ *-llit*, but people nowadays use it as if it displayed gemination instead. A base like {malək}N (wave) behaves similarly.

6.7   Sound replacement (replacivity)

This is another special kind of sandhi process that concerns a particular type of nominal stem; the *tə-stems*. However, unlike the previously described processes, sound replacement regularly occurs when a certain kind of *affixes* (rather than endings) are added onto these stems. These are *most* (but not all)[11] sandhi-truncative affixes beginning in a *single /l/ phoneme*, such as N{-liq}Vb (equips s.t. with N) and N{-liaq}N (an artificially made N), and the speciality consists in the combination /təl/ being replaced with a *single /s/*. The special sandhi rule for this process thus looks as follows:

$$\{M\text{tə}\}\text{N}\{\text{-l}M\}\text{J} \ldots \rightarrow /MsM\ldots/$$

Here 'J' denotes any join marker (either 'N' or 'Vb') since these affixes can be both N{M}N and N{M}Vb, and the … denote optional further affixes and the mandatory ending.

Consider now the stem {qarasaq}N{-utə}N (a brain, 'owned' like a tool). By joining the affix N{-liaq}N onto this, we obtain by the present rule the word {qarasaq}N{-utə}N{-liaq}N{$\emptyset$} $\implies$ /qarasau**s**iaq/ $\implies$ * *qarasaa**s**iaq*, which means something like 'an artificially made tool-brain'. This is, incidentally, also the word for *computer*.

The replacivity rule is not mandatory: You can forget all about it and join affixes onto tə-stems by using just the ordinary sandhi rules. However, it *is* still used, both in lexicalised words like *qarasaasiaq*, and in ordinary speech, so you may sooner or later need to at least know that this phenomenon *can* occur, to be able to segment certain words into their constituent morphemes.

6.8   Sandhi fusion (a dead rule)

Consider the words *mee**qq**erivik* (kindergarten), *uja**qq**erisoq* (stonemason) and *naala**kk**ersuisoq* (minister). The nominal bases of these words are {mii'**r**aq}N (child), {uja'**r**ak}N (stone) and {naala'**g**aq}N (master/lord)[12] respectively. There is something odd about these words: The second-to-last consonant in the bases seems to be geminated, and the /aq/ seems to have disappeared.

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[11]One commonly used affix which does *not* follow the replacivity rule, is the affix N{-lək}N (s.t. equipped with N). This affix joins onto tə-stems in a completely ordinary fashion.

[12]Also used as a word for (the christian) "God" similar to how he in English is referred to as "Lord". I have occasionally also heard it used of a school's principal. It is actually a verbal base {naalak}Vb (obey) with a certain special morpheme Vb{-gaq}N added, creating a nominal stem meaning 'one to be obeyed.'

These words have all been formed through a process of *sandhi fusion* between the base and the next morpheme in the stem, which has caused both gemination and the deletion of the final /aq/ in the base. Note first of all that this is certainly *not* a regular way to form words nowadays; these words are all lexicalised with their particular meaning – that is, they exists as entries in the dictionary, so you are not supposed to be able to *derive* their meaning by splitting them up into their constituent morphemes, nor to form new words by joining morphemes in the same fashion. Still, a good number of very common words *have been* formed in this way, so I mention the process here, in case you are curious about their relationship to other stems.

The words have been formed according to the following rule: The aforementioned truncative affixes, beginning in /l/, that can fuse with /tə/ to yield /s/, can also fuse with stems ending in /Caq/, and (irregularly) /Cak/ in the case of {uja**rak**}N since it behaves like a weak q-stem, even though it ends in /k/. Here both the final /aq/ and the initial /l/ are deleted, and *if* the stem is geminating then it also triggers the sound doubling.[13] A rule for this process could look something like

$$\{M(')C\text{aq}\}\text{N}\{\text{-}lM\}\text{J} \ldots \to /M(C)CM\ldots/$$

where the (') becoming (C) represents the possibility of a geminating consonant. For instance, the word *meeqqerivik* is formed with the affix N{-lirə}Vb (work with N) and Vb{vik}N (place where s.b. Vb's), so a kindergarten

$$\{\text{mii}'\textbf{raq}\}\text{N}\{\textbf{-lir}ə\}\text{Vb}\{\text{vik}\}\text{N}\{\emptyset\} \implies^* \textit{mee}\textbf{qq}\textit{erivik}$$

is literally 'a place where somebody works with children.' Similarly, *ujaqqerisoq* is also formed with N{-lirə}Vb and then the affix Vb{ðuq}N (s.o. who Vb's), so a stonemason is literally 'someone who works with stone'.

There are also cases with non-geminating stems; e.g. {aniŋaas**aq**}N (coin), which when joined with N{-livik}N (a container for N) yields *aningaasivik* (a wallet; literally a container for coins). Actually, this 'container for N' affix is formed from a combination of N{-liq}Vb (equips with N) and Vb{-vik}N, so we could equally well say that the combination of N{-lirə}Vb and Vb{vik}N – that is, N{-lirəvik}N – is 'a place where somebody works with N.' Using this shorthand, can you then guess what an *aningaaserivik* might be?

A third example of fusion, that you may commonly see, is with the affix N{ccaq}N, which means something like 'a future N' or 'something which in the future will be used as N.' If you are producing a commodity then you would use

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[13]This observation is due in part to Nielsen (2019, p. 108).

this affix to describe the result. But 'to produce something' can be expressed with the affix N{-liuq}Vb (make N), which is precisely one of these replacive/fusional affixes, so N{cc**aq**}N{-**l**iuq}Vb $\implies$ /-cciuq-/ by the present rule. This combination is common, but completely unobvious by the ordinary rules, so we ought perhaps to treat it as a separate morpheme and say that N{cciuq}Vb is an affix that means 'make future N'. For instance, {nukək}N is (electrical) power, and the name of the company producing and delivering electricity in Greenland is

$$\{\text{nukək}\}N\{\text{cciuq}\}Vb\{(\text{v})\text{vik}\}N\{\text{-it}\} \implies^* \textit{Nuki}\textbf{\textit{ssior}}\textit{fiit}$$

with the aforementioned N{cciuq}Vb affix, the regular variant of the 'place-where' affix, Vb{(v)vik}N, and the plural ending N{-it}; so the name literally means 'places where future electricity is produced.'

6.9   ut(ə)-stems and their sandhi

The processes described so far have mostly pertained to different types of nominal stems. We can make a similar subdivision of *verbal* stems into vowel-stems, k-stems, q-stems and t-stems (see figure 6.5), but there is hardly any need for this, since the behaviour of verbal stems is far more regular than the nominal stems. The only 'major' group displaying any kind of stem-dependent sandhi-behaviour is the group of *schwa-stems* which uses a few extra rules with certain groups of endings. However, these rules will not really make sense until you know how the system of verbal endings is constructed, so I have deferred this topic to section 9.7 (page 180).

There is, however a group of verbal stems that do not clearly belong to *either* the consonant stems or the vowel stems, sometimes behaving like one or the other, depending on the context: They end on /tə/, which thus *should* mean they are vowel stems, but this /ə/ will often disappear, thereby making the stems seemingly end on /t/ instead. I indicate this by writing /(ə)/, with the erratic schwa in parentheses.

This group of stems are all formed by the affix Vb{-ut(ə)}Vb (does Vb with it) or one of its many variants, such as Vb{`-t(ə)}Vb (same meaning), Vb{kkut(ə)}Vb (thinks that he Vb's), N{qqut(e)}Vb (moves in the N of it), Vb{ccut(ə)}Vb (does Vb for him) and possibly others. A good number of stems in the dictionary are actually formed by derivation with one of these affixes; for example {iŋiqlat(ə)}Vb (drives/works with it), {pitcit(ə)}Vb (buys s.t. for him), {majuut(ə)}Vb (carries it up) and many others. Thus, this group of stems is called the *ut(ə)-stems*.

The rule governing the behaviour of these ut(ə)-stems is actually simple to formulate: The (ə) disappears before *additive* morphemes (both affixes and end-
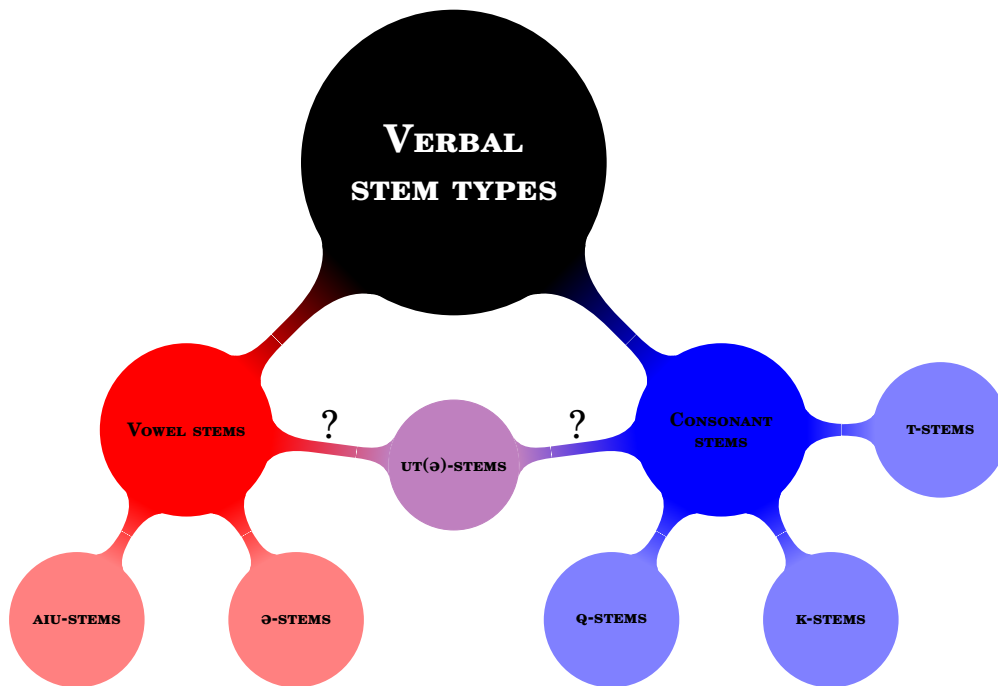
Figure 6.5: A categorisation of verbal stems, based on their stem-final phoneme. The group of ut(ə)-stems do not clearly belong to either the consonant stems or the vowel stems, but display a mixture of characteristics from both categories.

ings!), but it reappears before *truncative* morphemes (whether sandhi or phonotactically truncative). You can think of it as if this (ə) acts as a kind of buffer, ensuring that /t/ will never be deleted. Formally, this special sandhi rule for ut(ə)-stems is as follows:

$$\{Mt(ə)\}\text{Vb}\{\text{-}M\}... \rightarrow /Mtə M.../$$
$$\{Mt(ə)\}\text{Vb}\{+M\}... \rightarrow /MtM.../$$

Here $\{Mt(ə)\}$Vb is an ut(ə)-stem which is followed by either a truncative or an additive morpheme; I use the … to indicate that this morpheme could either be another affix or an ending.

Let us have a few examples to illustrate this process. Suppose I wanted to join either the additive affix Vb{galuaq}Vb (actually Vb but …), or the truncative affix Vb{ssa}Vb (shall Vb) onto {iŋiqlat(ə)}Vb. To make a complete word, I will also add the ending Vb{vaa} (he Vb's it), though that is not the main point. These derivations proceeds as follows:

{iŋiqlat(ə)}Vb{galuaq}Vb{vaa} (additive case)
$\implies$ /iŋiqlat**g**aluaqvaa/ (this rule: Additive, so delete (ə))
$\implies^*$ *ingerla**kk**aluarpaa*

{iŋiqlat(ə)}Vb{ssa}Vb{vaa} (truncative case)
$\implies$ /iŋiqlat**ə**ssavaa/ (this rule: Truncative, so insert (ə))
$\implies^*$ *ingerla**tis**savaa*

As you can see, in the first case /g/ comes to stand directly after /t/, thereby assimilating it like any other consonant stem, whilst in the second case a [ti] suddenly appears in the middle of the word, before the next affix, as if it were a vowel stem. ut(ə)-stems are both, and neither.

How to recognise an ut(ə)-stem

Suppose I joined the ending N{vaa} directly onto {iŋiqlat(ə)}Vb with no affix in-between. The ending is additive, as are almost all verbal endings, so the result is obviously {iŋiqlat(ə)}Vb{vaa} $\implies^*$ *ingerla**pp**aa*. (ə) disappears, and /tv/ is assimilated to [vv], which becomes [pp] by the fricative rule, like any other ordinary consonant stem. And that is the problem.

As I have mentioned before, a Graphemistic dictionary like the DAKA lists all entries at the level of *writing*, and since all words must have an ending to actually *be* a complete word, this obviously implies that all entries in the DAKA, and in particular all *verbs*, are listed with an ending. This is almost always the so-called 'indicative, third person, singular' ending, which can be either Vb{vuq} or Vb{vaa}, depending on the meaning of the stem. In the case of {iŋiqlat(ə)}Vb it is Vb{vaa}, so you can actually find an entry for the word *ingerlappaa* in the DAKA.

Now consider another entry; the word *naala**pp**aa* (he obeys him), also bearing the ending Vb{vaa}. Compare it to *ingerlappaa*. Can you tell the difference? Supposedly not, because there is no difference to be seen, although there *is* a major difference: The word *naalappaa* is a true consonant stem, and *not* an ut(ə)-stem. Its base is {naalak}Vb (a k-stem), so if you joined a truncative morpheme like Vb{ssa}Vb onto it, the result would be {naala**k**}Vb{ssa}Vb{vaa} $\implies^*$ *naala**ss**avaa* with no mysterious appearance of a [ti], because this is just a completely ordinary consonant stem.

Do you see the problem now? The two stems both *look* like ordinary consonant stems, when you only consider the entries in the DAKA, but they *behave* radically different, because one is an ut(ə)-stem whilst the other is not. Their different behaviours are easy enough to predict, when you *know* the morphemic

form, but how are you supposed to figure out which consonant stems are really ut(ə)-stems, if you have nothing but the DAKA entries to go on?

This is obviously another example of my critique of the Graphemistic tradition, but, in this case at least, the DAKA actually contains some *hints* you may be able to use to distinguish between ut(e)-stems and true consonant stems. First of all, there exists something called 'half-transitive' morphemes, or HTR for short, which are used to change the 'form' of the stem without changing its meaning. It is beyond the scope of this chapter to explain the purpose of these morphemes (and it is not really relevant either), but suffice to say, it means that a stem like {iŋiqlat(ə)}Vb can come to take the ending Vb{vuq} instead of Vb{vaa} without changing the meaning of the word. Now, different stem-types have a preference for just *one* of these HTR-morphemes, and ut(ə)-stems in particular always prefer the morpheme {ci}. It is additive, so when added to {iŋiqlat(ə)}Vb it will join directly onto /t/, which will be assimilated, thus creating a new stem {iŋiqla**cci**}Vb that can take the ending Vb{vuq}, yielding the word *ingerla**ss**ivoq* (he drives s.t. forward).

If you look at the DAKA entry for an ordinary consonant stem like *naalappaa*, it will look like this:

$$\textbf{naalappaa } o^{14} \text{ adlyder ham [obeys him]}^{15}$$

Just a single word, a symbol denoting that it is a verb, and the Danish translation. However, when you look at the entry for an ut(ə)-stem such as the aforementioned *ingerlappaa*, it will *generally* look like this instead:

ingerlappaa, **ingerlassivoq** *o* driver det frem, arbejder med det, arbejder på det [drives it forward, works with/on it]

The entry contains *two* forms; both the ut(ə)-stem itself *and* the form with the HTR-morpheme {ci} (which is just an ordinary vowel stem). This is the main hint you can use to identify ut(ə)-stems in the DAKA dictionary, because the entry will also contain this secondary form, ending in "-ssivoq".[16]

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[14]The little *o* in italics is short for *oqaluut* (verb), indicating that the word is a verb.

[15]This English translation in hard brackets is not a part of the entry. I have just added it for your benefit, in case you do not understand Danish.

[16]Alternatively, if you have a dictionary using the old orthography, like Schultz-Lorentzen (1958), look for an acute accent on the last vowel in the stem. Using the old orthography, the ut(ə)-stem *ingerlappaa* would be written as *ingerdlápâ*, with the acute accent indicating that the assimilated consonant is a /t/. Unfortunately, this does not clearly distinguish ut(ə)-stems from true t-stems, so in this case the old orthography is only slightly better than the new (which says nothing at all about what the assimilated consonant may be).

6.10 {aq} the friendly ghost-morpheme

Some morphemes – both bases and affixes – may end on a $/V\text{aq}/$, where the last syllable seems to be a separate morpheme {aq} with a tendency to disappear before certain other morphemes. Per Langgård has apparently dubbed it 'a ghost-morpheme' because of this tendency. This is rather confusing, because you have already seen *one* kind of disappearing /aq/, in the string $/(')C\text{aq}/$ I described above in section 6.8. The present ghost-morpheme is a different kind of {aq}, appearing (and disappearing) instead in strings of the form $/V\text{aq}/$ – it has a vowel instead of a (possibly geminating) consonant, and it can appear in both nouns and verbs. Furthermore, the business with this ghost-morpheme is still very much an active process; that is, it still disappears today during word-formation, so unfortunately you cannot wholly ignore it.

The ghost-morpheme {aq} *generally* disappears before *vowel-initial* affixes and endings, but with much irregularity, so you should consider this as more like a rule of thumb. In case of the *nominal stems*, this is in particular the affix N{-u}Vb (is an N), and the endings N{-up} (N's), N{-it} (plural), N{-a} (his N) etc. I shall return to this in section 8.7 on page 142. For the *verbal stems* the case is easier since there are no vowel-initial endings, but {aq} may still disappear before vowel-initial *affixes*; in particular the affixes Vb{-ut(ə)}Vb (Vb's for him, Vb's with it) and Vb{-utə}N (tool/means for Vb'ing). In the following examples I shall here use a vertical bar to indicate the boundary between the stem and the ghost-morpheme.

Nominal ghost-stems

Amongst the *nominal stems* there are two very frequent affixes, N{(q)cu|aq}N (big/bad N) and N{ŋŋu|aq}N (cute/little N), as well as a relatively rare one, N{galu|aq}N (former N). They behave like *k-stems* in the sense that they take the endings N{-up} and N{-it},[17] and since they are vowel-initial, they will cause the {aq} to disappear. They thus appear as *-(r)su**aq**, -(r)su**up**, -(r)su**it**, -(r)su**a*** etc., and *-nngu**aq**, -nngu**up**, -nngu**it**, -nngu**a*** and so forth.

Similarly, with N{-u}Vb they become N{(q)cu|aq}N{-u}Vb $\implies^*$ *-(r)su**u**-* and N{ŋŋu|aq}N{-u}Vb $\implies^*$ *-nngu**u**-* respectively. Thus e.g. *illo**rsuaq*** is a **big** house, and *illu**nnguaq*** is a **small** house, but with N{-u}Vb and the ending Vb{vuq} (it Vb's) we get *illo**rsuu**voq* meaning "it is a **big** house", and similarly *illu**nnguu**voq* meaning "it is a **small** house".

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[17]Instead of N{p} and N{t}; see further in section 8.7, page 142.

Verbal ghost-stems

Amongst the *verbal stems* are e.g. the base {maju|aq}Vb (ascend, go upwards), and the affix Vb{ni|aq}Vb (future/try to Vb) as well as (obviously) all other bases formed with this affix, like for instance {ilitni|aq}Vb (learn). Here, deletion especially occurs before the affixes Vb{-ut(ə)}Vb (Vb's for him, Vb's with it) and Vb{-utə}N (tool/means for Vb'ing).

Thus, 'he goes up' is {maju|aq}Vb{vuq} $\implies^*$ *majuarpoq*, but 'he goes up **with it**' is {maju|aq}Vb{-**ut(ə)**}Vb{vaa} $\implies^*$ *maju**up**paa*.[18] Similarly, 'he studies something' is {ilitni|aq}Vb{vuq} $\implies^*$ *ilinniarpoq*, but {ilitni|aq}Vb{-**utə**}N{t} $\implies^*$ *ilinni**uti**t* means 'materials for studying' (here with N{t} for plural). This is by the way also the word for a *textbook*, such as the one you are reading right now.

$* * *$

If I managed to convince you, during the first five chapters, that Greenlandic is a highly regular language, then the present chapter may completely have shattered that vision. If that is how you feel about it now, then just remember that the processes described in the present chapter are all variations on, and deviations from, the general pattern. Some of them are rare, and you may never need to use them at all. You just need to know *of* their existence, in case you encounter them some day, but you do not need to actively *remember* them to learn ordinary Greenlandic.

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[18]In case you are wondering: The change of ending, from Vb{vuq} to Vb{vaa}, has nothing to do with the deletion of {aq}. It is just a necessity, because Vb{-ut(ə)}Vb changes the meaning of the stem. I explain why in part II, but the explanation itself is not really relevant here, so I shall not go into deatils now.

Part II

Endings

A play on words and endings

As you should know by now, there are only three classes of words in Greenlandic: Nouns and verbs are the main classes; and then there is the small class of particles such as *aamma* (and) and *kisianni* (or) that I have hardly even bothered to describe, because they never change, except by the occasional, and rather trivial, addition of an enclitic, like *aamma**lu*** (and-and) with ∗{lu} (and) added for emphasis.

In other words; almost every Greenlandic word you will encounter will be a noun or a verb, and *every* noun and verb in Greenlandic has an *ending*, which again means that you will *very* often need morphemes from this group. The (initially) easiest way to go about this is of course just to memorise the most commonly occurring endings, like Vb{vuŋa} (I Vb) that I have already used extensively. This is certainly a viable way forward.

However, once you have acquired a good number of endings – and there are a good many of them, as I shall explain below – you will probably begin to notice a certain regularity or *pattern* in the way they look. A highly *useful* pattern, in fact: The endings are not just random strings of phonemes; they are built from a (comparatively small) set of 'grammatical morphemes', and once you discover this pattern, you will be able to *infer* the meaning of new endings that you may never even have heard/seen before, just by looking at the *form* of the ending. Or conversely, you will be able to guess the correct form of an ending, that you may need, even though you may never have heard it or used it before.

You *can* of course just discover this pattern for yourself, as you go along and learn new endings, but in case you would like an explicit presentation of the

system, then read on, because my purpose with the chapters in this part, is precisely to give such an explicit presentation.

7.1   The number of endings

How many endings are there? If you take e.g. Stig Bjørnum's grammar (Bjørnum, 2003) with its innumerable tables of endings, you can (if you bother!) count approximately 625 endings for nouns and 906 endings for verbs (give or take a few). In total, 1.531 endings! This absurdly high number results from the fact that Graphemists (by virtue of their Graphemism) represent the endings on the level of writing, just like the DAKA dictionary does with the bases and affixes. In other words, every form an ending can take, through the changes induced by the sound rules, is listed separately. Thus for instance the ending Vb{vuŋa} is listed *thrice* – as "+vunga" (on vowel stems), as "-ppunga" (on consonant stems), and as "-rpunga" (on q-stems[1]). What an utter waste of time (and paper)!

Figure 7.1 presents a full set of endings in this Graphemistic style. There are 18 endings, but as I hope you can readily see, this number can be reduced to a *third*, if we instead switch to using the morphemic form:

I (1.sg)	Vb{vuŋa}
thou (2.sg)	Vb{vutit}
he (3.sg)	Vb{vuq}
we (1.pl)	Vb{vugut}
you (2.pl)	Vb{vusi}
they (3.pl)	Vb{(v)vut}

You know the sound rules and the spelling rules, and by using them you can easily derive all forms in figure 7.1 from this much smaller set. In this way we can reduce the number of endings for verbs to about one third, and for nouns to about one fourth! Thus, the challenge you face is no longer 1.531 endings, but 144 endings for nouns, and 370 for verbs; in total 514 endings.

However, you may also notice that the aforementioned endings all seem to have something in common: They all begin with the phonemes /vu/. In fact, this is a *grammatical* morpheme {vu}: All these endings form what in Grammaric

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[1]Which of course in Graphemistic parlance are called *r-stems*, because they see this assimilated /q/ as a written "r".

	vowel stem e.g. *suli*voq	consonant stem e.g. *sinip*poq	r-stem e.g. *atuar*poq
I (1.sg)	+vunga	-ppunga	-rpunga
thou (2.sg)	+vutit	-pputit	-rputit
he (3.sg)	+voq	-ppoq	-rpoq
we (1.pl)	+vugut	-ppugut	-pugut
you (2.pl)	+vusi	-ppusi	-rpusi
they (3.pl)	+pput	-pput	-rput

Figure 7.1: The verbal endings for intransitive indicative, as the Graphemists present them (e.g. Bjørnum (2003), Janussen (1987), but even older grammars like Schultz-Lorentzen (1951), using the old orthography, do it similarly). Note, I use 'thou' rather than 'you' for the 2nd person singular, simply to distinguish it clearly from the 2nd person plural, 'you'. There is nothing archaic or otherwise 'special' about this ending.

parlance is called the *intransitive indicative mood*, which just means that they are all used for direct statements, like "I have a house" or "there is snow on the mountains" etc., and this 'indicativeness' is precisely what the {vu} denotes. The second half of each ending marks the *person*, so {ŋa} denotes 'I', {tit} denotes 'thou' and so forth.

The endings are *modular*,[2] meaning that you can replace one part with another and thus get a whole new set of endings: For instance, the so-called *intransitive participial* mood is formed by replacing {vu} with {ðu}, so instead of Vb{**vu**ŋa}, Vb{**vu**tit} etc., you get Vb{**ðu**ŋa}, Vb{**ðu**tit} etc. These endings mean "… that I Vb'ed", "… that you Vb'ed" and so forth, but their meaning is not so important here.

The truly important point is: I gave you *one* new piece of information, the marker {ðu}, but that instantly gave you *six* new endings. This is a part of the

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[2]This 'modularity' is called *agglutination* in Grammaric. Greenlandic is an *agglutinative* (as well as a polysynthetic) language.

pattern I mentioned above, and if we continue in this fashion, the 514 endings can be broken down into just around 62 such grammatical morphemes. I hope you will agree that this number seems much more manageable.

Note in passing that there is nothing new about describing endings in this modular fashion. It is not my invention. Kleinschmidt noted it, and you can also find mention of it in the grammar by Rasmussen (1888). Fortescue (1984) also described it, and even Bjørnum (2003), in all fairness, alludes to the existence of such a pattern, in his own abstruse fashion. However, no other grammar I have seen, has described it as clearly and elegantly as Langgård (1997a). My presentation of the system in the following chapters is first and foremost based on his presentation, although I have added some details here and there, especially regarding the exact derivation of the final form of the endings from the grammatical morphemes.

In any case, this part of the book concerns the (morphemic) *form* of the endings, and not their *meaning* or usage. However, it can sometimes be difficult to talk about form without also mentioning usage and meaning, so in the rest of this chapter I will give you a brief overview of the system of endings and also introduce some common terminology.

7.2 Cast of characters

As you have already seen, a Greenlandic verb can correspond to a complete sentence in English; in fact, a single verb can *be* a complete Greenlandic sentence. This is partly because much of the information for which you would use separate words in English, is given in the *ending*. In a word like *sinip**punga*** (I sleep) the ending Vb{vuŋa} conveys two pieces of information: The {vu} part marks this utterance as a *statement*, and the {ŋa} part says that *I* am the one who is performing the action.

"I" is traditionally called the *first person, singular*, which I abbreviate to '1.sg'. Conversely, "we" is the first person *plural*, which I abbreviate to '1.pl'. At some point in history, the Englishmen decided that it was much more polite to say 'you' instead of 'thou' when they spoke to someone, and as a result the word 'you' today is ambiguous, since it can refer both to the *second person, singular* and the *second person, plural*. This is rather inconvenient, so I shall prefer to be impolite and use "thou" (and "thee" and "thy") to unambiguously refer to the second person *singular*, abbreviated '2.sg', and "you" to refer to the second person *plural*, abbreviated '2.pl'.

The *third person, singular*, or '3.sg' is "he" or "she" or "it" but I shall in general

just write "he".[3] There is no distinction like this in Greenlandic; no 'grammatical gender'. The 3.sg can be a man, a woman, a dog, a house etc. – anything you can point to – and it is all marked in the same way. And the *third person, plural*, or '3.pl', is of course just "they" – a group of "he's".

Now consider a sentence like "***he*** *thought* ***he*** *was going to faint*." Is this the *same* 'he' who thinks and faints? Or is it one man observing the apparent fainting of another man? The sentence is ambiguous, so there is no way of telling. Similarly, "***he*** *loved* ***his*** *wife*" could describe both a faithful man and an adulterer, depending on whether the wife is the wife of the man who is doing the loving, or the wife of some other 'he'. Again, the sentence is ambiguous.

However, in Greenlandic these sentences would *not* be ambiguous, because Greenlandic has a special, *reflexive* third person,[4] which I abbreviate '3r.sg' and '3r.pl', to denote that the "he" doing something in the first sentence (or 'main clause') is the *same* as the one who is doing something in the second sentence (or 'subordinate clause'). You can think of 3r.sg as "he *himself*" or "his *own*" and if we substitute these for the "he" in the subordinate clauses, the sentences are no longer ambiguous: "*He thought* ***he himself*** *was going to faint*" and "*he loved* ***his own*** *wife*" both unambiguously identify the "he" as the *same* person. The same can be done for the 3r.pl ("they themselves" and "their own").

These 'persons' will be our cast of characters throughout the presentation. You can find a list of them in definition 7.1.

7.3   The rôle of Subject, Agent and Patient

Consider a base like {sinək}Vb (sleep). How many persons can be involved in this act? You might say 'one' or 'infinitely many' and both would be correct, since you could e.g. add the ending Vb{vuq} (3p.sg, 'he'), and then it would only be one guy, who is sleeping, or you could add, say, Vb{vugut} (1p.pl, 'we') and you would then be speaking about an arbitrary number of people, including yourself. But there can really only be *one, grammatical* person involved: It can be *either* the 3p.sg, *or* the 1p.pl (or any of the others), but not *both* of them in the same sentence.

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[3]I know this is not 'fashionable' in so called 'progressive' circles, where it is all about gender fluidity and feminism and alternating between 'she' and 'he' in every other sentence. I find it utterly ridiculous. Surely, strong, independent women can write their own books, using 'she' as much as they like, if they think the word is underrepresented in the literature.

[4]Some authors, e.g. Bjørnum (2003) call the reflexive third person the "*fourth* person" instead. I have decided not to do this, because to me, a 'fourth person' sounds like it is someone else, rather than the *same* person, but that might just be a matter of taste. Just beware, if you read other grammars, that the terminology may be different.

DEFINITION 7.1:

Greenlandic distinguishes four *persons*, the first, second, third, and the reflexive third; and two *numbers*, the singular and the plural:

singular
- 1p.sg = "I"
- 2p.sg = "thou"
- 3p.sg = "he"
- 3r.sg = "he himself"

plural
- 1p.pl = "we"
- 2p.pl = "you"
- 3p.pl = "they"
- 3r.pl = "they themselves"

Another way of saying this is that the *act* of sleeping cannot be *directed at* anyone or anything. You can say eg. "Peter sleeps" (*Piitaq sinip**poq***) but you cannot say e.g. "*Peter sleeps *the dog*."[5] The *meaning* of {sinək}Vb can have a *Subject* – the person who performs the action – but it cannot have an *Object*; that is, a person at whom the action is *directed*.

Compare with the base {autlai}Vb (shoot s.t.). It is built into the meaning of this verbal base, that the act of shooting *must* be directed at *something*. You can say "Peter shoots *the dog*", and here there are clearly *two* different persons involved; Peter and the dog. Peter is no longer just the Subject of the sentence; he is the *Agent*, acting with agency on another entity, the *Patient*. In this case the dog that is being shot.

This 'number of persons involved in the act' described by a verbal stem is called the stem's *valency*. The valency of {sinək}Vb is *one* (so it is also known as **mono***valent stem*), because there is only one person or 'actor' involved.[6] Con-

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[5]I always use an asterisk to denote an ungrammatical/impossible form.

[6]If all this talk of actors seems completely absurd to you, then imagine if you were to *mime* the meaning of a verbal base. What would be the minimal number of actors needed? One for sleeping, two for shooting.

versely, the valency of {autlai}Vb is two (so it is also known as a ***di**valent stem*).

Here is the point: A *monovalent* stem like {sinək}Vb requires *one* person to play the rôle of *Subject*, whilst a *divalent* stem like {autlai}Vb will require *two* persons to play the rôle of *Agent* and *Patient*, respectively. Subject, Agent and Patient are the 'leading rôles' our persons can play, so to speak, and the verbal stem is like the script that determines the required cast.

This distinction between monovalent and divalent stems is of immense importance in Greenlandic because it influences the *form* of the ending attached to the stem: An ending on a monovalent stem like {sinək}Vb will contain *one* personal marker, denoting the *Subject*, like Vb{vuŋa}, Vb{vutit} and so forth; but an ending on a divalent stem will contain *two* personal markers, one denoting the Agent, and one denoting the Patient. For instance, in the ending Vb{gavtəgu} (when/because we Vb'ed it), the part {vtə} denotes 1p.pl "we" as Agent, and {gu} denotes 3p.sg "him" as Patient. Such an ending will only make sense on a divalent stem.

A verbal ending bearing only a single personal marker, like Vb{vuŋa}, is called an *intransitive* ending, and a verbal ending bearing *two* personal markers, like Vb{gavtəgu}, is called a *transitive* ending. Please note: The intransitive/transitive distinction has to do with the *form* of the ending: Are there one or two personal markers? You can tell just by looking at the ending. *Valency* on the other hand is derived from the *meaning* of a base or stem. You cannot tell, just by looking at a base, what its valency is. You have to know what it *means*.

All this amounts to saying that the number of personal markers in the ending must match the valency of the stem, because the personal markers show which (grammatical) person plays the rôle of Subject, or as Agent and Patient. You can say {sinək}Vb{vuq} $\implies^*$ *sinippoq* and {autlai}Vb{gavtəgu} $\implies^*$ *aallaagatsigu*, but {sinək}Vb{gavtəgu} $\implies^*$ **sinikkatsigu* would be ungrammatical. It makes no sense.[7]

You can find a summary of the most important concepts from this rather Grammaric section in definition 7.2.

7.4   Overview of the moods

The first part of any verbal ending – before the personal markers – is the *mood marker;* you have already seen a few examples of these, like {vu}, {ðu} and {ga}

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[7]However, you *can* actually say {autlai}Vb{vuq} $\implies^*$ *aallaavoq*. Here the 3p.sg marked in the ending by {q} is taken to be *both* the Agent *and* the Patient. He has to play both rôles, so he is *both* the shooter *and* the one being shot. This sentence therefore means "He shoots himself."

> **DEFINITION 7.2:**
>
> - *Valency:* The number of grammatical persons ('actors') involved in the verbal action described by a verbal stem. Some affixes can lower or increase the valency, whilst others do not change the valency, when they are added to a stem. Some important valencies are:
>
>   1. monovalent (valency 1), e.g. {sinǝk}Vb (S sleeps).
>   2. divalent (valency 2), e.g. {asa}Vb (A loves P).
>
>   A monovalent action involves only a *Subject* (S), whilst a divalent action involves an *Agent* (A) who performs the action and a *Patient* (P) who is the recipient of the action.
>
> - *Transitivity:* The number of personal markers in a verbal ending. There are two types:[a]
>
>   1. intransitive (one personal marker), e.g. Vb{vuŋ**a**}
>   2. transitive (two personal markers), e.g. Vb{ga**vt**ǝ**gu**}
>
>   An *intransitive verb* is a verb with an intransitive ending, and a *transitive verb* is a verb with a transitive ending. Similarly, an *intransitive sentence* is a sentence where the main verb is intransitive, and a *transitive sentence* is a sentence where the main verb is transitive.
>
> ───────────
>
> [a]The valency of a stem can actually be something else than 1 or 2; e.g. it can be 3 or 0, but this is *not* reflected in the system of endings. We do not have endings with zero or three personal markers!

Questions

Statements

INDICATIVE

MOODS

"If / when s.b. Vb's"

INTER-
ROGATIVE

INDEPENDENT
MOODS

DEPENDENT
MOODS

CONDITIONAL

IMPERATIVE

OPTATIVE

SUBORDINATE
MOODS

CAUSATIVE

ITERATIVE

Wishes, "let s.b. Vb"

CONTEMPO-
RATIVE

PARTICIPIAL

"Because / when s.b. Vb's"

*Orders
Commands*

"Whenever s.b. Vb's"

*"While" or
"Vb'ing"*

"… that s.b. Vb's"
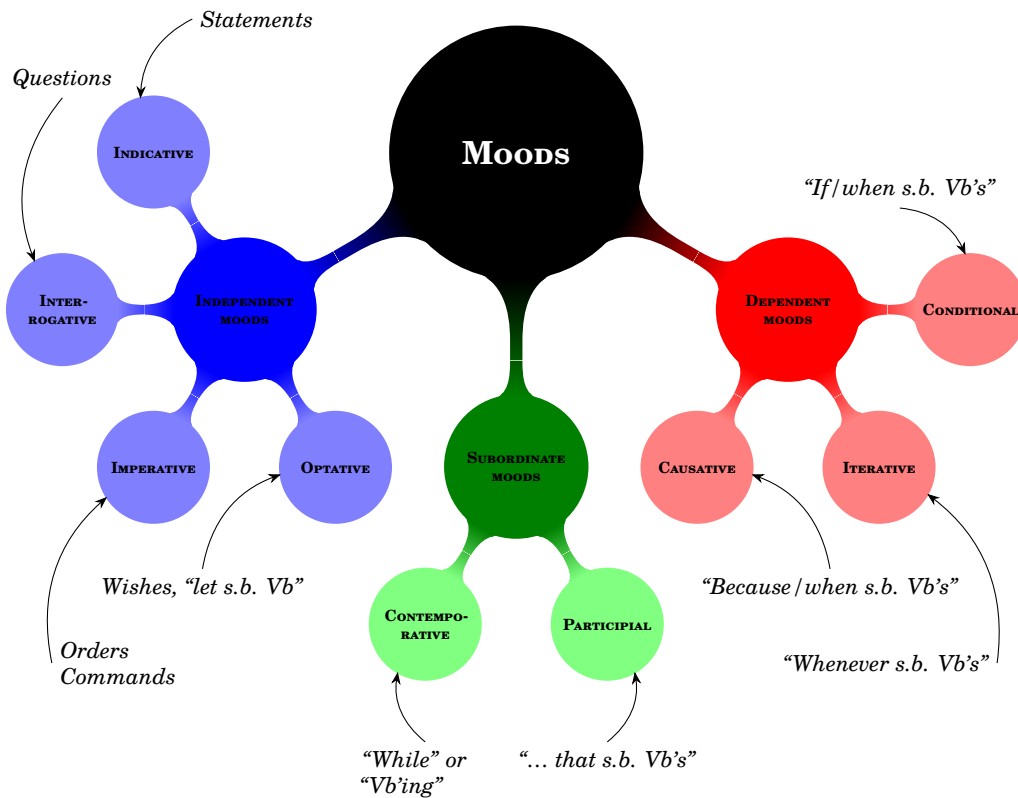
Figure 7.2: An overview of the moods of verbs in Greenlandic. The annotations give the 'most common' translation of each mood, but note that some of them may have multiple meanings.

in Vb{**ga**vtəgu}. They are grammatical morphemes that denote what *kind of expression* the verb is; is it a statement, a question, a command, and so forth.

There are nine such *moods* in Greenlandic, each with its own more or less cryptic name, and they are usually grouped into three classes, as I have attempted to illustrate in figure 7.2:

- The *independent moods* are the *indicative* (for statements), the *interrogative* (for questions), the *imperative* (for direct commands) and the *optative* (for expressing wishes like "**let** me help you" etc.). Common to these four is that they can all form a full, grammatically complete sentence. These are quite like in English.

119

● The *subordinate moods* are the *contemporative* and the *participial*. The first corresponds more or less to the English verb form "Vb'ing", e.g. *aterput kuffertit aallugit* ("they went down, fetch**ing** the suitcases") and generally denotes a sense of concurrent action, somewhat like the word "while". The latter can best be translated as a 'that' sentence, that usually follows some statement of thought, opinion, or similar; for instance "I think **that** you are proficient" can be expressed as:

$$\{isuma\}N\{\text{-}qaq\}Vb\{vu\eta a\} \ \{pikkurik\}Vb\{\textbf{ðu}tit\}$$
$$\Longrightarrow^* \textit{isumaqarpunga pikkoris\textbf{su}tit}$$

Common to both of these modes is that they form 'half-sentences' that *extend* other sentences. They cannot themselves form full sentences, quite like in English.

● The *dependent moods* are comprised of three moods: The *causative*, sometimes dubbed the "**be**causative" because its meaning is 'because/when'; it is used to express the (past) time when, or reason why, something has happened. Its counterpart is the *conditional*, usually translated as 'if/when', because it is used to express some (future) time when, or condition for, an event will occur.[8] Lastly, the *iterative* denotes habitual/recurrent action; it can often be translated as 'every time' or 'whenever' or similar.

Common to these three is the notion of 'when' (including '**when**ever'); a past or future cause. They are used to describe other verbal actions, and thus they cannot by themselves form complete sentences.

The notion of transitivity is completely orthogonal to this division of moods; or, in other words, there is, for *each* mood, a set of intransitive endings (bearing one personal marker) and a set of transitive endings (bearing two personal markers). With eight persons, this yields in theory $(8 + 8 \cdot 8) \cdot 9 = 648$ possible endings. However, the actual number is somewhat lower, because not all moods have endings with all possible combinations of persons, but still quite large because of the combinatorics.

---

[8]English is an impractical language here, because the word 'when' can refer both to an event in the past and in the future. Compare: "**When** you came home, I made some coffee" (past or reason), versus "**When** you come home, I'll make some coffee" (future or condition). These two different meanings of 'when' are covered by two different modes in Greenlandic: The causative (for the past/reason) and the conditional (for the future/condition).

7.5 The case of a noun

Nouns in Greenlandic are names and words for things, persons, abstract concepts etc., such as *Piitaq* (the Greenlandic version of the name Peter), {iglu}N (house), {aŋutə}N (man), {atə}N (the area below s.t.), and of course also entities for which English has no single word, like for instance *suleqatiginikuusara* (my former co-worker).

Unlike verbs, nouns cannot form a sentence. They can, in very broad terms, only do two things:

1. Nouns can further specify who the Subject is (in an intransitive sentence), or the Agent and/or Patient (in a transitive sentence). For example, *sinippoq* (he sleeps) is a full, intransitive sentence, but it is not very telling. Who is this 'he' that is sleeping? We can instead say *Piitaq sinippoq* to further specify that the Subject of the sentence is Peter. The rôle of a noun in a sentence is marked by an ending on the noun (in this case the null-ending N{∅}).

2. Nouns can specify time, place, direction etc., of the verbal action. For example, a bed is *siniffik* (obviously!), and the ending N{mi} means 'in N'. Greenlandic has no separate word for 'in', so its meaning of 'place for the action' is always expressed with an ending on the noun. We can thus extend the previous sentence and say *Piitaq **siniffimmi** sinippoq* (Peter sleeps **in the bed**). Similarly, meanings like those of 'on', 'from', 'to', 'by' etc. are expressed by endings on nouns.

This marking of function on a noun is traditionally called its *case*, and the morphemes that denote the functions are thus called the *case markers*. Greenlandic has two *grammatical* cases – the *absolutive* and the *ergative*[9] – that are used to mark a noun as playing either the rôle of Subject, Agent or Patient, and then six *prepositional* (or 'oblique') cases for denoting place, movement etc. They are actually formed by six 'prepositional' morphemes that have been added on top of the ergative case markers, so we may regard them as merely an extension of the ergative case. Here is the full list, with their names in Grammaric:

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[9]In much of the Danish literature, e.g. Bjørnum (2003), the ergative case is instead known as the *relative* case, whilst in English literature like e.g. Fortescue (1984) it is generally known as the ergative case. Since this book is in English I have thus decided largely to stick to the English terminology. However, no two grammars will use exactly the same terminology, so beware of that if you read other books on the subject. Fortunately, the names of cases and moods are largely irrelevant; as long as you know what they *denote*, you can safely forget their grammaric nonsense-names.

- Grammatical cases:

  - The *absolute* case marks a noun that plays the rôle of *Subject* or *Patient*

  - The *ergative* case marks a noun that plays the rôle of *Agent*. It is also used to mark a noun as the *owner* of another noun, just like the "'s" in English, as in e.g. "Peter**'s** house".

- Prepositional cases:

  - The *objective* (or 'instrumental') case has many different usages, but most commonly it denotes an indefinite *object*, as in e.g. "I bought **a/some fish**" (rather than "I bought **the** fish" which would be a definite object); or an attribute of an object; or an instrument used in the verbal act.

  - The *locative* case is used for locations, both in space and time. It corresponds to most usages of words like 'in' and 'on' in English, so the aforementioned ending N{mi} is actually a locative case ending.

  - The *allative* case is used for the destination of some kind of movement or direction, corresponding to the words like 'to', 'into', 'onto' etc. in English.

  - The *ablative* case is used for the source, corresponding to 'from' and 'of' in English.

  - The *prolative*[10] (or 'vialis') case denotes a path or medium of a verbal act; it can best be translated by words such as 'by', 'through' and 'along'. It is also used to specify the time of recurrent actions, like "I drink coffee **every morning**."

  - The *equative* case is used for comparisons; it can best be translated with words like 'as' and 'like'.

Every noun will bear a marking for one of these cases. Furthermore, a noun will also either be singular or plural, so every nounish ending will also contain a

---

[10]This case in particular is known by a host of different names in the literature: Fortescue (1984) calls it 'prosecutive', but Fortescue et al. (2010) calls it 'vialis', as does Bjørnum (2003) and Nielsen (2019), whilst Sadock (2003) calls it 'perlative.' And I have chosen yet another name, 'prolative', because that seems to me to be the most commonly used name, that also ends in -ive. If you find this confusing, then just remember: The names do not matter! Call it the *gut-case* if you like (as Langgård (1997a) does). It sounds funny, and {gut} is the marker of this case.

I also briefly considered calling it 'the laxative case' but ultimately decided against it. . .

marker for this. In other words, for every case there is an ending denoting that there is only *one* of the noun, and an ending denoting that there is *more than one* of the noun. For example, N{mi} means "in (the) N" (it is the locative singular) whilst N{ni} means "in (the) N's" (so it is the locative plural); *illumi* means "in the house" whilst *illuni* means "in the house**s**".

7.6 Possessed nouns

The personal markers used in the verbal endings can also be used on nouns. They are not always present in a nominal ending, but *if* they are, then they denote that the person *owns* the noun; in other words, they correspond to words like "my" or "thy" or "his" etc. For example, the ending N{ga} means "my N", so {aliqaq}N{ga} $\implies^*$ *aleqara* means "**my** older sister". This is called *possession* and nominal endings bearing such a personal marker – there can at most be *one* on a noun – are called *possessive* endings.

For every case there will thus be two 'unpossessive' (or unmarked) endings – one for singular, and one for plural – and then eight possessive endings for nouns in singular, and eight for nouns in plural; that is, two for every person. In other words, the combinatorics yields $(2 + 8 + 8) \cdot 8 = 144$ endings, exactly as I noted at the start of this chapter.

You can find a summary of the most important concepts related to nominal endings in definition 7.3.

* * *

This chapter has been rather long and filled with a lot of Grammaric (and very little Greenlandic). It might not make much sense to you now, if you have not yet taken a course in Greenlandic or otherwise had to deal with the overwhelming number of endings generated by the combinatorics of number and person, mood or case. In that case you might want to skip lightly over the following chapters and return to them later for a more thorough read, when you feel the need to perceive the pattern in all its detail.

DEFINITION 7.3:

Greenlandic nouns are marked for two *numbers* (singular/plural), eight *cases* and optionally also for *person*.

- The two *grammatical* cases, the absolutive and the ergative, denote the grammatical categories of Subject, Agent or Patient, where the absolutive is used for the Subject and Patient, and the ergative for everything else.

- The six *prepositional* cases are extensions of the ergative. They are the *objective*, the *locative*, the *allative*, the *ablative*, the *prolative* and the *equative*. They are generally used to convey the meaning of prepositions like 'in', 'to', from', 'along' and 'as', but also have a number of special usages.

- A nominal ending can *optionally* also contain a personal marker for denoting *possession* of the noun. These are called *possessive* endings, and contrasts with the *unmarked* endings that do not bear a personal marker.

Nominal endings

The purpose of this chapter is to give you an overview of the system of endings for nouns, and in particular how these 144 endings are constructed from a smaller set of grammatical morphemes. There are a few caveats you should note at the outset:

Firstly, to give you an *overview* I will necessarily have to gloss over a number of details: There is some variation as to how endings are added to noun stems,[1] but these are *details* that are layered on top of the general system. I shall therefore skip over these as lightly as possibly during the main presentation, to avoid distracting you from the general pattern, and then return to them later, towards the end of the chapter. Thus I shall often use the base {iglu}N (house) for examples in the main presentation, because it is completely regular.

Secondly, even though I shall speak of the endings as 'constructed' from a set of smaller morphemes, you should view the system of endings as essentially *completed*. You do not *create* new endings, like you create new words, by re-combining the morphemes. The endings are the way they are, and they do not change. You do not have to *learn* rules for constructing the system, like you had to learn the sandhi and sound rules, because construction of endings is not an *active* process. Thus, you should think of this chapter more as a kind of heuristic; a way to remember what the endings *are* and what they mean, which hopefully will aid you memory when you need to *recall* the form or meaning of an ending.

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[1]E.g. stems displaying gemination and metathesis, see chapter 6.

		Singular	Plural	Basic form of prepositional morphemes
Absolutive (ABS)		N{∅}	N{t}	
Ergative (ERG)		N{p}	N{t}	
"with" **Objective** (OBJ)		N{mik}	N{nik}	{nək}
"to" **Allative** (ALL)		N{mut}	N{nut}	{nut}
"from" **Ablative** (ABL)		N{mit}	N{nit}	{nət}
"in" **Locative** (LOC)		N{mi}	N{ni}	{ni}
"through" **Prolative** (PRO)		N{kkut}	N{tigut}	{gut}
"as" **Equative** (EQU)		N{tut}	N{tut}	{tut}

Figure 8.1: The unmarked case endings. Note the column to the right: This *basic form* of the prepositional morphemes underlie the six prepositional cases. With the exception of the prolative, these basic forms are similar to the plurals.

8.1 The unmarked cases

We begin with the unmarked cases; that is, the system of endings *without* personal markers. You can see it depicted in figure 8.1. It is just a list of 16 endings that you will have to memorise; there is not much pattern here, except in the prepositional cases (below the dotted line), where you may notice, that every ending beginning in /m/ in singular forms its plural by replacing this with /n/. Thus you have *illumi* (in the house, singular), but *illuni* (in the house**s**, plural), *illumut* (to the house, singular) versus *illunut* (to the house**s**, plural), and *illumit* (from the house, singular) versus *illunit* (from the house**s**, plural).

I have also added an abbreviation of each case name in parentheses. These will come in handy later, so if I want to refer to just *any* ending from e.g. the locative case, whether unmarked or possessive, I may write N{LOC} to denote any one such ending.

This is also one of my reasons for actually using these Grammaric names: If I had not needed them, I would just have used the prepositional markers as names instead, as Langgård (1997a) does. It certainly would have made the names both more telling and amusing. For instance, the prolative would have become the *gut-case*, and allative the *nut-case*.

There are also a few details concerning the ablative (from) case:

- The ablative endings also exist in a 'long' form, with the morpheme {ŋŋaanniit} added on top of the endings, yielding N{miŋŋaanniit} in singular, and N{niŋŋaanniit} in plural. These forms have generally come to have the specific meaning "originate from N". You could use this to say "I am from Nuuk" if e.g. you grew up there, even though you currently might be living somewhere else. You can also use the long form to convey the meaning of "from" in a non-geographical sense, like for instance if you wanted to say "I am calling **from** the office" (*allaffim**minngaanniit** sianerpunga*).

- Many Greenlanders (especially in the younger generations) seem to find it difficult to hear the difference between a final /t/ and a final /k/, and thus many have taken to *lengthen* the /i/ in the ablative endings, to more clearly differentiate them from the objective endings, N{mik} and N{nik}. Thus, you may experience people using N{m**ii**t} and N{n**ii**t}, instead of the 'official' N{mit} and N{nit}.

  And since this was brought about by a difficulty to distinguish a final /t/ from /k/, you may also see people using N{mii**k**} and N{nii**k**} instead. There is no special meaning here, though. The forms with a lengthened /i/, whether ending in /t/ or /k/ just mean the same as the regular ablative endings.

On the origin of forms

This alternation between /m/ in singular and /n/ in plural is the basis for my saying that the prepositional cases are really just extensions of the ergative case: Notice how I in the rightmost column have added a reconstructed *basic form* of the six prepositional morphemes. They are, incidentally, *almost* identical to he plural forms, except in the prolative where the basic form is {gut}, whilst the plural is N{**ti**gut}. Notice also that the case marker for ergative, singular is {p} – a *labial* sound. In Proto-Eskimoic, this marker for ergative, singular was {m} according to the reconstruction by Fortescue et al. (2010, pp. 487-488), whilst the plural marker was {t} – an *alveolar* sound – even as it is today.

If you refer back to the table of sounds in figure 4.1, page 57, you will notice that /m/ is the nasal sound corresponding to the plosive /p/ (both are labials), whilst /n/ is the nasal sound corresponding to the plosive /t/ (both are alveolars). The original singular ergative case marker {m} probably became {p} in Greenlandic when it became a rule that every Greenlandic word must end in a plosive

or a vowel – this is one of the laws of phonotactics I mentioned in section 2.2 (page 18).

The prepositional morphemes in their basic form contain no information about number; they denote only the 'pure' prepositional meaning. At some point in time, they seem to have fused with the ergative markers to create the prepositional cases, so the initial /m/ in singular reflects this original, labial sound that marked the ergative, singular case. As you will later see, ergativity is very often marked by some labial sound.[2]

The prolative N{kkut} probably also reflects a fusion of some consonantal case marker with the pure form {gut}, which by assimilation has become /Cgut/ $\Longrightarrow^*$ [kkut]. In the plural you can clearly see, how {gut} has been added onto a plural marker /tə/.

This little tale of the origin of the m/n-alternation is not something you need to remember to be able to use the cases. Its purpose was merely to provide you with a bit of background knowledge on the 'pure' prepositional morphemes, because we shall need them later in the construction of the possessive, prepositional cases.

On the form of endings

I have decided to present the endings to you almost Graphemist style, with (almost) all sound rules and spelling rules applied, to show you the final result. Thus I will write e.g. N{tsigut} instead of N{vtəgut}, so you only need to worry about applying sound rules to the initial phoneme. It is a compromise between my desire to show you the patterns and giving you a set of endings that are easy to use. If you ever need them at deeper, more 'phonemic' level, you can easily reconstruct the underlying phonemes from the previous discussion. Most likely you never will.

Of course, this does not mean that you have to *learn* the endings in this way. Rather, I would recommend that you took a few sheets of paper and tried to *derive* the final forms of the endings, as they are given in e.g. Bjørnum (2003), from my description in this chapter. Once you have assured yourself that you will always obtain the correct form, you can forget all about tables of endings and concentrate on *using* them.

Lastly, I should also emphasise again that we are *not* constructing 'live' words here, but *historic* forms: The endings are *frozen*, and what I have so far been describing in this chapter is not how the endings *are* constructed (because they

---

[2]And do you remember I said that no words can end on the plosive /p/, with one exception? The case marker N{p} is this *one* exception. The ergative case is so special that it alone can allow words to end on a /p/.

	e.g. *"house"*	e.g. *"houses"*
	N singular (+)	N plural (-)
1p.sg	N{ga}	N{kka}
2p.sg	N{t}	N{-tit}
3p.sg	N{-a}	N{-i}
3r.sg	N{ni}	N{-ni}
1p.pl	N{(q)vut}	N{-vut}
2p.pl	N{(q)si}	N{-si}
3p.pl	N{-at}	N{-i(t)} Irregular!!!
3r.pl	N{(q)tik}	N{-tik}

Figure 8.2: The possessive absolutive endings. Singular forms are in general additive (or epenthetic), whilst plural forms are always truncative. The irregular ending for 3p.pl/pl, N{-i(t)} drops its /t/ when /i/ is *not* assimilated to [a], thus making this ending similar to either 3p.sg/pl N{-i} or 3p.pl/sg N{-at}, as indicated by the dotted, red arrows.

are not!), but how they *were* constructed; that is, how they came to have the form they have today.

8.2   Absolutive and possessed

The absolutive is the 'most common' or 'basic' form of a noun: The singular is marked by a null-morpheme, N{∅}, which is the absence of an explicit marker, so {iglu}N{∅} is just *illu*, and entries in a dictionary like the DAKA are given in this form.[3] The plural is N{t}, which incidentally always is equal to the ergative plural, so in plural we cannot tell the difference between a noun in absolutive and ergative case. But in any case (pun intended) you can now say 'house' in both singular and plural: *illu* (house) and *illut* (house**s**).

---

[3]With the exception of a few nouns that are always used in plural, e.g. *isarussat* (a pair of glasses). However, if you want to add affixes to this, then you still need to know the morphemic form {icaruʲaq}N (which of course does *not* contain a plural marker) since it is this form you add affixes to. E.g. "I have/use glasses" is {icaruʲaq}N{-qaq}Vb{vuŋa} $\implies^*$ *isaruaqarpunga*.

Now recall that the point of adding a personal marker onto a noun is to express that the noun is owned by that person. Instead of 'house' and 'houses' I want to be able to say '**my** house' and '**my** house**s**'. This ending must therefore both reflect the owner, and the number of houses (singular/plural), which thus yields a set of 16 endings, given in figure 8.2. As you can see, 'my N' is N{ga} (N is singular), but 'my Ns' is N{kka} (N is plural), so *illu**ga*** means '**my** house' and *illu**kka*** means '**my** house**s**'.

Try it for yourself: Can you translate these words – *illu**a**, illu**i**, illo**rput**, illu**vut*** – and keep track of both whom the owner is, and whether there is one house or many houses?

Note that, since we may now be talking about both *nouns* in singular and plural, and *owners* in singular and plural, I shall often use the shorthand '/sg' and '/pl' to refer to the number of the *noun*. Thus e.g. '1p.sg/pl' means 'my Ns' (1. person, singular ('I') owns noun N, plural) corresponding here to the ending N{kka}, and 3p.pl/sg means 'their N' (3. person, plural ('they') owns noun N, singular) corresponding here to the ending N{-at}.

Patterns in the absolutive endings

The general pattern here is, that endings for *singular* nouns are additive (or epenthetic, injecting a /q/), whilst endings for *plural* nouns are always truncative. The 'pure' personal marker for 1p.sg ('my') is really just {ga}, but it has combined with a plural marker {t} to form /tga/ $\implies^*$ [kka], so I have just given the ending as N{kka}, since it will always take this form.

Something similar has happened for the 2p.sg ('thy'); the 'pure' personal marker is just {t} – which incidentally, and somewhat confusingly, makes it identical to the unmarked plural – but in plural it has combined with a plural marker {tə} to form /tət/ $\implies^*$ [tit], and I have therefore given the ending as N{-tit}.

For most of the endings with person in plural ('our', 'your', and 'their own') you can easily see the pattern: The pure personal markers are {vut}, {si} and {tək}, and in singular they use epenthesis to inject a /q/ to ensure that they always will be added onto a consonant, whilst they are truncative in plural to ensure that they will *never* be added to a consonant. Thus, the presence or absence of a consonant marks the distinction between singular and plural.

Lastly there are the markers for the third person: Notice for the 3p.sg ('his') that the system actually uses two entirely different markers; N{-a} for 3p.sg/sg ('his N') and N{-i} for 3p.sg/pl ('his Ns'). This is unlike all the other endings, where the singular and the plural are variations over the same, underlying personal marker. You will observe this phenomenon in many places in the system

of endings; the third person is often a bit special. Anyway, the third person *plurals* ('their N' and 'their Ns') are then formed by adding a plural marker {t} onto these markers, yielding N{-a**t**} for 3p.pl/sg ('their N') and N{-i**t**} for 3p.pl/pl ('their Ns').

An unfortunate, unavoidable irregularity

Given what I said above, "**their** (one) house" is {iglu}N{-at} $\implies^*$ *illu**at***, and "their house**s**" *should* then be {iglu}N{-it} $\implies^*$ **illu**it***. Unfortunately, it is not. For whatever bizarre reason people have taken to *drop* this final /t/, rendering this ending similar to the 3p.**sg/pl** ending N{-i} ('his Ns'), *except* when the /i/ will become assimilated by an [a] sound; when the /i/ becomes an [a], the /t/ stays, which then makes the ending indistinguishable from the 3p.**pl/sg** ending N{-at} ('their N'). I have indicated this with dotted red lines in figure 8.2. You can see a few examples of this in example 8.1.

Odds and end(ing)s

I have two final comments to add about this part of the system of endings – not because they are important, but because you will undoubtedly encounter them sooner or later:

- Firstly, the 3p.sg/pl ending N{-i} ('his Ns') will *seem* to be an exception to the a-rule, when you see it in writing, because this /i/ is *not* written as assimilated to [a]. Thus for instance when you join {imaq}N (content) and N{-i}, we should expect to get {imaq}N{i} $\implies^*$ [im**aa**] by the a-rule, but it is actually *spelt* "im**ai**" (its contents) to clearly distinguish it from the singular form "im**aa**" (its content). N{-i} is *always* retained in writing, when it is word-final.

  It is, however, only an apparent exception, because the word is actually *pronounced* [im**aa**[j]] with a *long* (double) [aa]. So the /i/ *is* still assimilated to [a] in the *pronunciation* of the word, although many speakers also add a slight, sometimes almost inaudible [j] sound at the end, as a last remnant of the underlying /i/ phoneme.

- A number of speakers, especially in the younger generation, have taken to saying N{-**g**ut} instead of N{-**v**ut} for the 1p.pl/pl ending ('our Ns'). This is a rather unfortunate habit, since it obscures the nice relationship to the singular N{(q)vut} (that they mostly still use). In northern Greenland, where every /g/ is generally nasalised to [ŋ], this can become even more

EXAMPLE 8.1:

The absolutive ending for 3p.pl/pl, N{-i(t)} drops its final /t/ when added to /u/ or /i/, or, in other words, /t/ is *kept* whenever /i/ will be assimilated to the sound [a] by the a-rule.

$$\{iglu\}N\{-i(t)\} \implies^* \textit{illu}\textbf{\textit{i}} \qquad (/i/ \text{ not assimilated, drop } /t/)$$
$$\{pi\}N\{-i(t)\} \implies^* \textit{pi}\textbf{\textit{i}} \qquad (/i/ \text{ not assimilated, drop } /t/)$$
$$\{aqnaq\}N\{-i(t)\} \implies^* \textit{arna}\textbf{\textit{at}} \qquad (/i/ \text{ is assimilated, keep } /t/)$$
$$\{aŋutə\}N\{-i(t)\} \implies^* \textit{anguta}\textbf{\textit{at}} \qquad (/i/ \text{ is assimilated, keep } /t/)$$

The base {pi}N just means 'something'. The rest will surely be familiar to you by now. If you find it difficult to remember when to keep or drop the /t/, you might like this silly little tale I used to tell some of my students:[a]

A tale of a modern relationship
*There was a young couple, called **I**van and **T**ina, who lived together in perfect harmony. However, one day **T**ina decided to become a progressive, n'th wave feminist, and to protect her new image she decreed that she would not be seen together with **I**van again, unless he put on a dress and called himself **A**nn instead. Now the couple can go out together again, but only when **I**van appears as **A**nn. When **I**van is **I**van, **T**ina abandons him.*

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[a]Only those with a sense of humour.

confusing, since the ending there will appear as N{-ŋut}.[4] I recommend you stick to using the regular N{-vut}, but if you want to understand 'real' Greenlandic, spoken or written, you must of course know that these variations can occur.

8.3 Ergative and possessed

The ergative case is the second grammatical case, used to denote Agents in transitive sentences, and also to to mark a noun as the *possessor* (or 'owner') of another noun, similar to ''s' in English. This might seem a bit confusing, since

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[4]And when a northern Greenlander then tries to write in 'official' Kalaallisut, he might then hypercorrect and and transform *every* [ŋ] into [g], which certainly is no less confusing.

	N singular (+)	N plural (-)
1p.sg	N{ma}	N{-ma}
2p.sg	N{vit}	N{-vit}
3p.sg	N{-ata}	N{-isa}
3r.sg	N{mi}	N{-mi}
1p.pl	N{tta}	N{-tta}
2p.pl	N{ssi}	N{-ssi}
3p.pl	N{-ata}	N{-isa}
3r.pl	N{mik}	N{-mik}

Figure 8.3: The possessive ergative endings. Like the corresponding absolutive endings, the singular endings are in general additive (where possible), and the plural endings are always truncative. The 2p.sg/sg ending N{vit} also appears as N{(q)vit}, using epenthesis similar to the absolutive singular possessive endings.

you have just learned that ownership is marked by a personal ending, but consider now if I wanted to say e.g. "Peter's house." By adding N{-a} to {iglu}N I obtain *illua*, meaning "*his* house", but if I want to further specify *whom* this 'he' is, such as to say that 'he' is 'Peter', I can prepend 'Peter' in the ergative case. The unmarked case ending for ergative, singular is N{p}, so *Piitap illua* means "Peter's house" (or literally 'Peter's **his** house').

Here *Piitaq* is (of course) a weak q-stem, so /q/ automatically disappears when the ending is added. On these stems the ergative singular appears as N{p}, but on *some* stems, in particular those ending in /k/, this ending instead appears as N{-up}. N{inu**k**} means 'human', so "the human's house" then becomes *inu**up** illua*. And wherever the *singular* ergative appears as N{-up}, the *plural* ergative appears as N{-it}, so "the humans' (one) house" is *inu**it** illu**at**.[5] This is one of those complications I shall skip over lightly for now and return to later in section 8.7.

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[5]And since the unmarked absolutive plural always is equal to the unmarked ergative plural, then it too will appear as N{-it} on stems ending in /k/ (and a few others). Thus singular *inu**k*** becomes plural *inu**it***. Furthermore, since the possessive absolutive 2p.sg/sg ending N{t} ('thy N') is *also* always equal to the unmarked plural, then it too will appear as N{-it} on these stems.

Now, any noun appearing in the ergative case may of course *itself* be owned by someone else. I might for instance want to talk about "**my** daughter**'s** house" – the daughter owns the house, so she must be in the ergative case, but the daughter is also owned by *me*, so she must also carry a personal marker for 1p.sg/sg ('my N'). To reflect the combination of number, person and ergativity, we need a new set of personal endings, the *possessive ergative* endings, given in figure 8.3.

'Daughter' is {panik}N, so *pani**up** illu**a*** means "**the** daughter**'s** house" with 'daughter' in the ergative case, marking her as the owner of the house. But instead of the unmarked N{-up}, I can now use the *possessive* ergative ending for 1p.sg/sg, N{ma}, so "**my** daughter**'s** house" is *panim**ma** illu**a***.

Patterns in the ergative endings

Firstly, this set of endings generally employ the same pattern as their absolutive counterparts, with those denoting a singular noun being additive where possible, and those denoting a noun in plural being always truncative. However, this distinction is much less clear here, because many of the endings begin with a double consonant, and thus necessarily must be truncative. Furthermore, the singulars have no epenthetic consonant to inject – with the possible exception of N{**(q)**vit} that also can have the form N{**(q)**vit}, paralleling the absolutive singulars – so the endings are often similar in singular and plural, relying instead on context to distinguish whether singular or plural is meant.

Secondly, remember what I said earlier about ergativity often being denoted by some *labial* consonant. Notice how all the endings, except those for third person, begin with a labial consonant; either /m/ or /v/. You can even see how many of them look like their absolutive counterparts, but with the initial consonant shifted to a labial. Thus absolutive {**g**a} becomes ergative {**m**a}, {**t**ət} becomes {**v**ət}, {**n**i} becomes {**m**i}, and {**t**ək} becomes {**m**ək}. The absolutive marker for 2p.pl {si} has been added onto a labial /v/ yielding {vsi}, and the same has happened for {tə}, which is another common marker for 1p.pl ('we'), yielding {vtə}. This is one of those cases where a final /ə/ in an ending has become an [a] by the 'extended' schwa-rule, so I have written the ending as N{vta}.

Lastly, the third person again uses two different markers; one for singular and one for plural. These used to be {at} for 3p.sg/sg ('his N') and {it} for 3p.sg/pl ('his Ns') according to Schultz-Lorentzen (1951), but they have now become indistinguishable from the 3p.pl endings {atə} and {itə}. You can thus regard the endings for the third person as straightforward *extensions* of the corresponding absolutive endings, with a /tə/ added onto them. Here, /ə/ has also become [a]

by the 'extended' schwa-rule, and so the ending N{isa} is actually the morpheme {itə} with /ə/ becoming [a], and /t/ becoming /s/ by the t-to-s rule.

8.4   The system of personal markers

It may seem like I am merely throwing new tables of endings at you. Now, where is this system I promised you? It may seem like a lot, but I recommend that you take your time to learn these two sets of endings, because you will see them again and again in various guises, both in the remainder of this chapter, and in the construction of verbal endings.

For instance, recall that I said the prepositional cases are merely extensions of the ergative case. Now imagine I wanted to say e.g. "to his (own) daughter" – that is, I want the daughter to be owned by the 3r.sg (the reflexive third person, singular), *and* I want to say 'to', which means I must use the prepositional case allative. So I need a *possessive, allative* ending. This is now simple, because all I need to do is to take the *ergative* personal case marker for 3r.sg, {mi}, and add the 'pure' prepositional morpheme {nut} on top of it. The ending is just N{minut}, and the word becomes *panim**minut***.

All the possessive endings for the prepositional cases are constructed in a similar fashion. Instead of fusing with the 'unpossessive' ergative markers {p} and {t}, the prepositional morphemes have here fused with the *personal* ergative markers. There you have it. I just spared you trouble of memorising sixteen endings for each of the remaining six cases.

Or at least, I almost did. There are still a few complications to be handled, because this 'fusion' has reduced the set of ergative personal markers in various ways: The 1p.sg marker {ma} has been reduced to just {m}, and instead of our expected 2p.sg marker {vət} a different marker, {k}, is used. Lastly, the *absolutive* markers for the 3p.sg and 3p.pl are used, instead of the ergative {atə} and {itə}. I call this *reduced* set of markers -ERG- to denote that they are squished between the stem and something else that is added onto them, and I list them in figure 8.4 together with the normal, 'pure' personal markers for ABS and ERG. The red arrows indicate the markers taken from the ABS set, whilst the blue arrows mark those coming from the ERG set.

8.5   Possession in the prepositional cases

We can now finally construct the endings for the possessive prepositional cases: I have created a table with the set of endings for possessive locative in figure 8.5 by adding {ni} onto the -REL- markers. You can easily create the remaining

	ABS	-ERG-		ERG
1p.sg	{ga}	{m}	←	{ma}
2p.sg	{t}	{k}		{vət}
3p.sg	{a} / {i}	→ {a} / {i}		{atə} / {itə}
3r.sg	{ni}	{mi}	←	{mi}
1p.pl	{vut}	{vtə}	←	{vtə}
2p.pl	{si}	{vsi}	←	{vsi}
3p.pl	{at} / {i(t)}	→ {at} / {i(t)}		{atə} / {itə}
3r.pl	{tək}	{mək}	←	{mək}

Figure 8.4: The set of *reduced* markers -ERG-, between the sets of absolutive (ABS), and ergative (ERG), personal markers. For the reduced set, red arrows illustrate those markers taken from the ABS; blue arrows those taken from ERG. All three sets consist of the pure personal markers, without any additional markers added for number (singular/plural).

tables for objective, allative and ablative, if you want them, by mechanically replacing {ni} with {nək}, {nut} and {nət}. They are completely similar. A few remarks are in order, though:

● Firstly, there is now very little difference between singular and plural, and I have indicated this with a long dash in the plural column.

● Secondly, since the 1p.pl marker {vtə} now *is* followed by something, the /ə/ will behave according to the ordinary schwa rule and thus become [i] here, since it is now followed by a consonant. Can you imagine ever realising on your own, without knowing anything about schwa and sound rules, that the 'tta' in e.g. {nuna}N{vta} $\implies^*$ *nuna**tta*** (ergative 1p.pl/sg, 'our country's s.t.') actually is the part that means 'our' and that it is the *same* as the 'tsi' in {nuna}N{vtinni} $\implies^*$ *nuna**tsi**nni* (locative 1p.pl/sg, 'in our country')?

● Thirdly, the extra /n/ that appears to appear out of nowhere in N{vti**n**ni} and N{vsi**n**ni} is a remnant of a old dual marker – at least according to Bergsland (1955). Greenlandic used to have a *dual* number, beside the singular and plural, just like other inuit languages still have today. This

136

-ERG-		N singular (+)	N plural (-)
1p.sg	{m}	N{nni}	–
2p.sg	{k}	N{nni}	–
3p.sg	{a} / {i}	N{-ani}	N{-ini}
3r.sg	{mi}	N{mini}	N{-mini}
1p.pl	{vtə}	N{tsinni}	–
2p.pl	{vsi}	N{ssinni}	–
3p.pl	{at} / {i(t)}	N{-anni}	N{-i(t)ni}
3r.pl	{mək}	N{minni}	N{-minni}

Figure 8.5: The endings for possessive locative. The pure, prepositional locative marker {ni} is joined onto the -ERG- markers. Endings for both singular and plural are only given when a difference is possible. For {vtə} /ə/ now becomes [i] by the regular schwa rule, since it is now followed by a consonant, so the ending is given as N{vtinni}. The extra /n/ appearing in N{vtinni} and N{vsinni} is a remnant of an old dual marker. The 3p.pl/pl N{-i(t)ni} alternates between N{atni} (when /i/ is assimilated) and N{-ini} (when it is not) similar to the corresponding absolutive ending.

part of the system was already collapsing when Rasmussen (1888) wrote his grammar, and it has now completely disappeared from the official West Greenlandic,[6] but it has left traces here and there in the system of endings, and this extra /n/ seems to be one of them. Today, it is a meaningless consonant that simply has to be there, because that is how the ending has come to look.

🔵 The reduced set -ERG- uses the personal markers from ABS for the third person. This unfortunately means that the irregular marker {-i(t)} for 3p.pl/pl also appears here, and behaves similarly, even though a prepositional morpheme has been added onto it. Thus, 'in their Ns' will appear as *either* N{itni} when /i/ will be assimilated to [a], *or* as N{ini} when /i/ will *not* be assimilated. I have indicated this with a red box and arrows in

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[6]Although I have spoken to people who still remember some dual forms being used in their local, North Greenlandic dialect; or at least *used to* be used, when they were younger.

figure 8.5, similar to the way I did in figure 8.2.

Some further, less important details

I purposefully left out the prolative {gut} and equative {tut} above, because I have a few extra comments especially for these sets of endings. You can find both depicted in figure 8.6.

- Firstly, the endings for possessive equative, {tut} are completely regular – even more so than the previously described endings, because there is no mysterious extra consonant appearing in 1p.pl and 2p.pl. It only seems to show itself when the prepositional marker begins with an /n/. /t/ regularly becomes /s/ by the t-to-s rule after true /i/ phonemes, and it remains /t/ after /ə/ phonemes.[7] Of course, as is usual with the t-to-s rule, you may expect some confusion here; do not be surprised to hear someone say for example *-*mitut* or *-*tsisut* even though neither of them are correct by the t-to-s rule.

- Secondly, the prolative {gut} is also regular – still no mysterious consonant appearing – *but* for obscure reasons it uses the ERG marker {itə} for 3p.sg/pl where all the others use the ABS marker {i}, and in 3p.pl it also uses the ERG markers {atə} and {itə}, instead of the ABS markers {at} and {i(t)}. This is of course confusing,[8] but it has at least one advantage: Here you do not have to worry about two different endings for 3p.pl/pl (one with, and one without, a /t/), because the ABS marker {i(t)} is not used.

8.6 Verbalisation of the prepositional cases

There exists a small group of morphemes that can be added directly onto the prepositional case endings and thus form new *verbal* stems to which you can further add morphemes like any other verbal stem; Sadock (2003) calls them 'derivational enclitics', and they certainly do seem more like separate word bases, that have become fused onto the grammatical endings, than like normal affixes.

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[7]Bjørnum (2003) claims that /t/ in {tut} also becomes /s/ in the combination {mək}{tut}, thus creating the ending N{missut}, but I can find no other basis for this, apart from a note in Rasmussen (1888, p. 34), saying merely that 'tut becomes sut after i, but not after tsi', which implicitly suggests that it should also become 'sut' after 'mik'. If it is true, it must be a hypercorrection.

[8]It is also confusing to many native speakers, so some have taken to also use the ERG marker {atə} for 3p.sg/sg; that is, they will say N{atigut} where it should just be N{agut}.

-ERG-		N singular (+)	N plural (-)
1p.sg	{m}	N{ttut}	–
2p.sg	{k}	N{ttut}	–
3p.sg	{a} / {i}	N{-atut}	N{-i**s**ut}
3r.sg	{mi}	N{mi**s**ut}	N{-mi**s**ut}
1p.pl	{vtə}	N{t**s**itut}	–
2p.pl	{vsi}	N{**ss**i**s**ut}	–
3p.pl	{at} / {i(t)}	N{-attut}	N{-i(t)**s**ut}
3r.pl	{mək}	N{mittut}	N{-mittut}

Bjørnum (2003) claims N{missut} here!

-ERG-		N singular (+)	N plural (-)
1p.sg	{m}	N{kkut}	–
2p.sg	{k}	N{kkut}	–
3p.sg	{a} / {itə}	N{-agut}	N{-isigut}
3r.sg	{mi}	N{migut}	N{-migut}
1p.pl	{vtə}	N{tsigut}	–
2p.pl	{vsi}	N{ssigut}	–
3p.pl	{atə} / {itə}	N{-atigut}	N{-isigut}
3r.pl	{mək}	N{mikkut}	N{-mikkut}

Figure 8.6: Endings for equative and prolative. The endings for equative, {tut}, are completely regular, with no mysterious extra consonant appearing in 1p.pl and 2p.pl. /t/ regularly becomes /s/ by the t-to-s rule; these are emphasised. The prolative, {gut}, use the ERG endings for 3p.sg/pl, {itə} (only plural), and for 3p.pl (both singular and plural), {atə} and {itə} instead of the ABS markers used everywhere else. These are marked in red, and the endings are formed without any (further) irregularities.

> **DEFINITION 8.1:**
>
> Let OBJ, ABL, ALL, LOC, PRO and EQU be *join markers* representing all endings of their respective cases, and further let PREP be a join marker representing *any* of these. Then the *generic verbalisation* of the prepositional cases is the morpheme PREP{-Vq}Vb, where V is a lengthening of any vowel onto which it is added. Its meaning will depend on the case:
>
> | | |
> |---|---|
> | OBJ{-iq}Vb | "does s.t. w. N" |
> | ABL{-iq}Vb | "is from N, comes from N" |
> | ALL{-uq}Vb | "is to N, moves towards N" |
> | PRO{-uq}Vb | "moves through/along N" |
> | EQU{-uq}Vb | "acts/does s.t. like N" |
>
> There are also two special verbalisations, specific to locative and allative:
>
> | | |
> |---|---|
> | LOC{ət}Vb | "is in/at/on N" |
> | ALL{-kaq}Vb | "goes to N" |

I shall stick to the more customary terminology and just call them *verbalisations*. They are highly useful, and thus also very common, so you need to know something about them, no matter what they are called.

First of all, these verbalisation morphemes are special in the sense that they *only* attach to the prepositional case endings, and some of them even only to endings from a particular case. Thus I shall use the abbreviations for the case names as *join markers* to formally capture this feature. Thus e.g. ALL{-kaq}Vb means that this morpheme will attach to any allative case ending, both with and without possessive markers, but *only allative* endings; never one of the other case endings. I shall also use the join marker PREP to represent *any* of these 'prepositional join markers'. You can find a list of the verbalisations in definition 8.1. I explain them further in the following.

The generic verbalisation

Now, all the prepositional cases can be verbalised with the somewhat curiously looking morpheme PREP{-Vq}Vb. It is truncative, so it will only attach to a vowel, and the symbol V represents a vowel, that will be equal to *whichever*

vowel it attaches to. It simply means a lengthening of the vowel. Thus on e.g. N{vtinnut} ("-tsinn**ut**") it becomes N{vtinnut}ALL{-Vq} $\implies^*$ "N{vtinn**uu**q}Vb" ("-tsinn**oor**-") and on N{mi**ŋ**ŋaann**iit**}ABL{-Vq} it becomes "N{mi**ŋ**ŋaann**iiq**}Vb". Notice here that the extra vowel was actually deleted, since the vowel in the last syllable was already long and thus could not be lengthened any further.

I have put these pseudo-affixes created with this morpheme in double quotation marks, because they are not *really* affixes in the usual sense. The morpheme PREP{-Vq}Vb is added onto the *finalised* word, which in particular means that the case ending within this pseudo-affix will show the marker for number, and optionally also for person. For instance, *sani**mut*** with the singular, unmarked allative ending N{mut} means "sideways", and the verbalisation PREP{-Vq}Vb on allatives will generally mean something like 'is to N' or 'does s.t. to N', so *sanimo**orpoq*** means "he **moves** sideways." Now for a more complicated example, the 'official' word for a homosexual man is *anguteqati**minoor**tartoq*, literally 'someone who is habitually (in)**to** his own, fellow men.'[9] Here the allative plural ending with possessive marking for the reflexive 3rd person, singular (3r.sg/pl), N{-minut} was used.

The meaning of the generic verbalisation morpheme PREP{-Vq}Vb will differ, depending on the case it is added to. On allatives, as you have seen, it generally means 'is to' or 'does s.t. to', and on the ablatives – especially those extended with {ŋŋaanniit} – it means 'is from.' Thus, a very common way of expressing e.g. "I am from Nuuk" would simply be *Nuummiinngaanne**erpunga***. On the objective (or 'instrumental') case, it can mean "does s.t. with N", or even divalent "A Vb's B with N" as in e.g. *qaartaartu**meer**paat* (they bombed them) from {qaəqðaqðuq}N (a bomb) with the unmarked singular instrumental N{mik} and the transitive, verbal ending Vb{vaat} (they Vb'ed them) (Langgård, 1997b, p. 83). On prolative endings it means 'moves through' or 'moves along', and on equative endings it means 'does s.t. like' or 'acts like'.

You can find more examples of usage in the DAKA, but note that you will have to look for *-moorpoq* and *-noorpoq*, *-kkoorpoq* and *-agoorpoq* and so forth. These pseudo-affixes will be represented side by side with proper affixes, and thus the DAKA masks the fact that these verbalisations can actually be added onto *any* prepositional ending – even those with a personal marker for possession – and not just the simple, unpossessed endings.

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[9]Constructed from {aŋutə}N (man), N{-qatə}N (fellow N), N{minut} (ALL 3r.sg/pl, 'to his own Ns'), ALL{-Vq}Vb (does to/is to), Vb{ðaq}Vb (habitually), Vb{ðuq}N (someone who Vb's). If you replace {aŋute}N with {aqnaq}N (woman), you obtain the word for 'lesbian.'

Specialised verbalisation

There are also two special, frequently used and highly useful, verbalisations for locative and allative:

- Any locative ending can be verbalised with LOC{ət}Vb, meaning 'to be in/on/at N'. For instance, *illutsinni**ip**punga* means "I **am in** our house" with possessive locative N{vtinni} (1p.pl/sg, 'in our N'). You can even verbalise a construction with explicit possessor: *ini* is a room; the base is {inə}N (notice the /ə/); with N{-ani} (locative 3p.sg/sg, 'in his N') it becomes *inaani*, and with an explicit possessor e.g. *Piitap inaani* (in Peter's room). Now you can even say *Piitap inaani**ip**punga* (I **am in** Peter's room).[10]

- Any allative ending can be verbalised with ALL{-kaq}Vb, meaning 'to go to N'. Thus you can say e.g. *Brugsenimu**kar**punga* ('I go to Brugseni', a grocery store) with verbalisation of plain N{mut}, or even a full possessive construction with an explicit possessor, like *Kalaallit Nunaannu**kar**punga* (I go to Greenland) with possessive allative N{annut} (3p.pl/sg, 'to their N') on {nuna}N (land) and with *kalaallit* (the Greenlanders') as explicit possessor. This is an incredibly useful verbalisation.[11]

8.7 p-declined and up-declined stems

As I mentioned at the start of this chapter, all endings do not join onto all stems in the same way. Their sandhi-rules are *stem-dependent*, rather than purely dependent on the ending itself. I have already described this at length in section 6.4 (page 89), where I divided nominal stems into groups on the basis of their final phoneme(s): In particular, we had a group of *vowel stems* that included stems ending in /tə/, and a group of *consonant stems* with stems ending in either /k/ or /q/, and this latter group could again be subdivided into so-called *weak q-stems* and *strong q-stems*.

In this section I will present a related way of dividing the stems into groups, based on the form of the unpossessed, ergative singular ending: Some of these stems will take N{p} in ergative, singular and these are called the *p-declined stems*, and some will take N{-**u**p} instead, and these are called the *up-declined*

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[10]The morpheme {ət} is actually a separate word that means 'to be', and you can find it acting as a normal base in some constructions, especially in combination with the word *qanoq* (how), e.g. *qanoq **ip**pit?* (how are you?) and *qanoq **ig**aajuk?* (what do you think of it?).

[11]There is also a verbalisation of N{mut} in the expression *sumu**nnar**pit* (where are you going?), with a morpheme {nnaq}, but it does not seem to be generally productive on allative endings, although it *is* used to verbalise allative on the so called 'demonstratives' or 'pointing stems.'

	N{∅}	N{p} or N{-up}	N{t} or N{-it}	N{mut} (C-initial)	N{-a} (V-initial)	
(vowel)	illu	illu**p**	illu**t**	illu**mut**	illu**a**	p-declined
(tə)	angut	anguti**p**	anguti**t**	anguti**mut**	anguta**a**	
(weak q)	arnaq	arna**p**	arna**t**	arna**mut**	arna**a**	
(k)	panik	pani**up**	pani**it**	panim**mut**	pani**a**	up-declined
(pseudo-q)	utoqqaq	utoqqa**ap**	utoqqa**at**	utoqqar**mut**	utoqqa**a**	
(strong q)	erneq	erner**up**	erner**it**	erner**mut**	erner**a**	

*or angu**m**mut*

Figure 8.7: An overview of the way p-declined and up-declined stems take their endings. The two main distinctions are whether the stem takes the endings N{p} and N{t}, or N{-up} and N{it}, and whether consonant-initial endings like N{mut} are added to the final *vowel* or the final *phoneme* of the stem.

stems. This is the main distinction of interest here, since it also tells you how all other endings are joined onto these stems.

The table in figure 8.7 summarises how each of the stem-types looks in the unmarked form of absolutive singular, N{∅}, with the ergative singular and plural endings, N{p} or N{-up}, and N{t} or N{-it} respectively, and with a consonant-initial and vowel initial ending, here arbitrarily chosen to be N{mut} (unpossessed allative, singular) and N{-a} (possessive absolutive, 3p.sg/sg).

I add some further comments to each of the groups in the following subsections, and in figure 8.8 at the end of this section, you will see how the p/up-division is related to the division from figure 6.3.

p-declined stems

Common to this group is that endings are added to the *final vowel*, so they take N{p} and N{t} in ergative and plural, and also N{t} in possessive absolutive 2p.sg/sg (thy N), since this ending is always equal to the unpossessed plural. This is by far the easiest and most straightforward way of adding endings, and this group is fortunately also the largest. The stems belonging to this group are:

● The *vowel stems* like {iglu}N (house), including the *tə-stems* like {aŋutə}N (man). They thus take their endings like *illu, illup, illut, illumut, illua* etc., and *angut, angutip, angutit, angutimut, angutaa* etc.

For your convenience, I repeat here the same small complication I mentioned in section 6.4 regarding the tə-stems: *Singular endings* beginning in a *nasal* (/m/ or /n/) *may* optionally be added to /t/ instead of schwa. That is, endings like N{mut} (to N) and N{ni} (his own N), so you may hear (and say) both *angutimut* and *angummut*, *angutini* and *angunni* and so on.

● The *weak q-stems* like {qigmiq}N (dog), {aqnaq}N (woman), {mii'raq}N (child) and many, many others. Since they automatically throw away their final /q/ before consonant-initial endings, they behave exactly like vowel-stems taking N{p} and N{t} etc., so we get e.g. *arnaq, arnap, arnat, arnamut* and so forth.

The weak q-stems may regularly display gemination (sound doubling, see chapter 6) of their second-to-last consonant, as I have indicated here with an apostrophe in the stem {mii'raq}N, when /q/ is removed before a consonant-initial ending. It thus becomes *meeraq, meeqqap, meeqqat, meeqqamut* etc. with consonant-initial endings, but *meeraa* with the vowel-initial ending N{-a}.

As previously mentioned, the ending N{ga} (absolutive 1p.sg/sg) does *not* cause the stem-final /q/ to disappear, even though it is a consonant-initial ending, since /g/ instead fuses with the stem-final /q/ to yield /r/ by the g-rule. This also means that the ending N{ga} does *not* trigger gemination. Furthermore, neither do endings with an *epenthetic* /q/; that is, N{(q)vut}, N{(q)si} and N{(q)tik} from possessive absolutive, and possibly also N{(q)vit} (ergative 2p.sg/sg) for those who use this variant of the ending. Thus we also get *meerara, meerarput, meerarsi* and *meerartik* without gemination. You can think of it as if this /q/ somehow *suppresses* gemination.

up-declined stems

Common to this group is that endings are added to the final *phoneme* in the stem, but the ergative and plural endings, and also the possessive absolutive 2p.sg/sg N{t} (thy N) will here appear as N{-up} and N{-it}. The stems belonging to this group are:

- The *k-stems* like {panik}N (daughter), {kaŋiqluk}N (inlet) and {nuuk}N[12] (headland). The aforementioned three endings appear with the extra vowel, as N{-up} and N{-it}, and these are truncative, as all morphemes beginning in a vowel generally are. Thus we get e.g. *pani**k**, pani**up**, pani**it**, pani**mmut**, pani**a*** etc.

- The *pseudo-q stems* is a very small group of stems ending in /q/, but behaving exactly like the k-stems, meaning they take N{-up} and N{-it} and do *not* automatically throw away their final /q/, so endings are added to /q/ according to the usual sandhi rules. I may indicate this in the notation of morphemes by adding an asterisk after the final /q/, following the notation in Fortescue et al. (2010). Two of the most common examples that you will probably see, are the base {utuqqaq*}N (an elderly/old person) and the affix N{innaq*}N (just an N). Here we thus get *utoqqa**q**, utoqqa**ap**, utoqqa**at**, utoqqa**rmut**, utoqqa**a*** etc.

- The *strong q-stems* like {iqnəQ}N (son) and {atəQ}N (name). They also take the endings N{-up} and N{-it}, but recall from section 6.4 that strong q-stems *ignore* the usual truncativity of *vowel-initial* endings, which of course includes N{-up} and N{-it}. Thus we get e.g. *erneq, erne**rup**, erne**rit**, erne**rmut*** and with N{-a} *erne**ra***. Note that the consonantal endings behave normally, so we also get *erne**rma*** with singular N{ma} (which is additive), but *ern**ima*** with plural N{-ma} (which is truncative). If it is any help, you can imagine this 'strong ꞯ' as fighting valiantly to protect the /ə/ from coming into contact with another vowel.

The three nominal 'aq-stems', ending in the ghost-morpheme {aq}, that I mentioned in section 6.10, also belong to the up-declined stems. Recall that they are N{(q)cu|aq*}N (big/bad N), N{ŋŋu|aq}N (cute/little N) and the rare N{galu|aq*}N. The ghost-morpheme {aq} disappears before all vowel-initial endings, including N{-up} and N{-it}, so they appear as e.g. *-(r)su**aq**, -(r)su**up**, -(r)su**it**, -(r)su**a*** etc. with vowel-initial endings. However, with *consonant-initial* endings they behave like their respective stems as indicated, with N{(q)cu|aq*}N and N{galu|aq*}N being pseudo-q stems, but N{ŋŋu|aq}N being an ordinary weak q-stem, so with e.g. N{mut} we get *-(r)sua**rmut*** and *-galua**rmut*** with the pseudo-q stems, but *-nngu**amut*** on the weak q-stem.

Some of the strong q-stems *may* also display metathesis (sound displacement, see section 6.5) with vowel-initial endings, so e.g. with {atəQ}N we get *aqq**up**,*

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[12]When you add N{-up} to this base, it becomes *nu**up***; one of the three u's is simply removed (elided). The base still belong to the up-declined stems, though, because the plural is completely regular: *nuu**it***.
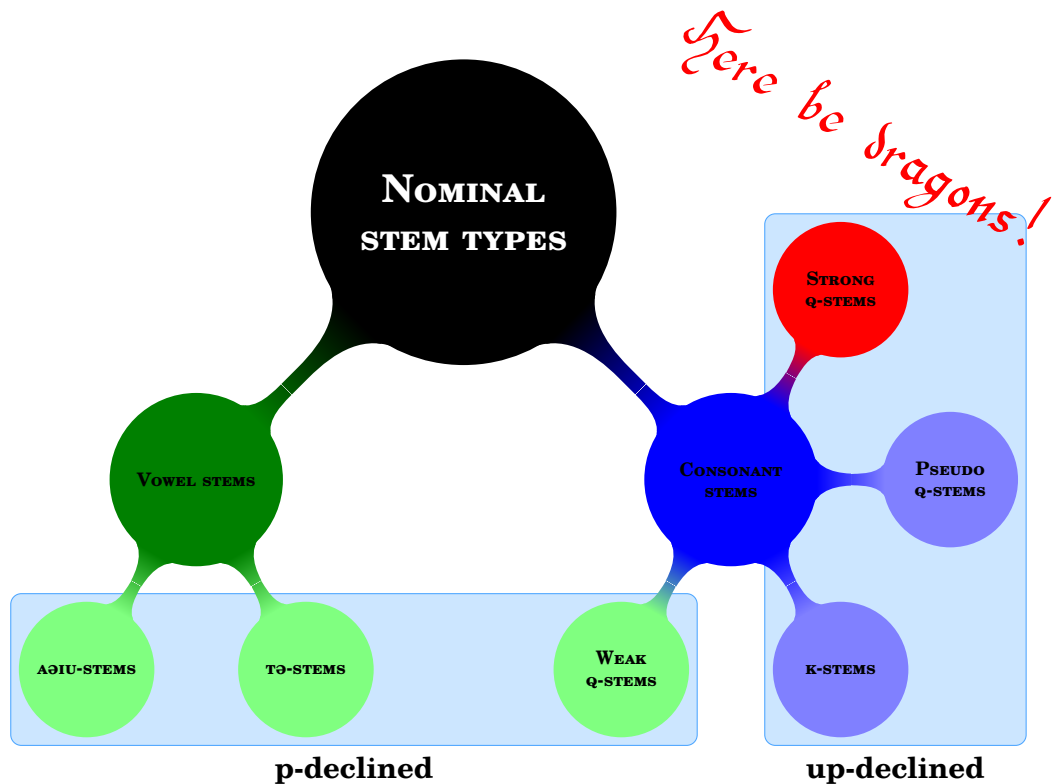
Figure 8.8: The relationship between the divisions according to stem-final phonemes and the categories of p-declined and up-declined stems. This figure is a slightly modified version of figure 6.3 (page 90) that illustrates how the division between p-declined and up-declined stems *almost* follows the division between vowel stems and consonant stems, with the exception of weak q-stems that behave like vowel-stems.

*aqq**it*** and with N{-a} *aqq**a*** (absolute 3p.sg/sg, 'his name'). I do not explicitly mark in my notation, whether a strong ꞯ-stem also displays metathesis or not. It is a feature of the stem, but it belongs more appropriately in a dictionary than here, and it may even vary from speaker to speaker. In general though, you should be wary, when you see the symbol ꞯ. Consider it a warning sign, akin to a medieval cartographer's warning: "Here be dragons!"

<p style="text-align:center">* * *</p>

As is usual, the division of stem-types described here is the truth, but it is not the *whole* truth. There are a few stems that may take their endings in even stranger ways, often with a special (and lexicalised) meaning. For instance, {nukək}N (power, strength, muscles) is normally an ordinary k-stem with /ə/ 'frozen' as [i], so *nukia* with N{-a} means just 'his strength'. However, this stem once belonged to a group of 'strong k-stems' behaving like the strong q-stems, where /k/ was weakened before vowel-initial endings, instead of being deleted. With N{-a} it thus became *nuki**ng**a* instead, and this form has now been lexicalised with the specialised meaning 'energy'. Thus e.g. *erngup nukia* has the ordinary (general) meaning of 'the power of water' whilst *erngup nuki**ng**a* is hydroelectricity.

I believe these marginal subgroups and special cases are more appropriately handled with individual, morpheme-specific sandhi-rules, given in the entries in a morphemic dictionary. However, since unfortunately no such dictionary exists, a good alternative is the grammar by Nielsen (2019), which contains many further subgroups and details.

CHAPTER

Verbal endings

As I described in chapter 7, there are *nine* verbal *moods* in Greenlandic; that is, nine groups of endings indicating the same 'type' of utterance, like e.g. statements, questions, commands etc. Furthermore, the ending contains either *one* personal marker for the *Subject*, to be used in intransitive constructions, or *two* personal markers denoting the *Agent* and the *Patient* respectively, to be used in transitive constructions. In this chapter I will show you how both sets of endings are built. The final result will be a set of tables with endings, presented in Graphemist style, as I did with the nouns; that is, with with all or most sound rules and spelling rules applied, such that you only need to concern yourself with the initial phoneme, when you add the ending to a stem.

9.1   The mood markers

Each mood uses a distinctive mood marker, and some of the moods – most notably all the dependent moods, but also the interrogative and the optative – use a special marker when the Subject (in intransitive endings) or the Agent (in transitive endings) is the third person (3p, singular and plural). As you also saw with the nominal endings, the third person will often behave like a bit of a 'special snowflake.' Two of the moods – the indicative and the participial – use a different marker for their transitive endings, but for most of the moods there is no difference. I have listed all the mood markers in the table in figure 9.1, grouped by type as I did in figure 7.2 on page 119.

		Usual	Transitive	3rd person
Independent moods	Indicative	{vu}	{va}	–
	Interrogative	{vi}	–	{va}
	Optative	{la}	–	{li}
	Imperative	{∅}	–	–
Subordinate moods	Contemporative	{(l)lu}	–	–
	Negative cont.	{na}	–	–
	Participial	{ðu}	{gə}	–
Dependent moods	(Be)causative	{ga}	–	{(m)m}
	Conditional	{gu}	–	{(p)p}
	Iterative	{gaaŋa}	–	{gaaŋ}

Figure 9.1: The mood markers for verbal endings, grouped by type like in figure 7.2 on page 119. The column labelled 'Transitive' only contains the mood markers that *differ* from those used for intransitive endings. Some moods use a special marker for the third person (3p); these are listed in the third column with '–' indicating that no special marker is used.

Now you might want to object; I said there were *nine* moods, but there are *ten* moods listed in the table. The one called 'Negative cont.' is new, compared to figure 7.2 on page 119. This is because is not really its own mood, but rather a special form of the contemporative, used for negative statements; that is, for saying 'not' or something similar. Normally, you would use the affix Vb{ŋŋit}Vb (not Vb) for this, but in contemporative you use this special mood marker *instead* of Vb{ŋŋit}Vb.

9.2 Intransitive personal markers

As I mentioned in chapter 7, the intransitive endings are first and foremost used on *monovalent* stems; that is, on stems whose *meaning* only imply *one* grammatical person as actor, or, in other words, where the verbal act cannot be *directed at* someone, apart from the *Subject* himself who performs the action. For example {sinək}Vb (sleep), but also stems formed with the affixes N{-qaq}Vb

	ABS	Reduced	ERG
1p.sg	{ŋa}	–	{ma}
2p.sg	{tət}	{t}	{vət}
3p.sg	{q}	{∅}	{at}
3r.sg	{ni}		{mi}
1p.pl	{tə}, {gut}	{tə}	{vtə}
2p.pl	{si}	–	{vsi}
3p.pl	{t}	–	{atə}
3r.pl	{tək}	–	{mək}

Figure 9.2: Personal markers for intransitive endings, labelled 'ABS' and 'ERG' respectively because of their similarity to the personal markers used for possessive endings on nouns. The ERG set in particular is exactly the same, except for 3p.sg, indicated in red. The ERG set is used in dependent moods, and the ABS set in the rest. The 'Reduced' set are used in the 'reduced' moods interrogative, optative and imperative, with '–' indicating no reduction compared to the original ABS marker.

(have an N) and N{-u}Vb (is an N) and many others.

Furthermore, as you already know from the previous chapter, a noun that *represents* the Subject will be in the absolute case. Therefore, the set of personal markers used in intransitive endings to *represent* the Subject are called the *absolutive personal markers* – abbreviated 'ABS' – quite like the markers used on nouns. You can find these markers in the table in figure 9.2. Notice how some of them – particularly the 2nd and the 3rd reflexive person – are similar to those used on nouns.

There is also a set of *ergative* personal markers – abbreviated 'ERG' – *exactly* like those used on nouns, except for the 3rd person, singular where the nouns nowadays have {atə}, although it until recently *used to* be {at} there as well.[1] These are used in the *dependent moods*, so as you can see, there are already many morphemes you can reuse from your knowledge of nominal endings.

Everywhere else the ABS markers are used, although the interrogative, op-

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[1]At least, according to e.g. Schultz-Lorentzen (1951, p. 27) and the reconstruction by Fortescue et al. (2010, p. 487).

tative and imperative use somewhat reduced markers for the 2nd and 3rd person, singular, and a completely different marker, {tə}, for the 1st person, plural. For the remaining persons, the usual ABS markers are used (where applicable). These three moods are in general also characterised by having only endings for some of the persons, so I call them the *reduced moods*.

9.3   Intransitive endings

Constructing the intransitive endings is now more or less as simple as putting the morphemes together. I shall divide the construction into three parts, based on the set of personal markers used, and also give a few comments on the usage of each mood.

The ABS moods

The indicative, participial and the two contemporatives all use the ABS markers; there are two markers for 1p.pl (we), {gut} and {tə}, with indicative and participial using the first, and the contemporatives using the latter. Notice that /ə/ here becomes [a] by the 'extended' schwa-rule, just as it did in the nominal endings. Otherwise, the only 'speciality' is that /v/ in the indicative marker geminates (doubles if possible) when the personal marker is {t} (3p.pl, 'they'); that is, the ending is {vu}{t} $\implies$ Vb{**(v)v**ut}. You can find the full table of endings in figure 9.3.

If you are following a typical course in Greenlandic, you might also very soon come across an oddity with the 'future' affix Vb{ssa}Vb. This affix will delete the *single* /v/ from intransitive indicative {**vu**}, but *not* the doubled /(v)v/ in Vb{**(v)v**ut}. Thus, instead of the expected forms *-*ssa**vu**nga, **-*ssa**vu**tit, ...*, you instead get Vb{ssa}Vb{vuŋa} $\implies$ /ssauŋa/ $\implies$ [ssaaŋa] $\implies$ -*ssa**a**nga, -ssa**a**tit, ...*, but regularly Vb{ssa}Vb{(v)vut} $\implies$ -*ssa**pp**ut*. It is an irrelevant, irregular detail that people often seem to obsess over a lot for no good reason.[2] Especially since it everywhere else is *completely regular*, both with all other endings, and when followed by another affix. Thus e.g. with Vb{galuaq}Vb and the same endings you get Vb{ssa}Vb{galuaq}Vb $\implies$ * -*ssagaluar**pu**nga, -ssagaluar**pu**tit, ...* and so forth with *no* irregular deletion of /v/.

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[2]To quote a point from Per Langgård; it will not cause a *misunderstanding* if you say the regular -*ssa**vu**nga, -ssa**vu**tit* etc. It may merely sound a little childish. Thus there is no point in spending many mental resources on learning this *deviation* from the regularity. Spend them on learning the regular pattern instead, and then add the details later.

/tðu/ ⟹ [tcu]
/t/ is *not* assimilated

ABS	Indicative {vu}	Participial {ðu}	Contemporative {(l)lu}	Negative cont. {na}
1p.sg {ŋa}	Vb{vuŋa}	Vb{ðuŋa}	Vb{(l)luŋa}	Vb{naŋa}
2p.sg {tət}	Vb{vutit}	Vb{ðutit}	Vb{(l)lutit}	Vb{natit}
3p.sg {q}	Vb{vuq}	Vb{ðuq}	–	–
3r.sg {ni}	–	–	Vb{(l)luni}	Vb{nani}
1p.pl {tə}, {gut}	Vb{vu**gut**}	Vb{ðu**gut**}	Vb{(l)lu**ta**}	Vb{**nata**}
2p.pl {si}	Vb{vusi}	Vb{ðusi}	Vb{(l)lusi}	Vb{**n**asi}
3p.pl {t}	Vb{(v)vut}	Vb{ðut}	–	–
3r.pl {tək}	–	–	Vb{(l)lutik}	Vb{**n**atik}

Figure 9.3: Intransitive endings using the ABS markers. The combination {vu}{t} causes gemination of /v/, when /v/ is not otherwise doubled by being added to a consonantal stem. The indicative and participial both use {gut} for 1p.pl, whilst the contemporatives both use {tə}. There also exists an (irregular) alternative ending Vb{nak} for negative contemporative 2p.sg, indicated by a blue ellipse. The /n/ phonemes marked by the green bar may optionally be omitted after a stem-final /q/, that becomes /r/, with no difference in meaning.

I have also added an aside 9.1 about another common, misbehaving affix, the negation Vb{ŋŋit}Vb, that is also usually given far too much attention in the teaching of Greenlandic as a foreign language.

There are also some irrelevant details that you may safely ignore in your own use of the moods, but which you may nevertheless come across in the speech or writing of other people:

- The negative contemporative ending for 2p.sg Vb{natit} ('thou'), indicated with a blue ellipse in the table, also exists in another, irregular form, with the personal marker {k} instead: Vb{nak}. Both contemporatives are, amongst other things, used as a 'polite' kind of imperative, and in particular the negative contemporative, since the usual negation affix Vb{ŋŋit}Vb cannot be used in imperative. In this sense, this ending can be used to di-

rectly forbid you to do something. I remember seeing it on a no-smoking sign with the text: *pujortar**nak***, "(kindly) do not smoke."

● The negative contemporative ending for 3r.sg and all the endings with the person in plural, can optionally be used without their initial /n/ on stems ending in /q/, which is then weakened to /r/. I have indicated all these n's with a green bar in the table. To make it work with our usual sound rules you could think of it *as if*[3] the endings were Vb{*__g__ani}, Vb{*__g__ata}, Vb{*__g__asi} and Vb{*__g__atik}, but *only on q-stems!* There is no difference in meaning. Thus e.g. with {aju__q__}Vb (is bad) you can say *ajor**n**ani* or *ajo**r**ani*. Both mean the same ('it is ok').

● In Central West Greenlandic ('official' Kalaallisut) the participial mood marker {ðu} becomes /cu/ when added to *t-stems*; especially the affixes Vb{ŋŋi__t__}Vb (negation), Vb{-i__t__}Vb ('un-Vb'ing'), N{-ki__t__}Vb ('have small/few N') and N{cugni__t__}Vb ('smell of N') and stems derived from these.[4] That is, /t/ is *not* assimilated by /c/ but comes to be pronounced like [tˢtˢ] instead (and spelt 'ts'). Thus e.g. Vb{ŋŋit}Vb{ðuq} $\implies^*$ *-nngi**ts**oq*. It also happens with the affix Vb{ðuq}N ('one who Vb's'), the so-called 'intransitive participle' because it is actually the same morpheme; here it is just used as a mood marker instead of as an affix.

The empty fields and co-reference

You might be wondering about the empty fields, marked '–' in the table; the indicative and participial have no combination with the *reflexive* third person, and conversely the two contemporatives have no combination with the *ordinary* third person. To understand why these particular combinations do not exist, you have to know a little about the usage of these moods.

Recall that the reflexive third person is really someone who is the *same* as an ordinary third person used in the main clause of the sentence: In the sentence "he$_p$ said that he$_p$ was drinking coffee" I have used a subscript 'p' to indicate that the 'he' in the main clause ("he said") and the 'he' in the subordinate clause ("that he was drinking coffee") both refer to the same guy, e.g. Peter. In other words, Peter said that he *himself* was drinking coffee. This 'identity of the two he's' is called *co-reference* in Grammaric, and the *reflexive* third person is used precisely when we have co-reference in the third person; or, in other words, when

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[3]Emphatically, they are *not*. It is just a slight abuse of the rules to simplify the representation.

[4]These t-stems are all marked by 'ts' in the DAKA dictionary to signal this behaviour.

ASIDE 9.1:

"-nngilaq" means 'not', right?

Anyone coming to Greenland will almost certainly hear the word *ajunngi**laq*** (it is OK). The base is {ajuq}Vb (bad/broken/not good), and the rest is — well, if you look in the DAKA, you will find the entry "-nngilaq" that seems to mean 'not'. Now remember, all verbal stems in the DAKA, including verbal affixes, are listed *with* an ending in 3p.sg, indicative; that is, Vb{vuq} for intransitive verbs. But where is it here? What is the affix, and what is the ending? And suppose you wanted to add the affix Vb{galuaq}Vb to say something like "it is actually ok, but…" How would you do that?

With nothing but the DAKA to go on, you might be tempted to say something like **ajunngi**lag**aluarpoq* or perhaps **ajunngi**ig**aluarpoq*. Both seem plausible (but wrong, of course), and you would undoubtedly be both surprised and mystified, when someone kindly told you that the correct form is *ajunngi**kk**aluarpoq*. What happened to the *-laq*? And /g/ must have hit a consonant to become [kk], so where did that come from?

Actually, the morphemic form of the affix is Vb{ŋŋ**it**}Vb with a final /t/. This is the consonant that /g/ assimilated, and then turned to [kk] by the fricative rule. Completely regular. The problem with this affix is that it uses its own, completely idiosyncratic set of mood markers, like for instance {-la} in indicative, instead of the usual {vu}. It is truly irregular, but now that you know its indicative mood marker, you can easily generate its endings; just replace {vu} with {-la}! The form *-nngilaq* is just {ŋŋit}{-la}{q}.

In Graphemistic course-books and classes students will be presented with this misbehaving affix and its endings almost from day one (or page one), simultaneously with the ordinary, {vu}-based endings, and often with no hint of the fact that the latter is the standard, used everywhere, whilst the first is a completely unimportant, extreme *deviation* from the norm, and students will spend hours on trying to remember when to say /la/, and when to say an extra consonant instead, that seems to come out of nowhere. In this tradition, there also seems to be no recognition whatsoever of the fact that this affix really is a *t-stem;* for instance, in the *Qanoq* book (Brochmann, 1998, p. 12) we are told that the affix is *–nngi–*, and likewise in the grammar by Janussen (1987, p. 50). No wonder you might be tempted to say **ajunngi**ig**aluarpoq* – didn't they just say the affix ended on "i"?

we in English would use a word like 'himself' to disambiguate the sentence, as I just did.

Now, the indicative is an *independent* (or 'superordinate') mood, as illustrated in figure 7.2 on page 119; that is, it *always* forms main clauses, and thus we obviously *never* need the reflexive third person here, since it only makes sense in a subordinate clause, where there will be something to refer back *to*. Therefore the combinations with the reflexive third person are empty.

The participial is often used when the verb in the main clause is a statement about mental state, utterance, perception etc.; words like {uqaq}Vb (say s.t.), {iqqaima}Vb (remember), {taku}Vb (see), {isuma}N{-qaq}Vb (think s.t., literally 'have a mind') and many others. It can best be translated as 'that …', as in e.g. "Peter said, **that** …" even though you would probably often leave 'that' out of the English sentence, since it is optional in these cases.

Now, the special thing about the participial is that it can *only* be used when there is *no* co-reference between the Subject in the subordinate clause and the Subject (or Agent) in the main clause. And since there cannot be co-reference, then there obviously cannot be a combination with the reflexive third person, since it is used precisely *for* showing co-reference. Conversely, the contemporatives can (generally) *only* be used when there *is* co-reference, and thus there cannot be a combination with the 'ordinary' third person, since it always indicate a *new* Subject, different from a third person Subject in the main clause.

To give an example, consider these two translations of the sentence "Peter said, that **he** drank coffee" with the subordinate clause ('that he drank coffee) in the participial and the contemporative respectively; that is, with either Vb{ðuq} or Vb{(l)luni} on the verb:

<div align="center">

*Piitaq oqarpoq kaffisor**toq***   (he ≠ Peter)
*Piitaq oqarpoq kaffisor**luni*** (he = Peter)

</div>

The reduced moods

The interrogative, optative and imperative are all characterised by having endings for only one or two persons, and by using reduced markers for the second and third person, singular. They are generally less regular than the other sets of endings, but fortunately they are also few in number. You can find them all in figure 9.4. I shall comment on each mood in turn:

- 🔵 The *interrogative* is used for asking questions *of or about* someone (else). You do not ask questions of yourself.[5] Thus, there are (obviously) no end-

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[5]Or rather, if you do, then you would use the indicative, but with interrogative intonation; that is with a falling tone on the last syllable.

	abs	*Interrogative* {vi}, {va}	*Optative* {la}, {li}	*Imperative* {∅}
1p.sg	{ŋa}	–	Vb{laŋa!}	–
2p.sg	{t}	Vb{vit?}	–	Vb{-git!}
3p.sg	{∅}	Vb{va?}	Vb{li!}	–
3r.sg	{ni}	–	–	–
1p.pl	{tə}	–	Vb{lata!}	Vb{ta!}
2p.pl	{si}	Vb{visi?}		Vb{-gitsi!}
3p.pl	{t}	Vb{(v)vat?}	Vb{lit!}	–
3r.pl	{tək}	–	–	

Figure 9.4: Intransitive endings using the reduced personal markers. Interrogative 2p.pl Vb{(v)vat?} doubles /v/ like indicative Vb{(v)vut}. The imperative endings with {git} are both truncative, *except* on q-stems. There also exists an alternative ending Vb{na!} for imperative 2p.sg, indicated by the blue ellipse.

ings with markers for the first person ("I" or "we"). Note also that the interrogative also doubles the /v/ in the third person, plural, just like the indicative.

- The *optative* means "let … Vb", like e.g. with the base {isəq}Vb (enter); *iser**langa*** ('let me in'). Optative expressions are always addressed *to* thee or you – I am asking *thee* to let me in – so here it would make no sense to have combinations with the second person.

  The ending for 1p.pl Vb{lata!} (let **us** Vb!) is an 'exclusive us' – neither thou nor you are included in this group of 'us' – so if you said *iser**lata*** (let us enter), you would include someone else in this 'us' besides yourself, but *not* the person to whom you spoke. This ending may be uncommon nowadays; people will often use the imperative Vb{ta!} ('let us Vb!') instead, which is an *inclusive* 'us' – a kind of mutual appeal, that more properly belongs with the optative than with the direct orders. Here the addressee *is* included in the group, so *iserta!* means "let us enter *together*".

157

The /t/ in Vb{ta!} regularly goes to /s/ after /i/ by the t-to-s rule, but nowadays you might also hear some people use it as if its form were Vb{ða} instead; that is they will let the /t/ go to /s/ on *any* vowel.

- The *imperative* is for direct orders or commands, which obviously only make sense with the second person, since thou or you are the person(s) I am ordering to do something. Both Vb{-git!} and Vb{-gitsi!} are truncative, *except on q-stems* where they instead fuse normally with /q/. The morpheme {git} appearing in these endings is actually a marker for 2p.sg, that seems to have been copied to the ending for 2p.pl, with the real 2p.pl marker {si} added on top of it, to yield the ending Vb{gitsi}. The highlighted /t/ is actually *not* assimilated by the /s/, so the final form of this ending will really *be -gitsi*.[6]

There also exists a completely different ending Vb{na!} for imperative 2p.sg, which may be considered a little less direct, and thus more polite. The imperative is often used with a number of affixes to 'soften' it somewhat; one of these is Vb{gi}Vb which here means "in the future" thus shifting the command into the future, and on this affix the ending Vb{na!} is used, although it can also be used be used on its own, without Vb{gi}Vb, with more or less the same meaning. You can find some examples of the imperative, its forms and usage, in example 9.1.

The dependent moods

These sets are the most regular: They uses the *ergative* personal markers, instead of the absolutive like the others, and all combinations of person and mood exist, so there are no gaps in the sets. All three moods have a special mood marker for the third person, but otherwise the only irregularity is that the conditional mood has /n/ instead of /m/ in the markers for the reflexive third person; that is, you could say it uses the markers {ni} and {nək}, instead of the usual {mi} and {mək}. I have created a table with all the endings in figure 9.5.

These moods are all used to express the notion of "when" – a time or cause in the past, a time or condition in the future, or a recurrent event or action. An ordinary sentence will generally consist of an optional specification of *time*, an optional specification of *place*, and then the verbal action itself. The dependent moods can then be used instead of, or perhaps rather as an *extension* of, the

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[6]There is no clear distinction today between [tˢtˢ] and an unassimilated /ts/. The latter is rare, but can arise in a few special situations; in particular here, with Vb{-gitsi!}, and in the intransitive participial when the mood marker {ðu} is added onto a t-stem.

EXAMPLE 9.1:

Even though the intransitive imperative only consists of two endings – ignoring 1p.pl Vb{ta!} for now – it can seem quite confusing. Firstly, both Vb{-git!} and Vb{-gitsi!} are truncative, *except on q-stems*. Thus, with e.g. {unək}Vb (stop) and {isəq}Vb (enter), we get the following:

$$\{unək\}Vb\{-git!\} \implies^* uni\textbf{g}it!, \text{"stop! (thou)"}$$
$$\{isəq\}Vb\{-git!\} \implies^* iser\textbf{it}!, \text{"come (thou) in!"}$$

Unigit! is, by the way, a word you may see, if you ever ride the bus in Nuuk, because it flashes in red on a sign above the driver, whenever anyone presses the 'stop' button. Similarly, *iserit!* is a common way to e.g. welcome someone into your home; and, of course, *iserit**si**!* if there is more than one. You can also find the imperative in the common greeting *tikillua**rit**!*, literally "be thou well come!" from {tikit}Vb (arrive at s.w.) and Vb{(l)luaq}Vb (good/well), and in many other places and phrases.

Another noteworthy point about the imperative is that it is *immediate:* It means "Do it, *now*!" However, by using the affix Vb{gi}Vb, you can shift the command into the future, to express something like "do it (when you get to it)!" This affix has the speciality that it uses the alternative ending Vb{na!} for 2p.sg, and likewise the 2p.pl here appear as just {si}, without the duplicated marker {git}, so you could actually regard this as an entirely alternative intransitive imperative with {gi} as the mood marker:

		{gi}	
2p.sg	{na}	Vb{gina!}	"Vb thou (in the future)"
2p.pl	{si}	Vb{gisi!}	"Vb you (in the future)"

With this, you can, for instance, express 'good night!' – literally "sleep well" from {sinək}Vb and Vb{(l)luaq}Vb – in two different ways; one with the usual imperative, *sinillua**rit**!* and *sinillua**ritsi**!*, indicating that the person(s) is/are about to go to sleep *now*, and one with this 'alternative' imperative, *sinillua**rina**!* and *sinillua**risi**!*, which you could use e.g. when you say good night to a guest, who is about to go home and (presumably) sleep.

Lastly, Vb{na!} can also be used on its own, without {gi}, but with seemingly the same meaning. Thus, whether you say *sinillua**rina**!* or just *sinilluar**na**!* makes no difference.

	ERG	(Be)causative	Iterative	Conditional
		{ga}, {(m)m}	{gaəŋa}, {gaəŋ}	{gu}, {(p)p}
1p.sg	{ma}	Vb{gama}	Vb{gaəŋama}	Vb{guma}
2p.sg	{vət}	Vb{gavit}	Vb{gaəŋavit}	Vb{guvit}
3p.sg	{at}	Vb{(m)mat}	Vb{gaəŋat}	Vb{(p)pat}
3r.sg	{mi}	Vb{gami}	Vb{gaəŋami}	Vb{gu**n**i}
1p.pl	{vtə}	Vb{gavta}	Vb{gaəŋavta}	Vb{guvta}
2p.pl	{vsi}	Vb{gavsi}	Vb{gaəŋavsi}	Vb{guvsi}
3p.pl	{atə}	Vb{(m)mata}	Vb{gaəŋata}	Vb{(p)pata}
3r.pl	{mək}	Vb{gamik}	Vb{gaəŋamik}	Vb{gu**n**ik}

Figure 9.5: Intransitive endings for the dependent moods. They all use the set of ergative personal markers, and with all combinations of mood and person. All use a special, shorter mood marker for the third person (3p), indicated with a blue shading. The conditional irregularly has /n/ instead of /m/ on the markers for the reflexive third person (3r). These are emphasised in the table.

specification of time. This extension will then be a new sentence with similar fields, that can be similarly extended, and so on.

For example, consider the sentence "When X come(s) home, Peter makes coffee." The first part, "when X come(s) home" is the extended time or conditional specification for, when the main action (Peter making coffee) occurs. As you can see, the person X could be anyone; it could be "When *I* come home" or thou or we etc. It could be "When *she* comes home" (e.g. Peter's wife) in which case the ordinary third person would be used, since she $\neq$ Peter. Or it could be "When Peter (himself) comes home" in which case the reflexive third person would be used. Combinations with all persons are both logically possible and useful in all three dependent moods, so there are no 'gaps' with impossible combinations of moods and persons in these sets of endings.

9.4   Transitive personal markers

As you may recall from the previous chapters, the *transitive* endings are used when the verbal action requires both an *Agent* (A) performing the action, and a *Patient* (P) who is the recipient of the action. They are used on stems like {asa}Vb (A loves P), {autlai}Vb (A shoots P), N{gə}Vb (A has P as his N) and so forth. The ending will therefore contain *two* personal markers; one for the Agent and one for the Patient.

As you also may recall, the *Agent* is denoted by the ergative case, whilst the *Patient* is denoted by the absolutive case. Thus, the intuition here is that we will use the set of *absolutive* personal markers for the Patient, and the set of *ergative* personal markers for the Agent. Internally in the ending we have the mood marker, then the Agent marker, and then lastly the Patient marker, so since the absolutive markers will be added on top of the ergative markers, we will use the *reduced* ergative markers that you also saw in the construction of possessive endings for the prepositional cases on nouns.

The absolutive markers are the same as those used in the intransitive endings, with two important exceptions:

- In the intransitive endings, the 1p.pl used *either* {tə} *or* {gut} as its marker, but here we use both, so {tə}{gut} $\implies$ {**ti**gut} with /ə/ becoming [i] since it is now followed by a consonant.

- As you may have noticed, the intransitive endings for third person (3p) look suspiciously like the unpossessed, absolutive endings for nouns: {q} for singular and {t} for plural. Compare for instance[7]

*nano**q** nerivo**q***	(the polar bear eats, singular)
*nannu**t** nerippu**t***	(the polar bears eat, plural)

  The transitive endings will similarly sometimes borrow endings from the nouns for the third person, but *generally* we have instead the markers {gu} and {git} respectively for the third person singular and plural.

The personal markers for the transitive verb endings are listed in figure 9.6 with these deviations emphasised. You can now – at least in principle – just combine a mood marker from figure 9.1 with the personal markers for an Agent and a Patient to form the ending you may need. For instance, suppose you wanted to say "he loves me" using the base {asa}Vb. This is now trivial: You combine

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[7]In fact, this similarity to the nouns may even be the *reason* behind the doubled /(v)v/ in the 3p.pl ending Vb{**(v)v**ut}; it displays *gemination* (sound doubling) just like a weak q-stem noun would in plural. Compare again: *na**no**q neri**vo**q* and *na**nn**ut neri**pp**ut*.

	-ERG-	ABS
1p.sg	{m}	{ŋa}
2p.sg	{k}	{tət}
3p.sg	{a}	{gu}
3r.sg	{mi}	{ni}
1p.pl	{vtə}	{tə}{gut}
2p.pl	{vsi}	{si}
3p.pl	{at}	{gət}
3r.pl	{mək}	{tək}

Figure 9.6: Personal markers used in transitive endings. The -ERG- set is similar to that found in the possessive endings for the prepositional cases. The ABS markers are similar to those used in the intransitive endings. Notice that 1p.pl merge {tə}{gut} to one, {təgut}. The third person uses {gu} and {git}, instead of {q} and {t}.

{va} for transitive indicative with {a} for 3p.sg ('he') and {ŋa} for 1p.sg ('me') to obtain {va}{a}{ŋa} $\implies$ Vb{vaaŋa}, and you can now say *asa**vaanga***. If you can just remember the markers for mood and person (31 different morphemes in total), you will be able to parse or reconstruct *most* of the hundreds of endings generated by this system. Consider the word *asa**gatsigu***. It should be easy now to see that this ending has mood marker {ga} (causative), the Agent marker is -tsi- which must be {vtə} (1p.pl), and the Patient marker is {gu} (3p.sg). Thus the word means "because we love him." Quite obvious.

9.5   Regular changes in combinations of markers

Unfortunately the combination of personal markers is not *always* as obvious as 3p.sg/1p.sg or 1p.pl/3p.sg that you saw above; partly because the system has been worn down somewhat, and partly because of the collapse of the whole set of combinations with person in dual number, which has left traces throughout the system where people regularly use the old dual instead of the plural marker. In short, there are a number of *regular changes* to the Agent and Patient markers that we need to apply when we combine the personal markers.

162

Changes to the Object marker

1. {ŋa} → {ma}   when the Agent is 2p.sg ('thou')
2. {tət} → {gət}   when the Agent is 1p ('I' or 'we')
3. {gu} → {juk}   after /i/ (but *not* after /ə/!)
4. {ni} → {(n)ni}   when the Agent is plural ('we', 'you', 'they', 'themselves')
5. {gət} → {gək}   when the Agent is plural ('we', 'you', 'they', 'themselves')

Notice that the third rule is a general rule; it is not contingent upon a specific Agent marker or markers, but instead applies whenever the Object marker is added to an /i/. It will of course be applied when the Agent marker is {mi} or {vsi}, but as you will see later, it also applies in other circumstances.

The fourth rule is another case of an old dual marker surfacing,[8] just as you saw it with the possessive endings for the prepositional cases on nouns. In fact, since the 3r.sg marker {ni} is exactly similar to the prepositional locative marker {ni}, the combination of any Agent with the 3r.sg will look exactly like the nominal endings for possessive locative.

Lastly, the fifth rule *may* not be terribly important anymore. The /k/ is actually an old dual marker, so {gət} is the true plural marker for 3p.pl, whilst {gik} is the dual ('those two'). When the dual system collapsed, people apparently combined the two, by using {gət} when the Agent is singular, but {gək} when the Agent is plural. However, as I have previously mentioned, many (especially younger) speakers hardly even distinguish between a word-final [k] and [t], so they will often just say (and write) {gət} for all Agents.

Changes to the Agent marker

1. {vtə} → {v}   when the Patient is plural, *except* 3p.pl
2. {vsi} → {v}   when the Patient is plural, *except* 3p.pl
3. {at} → {a}   when the Patient is plural, *except* 3p.pl
4. {mək} → {mi}   when the Patient is plural, *except* 3p.pl

These changes really just amount to saying that *when both the Agent and the Patient are plural* ('we', 'you', 'themselves') the combination of Agent and Patient marker will become equal to the combination of *singular* Agent with plural Patient, because the Agent marker /v/ will be assimilated anyway, due to the consonant rule, and thus become indistinguishable from the singular Agent markers {m} and {k}. The distinction between singular and plural is only maintained when the Agent is the third person (3p.pl).

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[8]Fun fact: The extra /n/ was actually a /g/ according to the reconstruction by Fortescue et al. (2010, s. 491).

Lastly, there are two special, unconditional combinations of Agent and Patient markers that you simply have to remember:

{at}{gu} → {assuk}
{at}{gək} → {atəgək} (or {atəgit} without using rule 5)

Combining the markers

By combining the personal markers and applying these regular changes, you obtain a table of 'portmanteau' morphemes similar to that of figure 9.7, with Agent markers listed vertically and Patient markers horizontally. Notice in particular the empty fields: You can never combine a person with itself; that is, you can never have for instance 'I' and 'me' or 'I' and 'us' combined in the same ending. This means that you *cannot* use a transitive ending to express something like "I love *me*" (or "I love *myself*"), because this combination of Agent and Patient does not exist. Such a sentence, where the Agent and Patient is the same entity, is called a *reflexive* sentence, and these are expressed in another way in Greenlandic.[9] You can only use transitive endings for sentences where the Agent and Patient *differ*.

You might now object: "What about the third person? Combinations with the third person as both Agent and the Patient exist!" Yes, indeed, because two third persons in the same ending will always refer to two *different* entities: An ending like causative Vb{(m)m**agu**} with the combination 3p.sg/3p.sg means "because he$_1$ Vb'ed him$_2$" where he$_1$ ≠ him$_2$.

9.6 Transitive endings

Now we are finally ready to create the transitive endings. Besides the aforementioned regular changes (which always happen), some of the moods also have some *individual* changes; in particular the 'reduced' moods where their *meaning* dictates that certain combinations do not exist (because they are meaningless). I shall therefore create the set of endings for each mood in *descending order of regularity*, with a few further comments for each.

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[9]Broadly speaking, by using an *intransitive* ending on the divalent stem. The single person marked in the ending is then understood to be both the Agent and the Patient. However, using an intransitive ending could also make the sentence passive, or just remove the object, depending on the stem.

		1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {təgut}	2p.pl {si}	3p.pl {get}	3r.pl {tek}
1p.sg	{m}	–	{mgetu}	{mgu}	{mni}	–	{msi}	{mget}	{mʌtek}
2p.sg	{k}	{kma}	–	{kgu}	{kni}	{ktegut}	–	{kget}	{ktek}
3p.sg	{a}	{aŋa}	{atet}	{agu}	{ani}	{ategut}	{asi}	{aget}	{atek}
3r.sg	{mi}	{miŋa}	{mitet}	{mijuk}	–	{mitegut}	{misi}	{miget}	–
1p.pl	{etʌ}	–	{teɣetʌ}	{nɣetʌ}	{vtennni}	–	{vsi}	{vteɣetʌ}	{vtek}
2p.pl	{vsi}	{vsiŋa}	–	{vsijuk}	{vsinni}	{vtegut}	–	{vsigek}	{vtek}
3p.pl	{at}	{atŋa}	{attet}	{assuk}	{atmi}	{ategut}	{asi}	{atəgək}	{atek}
3r.pl	{mək}	{məkŋa}	{məktet}	{məkgu}	–	{mitegut}	{misi}	{məkgək}	–

Figure 9.7: Combined markers for Agent and Patient. The darker fields mark combinations where a regular transformation was applied.

165

CAUSATIVE

Mood marker: {ga}, 3p {(m)m}

		1p.sg {ŋa}	2p.sg {tat}	3p.sg {gu}	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl {get}	3r.pl {tek}
1p.sg	{m}	–	Vb{gakkit}	Vb{gakku}	Vb{ganni}	–	Vb{gassi}	Vb{gakkit}	Vb{gatsik}
2p.sg	{k}	Vb{gamma}	–	Vb{gakku}	Vb{ganni}	Vb{gatsigut}	–	Vb{gakkit}	Vb{gatsik}
3p.sg	{a}	Vb{(m)maŋa}	Vb{(m)matit}	Vb{(m)magu}	Vb{(m)mani}	Vb{(m)matigut}	Vb{(m)masi}	Vb{(m)magit}	Vb{(m)matik}
3r.sg	{mi}	Vb{gamiŋa}	Vb{gamisit}	Vb{gamiuk}	–	Vb{gamisigut}	Vb{gamisi}	Vb{gamigit}	–
1p.pl	{vtə}	–	Vb{gatsigit}	Vb{gatsigu}	Vb{gatsinni}	–	Vb{gassi}	Vb{gatsigik}	Vb{gatsik}
2p.pl	{vsi}	Vb{gassiŋa}	–	Vb{gassiuk}	Vb{gassinni}	Vb{gatsigut}	–	Vb{gassigik}	Vb{gatsik}
3p.pl	{at}	Vb{(m)maŋŋa}	Vb{(m)matsit}	Vb{(m)massuk}	Vb{(m)manni}	Vb{(m)matigut}	Vb{(m)masi}	Vb{(m)matigik}	Vb{(m)matik}
3r.pl	{mək}	Vb{gamiŋŋa}	Vb{gamitsit}	Vb{gamikku}	–	Vb{gamisigut}	Vb{gamisi}	Vb{gamikkik}	–

ITERATIVE

Mood marker: {gaaŋa}, 3p {gaaŋ}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl {get}	3r.pl {tek}
1p.sg {m}	–	Vb{gaaŋakkit}	Vb{gaaŋakku}	Vb{gaaŋanni}	–	Vb{gaaŋassi}	Vb{gaaŋakkit}	Vb{gaaŋatsik}
2p.sg {k}	Vb{gaaŋamma}	–	Vb{gaaŋakku}	Vb{gaaŋanni}	Vb{gaaŋatsigut}	–	Vb{gaaŋakkit}	Vb{gaaŋatsik}
3p.sg {a}	Vb{gaaŋaŋa}	Vb{gaaŋatit}	Vb{gaaŋagu}	Vb{gaaŋani}	Vb{gaaŋatigut}	Vb{gaaŋasi}	Vb{gaaŋagit}	Vb{gaaŋatik}
3r.sg {mi}	Vb{gaaŋamiŋa}	Vb{gaaŋamisit}	Vb{gaaŋamiuk}	–	Vb{gaaŋamisigut}	Vb{gaaŋamisi}	Vb{gaaŋamigit}	–
1p.pl {ʌte}	–	Vb{gaaŋatsigit}	Vb{gaaŋatsigu}	Vb{gaaŋatsinni}	–	Vb{gaaŋassi}	Vb{gaaŋatsigik}	Vb{gaaŋatsik}
2p.pl {ʌsi}	Vb{gaaŋassiŋa}	–	Vb{gaaŋassiuk}	Vb{gaaŋassinni}	Vb{gaaŋatsigut}	–	Vb{gaaŋassigik}	Vb{gaaŋatsik}
3p.pl {at}	Vb{gaaŋaŋŋa}	Vb{gaaŋatsit}	Vb{gaaŋassuk}	Vb{gaaŋanni}	Vb{gaaŋatigut}	Vb{gaaŋasi}	Vb{gaaŋatigik}	Vb{gaaŋatik}
3r.pl {mek}	Vb{gaaŋamiŋŋa}	Vb{gaaŋamitsit}	Vb{gaaŋamikku}	–	Vb{gaaŋamisigut}	Vb{gaaŋamisi}	Vb{gaaŋamikkik}	–

CONDITIONAL

Mood marker: {gu}, 3p {(p)p}

		1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {təŋət}	2p.pl {si}	3p.pl {get}	3r.pl {tek}
1p.sg	{m}	–	Vb{gukkit}	Vb{gukku}	Vb{gunni}	–	Vb{gussi}	Vb{gukkit}	Vb{gutsik}
2p.sg	{k}	Vb{gumma}	–	Vb{gukku}	Vb{gunni}	Vb{gutsigut}	–	Vb{gukkit}	Vb{gutsik}
3p.sg	{a}	Vb{(p)paŋa}	Vb{(p)patit}	Vb{(p)pagu}	Vb{(p)pani}	Vb{(p)patigut}	Vb{(p)pasi}	Vb{(p)pagit}	Vb{(p)patik}
3r.sg	{ni}	Vb{guninŋa}	Vb{gunisit}	Vb{guniuk}	–	Vb{gunisigut}	Vb{gunisi}	Vb{gunigit}	–
1p.pl	{vtʌ}	–	Vb{gutsigit}	Vb{gutsigu}	Vb{gutsinni}	–	Vb{gussi}	Vb{gutsigik}	Vb{gutsik}
2p.pl	{vsi}	Vb{gussiŋa}	–	Vb{gussiuk}	Vb{gussinni}	Vb{gutsigut}	–	Vb{gussigik}	Vb{gutsik}
3p.pl	{at}	Vb{(p)paŋŋa}	Vb{(p)patsit}	Vb{(p)passuk}	Vb{(p)panni}	Vb{(p)patigut}	Vb{(p)pasi}	Vb{(p)patigik}	Vb{(p)patik}
3r.pl	{nek}	Vb{guninŋa}	Vb{gunitsit}	Vb{gunikku}	–	Vb{gunisigut}	Vb{gunisi}	Vb{gunikkik}	–

PARTICIPIAL

Mood marker: {ge(k)}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg POSS	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl POSS	3r.pl {tək}
1p.sg {m}	–	Vb{gikkit}	Vb{giga}	Vb{ginni}	–	Vb{gissi}	Vb{gikka}	Vb{gitsik}
2p.sg {k}	Vb{gimma}	–	Vb{git}	Vb{ginni}	Vb{gitsigut}	–	Vb{gitit}	Vb{gitsik}
3p.sg {a}	Vb{gaaŋa}	Vb{gaatit}	Vb{gaa}	Vb{gaani}	Vb{gaatigut}	Vb{gaasi}	Vb{gai}	Vb{gaatik}
3r.sg {mi}	–	–	–	–	–	–	–	–
1p.pl {vta}	–	Vb{gitsigit}	Vb{gipput}	Vb{gitsinni}	–	Vb{gissi}	Vb{givut}	Vb{gitsik}
2p.pl {vsi}	Vb{gissiŋa}	–	Vb{gissi}	Vb{gissinni}	Vb{gitsigut}	–	Vb{gisi}	Vb{gitsik}
3p.pl {at}	Vb{gaaŋŋa}	Vb{gaatsit}	Vb{gaat}	Vb{gaanni}	Vb{gaatigut}	Vb{gaasi}	Vb{gaat}	Vb{gaatik}
3r.pl {mək}	–	–	–	–	–	–	–	–

INDICATIVE

Mood marker: {va(q)}

Irregular! Not *vamma → Vb{varma}

Subform Vb{vagit} → Vb{vakkit}

Subform Vb{vagut} → Vb{vavut}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg POSS	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl POSS	3r.pl {tək}
1p.sg {m}	–	Vb{vakkit}	Vb{vara}	–	–	Vb{vassi}	Vb{vakka}	–
2p.sg {k}	Vb{**varma**}	–	Vb{vat}	–	Vb{vatsigut}	–	Vb{vatit}	–
3p.sg {a}	Vb{vaaŋa}	Vb{vaatit}	Vb{vaa}	–	Vb{vaatigut}	Vb{vaasi}	Vb{**vai**}	–
3r.sg {mi}	–	–		–	–	–		–
1p.pl {vtə}	–	Vb{vatsigit}	Vb{varput}	–	–	Vb{vassi}	Vb{vavut}	–
2p.pl {vsi}	Vb{vassiŋa}	–	Vb{varsi}	–	Vb{vatsigut}	–	Vb{vasi}	–
3p.pl {at}	Vb{vaaŋŋa}	Vb{vaatsit}	Vb{vaat}	–	Vb{vaatigut}	Vb{vaasi}	Vb{vaat}	–
3r.pl {mək}	–	–		–	–	–		–

OPTATIVE

Mood marker: {la(q)}, 3p {li}

		1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}/**POSS**	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl {git}/**POSS**	3r.pl {tek}
1p.sg	{m}	–	Vb{lakkit}	Vb{lara}	–	–	Vb{lassi}	Vb{lakka}	–
2p.sg	{k}	–	–	–	–	–	–	–	–
3p.sg	{∅}	Vb{liŋa}	Vb{lisit}	Vb{liuk}	–	Vb{lisigut}	Vb{lisi}	Vb{ligit}	–
3r.sg	{mi}	–	–	–	–	–	–	–	–
1p.pl	{vta}	–	Vb{latsigit}	Vb{larput}	–	–	Vb{lassi}	Vb{lavut}	–
2p.pl	{vsi}	–	–	–	–	–	–	–	–
3p.pl	{t}	Vb{liŋŋa}	Vb{litsit}	Vb{lissuk}	–	Vb{lisigut}	Vb{lisi}	Vb{lisigik}	–
3r.pl	{vak}	–	–	–	–	–	–	–	–

or Vb{lisit}, but *not* regular *lissit

INTERROGATIVE

Mood marker: {vi}

	1p.sg {ŋa}	2p.sg {tɛ}	3p.sg {gu}	3r.sg {ni}	1p.pl {tɛgut}	2p.pl {si}	3p.pl {git}	3r.pl {tɛk}
1p.sg {m}	–	–	–	–	–	–	–	–
2p.sg {∅}	Vb{viɲa}	–	Vb{viuk}	–	Vb{visigut}	–	Vb{vigit}	–
3p.sg {a}	–	–	–	–	–	–	–	–
3r.sg {mi}	–	–	–	–	–	–	–	–
1p.pl {ɛta}	–	–	–	–	–	–	–	–
2p.pl {si}	Vb{visiɲa}	–	Vb{visiuk}	–	Vb{visigut}	–	Vb{visigik}	–
3p.pl {at}	–	–	–	–	–	–	–	–
3r.pl {ɛmɛk}	–	–	–	–	–	–	–	–

IMPERATIVE

not regular **kma**   *not regular* **kgu**   {k} has been dropped

Mood marker: {∅}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl {git}	3r.pl {tek}
2p.sg {k}	Vb{-ŋŋa}	–	Vb{-guk}	–	Vb{tigut}	–	Vb{kkit}	–
1p.pl {te}	–	–	Vb{tigu}	–	–	–	Vb{tigik}	–
2p.pl {si}	Vb{siŋa}	–	Vb{siuk}	–	Vb{tigut}	–	Vb{sigik}	–

Mood marker: {gi}

	1p.sg {giŋa}	3p.sg {giuk}	1p.pl {gigut}	3p.pl {gigit}
2p.sg {∅}	Vb{giŋa}	Vb{giuk}	Vb{gigut}	Vb{gigit}
2p.pl {si}	Vb{gisiŋa}	Vb{gisiuk}	Vb{gisigut}	Vb{gisigik}

{te} has been dropped

this is actually /gijuk/ since V{-guk} → /Vjuk/ and [ij] ⟹ "i"

Contemporative & Negative I

Mood marker: {(l)lu}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {te}	2p.pl {si}	3p.pl {git}	3r.pl {tek}
(all) {∅}	Vb{(l)luŋa}	Vb{(l)lutit}	Vb{(l)lugu}	Vb{(l)luni}	Vb{(l)luta}	Vb{(l)lusi}	Vb{(l)lugit}	Vb{(l)lutik}

Mood marker: {na}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {te}	2p.pl {si}	3p.pl {git}	3r.pl {tek}
(all) {∅}	Vb{naŋa}	Vb{natit}	Vb{nagu}	Vb{nani}	Vb{nata}	Vb{nasi}	Vb{nagit}	Vb{natik}

Contemporative & Negative II

Mood marker: {(l)lu}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl {git}	3r.pl {tek}
1p.pl {te}	–	–	Vb{(l)lutigu}	–	–	–	Vb{(l)lutigik}	–
2p.pl {si}	Vb{(l)lusiŋa}	–	Vb{(l)lusiuk}	–	Vb{(l)lutigut}	–	Vb{(l)lutigik}	–

Mood marker: {na}

	1p.sg {ŋa}	2p.sg {tet}	3p.sg {gu}	3r.sg {ni}	1p.pl {tegut}	2p.pl {si}	3p.pl {git}	3r.pl {tek}
1p.pl {te}	–	–	Vb{natigu}	–	–	–	Vb{natigik}	–
2p.pl {si}	Vb{nasiŋa}	–	Vb{nasiuk}	–	Vb{natigut}	–	Vb{natigik}	–

Causative

The causative does not require many further comments: It is completely regular with respect to the rules given above (which is why I have often used it for examples). All possible combinations of Agent and Patient markers exist. The mood marker is {ga} as in the intransitive endings, and when the *Agent* is the third person (3p.sg and 3p.pl) the special mood marker {(m)m} is used.

Iterative

The iterative mood is actually just an affix {gaa} that has fused so thoroughly with the causative as to create a new mood. It is therefore just as regular as the causative. In fact, if you know the causative, you can easily create all endings for the iterative with this simple procedure: Just replace the *consonant* in the causative mood marker – the /g/ in {ga} and the whole of {(m)m} – with {gaaŋ} to obtain the corresponding iterative ending. Thus e.g. Vb{gatsigu} becomes Vb{gaaŋatsigu}, and Vb{(m)magu} becomes Vb{gaaŋagu}.

Conditional

This mood is *almost* as regular as the causative. There is only *one* exception: The two Agent markers {mi} and {mək} have become {ni} and {nək}, just as they have in the intransitive paradigm. This also happens, of course, with the regular changes in the Agent marker: Where {mək} regularly becomes {mi}, will {nək} regularly become {ni} etc. You just have to remember to say /n/ instead of {m} in all endings where these two markers are included. These are highlighted in the table. Apart from this, the endings are regular. The mood marker is {gu}, and when the Agent is the third person (3p.sg and 3p.pl), the special mood marker {(p)p} is used.

Participial

The participial is also *almost* as regular as the previous sets, and also resemble them – far more than in the intransitive paradigm anyway. Its mood marker is {gə} here, and note that it bears no resemblance to the intransitive mood marker.[10]

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[10]The schwa, in particular, is a source of confusion for the Graphemists, because it will (of course!) become [a] whenever the combined personal marker begins with vowel. For instance, Bjørnum (2003, p. 65) spends an entire page on explaining how to transform the transitive indicative into the participial, and Janussen (1987, p. 73) says the mood marker is -gi-, -i- and -ki- (on vowel, 'r' (that is, /q/) and consonant stems, respectively) for 1p, 2p and 3r Agents, but -ga-, -a- and -ka- for 3p.

Just like the corresponding intransitive participial set, the transitive participial is also *only* used when there is *no* co-reference betwen the Agent (or Subject) in the main clause and the *Agent* in the subordinate clause. Thus there are no endings containing a combination with the *reflexive* third person (3r) as *Agent*. However, the *Patient* can still be co-referent to the Agent (or Subject) in the main clause, so there *are* combinations with the reflexive third person as *Patient*.

There is one major speciality with the participial, which you also will observe in some of the other moods: When the *Patient* is the ordinary third person (3p), the mood marker behaves as a *nominal k-stem* {gə**k**} and takes *nominal* endings, instead of the regular combinations of person markers. This is exactly like the intransitive endings that had borrowed the nominal absolutive singular {q} and plural {t} as markers for the third person. Here, however, we still need to distinguish between all the different Agents, so instead of the simple (unmarked) singular/plural markers, this mood uses the *possessive* absolutive endings. For example:

> {gək}{ga} $\implies$ Vb{giga}   ('... that I Vb him')
> {gək}{kka} $\implies$ Vb{gikka}   ('... that I Vb them')
>   ...

It is important to remember that it behaves like a *k-stem* {gə**k**}, because some of these endings inject an epenthetic /(q)/ when added to a vowel stem, but this does *not* happen here. Where an epenthetic /(q)/ otherwise *would* have been injected, the endings are instead added onto /k/, thus:

> {gək}{(q)vut} $\implies$ Vb{gi**pp**ut}   (not *gerput)
> {gək}{(q)si} $\implies$ Vb{gi**ss**i}   (not *gersi)

Note also, when the possessive marker N{-i} (3p.sg/pl) is added, /ə/ will (of course!) take the sound [a], but the endings is written as Vb{**gai**}, exactly like we did on the nouns (see section 8.2 on page 129), and this is similarly *pronounced* [gaaʲ] with a *long* [aa] sound, and only a slight [j]-like sound at the very end. Thus, this is another case of the same apparent exception from the a-rule, which is really no exception at all.

Indicative

The indicative is an independent mood, so it forms only main clauses. Thus, there can be *no* combinations involving the *reflexive* third person (3r), neither as Agent nor as Patient. All these fields are therefore empty.

The indicative also use the possessive absolute nominal endings when the Patient is the third person (3p), just like the participial does. The mood marker is {va} – slightly different from the intransitive marker – and with the possessive endings it behaves as a nominal *weak q-stem* {va**q**} that will regularly throw this /q/ away before all endings *except* N{ga}. "I Vb him" is therefore not *va**g**a, as we might otherwise have believed, but Vb{va**r**a}. Just like in the participial set, we also have another case of the apparent exception from the a-rule with the ending Vb{v**ai**}, which is not an exception for the same reason.

Otherwise, the endings are quite regular: There is only a single, small deviation in the ending for "thou Vb me" (2p.sg/1p.sg). The regular combination of personal markers is {kma}, so the ending *should* have been *va**m**ma, just as it is everywhere else, but for unknown reasons the marker /k/ appears as a /q/ here[11] so the ending becomes Vb{va**r**ma} instead.

Two of the endings also have 'unofficial' sub-forms which you may encounter:

- Vb{va**kk**it} (1p.sg/2p.sg, 'I Vb you') can also appear as Vb{va**g**it}, as if the Agent marker has just been omitted.

- Vb{va**v**ut} (1p.pl/3p.pl, 'we Vb them') can also appear as Vb{va**g**ut},[12] for exactly the same reasons as some people have taken to say N{-gut} instead of N{-vut} on the nouns. I consider it an unfortunate habit, since it obscures the nice correspondence between singular and plural.

Optative

The optative is – perhaps not unexpectedly – a little more irregular than the previous moods, since it is 'reduced' with Agent markers for only the first and third person, just like the intransitive paradigm. It also uses two different mood markers, {la} for first person (1p) Agents, and {li} for third person (3p) Agents. Since these two mood markers alone show the difference between 1p and 3p, the Agent markers are less important, and they have consequently been reduced; thus the marker for 3p.sg has been completely reduced to {∅}, and the marker for 3p.pl has been reduced to just {t}. This also means that when the original Agent marker for 3p.pl, {at}, is regularly changed to {a}, the reduced Agent marker here will disappear completely; it becomes {∅}.

Furthermore, the optative also uses the nominal, possessive absolute endings when the Patient is the third person, but *only* when the Agent is the *first*

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[11]It *could* be the same /q/ as the one that appears before the possessive markers. Nobody seems to know.

[12]Or even Vb{va**ŋ**ut} in Northern Greenland!

person; that is, only on the {la} marker, which here appears as a nominal *weak q-stem* {laq}. With the {li} marker, the usual personal markers are used.

Notice also that {li} contains a true /i/ phoneme which will transform the 3p.sg Patient marker {gu} to {juk} by the regular changes in Patient markers, since the Agent marker has been reduced to null and the Patient marker thus comes to be attached directly onto {li}. Thus you can see that this transformation really does apply everywhere for the 3p.sg marker, and not just in combinations with specific Agent markers.

Furthermore, the /i/ in {li} will regularly change /t/ to /s/ in Agent markers by the t-to-s rule. However, there is one exception: The combination for 3p.pl/2p.sg {t}{tət} *should* thus also become {*ssət} after /i/, but for unknown reasons it does not. It remains {ttət}, and the ending thus becomes Vb{li**ts**it} *or* Vb{li**s**it} (with complete reduction of the Agent marker).

Interrogative

The interrogative only exists with the second person (2p) as Agent, for the same reason that it only exists with second and third person Subjects in the intransitive paradigm: Thou or you are the only persons I can address directly with a question.[13] Its mood marker is {vi}, and since we only need to distinguish between singular and plural Agents, the Agent marker has been reduced further, such that 2p.sg has become null, and 2p.pl has become just {si}. Like in the optative above, this also means that whenever {vsi} is regularly reduced to just {v}, the reduced Agent marker {si} becomes null.

Imperative

The imperative is undoubtedly the most irregular: It too only exists with Agent markers for the second person (2p), which makes sense since thou or you are the only persons I can directly order to do something, and additionally with two combinations of 1p.pl ('we') and the third person (3p) used for the same kind of 'mutual appeal' that you saw in the intransitive paradigm ('let us Vb it/them'). Its mood marker is {∅}, but it also exists in combination with the morpheme {gi} – again, like in the intransitive paradigm – which I have here decided to treat as another mood marker and thus created a secondary set of imperative endings, since some of them are even further reduced than the ordinary imperative endings.

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[13]Thus you cannot use the transitive interrogative to ask questions *about* some third person, like 'did **he** Vb it?' For that you would instead use the indicative, but with interrogative intonation; that is, a falling tone on the last syllable.

The irregularities are too numerous to comment on in detail, and there are so few endings that it is hardly worth it anyway. For the imperative, I simply recommend that you learn the endings you need, when you need them. However, two of the endings have so irregular sandhi behaviour that they warrant some further comments:

- The ending Vb{-ŋŋa} (2p.sg/1p.sg, 'thou Vb me!') is so decidedly truncative that it will even attach to /ə/ on ut(ə)-stems: Thus /t(ə)ŋŋa/ → /təŋŋa/.

- The ending Vb{-guk} (2p.sg/3p.sg, 'thou Vb it!') is truncative on consonant stems, and on ut(ə)-stems it actually remove both /t(ə)/ and attach directly to the vowel. However, on *q-stems* it will instead fuse with /q/ to /r/, and on *vowel stems* /g/ will become /j/![14] This ending thus has the following completely idiosyncratic sandhi rules:

$$/C/ + \text{Vb\{-guk\}} \rightarrow /\mathbf{g}\text{uk}/ \quad \text{e.g. \{tiglək\}Vb\{-guk\}} \implies^* \text{“till}\mathbf{ig}\text{uk”}$$
$$/V\text{t(ə)}/ + \text{Vb\{-guk\}} \rightarrow /V\mathbf{g}\text{uk}/ \quad \text{e.g. \{pitcit(ə)\}Vb\{-guk\}} \implies^* \text{“pits}\mathbf{ig}\text{uk”}$$
$$/\text{q}/ + \text{Vb\{-guk\}} \rightarrow /\mathbf{r}\text{uk}/ \quad \text{e.g. \{atuvaq\}Vb\{-guk\}} \implies^* \text{“atua}\mathbf{r}\text{uk”}$$
$$/V/ + \text{Vb\{-guk\}} \rightarrow /V\mathbf{j}\text{uk}/ \quad \text{e.g. \{asa\}Vb\{-guk\}} \implies^* \text{“asa}\mathbf{j}\text{uk”}$$

Contemporative

The contemporative is probably the easiest set of them all: As you know, contemporative is *only* used when there is co-reference between the Agent in the subordinate clause and the Agent (or Subject) in the main clause. This means that we *always know whom the Agent is*, since it is shown in the main clause. Thus, the Agent marker is irrelevant in the contemporative, and it is therefore not used at all in the endings. All the endings collapse into a set of just eight endings; one for each Patient. These endings can therefore best be translated as "Vb'**ing** the Patient" – e.g. Vb{(l)lu**ŋa**} could mean that either 'thou' or 'he' or 'you' or 'they' are Vb'ing **me**, but we have no way of knowing from the ending alone. We have to look at the main clause.

Because of this collapse, the endings become almost identical to the intransitive set. The Patient marker {təgut} is even reduced to just {tə}, just like in the intransitive set, so the only clear difference is when the Patient is the third

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[14]Which of course may be ignored in writing, if the preceding vowel is [i]. This is for example why the combination {gi}{-guk} $\implies$ Vb{**giu**k} in the 'alternative' transitive imperative. It is really /gijuk/, but I have not written the /j/ since I am presenting the endings in Graphemist style. This /j/ may even (irregularly!) drop after /u/ as well: Thus the exclamation *taku**uk*** "look!" (literally 'see (thou) it!') is actually /takujuk/, and it may also be used in this regular form.

person (3p). In other words, the ending Vb{(l)lu**ŋa**} could *either* be an intransitive ending with **I** as Subject ('**I** Vb'ing'), *or* it could be a transitive ending with **me** as Patient ('Vb'ing **me**'). Thus you have to know the valency of the stem to know which meaning is intended.

There are also a few examples of contemporative endings where an Agent marker can appear anyway, in the first or second person, plural (1p.pl and 2p.pl). Here, they are reduced to {tə} and {si}. I have created separate tables for these endings and named them Contemporative II, but they are seldom used – probably only when the contemporative is used in an imperative sense.

9.7 Schwa-stems and their endings

On verbal stems there is fortunately nothing like the complications with stem-dependent sandhi rules, like we have on nouns. The morpheme {ðu} (intransitive participial) becomes /cu/ on t-stems, as I mentioned in section 9.3, and a few endings – particularly transitive imperative Vb{-guk} – display some variation on certain types of stems, but these are more like properties of the individual morphemes than of the stems themselves, and I have therefore added comments about these special behaviours in the main presentation, for each of these endings.

Likewise, a few individual *stems* display irregular sandhi behaviour with certain endings; most notable the future affix Vb{ssa}Vb and the negation affix Vb{ŋŋit}Vb (see below). I comment on both in this chapter, because they are both very common, but otherwise I have decided to omit the details about such irregularities from the presentation, since my focus here is on the *regular* (and thus common) pattern. Individual irregularities belong in a morphemic dictionary; not in presentation of the system of endings.

There is, however, *one* small group of stems that display regular variation with certain moods and endings: The schwa-stems. There is a small group of verbal affixes that end on a real /ə/[15] – notably N{gə}Vb (A has P as his N), Vb{-gə}Vb (A thinks P is so/too Vb), Vb{-qə}Vb (Vb a lot), Vb{tigə}Vb (Vb as much as s.t.), Vb{surə}Vb (A thinks that P Vb's). They are not exactly numerous, but some of them – especially N{gə}Vb – are frequently used, and additionally, many lexicalised stems in the dictionary are formed with them, so you should know their rules. Some of them have become optional (or even archaic), but others are still mandatory. You can find them in definition 9.1. And whether archaic or not, you may still encounter their effects: After all, archaic people (like me) exist.

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[15]Unlike the ut(ə)-stems, since they behave as consonant stems with respect to endings.

180

> **DEFINITION 9.1:**
>
> The special sandhi rules for schwa-stems affect the indicative, interrogative, imperative and contemporative. Let M be any string of phonemes, including the empty string /∅/. The rules then are:
>
> $$\{M\text{ə}\}\text{Vb}\{\textbf{vu}M\} \;\rightarrow\; /M\text{ə}\text{u}M/$$
> $$\{M\text{ə}\}\text{Vb}\{\textbf{va}M\} \;\rightarrow\; /M\text{ə}\text{a}M/ \quad \Big\} \; \textit{Optional but common}$$
> $$\{M\text{ə}\}\text{Vb}\{\textbf{vi}M\} \;\rightarrow\; /M\text{ə}\text{i}M/$$
>
> $$\{M\text{ə}\}\text{Vb}\{\textbf{-git}\} \;\rightarrow\; /M\text{ə}\text{jit}/$$
> $$\{M\text{ə}\}\text{Vb}\{\textbf{-guk}\} \;\rightarrow\; /M\textbf{u}\text{uk}/ \quad \Big\} \; \textit{May be archaic}$$
>
> $$\{M\text{ə}\}\text{Vb}\{(\text{l})\text{lu}M\} \;\rightarrow\; /M\textbf{a}\text{lu}/ \qquad \textit{Mandatory!}$$

Indicative and interrogative

The first set of rules concern the indicative and interrogative; both intransitive and transitive. The rules simply say that /ə/ will *delete* /v/ from the mood markers, *including* the doubled /(v)v/ that appears in intransitive indicative and interrogative 3p.pl. This deletion of course means that since /ə/ now stands before a *vowel*, it will take the sound [a], which then by the a-rule will assimilate the following vowel. For an affix like Vb{-qə}Vb, the derivation thus goes as follows:

Vb{-qə}Vb{vuŋa}	(I Vb highly/a lot)
$\Longrightarrow$ /-qə**u**ŋa/	(This rule: delete /v/)
$\Longrightarrow$ [-qa**u**ŋa]	(schwa-rule: /əu/ $\Longrightarrow$ [au])
$\Longrightarrow$ [-qa**a**ŋa]	(a-rule: [au] $\Longrightarrow$ [aa])
$\Longrightarrow$ "-q**aa**nga"	

In intransitive indicative – and interrogative, since the forms become similar – this affix thus takes its endings as *-q**aa**nga, -q**aa**tit, -q**aa**q*, which is also the form of the entry in the DAKA dictionary, and in plural *-q**aa**gut, -q**aa**si* and lastly *-q**aa**t* for 3p.pl. Notice, even the doubled /(v)v/ is gone.

Divalent stems, like the affix N{gə}Vb, are listed in the DAKA dictionary with the ending Vb{vaa} (indicative 3p.sg/3p.sg). If you try to do the derivation and remove /v/, you will notice that you will end up with [**gaaa**], which is disallowed by phonotactics. Here one of the [a] sounds is simply *elided* (removed), so this affix is listed as *-**gaa*** in the DAKA, and so are all other divalent schwa-stems: E.g. a base like {nuannarə}Vb (A likes/enjoys P) is listed as *nuannar**aa***. You can always recognise them by that.

Suppose you wanted to ask someone "did thou enjoy it?" using the aforementioned base and transitive interrogative Vb{viuk} (2p.sg/3p.sg 'thou Vb it?'). When you add this ending to a schwa-stem, you have to remember how it was formed: The Patient marker for 3p.sg {gu} became {**j**uk} before /i/, but since /j/ is not *written* after /i/, the ending *appears* as Vb{v**i**uk}, and not Vb{v**ij**uk}. But the /j/ *is* still there, and it will reappear when you add the ending to a schwa-stem. Observe:

	{nuannarə}Vb{vi**j**uk}	(did you enjoy it?)
⟹	/nuannar**ə**i**j**uk/	(This rule: delete /v/)
⟹	[nuannar**ai**juk]	(schwa-rule: /əi/ ⟹ [ai])
⟹	[nuannar**aa**juk]	(a-rule: [ai] ⟹ [aa])
⟹*	"nuannar**aa**juk"	

Obviously, /j/ *is* written after [a], but this sudden appearance of a 'j' out seemingly nowhere will be highly *unobvious* to someone who does not know how the endings were constructed. The is one of the great disadvantages of only learning the endings in the Graphemistic way, and also an argument against my choice of presenting them as such. It would certainly have been more precise to present the ending as Vb{vi**j**uk} in the table, but probably also less useful to you, since it *most of the time* will appear as Vb{viuk}. Fortunately, you are now able to create your own set of 'phonemic' endings, based on the descriptions in this chapter, if you want to have these details explicitly present in the notation.

Imperative

The rules concerning the imperative endings Vb{-git} (intransitive, 2p.sg) and Vb{-guk} (transitive, 2p.sg/3p.sg) are both optional, and especially the latter is probably not commonly used anymore, though you may still hear it e.g. in hymns. The first rule says that /g/ becomes /j/ on schwa-stems, which means that the derivation for an affix like Vb{-qə}Vb will proceed in the following way:

Vb{-qə}Vb{-git}
$\implies$ /-qə**j**it/   (This rule: /əgit/ $\implies$ /əjit/)
$\implies$ [-q**ij**it]   (schwa-rule: /əj/ $\implies$ [ij])
$\implies$ "-q**ii**t"   (Spelling rule: [ij] written as "i")

To a Graphemist, this will *appear* as a deviation from the ordinary schwa-rule, since /ə/ appears to stand before an /i/, whilst still becoming [i] itself, rather than the usual [a], but it is precisely only an *apparent* deviation, caused by the orthographic rule saying that we do not write [j] after the sound [i].

The second rule concerning Vb{-guk} (transitive imperative 2p.sg/3p.sg) is much simpler, since it simply says that /g/ is deleted and schwa becomes /u/, although that is certainly not a sound we are used to associate with schwa. Thus with a stem like {sianigə}Vb (A is careful with P) you can add Vb{-guk} and obtain the exclamation *sianig**uu**k!* ('watch out!' or 'be careful with that!'). This expression is actually listed in the DAKA dictionary, so the rule is obviously not totally obsolete.[16]

Contemporative

The last rule, concerning the contemporative mood marker {(l)u}, is the only one that is unconditionally *required* in 'correct' Greenlandic: It simply says that *one* of the two /l/ phonemes is deleted, whilst /ə/ takes the sound [a]. Thus e.g. Vb{-qə}Vb{(l)lunga} $\implies^*$ *-q**al**unga* and N{gə}Vb{(l)lugu} $\implies^*$ *-g**al**ugu*, and *not* *-q**ill**unga* or *-g**ill**ugu* as we might otherwise have expected from the ordinary schwa-rule.

9.8   Endings for the negation affix

As I mentioned in aside 9.1, the negation affix Vb{ŋŋit}Vb uses its own mood marker for intransitive indicative and several other moods. It is the undisputed most irregular of all affixes, and students of Greenlandic, who try to learn the language through Graphemistic teachings, will undoubtedly have felt disheartened by the sight of the many extra tables of endings. I certainly did, when I first encountered it.

Fortunately, there is no reason for that. Firstly, Vb{ŋŋit}Vb is completely regular, as long as some other *affix* is added onto it. The irregularities *only* arise when an *ending* is added directly onto Vb{ŋŋit}Vb. Secondly, the irregularities

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[16]And if you decide not to use the rule, then Vb{-**g**uk} just becomes /juk/ like it regularly does on vowel stems, so you obtain e.g. N{gə}Vb{-**g**uk} $\implies$ /-gə**j**uk/ $\implies$ [-g**ij**uk] $\implies$ "-g**i**uk" with [j] not written after [i].

Except for 3p.sg: Vb{va?} → Vb{-la?}

	Intransitive	Transitive
Indicative	{vu} → {-la}	{va} → {-la}
Interrogative	does not exist	{vi} → {-li}
(Be)causative	{ga} → {na}	{ga} → {na}
Optative	only with {gi}	only with {gi}
Imperative	does not exist	does not exist
Contemporative	does not exist	does not exist

Figure 9.8: Special mood markers for the negation affix Vb{ŋŋit}Vb. The affix is completely regular with all moods *not* mentioned in the table.

consist of a modification of the mood marker in certain moods; nothing more. Whatever personal marker(s) that follow the mood marker remain unchanged. Thus, now that you know how endings are constructed, you will easily be able to substitute one mood marker for another. The table in figure 9.8 shows where Vb{ŋŋit}Vb changes the mood marker. Everywhere else it is completely regular.

- In the *indicative*, the mood marker is {-la} in both intransitive and transitive. In the intransitive, when /v/ in {vu} becomes doubled to /(v)v/ in the ending Vb{(v)vut} then /l/ is similarly doubled to /ll/. In other words, -*nngilaq* is 3p.sg, but 3p.pl is -*nngillat*. This is only an issue in intransitive indicative, and nowhere else.

- In the *interrogative*, the mood marker is {-li} in transitive, with no further specialities. Endings for *intransitive* interrogative do not exist, so you just use the corresponding indicative ending instead, but with interrogative intonation (falling tone on the last syllable).

  There is however one exception: Recall that the ending for 3p.sg is Vb{va?}, notably *without* a Subject marker. Similarly, the negated form is *nngila?* with a null Subject marker, and this is the *only* ending that exists in intransitive interrogative. In other words, you can ask *ajunngila?* (interrogative 3p.sg, 'is **he** OK?'), or reply *ajunngilaq* (indicative 3p.sg, '**he** is OK'), but if you wanted to say e.g. "Are **thou** OK?" then you would ask *ajunngilatit?*

with an indicative ending; the same ending someone would use to conclude that "**thou** are OK" – *ajunngila**tit***. It is the same ending; the only difference is the intonation.

- In the *causative*, the mood marker {ga} becomes {na}, and notice that unlike the previous, this one is *not* truncative, so /t/ will be visible, albeit of course assimilated, as in e.g. *ajunngi**n**nama* ('because I am OK'). However, the special marker for third person {(m)m} is unaltered, so "because **he** is OK" is straightforward *ajunngim**mat*** with the usual ending Vb{(m)mat}.

- The *optative* cannot be directly negated; you cannot make an appeal to someone to *not* do something. However, you can add the affix Vb{gi}Vb after Vb{ŋŋit}Vb to push the appeal a little into the future, and then you can just use the regular optative endings; e.g. *ajunngik**ki**li!* ('let him be ok!') from {ajuq}Vb{ŋŋit}Vb{gi}Vb{li!}.

- In the *contemporative* you do not use Vb{ŋŋit}Vb; instead you use the *negative* contemporative with mood marker {na} instead of {(l)lu}. Thus if you wanted to switch a word like *ajunngilanga* ('I am OK') to contemporative mood, it would become *ajor**na**nga* instead.

- Lastly, the *imperative* cannot be used together with Vb{ŋŋit}Vb. You cannot use the imperative to directly forbid someone to do something. Instead you would usually use the *negative contemporative*, since contemporative also can be used in a (more polite) imperative sense.

There is no reason to spend a lot of mental resources on trying to actively *learn* these special mood markers, just for the sake of a single affix. To paraphrase another point from Per Langgård: If you cannot remember when to say {-la} or {-li}, then just use the regular endings and say **ajunngip**po**q* instead of the correct *ajunngi**la**q*. It will be just like a foreigner learning English, who might say "I **are**, you are, he **are** etc." instead of the correct 'am' and 'is', because 'are' is the most common form. It will certainly sound wrong, but, importantly, it will be *understandable*. But using {-la} in a wrong place will most certainly *not* be.

<div align="center">∗ ∗ ∗</div>

The system of endings for nouns and verbs is not exactly *simple* and well-behaved in all aspects, but I hope at least you will agree on the basis of my presentation that there is *a good deal* of regularity which you may use to simplify your learning process. You certainly do not need to remember *every* detail from this

presentation, as long as you can remember the major points: The unpossessed case endings, the prepositional morphemes, the personal markers and the mood markers. That will get you a very long way in your day-to-day usage of Greenlandic. The details are precisely *details* – you can look them up when you need them.

Part III

Appendices

The system of demonstratives

What is the difference between "here" and "there"? Or between "this" and "that"? Imagine us having a conversation, standing somewhere outside. If I use the words whilst pointing in various directions, then "this here" will be an object close to me, but if I speak about "that" thing over "there" I will be pointing away from myself; perhaps to something across the street, or perhaps even farther away.

Such words used for pointing are collectively known as *demonstratives* in Grammaric. Greenlandic has a quite complex system of such demonstrative words, used for describing where a verbal action takes place, or where the actors participating in the action are positioned. The system is built from a set of just twelve *demonstrative roots* and a handful of special endings, but, as is usual in Greenlandic, the combinatorics of polysynthesis generates hundreds of word-forms from this small, initial set.

Some of these demonstrative words are extremely frequently used; others very rarely. Thus you can, of course, just learn the most common words as you go along, and never think twice about the underlying system. That is certainly a viable approach, just as it is for the system of endings; especially if you are just trying to build up a vocabulary. In that case you can simply use a dictionary like the DAKA, since every demonstrative word in every possible form is listed therein.

But in case you at some point begin to find it difficult to tell words like *maanga* (to here), *maannga* (from here), *maana* (this way) and *manna* (this) apart – or maybe just want to know how these words are related to each other – then you may want to read this chapter.

Restricted (Nearer to speaker)	Extended (Farther from speaker)	Obscured (Not visible to speaker)	
{uv}	{mat}	{im}	Here (near speaker)
{ik}	{av}	–	Rightwards along the coast
{kig}	{qav}	{qam}	Leftwards along the coast
{pik}	{pav}	–	Upwards from speaker (inwards)
{kan}	{sam}	–	Downwards from speaker (out at sea)

Figure A.1: The system of demonstrative roots as used in Greenlandic nowadays. The orientation is relative to a speaker facing the sea, with the inland mountains behind him. Some of the roots also have secondary meanings, so {kig} will, at least to some speakers, mean 'outside' (e.g. the window), and {ik} 'over there' (slightly farther away from the speaker, on the same level). {qam} means 'on the other side of something' (e.g. a wall), and {im} means 'distant in time'.

A.1   The set of demonstrative roots

In the Comparative Eskimo Dictionary, Fortescue et al. (2010, pp. 497–526) list no less than 27 different demonstrative roots, organised according to such dimensions as proximity to the speaker; accessibility; whether the object is hidden or visible; and, of course, direction. Only a part of this system has come down from Proto-Eskimoic into Greenlandic; some of the forms have collapsed into one, due to the assimilation of consonants (the consonant rule), and some roots have taken on the meaning of other roots in the system. In other words, the system, as it is used today in Greenlandic, is not quite as logical as the original system, but there is still a good deal of regularity that you can use to aid your memory.

Figure A.1 lists the morphemic form of the twelve demonstrative roots and their most common meanings. Those in the 'restricted' column refer to something closer to the speaker, or within a more confined area than those in the 'extended' column. Thus e.g. the root {uv} might commonly be used to refer to a single thing or person, whilst {mat} might refer to an area around where the speaker is standing.
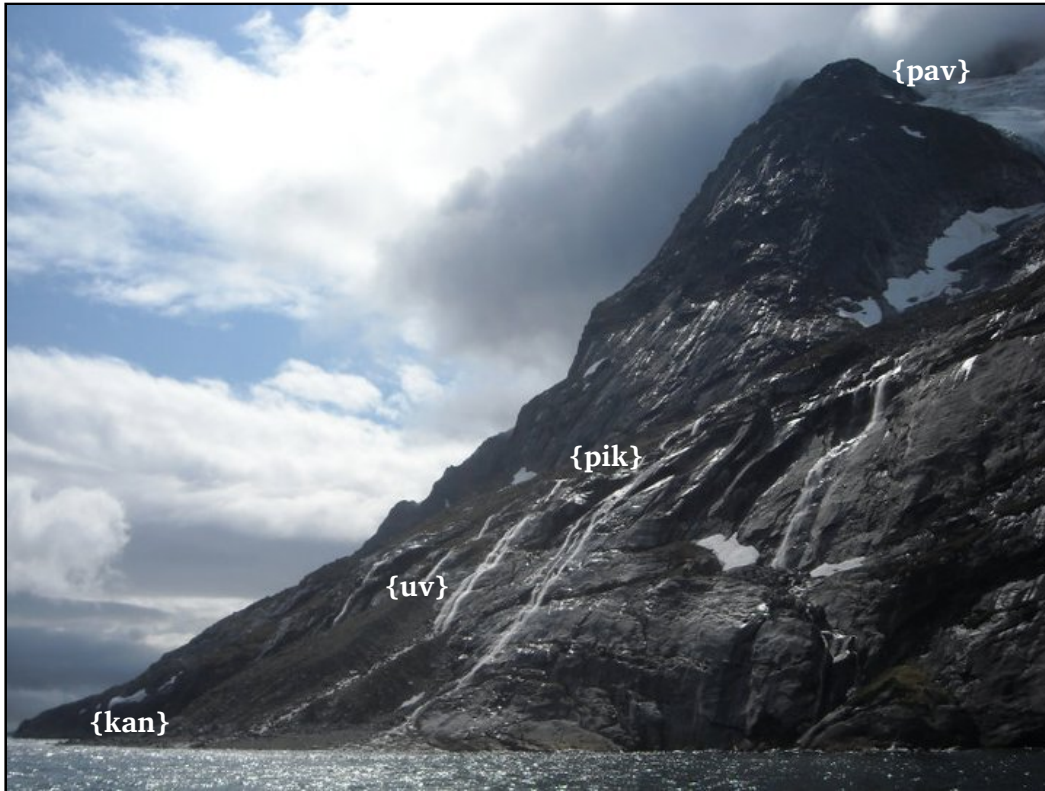
Figure A.2: An illustration of the above/below orientation of the roots {kan}, {pik} and {pav} relative to a speaker positioned at {uv}. The orientation depicted here corresponds to the *West* Greenlandic orientation, with inland mountains and glaciers to the east, and sea to the west. To obtain a corresponding *East* Greenlandic orientation, you would have to flip the image vertically. Notice that {sam} (out at sea) is not depicted (because it did not fit in the image), but it would be even farther away from {uv} than {kan}. [Photograph taken by me, behind Mt. Sermitsiaq outside of Nuuk]

The system is generally oriented relative to a speaker, standing somewhere between the coast and the inland mountains and facing the sea. An object or person closer to the sea would also be *below* him, and hence {kan} also means 'below', whilst {sam} is somewhere 'out at sea'. Similarly, someone standing further inland would generally also be standing higher up in the hills, and thus *above* the speaker; hence {pik} also carries the sense of *above*, whilst {pav} is even farther inwards and/or upwards. You can see a depiction of this in figure A.2.

191

Incidentally, this orientation also means that a speaker standing in *West* Greenland will (at least approximately) also be facing *westwards*, when he is looking out towards the sea. Rightwards, up along the coast, will also be *northwards*, so in West Greenland {av} also carries this meaning of 'north'. Similarly, {kig} and {qav} will refer to southward directions; {sam} will also carry the meaning of 'west', and {pav} the meaning of 'east'. I have attempted to illustrate this in figure A.3. If you look up some of the words derived from these roots in e.g. the DAKA, you will also see them described in terms of the geographical directions; north, south, east and west. However, these meanings are secondary; they are only approximate characterisations, and they will *only* be correct in *West* Greenland. For instance, in *East* Greenland, where facing the sea means looking *eastwards*, the system is completely reversed: There {sam} will correspond to 'east', and {pav} to 'west' etc. In other words, try not to associate the demonstrative roots too closely with the geographical directions, because they will not always coincide.

A.2 Referring back (anaphora)

Consider the sentence: "***Over there** is a dog*," and suppose I am pointing across the street whilst saying it. The meaning of "**over there**" is captured by the demonstrative root {ik}. In this example, the expression "**over there**" does *not* refer to any place or thing I have previously mentioned in our conversation. Now consider these two sentences together:

"*There is a dog standing across the street. **That one** (over there) is ugly.*"

Here, as indicated by the green arrow, the expression "**that one** (over there)" refers *back* to something I had previously mentioned; in this case, the *dog*. This 'back-referencing' is called *anaphora* in Grammaric. I can still use the root {ik} to express the meaning of 'that one over there', but to further indicate that I am now *referring back* to something I have previously mentioned, I must use an *anaphoric form* of the root. This is done by *prefixing* the root with the *anaphoric morpheme* {ta(C)}.[1]

All the demonstrative roots can be made anaphoric ('back-referencing') by prefixing them with {ta(C)}. The extra consonant /(C)/ is *only* injected, when the demonstrative morpheme *begins in a plosive;* that is, one of /ptkq/; or stated

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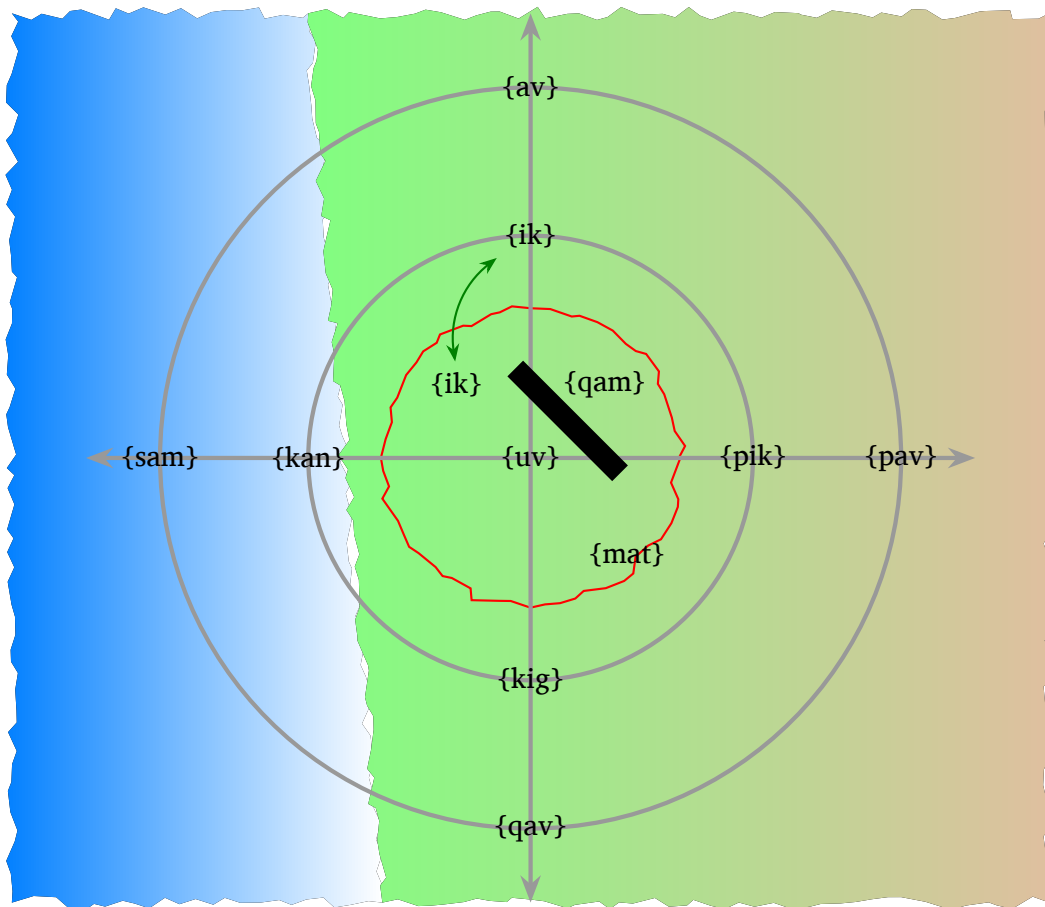[1]This morpheme is one of only two prefixes in Greenlandic.

Figure A.3: Illustration of the relative positions denoted by the demonstrative roots. This image is drawn with West-Greenlandic orientation; The sea is to the west, and the inland mountains to the east. The speaker is positioned in the middle with {uv}. The area encircled by the red line represents the immediate vicinity, and {ik} represents something nearby, on the same level as the speaker. {mat} represents the area itself. {qam} is obscured, hence drawn on the other side of some object. The inner/smaller circle represents the proximate directions, {ik}, {pik}, {kig} and {kan}, with {ik} here used in the sense of 'near rightwards'. The outermost circle then represents the distant directions, {av}, {pav}, {qav} and {sam}. Lastly, you should imagine the figure being rotated somewhat along the Y-axis, to reflect the difference between sea level and mountain level, such that {kan} is *below* the speaker, and {pik} is *above*.

Restricted (Nearer to speaker)	Extended (Farther from speaker)	Obscured (Not visible to speaker)	
{tauv}	{tamat}	{taim}	Here
{taik}	{taav}	–	Rightwards or level
{ta**k**kig}	{ta**q**qav}	{ta**q**qam}	Leftwards or other side
{ta**p**pik}	{ta**p**pav}	–	Upwards or inwards
{takan}	{tasam}	–	Downwards or outwards

Note: Not *ta**k**kan

Figure A.4: The demonstrative roots again, now prefixed with the anaphoric morpheme {ta(C)}. The consonant /(C)/ denotes that root-initial plosives are doubled. These are emphasised in the table. {takan} is an exception, since /k/ here is *not* doubled.

otherwise, a root-initial plosive is doubled, when this anaphoric marker is prefixed to a root. I could, of course, make a formal sandhi rule for this, but given that we are only dealing with twelve morphemes I think this informal description will suffice. You can find all the anaphoric forms in figure A.4; there is even an exception to the aforementioned rule, since /k/ in {ta**k**an} is *not* doubled to /kk/.

By the way, the opposite of being 'anaphoric' is called *cataphoric* in Grammaric, and the *ordinary* forms of the demonstrative roots – that is, without the morpheme {ta(C)} – are thus also called the *cataphoric forms*. If 'anaphoric' means something like 'back-referencing' you could think of 'cataphoric' as meaning 'forward-referencing', since the forms without {ta(C)} would be used when I instead intend to specify *later* in the conversation what I am talking about, rather than referring back to something previously mentioned.

A.3 Demonstrative adverbs

Adverbs are, as the name implies, words that are used to say something *about* verbs; for instance, where or how the verbal action takes place. In English you

Prepositional morphemes (adverbial)

Locative	{ani}	in, at
Allative	{uŋa}	to
Ablative	{aŋŋa}	from
Prolative	{uuna}	through, via

Figure A.5: The four prepositional morphemes or 'case endings' used to derive demonstrative adverbs from the demonstrative roots.

will often derive adverbs from adjectives by suffixing the morpheme {ly} onto them; e.g. *strongly* from 'strong' and *highly* from 'high' etc.

Greenlandic has no general class of adjectives, as you may recall from section 1.4 (page 11). Instead, you would usually just add an affix with adverbial meaning onto the verbal stem to achieve the same effect. However, there actually *does* exist a small group of *demonstrative adverbs* which you can use to express *where* the verbal action is taking place, or to/from what direction. It is a 'closed set' of words; 'closed' in the sense that there exists a finite number of these words, so you cannot derive new words by adding affixes in the ordinary way, like you do with nouns and verbs. Thus, the set of demonstrative adverbs belong within the group of *particles*; they are essentially unchanging, except for the possible addition of enclitics.

However, the demonstrative adverbs were *historically* derived from the set of demonstrative roots, by adding onto the stems four ancient *prepositional morphemes*, corresponding in meaning to the four prepositional cases locative (in), allative (to), ablative (from) and prolative (though). I have listed these in figure A.5. You can think of them as case endings if you like, although they do not look like the ordinary, prepositional morphemes {ni}, {nut}, {nit} and {gut} that you know from the system of nominal endings (see chapter 8).

Now you can easily create all Greenlandic demonstrative adverbs by adding these special, ancient case endings onto the ordinary (cataphoric) and back-referencing (anaphoric) demonstrative roots, creating around a hundred different words. For instance, from the cataphoric root {ik} we get the four words *ik**ani*** (locative, '**in** that place over there'), *ik**unga*** (allative, '**from** that place over there'), *ik**annga*** (ablative, '**to** there') and *ik**uuna*** (prolative, '**through** there'), and similarly from the anaphoric root {taik} we get *taakani, taakunga, taakannga* and *taakuuna*.

You can use these demonstrative adverbs anywhere, where you would ordi-

	(Locative)	*(Allative)*	*(Ablative)*	*(Prolative)*
	{ani}	{aŋa}	{aŋŋa}	{uuna}
{ma}	maani	maanga	maannga	**maa**na
{tama}	tamani	tamaanga	tamaannga	tam**aa**na
{u}	uani	uunga	uannga	**ugg**uuna
{tacc}	**tass**ani	**tass**unga	**tass**annga	**tass**uuna

Figure A.6: The two roots, {mat} and {uv}, behave instead as {ma} and {u} when used in demonstrative adverbs, and anaphorically as {tama} and {tacc}. Prolative of {uv} irregularly becomes *ugguuna*.

narily use a noun in one of the corresponding prepositional cases to describe where the verbal action takes place. For instance, the sentence *aqqusini**kkut** ingerlavoq* (he went **along** the road) uses the prolative case ending N{kkut} to express that the movement happened *along* (or 'via') the road. If you were describing this situation to me, you might instead say *ik**uuna** ingerlavoq* (he went **along** over there) whilst pointing towards the road, if we happened to be standing nearby it.

Irregularities

Two of the roots – {uv} and {mat}, which are probably also the two most commonly used – take their endings in a slightly irregular fashion. I have tabulated all sixteen forms generated from these roots in figure A.6 and emphasised the irregularities:

- {mat} drops its final /t/ everywhere, so it actually behaves as if it had the form {ma} instead. Similarly, its anaphoric form with {ta(C)} behaves as if it were {tama} instead.

  With prolative {uuna} we get /**mauu**na/ $\implies$ [**maaa**na] by the a-rule, but since this is disallowed by phonotactics, one of the resulting [a] sounds is ignored (syncope), so the word becomes *m**aa**na* (through here, this place), and *tam**aa**na* for the anaphoric form.

- {uv} drops its final /v/ everywhere, so it behaves as if it had the form {u} instead. In prolative, the sound [xx] (written "gg") appears, completely irreg-

ularly, before the case ending, thus yielding the word *ugguuna* (through here, this way).

The anaphoric form seems to have fused completely, appearing instead as {tacc} (rather than the expected {tauv} used elsewhere). On the upside, the endings are added to this fused stem without further complications.

Further derivations

The demonstrative adverbs are particles, so they *generally* cannot be used as stems onto which other morphemes can be joined. I say 'generally', because there *are* actually a few exceptions:

● The *locative* can be verbalised just like the ordinary locative, using the morpheme LOC{ət}Vb (see section 8.6, page 138). Thus you can say e.g. *maaniippugut* (we are here, in this place). Or suppose you are talking to someone standing behind a closed door; you could then ask: *Piitaq taqqamaniippa?* (is Peter in there?).

● The *allative* can be verbalised with the special morpheme ALL{naq}Vb, which is added onto {uŋ} *without* the final /a/.[2] That is, you could simply think of it as a morpheme DEM{uŋnaq}Vb, meaning 'moves towards the area DEM'. E.g. with {ik} we get *ikunnarpoq* (he goes over there).

You may also see {(q)cuaq} added for emphasis, as if it were an enclitic; e.g. *avungarsuaq* (to the **far** north).

● The *ablative* may have {anniit} added directly onto {aŋŋa} to create a 'long form', {aŋŋaanniit}, just like the one used on ordinary nouns. This form can also be verbalised, analogous to the way ordinary ablative is verbalised, using PREP{-*V*q}Vb (see section 8.6, page 138). Thus you could say e.g. *taqqamanngaanneerpoq* (he came from in there, behind something).

Furthermore, you may also here see {(q)cuaq} added for emphasis.

A.4   Demonstrative pronouns

Pronouns are words that can 'stand for' an ordinary noun in a sentence. In English, you have words like 'he' and 'they', usually called personal pronouns.

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[2] Notice how all the endings seem to contain an /a/. This is not really a part of the ending, but is a separate morpheme, often called '*the demonstrative* {a}'. That is why ALL{naq}Vb is added directly onto {uŋ}, rather than onto {uŋa}.

197

	Singular	Plural	'Pure' case morphemes
Absolutive	{na}	{ku}	
Ergative	{cum}{a}	{ku}{a}	
Prepositional stem	{cum}	{kun}	
Objective	{cum}{iŋŋa}	{kun}{iŋŋa}	{iŋŋa}
Locative	{cum}{ani}	{kun}{ani}	{ani}
Allative	{cum}{uŋŋa}	{kun}{uŋŋa}	{uŋŋa}
Ablative	{cum}{aŋŋa}	{kun}{aŋŋa}	{aŋŋa}
Prolative	{cum}{uuna}	{kun}{uuna}	{uuna}
Equative	{cum}{atut}	{kun}{atut}	{atut}

Figure A.7: Case endings used to construct the demonstrative pronouns. The 'pure' prepositional morphemes, denoting the six prepositional cases, are added onto a 'prepositional stem' which is similar to the ergative endings, with /m/ for singular and /n/ for plural, but without the final, demonstrative {a}.

Consider a sentence like *"the man went along the street."* You could replace the nominal expression 'the man' with *he*, and say ***"he** went along the street"* instead. Or even ***"he** went along **it**"* provided that the person you are speaking to would be able to understand from the context that 'he' referred to 'the man' and 'it' referred to 'the street'. *Demonstrative* pronouns are then pronouns with a directional meaning. In English it would be words like 'this', 'that' and 'yon'. Instead of 'the man' you could say ***"that one** (over there) went along the street."*

In Greenlandic, each of the demonstrative roots – both the ordinary and the anaphoric – can be turned into a demonstrative pronoun, and since a demonstrative pronoun can replace a noun, it must also be able to appear in the same *case* and *number* as the noun it replaces. In other words, each demonstrative pronoun can appear in all eight cases, in singular and plural, and in either ordinary or anaphoric form. This yields $12 \cdot 8 \cdot 2 \cdot 2 = 384$ possible word forms. Clearly, a little bit of systematics would probably be helpful to you to keep track of this bewildering number of forms.

Fortunately, the system is not particularly difficult; you can see the general pattern of endings depicted in figure A.7. They are constructed in the following way:

- The *absolutive* is marked by {na} for singular, and {ku} for plural, and these are added directly onto the demonstrative roots; both the ordinary and the anaphoric forms. Thus e.*g.* with {sam} (down/out at sea) we get *san**na*** (that one down there) and *sak**ku*** (those down there), and anaphoric *tasanna, tasakku*.

- The *ergative* singular is marked by a morpheme {cum}, where the /m/ is probably a marker for singular. The plural uses {ku} like the absolutive.[3] However, both forms are then suffixed with a 'demonstrative {a}', so you can also think of the ergative endings as {cuma} (singular) and {kua} (plural), and these are then added directly onto the demonstrative roots. Continuing the example with {sam}, we thus get *sas**suma***[4] (singular) and *sak**kua*** (plural).

- The remaining six *prepositional cases* use a set of special morphemes, generally similar to those used for the demonstrative adverbs.[5] Additionally, there is also {iŋŋa} (objective) and {atut} (aequative), yielding a full set of six. However, here, on the demonstrative *pronouns*, they are not added directly onto the demonstrative roots; instead, they are added to a *prepositional stem* built (more or less) from the ergative endings.[6] In singular you add the prepositional morpheme onto {cum}, where you can think of /m/ as an ergative, singular marker – and in plural onto {kun}, where again you can think of /n/ as a plural marker. Thus, using allative and {ik} as an example, you get {ik}{cum}{uŋŋa} $\Longrightarrow^*$ *issumunnga* (singular, 'from that one down/out there, at sea') and {ik}{kun}{uŋŋa} $\Longrightarrow^*$ *ikkununnga* (plural, from those down/out there, at sea), and similarly the anaphoric forms *taassumunnga* and *taakkununnga*.

Specialities

There is one speciality, concerning the absolutive singular ending {na}: When added to a root ending in a *velar* sound – that is, {ik}, {pik} and {kig} and their anaphoric forms {taik}, {tappik} and {takkig} – this position of articulation is

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[3]Just like ordinary nouns also have the same marker for both absolutive and ergative plural.

[4]*Sassuma Arnaa*, literally 'that down there's mother' is a well-known Greenlandic, mythological figure. The name is usually translated into Danish as *Havets Moder*, which would be 'Mother of the Sea' in English. Here you can see how {sam} carries the meaning of 'out at sea'.

[5]One notable difference is that the morpheme marking allative is {uŋa} with a single /ŋ/ on the demonstrative adverbs, but here, on the demonstrative pronouns, it is {uŋŋa}, having instead a double /ŋŋ/.

[6]Note how this is similar to the way I said the nominal, prepositional case endings were created, by adding the pure, prepositional markers onto the ergative markers.

preserved when the /n/ of {na} assimilates the consonant. In other words, we get [iŋŋa] (*innga*), [piŋŋa] (*pinnga*) and [kiŋŋa] (*kinnga*) instead of the expected forms **inna, *pinna, *kinna*, and similarly with the anaphoric forms; *taannga, tappinnga, takkinnga*.[7] This is, however, only relevant with absolutive singular {na}. Everywhere else, these roots behave as expected.

There is also an 'optional' speciality concerning the vowel-initial roots {ik} and {av} when made anaphoric: Since {ta(C)} would assimilate both vowels to [a], whilst the final consonant would be assimilated by the endings, these forms would become indistinguishable. To counter this, some speakers may instead build the anaphoric forms by prefixing these roots with {taaj}, rather than the usual {ta(C)}, thus creating *taajinnga, taajikku, taajissuma, taajissuminnga* etc., and *taajanna, taajakku, taajassuma, taajassuminnga* and so forth.

Irregularities

The two roots {mat} and {uv} also have a few, individual irregularities, just as they had in the construction of demonstrative adverbs:

- {mat}, and anaphoric {tamat}, use the morpheme {um} to build their ergative, singular ending, and the singular prepositional stem. That is, they become *matuma* / *tamatuma*, and with prepositional endings *matuminnga, matumuuna* / *tamatuminnga, tamatumuuna*, instead of the 'regular', expected forms *massuma, masumminnga* etc. However, some speakers may actually use these competely regular forms, though it is my impression that the forms with /t/ still are the most common.

- {uv} drops its final /v/ in all *ordinary* (cataphoric) forms, just as it did in the demonstrative adverbs; that is, it behaves as if it were just {u}. Furthermore, it also uses {um} for the ergative singular and prepositional stem. In other words, we get *una, uku* in absolutive, *uuma, ukua* in ergative, and *uuminnga, ukuninnga, uumuuna, ukunuuna* etc. in the prepositional cases.

  However, the *anaphoric* forms with {ta(C)} are completely regular, with no loss of /v/ and no special endings. It becomes *taanna, taakku, taassuma, taassuminnga* and so forth, completely regularly. This laundry list may arguably sound rather confusing, so I have listed the full set of all forms for {uv}, both ordinary and anaphoric, in figure A.8.

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[7]However, with the root {im} we *do* of course get *inna*, so this actually serves to distinguish the two.

	Ordinary		*Anaphoric*	
	Singular	Plural	Singular	Plural
Absolutive	una	uku	taanna	taakku
Ergative	u**um**a	ukua	taassuma	taakkua
Stem	u**um**-	u**kun**-	taassum-	taakkun-
Objective	u**um**innga	u**kun**innga	taassuminnga	taakkuninnga
Locative	u**um**ani	u**kun**ani	taassumani	taakkunani
Allative	u**um**unnga	u**kun**unnga	taassumunnga	taakkununnga
Ablative	u**um**annga	u**kun**annga	taassumannga	taakkunannga
Prolative	u**um**uuna	u**kun**uuna	taassumuuna	taakkunuuna
Aequative	u**um**atut	u**kun**atut	taassumatut	taakkunatut

Figure A.8: The full set of forms for the demonstrative root {uv}. The cataphoric form drops /v/ and uses {um} for the ergative singular and prepositional stem. The anaphoric forms are regular.

Exclamatory forms

You can use the ordinary (cataphoric) absolutive and ergative forms, both singular and plural, to create two kinds of exclamations used to catch the attention of the addressee, or tell him to direct his attention towards the thing or area you are pointing at. In English you would say "It's here!" or "Hey there!" etc., but as you have seen, we have a wider array of directions in Greenlandic, allowing you to make more nuanced exclamations.

Firstly, you can prefix each of the two absolutive forms with {aa(j)}[8] to create an exclamation meaning "DEM it is" or "DEM they are", with 'DEM' representing the area or object denoted by the demonstrative root. The /(j)/ is injected when {aa(j)} is prefixed onto a vowel, to avoid violating the phonotactics. For example, absolutive singular of {uv} (thing here) is *una*, and plural *uku*, and by adding this prefix you obtain two new words; ***aaj**una* (here it is) and ***aaj**uku* (here they are).[9] You can even add a noun to specify what it is the addressee

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[8]This is the second of only two prefixes in Greenlandic.

[9]These words are so commonly used that they exist in even shorter forms, *aana* and *aaku*, where people have decided not to bother with injecting a /j/. Both the longer (regular), and the

is supposed to see; e.g. with {sam} (out at sea) you might say *aa**sak**ku aarrit!* (there are walruses out there at sea!).

Secondly, you can create exclamations similar to English 'Hey thou there!' and 'Hey you there!' by adding the morphemes {ak} (singular, 'thou') and {qsii} (plural, 'you') to the ergative forms; albeit in plural *without* the demonstrative {a} – in other words, the plural form is similar to the absolutive plural. Using {uv} again, the ergative singular is *uuma*, and the (absolutive) plural is *uku*, and by adding these two morphemes we obtain the words *uuma**ak**!* (hey thou there!) and *uko**rsii**!* (hey you there!).[10]

A.5   Demonstative exclamations

Lastly, each of the demonstrative roots – both the ordinary and anaphoric forms – can be used in a completely exclamatory fashion, to direct the addressee's attention in some direction; like saying 'there!' with no further qualification of the expression. These exclamations are created from the bare roots alone, with nothing but the demonstrative {a} as a suffix. This causes gemination (doubling) of the consonant, but *only* in the ordinary roots; in the anaphoric roots {a} is just added without causing any further changes. Thus e.g. with {ik}, and anaphoric {taik}, we get *i**kk**a* (with gemination) and *taa**k**a* (without gemination).

You can see the full set of these demonstrative exclamations in figure A.9. There are, of course, a few irregularities, which I have highlighted in the table:

- {im} does *not* geminate /m/ to /mm/, so the form becomes *i**m**a* instead of the expected **imma*.

- {uv} has a strange variant form *u**gg**a* besides the regular *uffa*. For the anaphoric form, there is also a strange variant, built from the 'fused' form {tacc} instead, which you also saw with the demonstrative adverbs, so we here get *ta**ss**a*, besides the regular *taava*.

- {mat} appears here as {macc}, so we get *ma**ss**a*, rather than the expected **matta*, and, similarly, we get *tama**ss**a* for the anaphoric form.

- {kan} does *not* geminate /n/ to /nn/ in the ordinary (cataphoric) form; however, it *does* with the anaphoric form. In other words, it behaves opposite to all the other roots, so we get *ka**n**a* without gemination, but *taka**nn**a with* gemination.

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shorter contracted forms are equally correct.

[10]Nielsen (2019, p. 79) claims these exclamations exists for most of the demonstrative roots, but I have not seen the other forms, apart from *uumaak* and *ukorsii* attested elsewhere.

	Ordinary	Anaphoric	
{im}	i**m**a	taama	(Back then in time)
{uv}	uffa / u**gg**a	taava / ta**ss**a	There!
{mat}	ma**ss**a	tama**ss**a	Here!
{ik}	ikka	taaka	Over there!
{sam}	samma	tasama	Down there / Out there (at sea)!
{kan}	ka**n**a	taka**nn**a	Down there!
{pav}	paffa	tappava	Up there! There (inland)!
{pik}	pikka	tappika	Up there!
{qam}	qamma	taqqama	There (inside/outside)!
{qav}	qaffa	taqqava	Down there (leftwards)!
{kig}	kigga	takkiga	Out there! / (leftwards)
{av}	affa	taava	There (rightwards)!

Figure A.9: The set of demonstrative exclamations, created by adding the demonstrative {a} directly onto the roots. The consonant is geminated in the ordinary forms, but not in the anaphoric form.

Un-demonstrative meanings

Some of these demonstrative exclamations are nowdays commonly used in a very different sense, only vaguely related (if at all) to the original demonstrative meaning of the root. In these cases, your knowledge of the directional meaning of the roots will hardly be of any help to you in deciphering the meaning of the word. Some of these words are also extremely common, so you cannot just ignore them. Therefore, I have compiled the following list of 'un-demonstrative' meanings, though you may also have to consult a dictionary to see some further examples of their usages:

- ● *ima* and *taama*, the latter sometimes also spelt *taama**k*** or possibly even *taama**nnak***, mean 'thus' or 'so'. For example, if you were relating to me something said by someone else, you could say: *Taama oqarpoq: 'Bla bla'* (Thus he spoke: 'Bla bla'). For another example, the highly beloved Christ-

mas Hymn *Guuterput Qutsinnermiu*[11] relates what the 'great flocks of angels sang' on Christmas night: *Inngilerpassuit … **ima** tussiarput: 'Guuterput qutsinnermiu…'*

You can also use *taama* in conjunction with the affix Vb{tigə}Vb (as Vb as), which is normally used for comparisons. For instance, {uŋasik}Vb means 'to be distant'. You could e.g. use it to say ***taama** ungasitsigaaq*, meaning 'it was **so** far away' or 'it was as far away as that'.

Lastly, *taama!* as an exclamation can also mean 'Stop it! That's enough!'

● *uffa* / *ugga* means 'even though'. The anaphoric form *taava* means 'then', which you would use if you were relating several events that occurred in succession. E.g. 'I awoke, **then** I made coffee, and **then** I had breakfast.' You will probably also often see it in combination with the enclitic *{lu} (and), as *taavalu* (and then).

The alternative, anaphoric form *tassa* means 'this is…' or 'that is…', and it may even be combined with N{-u}Vb (is) to yield *tassaavoq*. For instance, suppose I am about to introduce my friend Piitaq to you. Then I could say: ***Tassa**(avoq) ikinngutiga, Piitamik atilik* (**this is** my friend, named Piitaq).

However, *tassa!*, when used as a clear exclamation, also means 'Stop it! That's enough!' It is my impression that *tassa!* is more commonly used in this sense than the aforementioned *taama!*

● *massa* means 'even though', and with the enclitic *{mi} it means 'yes, that's right'. It can even have the singular prolative ending N{kkut}[12] added onto it, creating the word *massakkut*, which means 'now'.

The anaphoric form *tamassa* means 'here it is' or 'it is this one', but as a clear exclamation, *tamassa!*, it means 'welcome! Come inside!'.

● The anaphoric form of {kan}, *takanna!*, seems to be used as an exact parallel to the Danish expression 'værsgo', meaning something like 'here you are' or 'here you go'. This is an expression you will hear whenever somebody hands you something. For instance, when you go out shopping and the clerk hands you the receipt (or change), he will say *takanna!* If someone pours you a cup of coffee and hands it to you, he will also say *takanna!* And if you come over for dinner, the host or hostess will ask the guests to

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[11]By Rasmus Berthelsen (1858).

[12]Prolative is also used to specify time, and the root {mat} is commonly also used to specify the current *time*, so this combination is perhaps not so strange.

be seated and 'dig in' by saying *takanna!* whilst motioning towards the table, similar to how you would say 'bon appetite!'

* * *

In case you have lost count, the system of demonstratives described in this chapter has generated around 552 different word-forms. There may even be more, if we include the (albeit limited) number of possible further derivations. This is certainly a large number, and it would be a waste of time and mental resources to try to memorise them all independently. By learning just the twelve demonstrative roots and the six special, prepositional case endings, you will likely be able to *guess* the intended meaning in most cases you will encounter. You can then consult a dictionary for some of those exclamations with un-obvious, un-demonstrative meanings and simply learn them as independent particles, unrelated to the demonstrative system.

Ordering affixes

Consider the morphemes {uqnək}Vb (A comes to P), Vb{sinnau}Vb (can Vb), Vb{ŋŋit}Vb (negation) and Vb{vara} (I Vb him). What is the proper order in which they should be joined? Obviously, {uqnək}Vb must be first, since it is a base, and, equally obviously, Vb{vara} must be last since it is an ending. But what about the two affixes Vb{sinnau}Vb and Vb{ŋŋit}Vb? Which of them should come first within the word? That depends on what you wish to express. There are obviously two possibilities:

1. {uqnək}Vb{sinnau}Vb{ŋŋit}Vb{vara} $\Longrightarrow^*$ *ornissinnaanngilara*[1]

2. {uqnək}Vb{ŋŋit}Vb{sinnau}Vb{vara} $\Longrightarrow^*$ *orninngissinnaavara*

The first possibility, *ornissinnaanngilara*, means *I cannot come to him*, whilst the second possibility, *orninngissinnaavara*, means *I can refrain from coming to him*.[2] In other words, the *ordering* of affixes matters. Sometimes a reordering will yield a word with a different meaning, as was the case here, but in other cases a reordering will simply not be possible; it will yield a meaningless word.

There is a simple rule of thumb for this ordering, which is often sufficient for words containing only a few affixes. However, when words become longer, the need for a more detailed (and hence complicated) set of rules will become

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[1] If it seems odd to you that the ending Vb{vara} suddenly becomes *-lara* here, then read section 9.8 on page 183. The negation affix Vb{ŋŋit}Vb uses its own completely idiosyncratic set of endings in some moods, including indicative. This is an irrelevant detail; if you find it confusing, then just imagine the word had become the regular **ornissinnaanngippara* instead.

[2] This example is from Fortescue (1984, s. 313).

apparent. In this chapter I will describe both the simple and the complicated approach to word formation.

B.1   The simple rule

The scope of an affix is the stem to which it is added. Or, stated in another way, when you join an affix onto a stem, the *meaning* of the affix will apply to the entire stem; that is, everything standing 'to the left' of the affix. This is the simple rule of thumb for ordering affixes within a word. For example, when you join {uqnək}Vb and Vb{sinnau}Vb you obtain a stem *ornissinnaa-* meaning 'A can-come-to P'. It is a new verbal stem, which expresses the *ability* of the Agent to come to the Patient. By adding Vb{ŋŋit}Vb onto this stem, its entire meaning is negated, so the stem *ornissinnaanngit-* means 'A **not**-can-come-to P' which we in ordinary English would express as 'A can**not** come to P'. It expresses now the **in***ability* of the Agent to come to the Patient.

Conversely, if you firstly joined Vb{ŋŋit}Vb onto {uqnək}Vb, you obtain the stem *orninngit-* meaning 'A not-come-to P'. This stem expresses that the Agent categorically does *not* come to the Patient, because the meaning of the negation is applied to {uqnək}Vb alone. When you then join Vb{sinnau}Vb onto this stem, you obtain a new stem, *orninngis***sinnaa***-*, expressing the **ability** of the Agent to 'not-come-to' the Patient. The Agent is *able* to perform the act of *not going* to the Patient, which we e.g. could render in ordinary English as 'the Agent *can refrain from* going to the Patient'.

When you are constructing (or translating) a complex word, you should consider the meaning of the stem at each point in the construction: What does the base mean? What does the base plus the first affix mean? What does this complex stem plus the next affix mean? And so forth. You can see an extended example of this build-up in example B.1.

B.2   The complicated rule (Fortescue)

Even though affxes may be combined in different orders to yield words with different meanings, it does not mean that *any* ordering will always be possible. Consider for instance the two affixes Vb{ðaq}Vb (habitually Vb) and Vb{yumaaq}Vb (vague future, 'shall probably Vb'). *This* ordering, with Vb{yumaaq}Vb following Vb{ðaq}Vb is fine, but the reverse order is impossible.[3] In other words, you can express that someone probably, at some point in the future, will do something repeatedly/habitually, but you *cannot* say, that someone repeatedly probably will

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[3]This example is from Fortescue (1984, p.314).

> **EXAMPLE B.1:**
>
> Words obviously do not consist solely of verbal affixes; we can also have both complex nouns and verbs built from stems that may alternate several times between being verbal and nominal stems. Consider for instance the following complex noun:
>
> *suli-* = 'to work'
> *suleqat* = 'a collegue' with Vb{-qatə}N (a fellow in Vb'ing)
> *suleqatigi-* = 'A has P as collegue' with N{gə}Vb (A has P as his N)
> *suleqatiginikuu-* = 'A *had* P as collegue' with Vb{nikuu}Vb (has Vb'ed)
> *suleqatiginikuusaq* = 'a former collegue' with Vb{-ðaq}N (a Vb'ed N)
> *suleqatiginikuusara* = 'my former collegue' with N{ga} (my N).
>
> In the last line, I add a possessive ending to the complex noun *suleqatiginikuusaq* (here absolutive 1p.sg). By possessing the noun, I specify *whom* the unknown '(by someone)' really is; namely *me*, the possessor of the noun.

do something in the future. It might not be meaningful to try to express either, since it would imply a repetition of the future, but anyway, it is an example of an impossible ordering of affixes.

Fortescue (1984, p. 314) lists a set of quite complicated rules for ordering affixes. Or, he manages at least to express them in a quite complicated way, even though the idea is simple enough: The Greenlandic affixes can be *grouped* according to their meaning (or function), and certain groups always occur before others. For example, Vb{ðaq}Vb belongs to a group called *verb-modifying* affixes, which always precede an affix of *time* such as Vb{yumaaq}Vb.

You can see my rendition of these rules in definition B.1 in all their horribly technical detail. I have rewritten them slightly, compared to the original, to yield a more logical presentation, although this has hardly made them any more *readable*, so do not despair if they look like Greek to you. They *are* undoubtedly difficult and hopeless to learn, so rather than explaining them bit by bit, I shall give you an alternative, *visual* representation of them which (although still complicated) is at least easier to follow. However, it requires a bit of preliminary explanation.

DEFINITION B.1:

The formation rules for words according to Fortescue (1984, p. 314) are as follows. Note, I have rewritten them slightly to yield a more logical presentation:

$$WORD \rightarrow NOUN \mid VERB$$
$$NOUN \rightarrow NSTEM + \mathbf{N}\{end\}$$
$$NSTEM \rightarrow NBASE \,[\, + \mathbf{N}\{extender\}\mathbf{N} \,]\, (\, \mathbf{N}\{modifier\}\mathbf{N} \,)$$
$$NBASE \rightarrow \{base\}\mathbf{N} \mid VSTEM + \mathbf{Vb}\{nominaliser\}\mathbf{N}$$
$$VERB \rightarrow VSTEM \; SENTENTIAL + \mathbf{Vb}\{end\}$$
$$VSTEM \rightarrow VBASE \,[\, + \mathbf{Vb}\{extender\}\mathbf{Vb} \,]$$
$$[\, + \mathbf{Vb}\{negation\}\mathbf{Vb} \,]\, (\, + \mathbf{Vb}\{modifier\}\mathbf{Vb} \,)$$
$$VBASE \rightarrow \{base\}\mathbf{Vb} \mid NSTEM + \mathbf{N}\{verbaliser\}\mathbf{Vb}$$
$$SENTENTIAL \rightarrow SENT_1 \; SENT_2$$
$$SENT_1 \rightarrow [\, + \mathbf{Vb}\{time\}\mathbf{Vb} \,]\, [\, + \mathbf{Vb}\{modality\}\mathbf{Vb} \,]\, SENT_2$$
$$SENT_2 \rightarrow [\, + \mathbf{Vb}\{negation\}\mathbf{Vb} \,]\, (\, + \mathbf{Vb}\{colouration\}\mathbf{Vb} \,) \mid$$
$$[\, + \mathbf{Vb}\{conjunction\}\mathbf{Vb} \,]$$

This is a *grammar* (in the technical sense) for generating words. Note here that the symbol | indicates a *choice*, so $A \rightarrow B \mid C$ means that the symbol A must be replaced by *either* B *or* C. Elements in *hard brackets* are optional; they can be inserted *at most once*, so $A \rightarrow [\, B \,]$ is a shorthand for $A \rightarrow B \mid \epsilon$. Elements in *round parentheses* are optional; they can be repeated *zero or more times*, so $A \rightarrow (\, B \,)$ is a shorthand for $A \rightarrow B \, A \mid \epsilon$.

A bit of automata theory

Towards the end of chapter 1 I introduced a 'map' of the (fairly obvious) rule, saying that morphemes must be joined according to their join markers: 'N' must be joined onto 'N' and 'Vb' onto 'Vb'. You can find it repeated here in figure B.1. This kind of drawing is called a 'finite automaton' and it expresses precisely how morphemes can be joined: To generate a word, you begin on the left-most blue circle (called a *state*) labelled 'W' and pointed to by an arrow coming out of nowhere; then you simply follow the arrows (called *transitions*), and for each such transition to a new state, you add a morpheme from the group described by the label
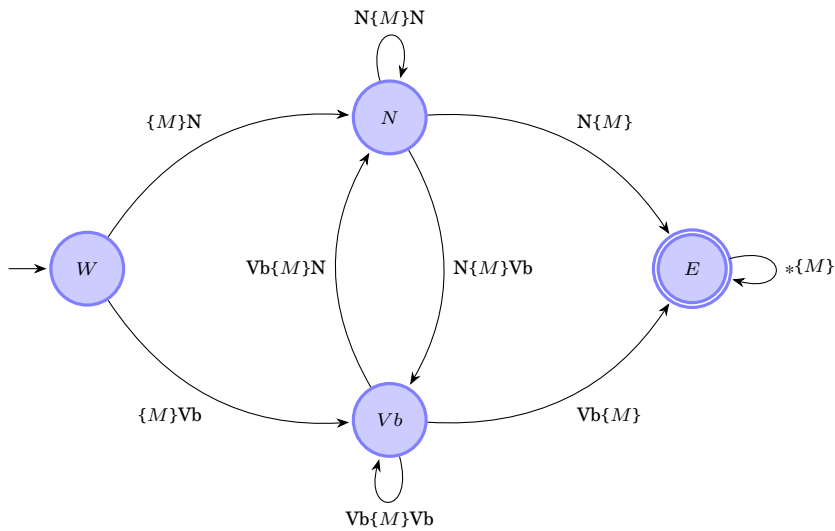
Figure B.1: A simple, finite automaton for generating (or recognising) the language of joined morphemes.

on the transition.[4] However, you may only stop the process, when you reach a state with a double outline – there is only one such state here; the left-most, labelled 'E'. Stopping is optional, though, so you may also continue by looping a number of times through the transition labelled '$*\{M\}$', which corresponds to adding a number of enclitics onto the end of the word.

The automaton in figure B.1 is nice and simple, but unfortunately it says nothing about affix ordering, except for the rather obvious fact that you need to add an affix of type 'N$\{M\}$Vb' (a so-called *verbaliser*) to obtain a verbal stem from a nominal stem, and conversely with 'Vb$\{M\}$N' (called a *nominaliser*); and you can cycle back and forth between these two stem-types.

To create a more sophisticated model we shall need the notion of an ϵ-labelled transition (called an *epsilon transition*). Here ϵ is a symbol representing an 'empty string', so in other words, taking an ϵ-transition will simply add *nothing* to the word you are constructing. This is useful, because it allows us to express that an affix of some type may be *optional*. Consider the following small fragment of an automaton:

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[4]In formal language theory we would normally speak of automata as devices for *recognising* strings, and a grammar as a device for *generating* strings, but these two notions are really equivalent here, so I take some liberty with the concepts and treat the automaton as a generating device.
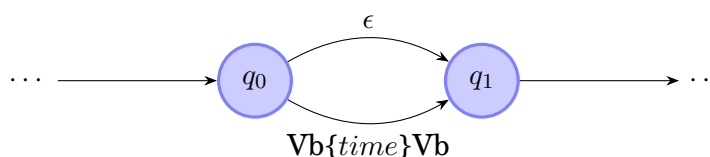
In going from state q_0 to q_1 we have a *choice:* We can either add an affix from some group called 'Vb{$time$}Vb', or we can just take the ϵ-transition instead, thus adding nothing. In other words, this construction makes it *optional* to add an affix of type Vb{$time$}Vb at this point.

However, it says more than that: This construction also expresses that an affix of type Vb{$time$}Vb can appear *at most once* in this position. It can be omitted, if you take the ϵ-transition, or it can be added *once* if you take the other transition, but you cannot add e.g. five affixes of this type. If, on the other hand, we want to express that an affix of some type can be added *zero or more times*, we can instead use a *loop* like in the following fragment:
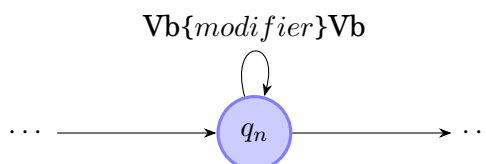
In this construction we can choose to proceed straight through the state q_n, *or* we can instead go through the loop once, twice, up to n times, thereby adding up to n affixes of type Vb{$modifier$}Vb.

A Fortesquesque automaton

Fortescue (1984, 1983) groups affixes into three high-level groups; *nominal, verbal* and *sentential* affixes, and these are again broken down into twelve smaller groups:

- Nominal affixes consist of *nominalisers*, nominal *extenders*, and nominal *modifiers*. A nominaliser creates a nominal stem from a verbal stem; a single, optional nominal extender can then be added, and then zero to many nominal modifiers.

- Verbal affixes consist of *verbalisers*, verbal *extenders*, *negations*, and verbal *modifiers*; all of them optional and occurring in this order. As with the nouns, modifiers can be added zero or more times.

- Sentential affixes are added onto a verbal stem *after* the aforementioned types, so they are also verbal affixes, but their scope is over the entire sentence, rather than just the stem itself. They consist of affixes for marking *time*, *modality*, *conjunction*, *negation* (again) and *colouration*; all of them optional and occurring in this order. Conjunctional affixes generally have a special meaning in combination with certain moods.

The complicated rules in definition B.1 are merely a way to rigorously and precisely express this ordering, and which groups are optional etc. Now, figure B.2 then illustrates the process of word formation based on these groups, expressed as an automaton instead of abstract rules. You start at the leftmost state, labelled 'Word', and proceed through the automaton by taking transitions from state to state, adding morphemes according to the labels as you go along.

As you can see, I have tried to break up the automaton into three larger 'modules', corresponding more or less to the three high-level groups of affixes. You may still be able to recognise the alternation back and forth between verbal and nominal stems, but otherwise this complicated figure bears little resemblance to the simple automaton in figure B.1.

The most important thing to notice here is probably that *once you proceed to the sentential segment, you cannot go back*.[5] This explains why Vb{yumaaq}Vb, which is a sentential affix belonging to the group Vb{$time$}Vb, must follow *after* an affix like habitual Vb{ðaq}Vb, which is a verbal affix belonging to the group Vb{$modifier$}Vb. The reverse order is impossible, because you cannot 'get back' to a place where you can add a Vb{$modifier$}Vb once you have passed into the sentential segment. In fact, the only kind of affixes that can appear *both* in the verbal stem *and* in the sentential segment are the *negations*; that is why the group Vb{$negation$}Vb appears twice in the automaton.

You will probably not be able to just memorise this complicated figure right away, but by using it to generate words you may hopefully get a sense of *where to expect* certain affixes to occur within a word. This can especially be useful when you need to *split* a word and figure out from which morphemes it was built. You will likely soon discover that there is often more than one way to do this; many Greenlandic words are *ambiguous* due to the many sound changes that occur when morphemes are joined, but knowing approximately where in a stem to expect a certain morpheme may make this disambiguation process easier.

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[5]Actually, you can. According to Fortescue (1984, p- 314) the affixes Vb{niraq}Vb (A says that P Vb's), Vb{ʂurə}Vb (A thinks that P Vb's), Vb{ðuq}N (one who Vb's) and Vb{-ðaq}N (one that is Vb'ed) may even follow a sentential affix, thus allowing the process to start all over again. I have not drawn this in figure B.2, to avoid complicating it even further. Note also that the ordering within *lexicalised* words may not always follow these rules.
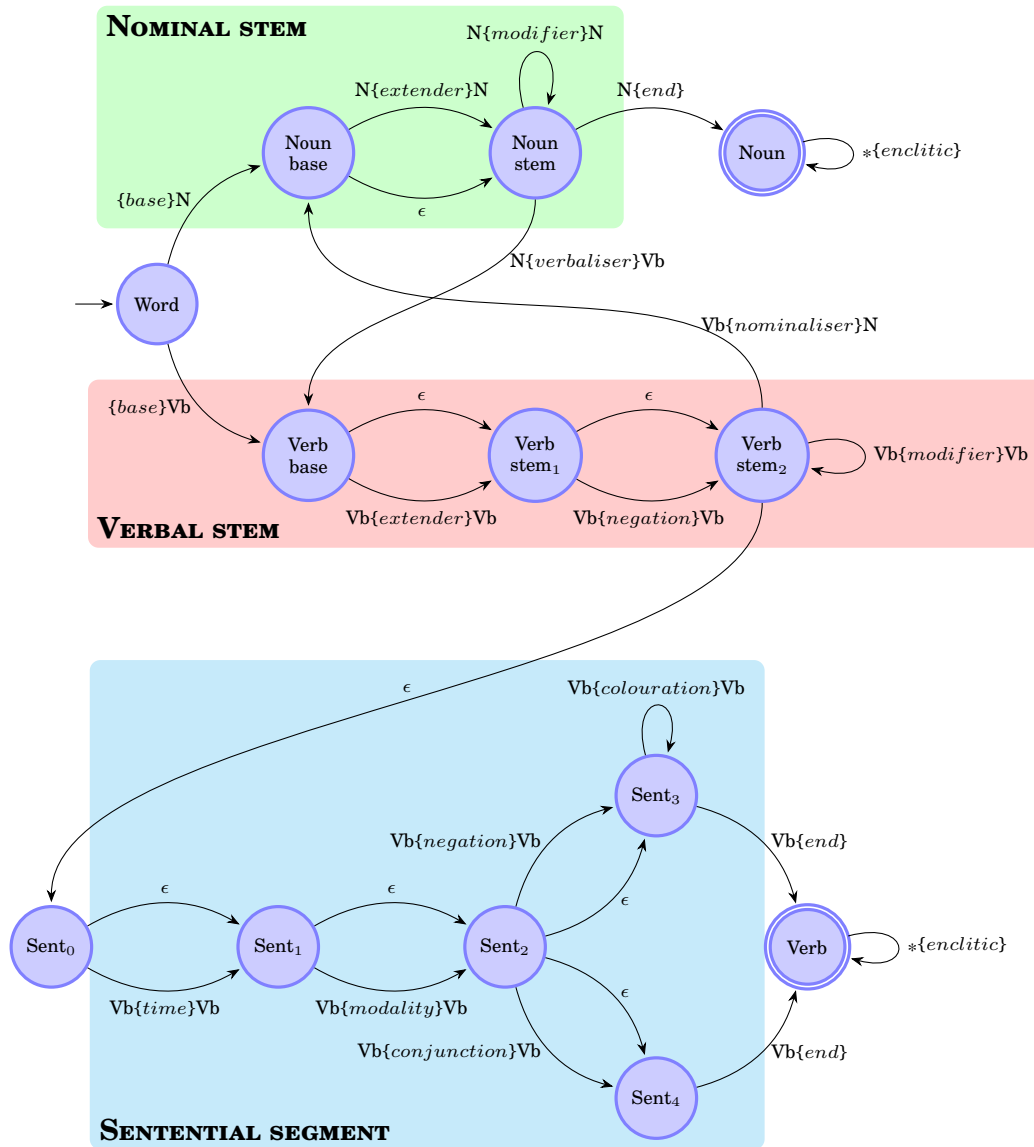
Figure B.2: Illustration of the formation rules for nouns and verbs, according to Fortescue (1984, p. 314). These rules give a more detailed view of the word-internal order of affixes; in particular, that 'sentential affixes' will always follow verbal extenders and modifiers. ϵ-labelled transitions add nothing to a word; they are used to represent optional parts, and to connect the 'module' generating verbal stems to the 'module' responsible for building the sentential segment.

214

However, to actually be able to *use* this automaton, you will of course need to know which affixes belong in each of the categories denoted by the transition labels. Thus, in the remainder of this chapter I have assembled a list of affix usages, containing 468 entries, grouped according to the categories. Note that some affixes may appear more than once in the list, if they have multiple usages. It is far from a complete list of all usages, but it should at least cover all the usual affixes you are likely to see. The source of this list is taken almost directly from the *Manual of Affixes* by Fortescue (1983), with my own notes added for many of the interesting or 'irregularly' behaving affixes that may require a bit of extra explanation. I have, however, tried to keep the list as brief as possible, since the purpose is just to give you an overview, and not to create a full-fledged dictionary. Apart from my own morphemic notation, I have decided also to list the 'DAKA-form', using the new orthography, so you can look up an affix in an ordinary dictionary and see examples of its usage.

Note however that, due to the Graphemistic nature of the DAKA, most affixes will be listed therein multiple times, under different forms; for example, every affix beginning with /y/ in my notation, such as Vb{yuma}Vb, will be listed as +*umavoq* (following an [i] sound), +*jumavoq* (following any other vowel), -*rumavoq* (on q-stems) and -*kkumavoq* (on all other consonant stems, including ut(ə)-stems). All these forms follow directly and regularly from application of the sound rules, so I generally only list one of them, unless the affix also uses some irregular or idiosyncratic sandhi rules.

B.3 Nominalisers (nominal stem)

This is the group of affixes denoted by the label Vb{*nominaliser*}N. As the name (and join markers) implies, these affixes transform a verbal stem into a nominal stem.

Vb{gajuuq}N, +*gajooq* (one who often Vb's).

Vb{kkajaaq}N, -*kkajaaq* (one that is rather Vb). This affix seems to be used primarily with verbs related to size, like {aŋə}Vb (is big) $\implies^*$ *angikkajaaq* (a rather big one).

Vb{llammak}N, -*llammak* (one who is good at Vb'ing).

Vb{naq}N, +*naq* (exclamation, 'how Vb it is!'), e.g. *kusanaq!* (how beautiful it is!). This is really just the verbal extender Vb{naq}Vb (it is Vb'able) used without the verbal ending. As a noun, it behaves like an ordinary weak q-stem, so plural is +*nat*.

Vb{niaq}N, +*niaq* (one who tries to Vb), seemingly often used with verbs for hunting, e.g. *tuttunniaq* (one who is hunting caribou).

Vb{nəQ}N, +*neq* (the state/result/action of Vb'ing). This affix is often called the *abstract participle*, because it creates abstract nouns from verbs; for instance the word *asannin**neq*** (love) from {asannək}Vb (the Subject loves someone). It is a strong q-stem which *can* display metathesis with vowel-initial endings, so with e.g. N{-a} either $\Longrightarrow^*$ +*nera* or $\Longrightarrow^*$ -*rnga*. The affix N{-u}Vb (be N) behaves similarly, so Vb{nəQ}N{-u}Vb $\Longrightarrow^*$ +*neru*-. It is often used with possessive endings when added to a *divalent* stem; it can then mean 'the Vb'ing of Possessor'. Following Vb{ccaq}N (and still with possessive endings) it means 'to Possessor's Vb'ing', e.g. with {tikit}Vb (arrive) $\Longrightarrow^*$ *Piitap tikin**nissaa** qilanaaraara* (I'm looking forward **to** Peter's arrival). When Vb{nəQ}N is used with possessive locative it means 'while', e.g. *suli**ni**tsinni* (while we worked); and if preceded by Vb{ŋŋit}Vb it means 'before', e.g. *suli**nnginni**tsinni* (before we work). This affix is also used in the three special constructions:

- Vb{nəQ ajuq}Vb (does not habitually Vb), negation of Vb{ðaq}Vb
- Vb{nəQ nalu}Vb (cannot Vb (because of ignorance))
- Vb{nəQ sapiq}Vb (cannot Vb)

Vb{nəQ}N, +*neq* (the more/most Vb'ing); also used for comparison of verbal stems with an adjectival meaning. Like above, Vb{nəQ}N{-u}Vb $\Longrightarrow^*$ +*neru*-. On the bases {aŋə}Vb (is big) and {mikə}Vb (is small) it may elide /ə/, yielding ***an**neq, **min**neq* (biggest, smallest).

Vb{nəqpaaq}N / **Vb{nəqcaq}N**, +*nerpaaq*, +*nersaq* (the most Vb'ing); superlative of verbs with adjectival meaning. The latter form is usually only used with plural, possessive endings to mean 'the most Vb'ing of Possessor'; e.g. with N{(q)vut} (our N) $\Longrightarrow^*$ *an**nersar**put* (the biggest of us). Note that since both these affixes are formed by combination with Vb{nəQ}N (see above), they may also both elide /ə/ in certain stems. These cases will often be lexicalised, like *anneq* and *minneq*, to which you can add {paaq} and {caq} directly, since they already contain Vb{nəQ}N.

Vb{nəqtuuq}N, +*nertooq* (one who Vb's strongly).

Vb{niutə}N, +*niut* (thing for Vb'ing).

Vb{ŋŋuarci}N, -*nnguarsi!* (exclamation, 'how Vb it is!').

Vb{(q)paluk}N, +*(r)paluk* (the sound of Vb'ing).

Vb{-qatə}N, -*qat* (a fellow in Vb'ing; one with whom you Vb; a co-Vb'er).

Vb{qqaaq}N, -*qqaaq* (s.t. newly Vb'ed, one who has just Vb'ed).

Vb{qqammiq}N, -*qqammeq* (one who has just Vb'ed).

Vb{-riaq}N, -*riaq* (place/thing where one Vb'es). This affix is uncommon, but used in certain lexicalised words. Usually Vb{(v)vik}N would be used instead to express this meaning.

Vb{qlaaq}N, *-rlaaq* (one who is newly Vb'ed, one who has just Vb'ed).

Vb{sautə}N, *+saat* (means for Vb'ing).

Vb{-ðaq}N, *+taq, -taq, +saq, -gaq* (a Vb'ed thing). This affix is often called the *passive participle*, because it is used to create nouns from divalent stems that represent the *Patient* of the verbal action; e.g. {asa}Vb (A loves P) $\Longrightarrow^*$ asa**saq** (one who is loved). This affix has idiosyncratic sandhi rules: Today it regularly becomes /caq/ on vowel stems; on q-stems it *removes* /q/ and becomes /**g**aq/ contrary to all rules; this form also shows gemination, so with e.g. the base {atuvaq}Vb (A reads P) we get $\Longrightarrow^*$ *atua**g**aq* (a book), plural *atua**kk**at*. On the other consonant stems /ð/ regularly becomes /t/, but at the same time it *removes* the consonant; and on ut(ə)-stems it attaches to /ə/, becoming /caq/, but /ə/ then disappears, so we get /-ut**(ə)ð**aq/ $\Longrightarrow$ /-ut**ə**caq/ $\Longrightarrow$ /-ut**c**aq/ $\Longrightarrow$ [-u**cc**aq] $\Longrightarrow$ *-u**ss**aq*. Following Vb{ŋŋit}Vb we get /ŋŋitaq/ $\Longrightarrow$ /ŋŋi**s**aq/ by the t-to-s rule. This is historically a highly irregular affix, so you can find many lexicalised words containing this affix that do not follow these rules.[6] A further speciality: When this affix follows *-sar-* (the affix Vb{ðaq}Vb (Vb's habitually) on a vowel stem, where the initial sound becomes [c], written "s"), that affix will be *duplicated*, such that we get $\Longrightarrow^*$ *-sar**ta**gaq*.

Vb{ðə}N, *+ti, +si* (Agent, Vb'er). This affix is often called the *active participle*, because it is used to create nouns from divalent stems that represent the *Agent* of the verbal action. It is not commonly used, but you can find it in a number of lexicalised words like *oqalut**si*** (interpreter, literally 'one who speaks for somebody') and *siunnersor**ti*** (counsellor, adviser, consultant).

Vb{(t)ciiaq}N, *-tsiiaq, +siiaq* (s.t. left to be Vb'ed; wait for Vb). The /t/ is (regularly) injected on vowel stems, and it seems that this affix does *not* assimilate /t/ on old *t-stems*, so on e.g. {tikit}Vb (arrive) we also get $\Longrightarrow^*$ *tiki**ts**iiaq* (someone you wait for to arrive/come home).

Vb{ccu'siq}N, *-ssusseq* (Vb'ness, Vb'ance, Vb'ledge etc; quality of Vb). This affix is used to form abstract nouns; e.g. {nalu}Vb (A does not know/is ignorant of P) $\Longrightarrow^*$ *nalu**ssuseq*** (ignorance). /s/ geminates to /tt/, so with e.g. plural N{t} $\Longrightarrow^*$ *-ssu**ts**it*. With vowel-initial endings like N{-a} people will commonly today treat it as a schwa-stem and say *-ssus**aa*** instead of the 'correct' *-ssus**ia***.

Vb{ðuq}N, *+toq, +soq* (someone who Vb's; a Vb'er). This affix is often called the *intransitive participle*, because it is used to create nouns from monovalent stems that represent the *Subject* of the verbal action; e.g. {suli}Vb (S works) $\Longrightarrow^*$ *suli**soq*** (a worker). On old t-stems it (usually) attaches to /t/ without assimilat-

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[6]For instance, {uqnik}Vb (A comes to P) and {aglak}Vb (A writes P) both have lexicalised forms *orni**g**aq* (destination) and *alla**g**aq* (letter).

ing it, e.g. Vb{ŋŋit}Vb{ðuq}N $\implies^*$ /nngit**s**oq/ similar to the mood marker for intransitive participial mood (since it really is the same morpheme).

Vb{-u'siq}N, *-useq* (manner of Vb'ing). /s/ geminates to /tt/, so with e.g. plural N{t} $\implies^*$ *-u**ts**it*.

Vb{-utə}N, **Vb{ccutə}N**, *-ut, -ssut* (means/instrument/cause for Vb'ing).

Vb{(v)vik}N, +*fik* (place/time for Vb'ing). There is also another, uncommon form of this affix, Vb{'-vik}N, found in a number of lexicalised words where it has caused gemination in the stem; for instance {iga}Vb (S cooks) $\implies^*$ *iga**ff**ik* (kitchen, ordinary form) or *i**gg**avik* (with gemination). Other lexicalised examples, all having been formed with gemination, include *ne**rr**ivik* (dinner table) from {ni**r**i}Vb (eat), *napparsi**mm**avik* (hospital) from {nappaqsi**m**a}Vb (be ill); and *ingerla**ts**ivik* (administration) from {iŋiqlat(ə)}Vb (A drives P forward). The special form is often used to create (lexicalised) words with specialised, particular meanings, whilst the ordinary form with +*fik* is used in the broad, general sense of 'place where'.

B.4   Extender (nominal stem)

This is the group of affixes denoted by the label N{*extender*}N. As the name implies, affixes from this group extend the meaning of a nominal stem.

N{giik}N + N{t}, **N{giiaat}N**, *-giit, -giiaat* (pair of Vb'ers, mutual Vb'ers). This form is inherently understood as plural, thus requiring a plural ending.

N{gik}N, *-gik* (one with a good N). Often used in an exclamatory fashion; e.g. *sila**gik**!* (wonderful weather!). This affix is actually N{gik}Vb (has a good N) without a verbal ending.

N{-iqniaq}N, *-erniaq* (a seller of N).

N{kkaaq}N, *-kkaaq* (one with a big N).

N{kkuq}N + N{t}, *-kkut* (and family/companions of N); e.g. *Kaali**kkut*** (Kaali and his family/companions). This affix is inherently understood as plural. It is rarely used in further derivations, except with N{miuq}N (see below), and in this case the singular form must be used, so N{kkuq}N{miuq}N $\implies^*$ *-kko**rm**ioq* (member/supporter of N).

N{kkuutaaq}N + N{t}, *-kkuutaat* (at intervals of Ns).

N{-kuq}N, *-koq, -ku* (remains of/a discarded/previous N). It can also appear as a vowel stem, N{-ku}N, instead.

N{-kuuqvik}N, *-koorfik* (place for discarding N).

N{-liaq}N, *-liaq* (a traveller to N). This affix can display sound replacivity on /tə/ stems.

N{-lək}N, *-lik* (s.t. provided with N; owner of N). This affix commonly today takes endings N{-p} and N{-t} with gemination of /l/, so $\Longrightarrow^*$ *-llip, -llit*, but with other endings it behaves like an ordinary k-stem, so e.g. with N{mik}, N{nik} $\Longrightarrow^*$ *-li**m**mik, -li**n**nik*. This confusion is probably caused by the stem historically having displayed k-metathesis with endings N{up} and N{it}, as /-klup/ $\Longrightarrow^*$ *-llup*, /-klit/ $\Longrightarrow^*$ *-llit*. Today, both *-llip* and *-llup* and even completely regular k-stem form *-liup* may be heard, though *-llip* is the most common.

N{-liqsaarutə}N, **N{-liqsaarnəQ}N**, *-lersaarut, -lersaarneq* (account/story of an N). This affix may display sound replacivity on /tə/ stems.

N{-lisaq}N, **N{nisaq}N**, *-lisaq, +nisaq* (s.t. from last N).

N{-livik}N, *-livik* (a container for N). It may display sound replacivity.

N{-minəQ}N, *-mineq* (a piece of N). This affix displays metathesis, so e.g. with plural N{-it} $\Longrightarrow^*$ *-merngit*. The plural form used with {kalaaˈliq}N (a greenlander) $\Longrightarrow^*$ *kalaali**merngit*** means 'traditional Greenlandic food'. There is also N{-minaattiaq}N (a fair-sized piece of N).

N{miuq}N, *+mioq, +miu* (an inhabitant/dweller of N). This affix can also appear as a vowel-stem, N{miu}N, instead.

N{-qatə}N, *-qat* (a fellow N).

N{siutə}N, *+siut* (means for getting/travelling in/celebrating/seeking N).

N{cciaq}N, *-ssiaq* (s.t. intended for N; to be used as N).

N{sunni}N, *+sunni* (the smell of N).

N{tuuq}N, *+tooq* (one with a big/much N). Also N{qquqtuuq}N with the same meaning, as in e.g. *Illo**qqortoor**miut*[7] (name of a town in North-Eastern Greenland), literally 'the big-house dwellers'.

N{tuuq}N, *+tooq* (s.t. in the language N). This affix is derived from the equative ending, which is also used for languages.

N{-ucaq}N, **N{-ucaaq}N**, *-usaq, -usaaq* (s.t. that looks like N). The symbol '@' is called 'a-jusaq' with a phonotactically epenthetic /j/ injected to avoid assimilation, because it is something that looks like an 'a'.

N{-uciaq}N, *-usiaq* (a figure/model of N; s.t. made, that looks like N).

B.5   Modifier (nominal stem)

This is the group of affixes denoted by the label N{*modifier*}N. Unlike the nominal extenders, a word may have multiple modifiers added in succession. Many of these affixes are adjectival; those with a negative meaning (bad/poor) can often be used affectionately.

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[7]'Ittoqqortoormiit' in East Greenlandic.

N{-aluk}N + N{-it}, *-aluit* (a group of N). The meaning of this affix is inherently plural, so it requires a plural ending. Possibly also N{paluk}N + N{-it} $\Longrightarrow^*$ +*paluit* with same meaning.

N{-a'raq}N, *-araq* (a small N). This affix displays gemination of /r/ $\Longrightarrow$ /qq/, so e.g. plural $\Longrightarrow^*$ *-aqqat*. There also exists an alternative form of this affix, **N{-V'raq}N**, where *V* represents a lengthening of any preceding vowel; e.g. *pani**araq*** and *pane**eraq*** from {panik}N (daughter) are both possible.

N{gəgalu|aq*}N + N{*possessive*}, *-gigalui* (Possessor's previous/former N). The verbal affix Vb{galuaq}Vb can be used nominally with N{gə}Vb (A has P as his N), usually with possessive endings to mark whom it is/was that previously had the N. It is an aq-stem, containing the ghost morpheme {aq}, which disappears before vowel-initial endings. An alternative form, combining instead with N{-u}Vb (be N), is **N{-ugalu|aq*}N** (a former/deceased N). This form usually does *not* take possessive endings, but it behaves like an up-declined pseudo-q stem, taking N{-up} and N{-it} $\Longrightarrow^*$ *-galu**up**, -ugalu**it***.

N{innaq*}N, *-innaq, -ginnaq* (just/only an N). This affix will inject an epenthetic /g/ (where phonotactics require epenthesis), rather than the regular /v/. Thus e.g. on {qavlunaaq}N (a Dane) $\Longrightarrow^*$ *qallunaa**g**innaq*. Note that this affix is a pseudo-q stem.

N{-kanniq}N, *kanneq* (almost/more or less an N).

N{-kasik}N, **N{-kassak}N**, *-kasik, -kassak* (bad/poor N).

N{kkataaq}N, *-kkattaaq* (a rather big N).

N{-kullak}N, *-kullak* (a rather big N).

N{-kuluk}N, *-kuluk* (bad/small/dear N).

N{-kuluuq}N, *-kulooq* (a big N).

N{-li'jaq}N, *-liaq* (a made/fabricated N). This affix geminates the 'invisible' /j/ to /cc/, so e.g. with plural N{t} $\Longrightarrow^*$ *-li**ss**at*. It may also display sound replacivity on /tə/-stems.

N{(q)luinnaq*}N, +*(r)luinnaq* (complete(ly) N).

N{-ŋaaq}N, *-ngaaq* (considerable/large). When used in combination with the affix N{(a)ttiaq}N described below $\Longrightarrow$ **N{ŋaattiaq}N** (quite a big N).

N{-ŋajak}N, *-ngajak* (almost an N).

N{ŋucaq}N, *-ngusaq* (dear little N).

N{nnaq}N, **N{nnaaq}N**, *-nnaq, -nnaaq* (main/favourite N).

N{ŋŋu|aq}N, *-nnguaq, -nnguup, -nnguit* (cute/sweet/dear little/small). This affix is an aq-stem and thus up-declined with *-nngu**up**, -nngu**it*** in ergative singular and plural. {aq} will also disappear before N{-u}Vb (be N), so $\Longrightarrow^*$ ***-nngu**uvoq*. With consonant-initial endings it behaves like an ordinary weak q-stem. On *areal nouns* like {qulə}N (area above possessor), {atə}N (area below possessor) etc., it means 'right/just' so e.g. with N{-ani} (in his N) $\Longrightarrow^*$ *quli**nngu**ani* (**just**

above him), *sissap quli**nngu**ani(ippoq)* ((it is located) **right** above the beach) etc.

N{-pajuk}N, *-pajuk* (bad/poor N). It can also be used in an almost diametrically opposite sense; *illi**pajuk**!* (exclamation, 'lucky you!').

N{-palaaq}N, *-palaaq* (bad/miserable N). When used in combination with the affix N{(q)cu|aq*}N described below, $\implies$ **N{-palaaqcu|aq*}N** (bad/damned N).

N{(q)pak}N + N{-it}, *+(r)paat, +(r)passuit* (many/crowd/flock of N). This affix is inherently plural, thus requiring a plural ending. It is often combined with the affix N{(q)cu|aq*}N, $\implies$ **N{(q)pakcu|aq*}N**, *+(r)passuit* (a great crowd of N). Note that the singular form (that is, the form without an ending) must still be used when further affixes are added, so e.g. *angute**rpassu**it* (a great crowd of men), but with N{-qaq}Vb (there is N) $\implies^*$ *angute**rpassua**qarpoq* (there is a great crowd of men). In narrative speech N{(q)pak}N can be repeated several times for added emphasis, so e.g. *angute**rparparpa**ssuaqarpoq* means 'there was a **great, great, great** crowd of men'.

N{(q)piaq}N, *+(r)piaq* (real/just/exactly N). Even on lexicalised words with an ending like *massakkut* (now), *massakko**rpiaq*** (right now, instantly).

N{-piluk}N, *-piluk* (bad N).

N{-rajuk}N, *-rajuk* (damned N); also in combination with N{(q)cu|aq*}N $\implies$ **N{-rajukcu|aq*}N** with the same meaning.

N{-ralak}N, *-ralak* (bad/poor N), can also be used affectionately as 'dear'.

N{-rujuk}N, *-rujuk, -rujussuaq* (bad/big N). It is often used in combination with the affix N{(q)cu|aq*}N $\implies$ **N{-rujukcu|aq*}N** (enormous N). In this combination, *neither* affix carries a negative connotation, unlike when either of them are used separately. *Qimmersuaq* is a bad/foul/huge dog, but *qimme**rujus**suaq* is just an enormous dog. In narrative speech N{-rujuk}N can be repeated several times for added emphasis, so e.g. *qimme**rujorujorujus**suaq* is a '**great, big, huge** dog'.

N{siaq}N, *+siaq* (a bought/found N).

N{ccamaaq}N, *-ssamaaq* (intended N).

N{ccaq}N, *-ssaq* (a future N; s.t. to be used as N). This affix is sometimes known as an 'irrealis' affix; it is incredibly common and used on any noun that has not yet come into existence. Also used in combination with N{(q)cu|aq*}N and optionally N{(a)ttiaq}N $\implies$ **N{cca(ttia)qcu|aq*}N** (which should have been N).

N{(q)cu|aq*}N, *+(r)suaq, +(q)suup, +(q)suit* (big/bad N). This affix is an aq-stem, taking N{-up} and N{-it} in ergative singular and plural etc., otherwise it behaves like a pseudo-q stem. {aq} also disappears before N{-u}Vb (be N), so N{(q)cu|aq*}N{-u}Vb $\implies^*$ *+(q)**suu**-*. On tə-stems like {aŋute}N (man) it may join directly onto /t/, eliding the /ə/, so $\implies^*$ ***angus**suaq* (a big/bad man). It

is used in combination with N{ŋŋu|aq}N ⟹ **N{(q)cuaŋŋu|aq}N** (naughty N). It may also be used in combination with Vb{ðuq}N and N{-u}Vb ⟹ Vb{ðu**qcu**u}Vb to describe an intense or protracted state; e.g. with {asannək}Vb (is in love with someone) ⟹* asannit**torsu**uvunga (I'm **so** in love). N{-rujuk}N can also be added between Vb{ðuq}N and N{(q)cu|aq*}N, once or repeatedly, for further emphasis: ⟹* asannit**torujorujorujussu**uvunga.

N{taaq}N, +*taaq* (a new N).

N{taq}N, +*taq* (pertaining to N; part (of possessor) who are/made of N). This affix is commonly used with possessive endings; e.g. *arna**tar**put* (the woman amongst us) with N{(q)vut} (our N), or *meerar**ta**vut* (those amongst us who are children) with N{-vut} (our Ns). For inanimate objects we would usually have the 'made of' sense; e.g. with {qicuk}N (wood) ⟹* *illup qisut**ta**a* (the part of the house made of wood; the wooden part of the house).

N{ttialak}N, -*tsialak* (a good/nice N).

N{(a)ttiaq}N, -*tsiaq, -tsiaap, tsiaat, tsiaami* (a fair-sized N). This affix injects an extra /a/ before consonant-initial endings; you could say it 'geminates /a/' when the weak q is thrown away. Also used in combination with N{ŋŋu|aq}N ⟹ **N{(a)ttiaŋŋuaq}N** (good little/usable N).

N{-tuaq}N, -*tuaq* (the only/sole N).

N{-tu'qaq}N, -*toqaq, -toqqap, -toqqat* (an old N). Weak q-stem with gemination of /q/ ⟹ /qq/.

N{-unəQ}N, -*uneq* (the highest/chief N). Combination of N{-u}Vb (be N) with Vb{nəQ}N (more/most Vb'ing).

N{-vik}N, -*vik* (a real N).

N{vvaarik}N, -*ffaarik* (a particularly good N).

B.6 Verbaliser (verbal stem)

This is the group of affixes denoted by the label N{*verbaliser*}Vb. They can be further subdivided into eight subgroups based on their meaning, but common to all of them is that they transform a nominal stem into a verbal stem. Some of these will have a *divalent* meaning; that is, they will describe a verbal action concerning both a logical *Agent* (abbreviated 'A') and a logical *Patient* (abbreviated 'P'), and thus capable of taking *transitive* endings. Others (actually, most) will describe a *monovalent* verbal action, involving only a logical *Subject* (abbreviated 'S'), and thus taking only *intransitive* endings. Some (actually many) of the latter may even be used in a completely *avalent* (impersonal) sense, usually corresponding to something like English "There is …" When used in this impersonal sense, these affixes can *only* take 3p.sg endings (or 3r.sg in subordinate

moods). I use no special symbol to distinguish between affixes of different valencies, but you can always tell the difference by looking at the translation, since it will mention an 'A' and a 'P' when divalent, but an 'S' when monovalent (and 'there is' or similar when avalent).

Being and becoming

N{giiaaq}Vb, *-giiaarput* (several S'es are mutually N). This affix is inherently plural in meaning, so it requires a plural ending.

N{giik}Vb, *-giipput* (S'es are mutually N), inherently plural.

N{kkuminaq}Vb, *-kkuminarpoq* (S is good for/as N).

N{kkuutaaq}Vb, *-kkuutaarput* (S'es are grouped in Ns; in groups of N), inherently plural.

LOC{ət}Vb, ±*miippoq,* ±*niippoq* (S is in/at/on N). Verbalisation of the locative case.

N{ŋŋuq}Vb, *-nngorpoq* (S becomes an N).

N{ccaqqik}Vb, *-ssaqqippoq* (S is good/well-suited to use as N).

N{-u}Vb *-uvoq* (S is an N).

Lacking

N{-ilatti}Vb, *-ilatsivoq* (S is short of N).

N{-iqsiq}Vb, *-ersivoq* (S has lost N).

N{-irut(ə)}Vb, **N{ccairut(ə)}Vb**, *-iruppoq, -ssaaruppoq* (S has no more N). The latter form contains N{ccaq}N (future N), but there seems to be no difference in meaning. Note that this is an utə-stem, but since it is monovalent and thus not needing any HTR-morphemes, the DAKA dictionary will give no indication of this. It can also be used in a completely impersonal/avalent sense (there is no more N; N is gone); in that case it uses a 3p.sg ending, e.g. *siku**erup**poq* (there is no more ice; the ice is gone).

N{-isak}Vb, *-isappoq* (there are very few N), usually used in an avalent sense 'there are' with a 3p.sg ending.

N{-it}Vb, *-ippoq* (there is no N; S is without N), can be used both avalently and monovalently.

N{ccailiqə}Vb, *-ssaaleqivoq* (S lacks N). Although it historically is a true schwa-stem, it does not seem to be used with the special endings for schwa-stems.

N{ccaisua}Vb, *-ssaasuavoq* (S laks N).

Feeling

N{guk}Vb, *-guppoq* (S longs/thirsts for N). Usually used with foods etc., but you may even see it used with family or similar in the sense 'S misses his N', though some would consider that usage as slang.

N{-iqsi}Vb, *-ersivoq* (S feels cold/freezes in his N). Only used with parts of the body.

N{-katak}Vb, *-katappoq* (S is fed up with (eating) N).

N{-lirə}Vb, *-lerivoq, (-leraaq)*, (S feels pain in his N). Only used with parts of the body. It may display sound replacivity on tə-stems. It is probably not used with the special endings for schwa-stems nowadays, although these forms of the affix are noted in older dictionaries, e.g. Schultz-Lorentzen (1958).

N{ŋŋiq}Vb, *-nngerpoq* (S likes/is crazy about N), seemingly mostly used with foods.

N{ŋŋu}Vb, *-nnguvoq* (S feels bad/pain in his N). Only used with parts of the body.

Having

N{gasak}Vb, *-gasappoq, -rasappoq* (there are stains/spots of N; S is stained by N). Apparently, this affix takes the form N{qgasag}Vb on tə-stems, so e.g. with {aputə}N (snow) $\Longrightarrow^*$ *aputerasappoq* (there are patches of snow). Note that with a 3p.sg ending the meaning can be avalent/impersonal 'there are' rather than monovalent 'he has'.

N{gə}Vb, *-gaa (-ginnippoq)* (A has P as his N; P is A's N). This affix is a true schwa-stem, using the special endings for schwa-stems. It always uses the HTR-morpheme {nnək} to give it intransitive form (*-ginnippoq*).

N{gik}Vb, **N{giksaaq}Vb**, *-gippoq, -gissaarpoq* (S has a good/beautiful N; there is good N).

N{giksi}Vb, *-gissivoq* (S has got a better N; there has come a better N).

N{-iqluiq}Vb, *-erluerpoq* (S is smeared with N).

N{-kit}Vb, **N{-kitliuq}Vb** (S has few/little/a small N).

N{-kicaaq}Vb, *-kisaarpoq* (S has rather little N).

N{-licaaq}Vb, *-lisaarpoq* (S is wearing N); only used with nouns for clothing. It may display sound replacivity on tə-stems.

N{-licaq}Vb, *-lisarpoq* (S has brought a/his N with him). It may display sound replacivity on tə-stems.

N{-liccuu}Vb, *-lissuuvoq* (S has much/many N; there is much N). It may display sound replacivity on tə-stems.

N{(q)luk}Vb, *+(r)luppoq* (S has bad/painful N).

N{-qaq}Vb, *-qarpoq* (S has N; there is N). A very common affix. It is very often also used in an avalent/impersonal sense 'there is N' with a 3p.sg ending, but it is also possible to use a noun representing the place or environment which 'has' the N as an explicit subject. E.g. with {qaqqaq}N (mountain) and {aputə}N (snow) you can express '**there is** snow on the mountains' as either *qaqqa**mi** apute**qar**poq* (impersonal Subject, qaqqa**mi** in the locative case) or *qaqqa**q** apute**qar**poq* (explicit subject 'qaqqa**q**' in absolut case).

N{tu}Vb, **N{qquqtu}Vb**, *+tuvoq, -qqortuvoq* (S has much/a big N).

N{tujaaq}Vb, *+tujaarpoq* (S has rather many/a rather big N).

N{tusi}Vb, **N{ttuq}Vb**, *+tusivoq, -ttorpoq* (S has got more/a bigger N).

Acquiring

N{-isuq}Vb, *-isorpoq* (S fetches N).

N{-liŋusaut(ə)}Vb, *-lerngusaapput* (S'es fight for/about N). Only with Subject in plural, since the Subjects supposedly are fighting amngst themselves for the N.

N{-nək}Vb, *-nippoq* (S has got N; there has come N). Can be used both monovalently, or avalently as e.g. *siku**nip**poq* (there has come ice).

N{nnak}Vb, *-nnappoq* (S gets N as a gift).

N{-raaq}Vb, *-raarpoq* (S has caught N). Only used with nouns representing numerals or other similar countable quantities, like {qassi}N (many).

N{si}Vb, *+sippoq, +sippaa* (S buys/gets/finds N; A buys N for P).

N{siuq}Vb, *+siorpoq* (S looks for N; A looks for N for P). This is a common and useful affix; for example, *suleqatissar**sior**pugut* (We are looking for a new (future) collegue) from {suli}Vb (work), Vb{-qatə}N (co-Vb'er), N{ccaq}N (a future N), N{siuq}Vb (this affix) and Vb{vugut} (we). It can apparenty also be used in a divalent sense, meaning 'the Agent looks for N for the Patient'. However, when following Vb{nəQ}N (the more/most Vb'ing) a transitive ending can instead indicate that the Agent is looking *for* the most Vb'ing N *amongst* the N's. For example, *pikkorinneq* (the most skillful), *pikkorinner**sior**pai* (he is looking for the most skillful amongst them). Note that the Patient marker (obviously) must be plural for the affix to be used in this sense.

N{(t)}Vb, *+(p)poq, +(n)niarpoq, +(n)niupput* (S catches N). This affix is used with nouns for animals typically hunted in Greenland.[8] In case of {na'**n**uq}N (polar bear), it also triggers gemination in the stem and removal of the final /q/, so *na**nn**uppoq* means 'he has caught/killed a polar bear.' Even though the resulting verb is monovalent, the 'passive participium' Vb{-ðaq}N may irregularly be added to create a noun representing 'the animal N caught by (someone)'. Here

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[8]I have also heard it used with female names, in the sense 'he *scored* N' (slang).

'(someone)' may further be specified with a possessive ending, so e.g. *nannuttara* is 'the polar bear caught by **me**', using N{ga} (my N). Note that Vb{-ðaq}N is sometimes added in an irregular fashion, without deletion of a preceding consonant (as in this case); these irregularly formed stems are usually given as lexicalised entries in the dictionary. The affix N{(t)}Vb can also be followed by Vb{niaq}Vb $\implies$ N{(t)niaq}Vb (hunt for N). This affix can further be followed by Vb{-ut(ə)}Vb $\implies$ N{(t)niut(ə)}Vb[9] (several S'es hunt for N), only used with endings in plural.

N{taaq}Vb, +*taarpoq* (S gets a new N).

N{taq}Vb, +*tarpoq* (S fetches/gathers N).

Movement

N{-liaq}Vb, -*liarpoq* (S goes to N), usually with names of cities, countries etc.

N{siuq}Vb, +*siorpoq* (S travels on/through N; S is out in N; S celebrates N), the latter sense when this affix is used with nouns for Christmas, Easter etc.

PRO{*V*q}Vb, -*kkoorpoq, (a)goorpoq* etc. (S moves in/through N). Verbalisation of the prolative (or 'vialis') case.

ABL{*V*q}Vb, ±*meerpoq,* ±*minngaanneerpoq* etc. (S comes/is from N). Verbalisation of the ablative case.

ALL{*V*q}Vb, ±*moorpoq* (S moves towards N; S is into N). Verbalisation of the allative case. Note that since allative is used with numerals to indicate time of day, this affix, when used on numerals, means 'comes in at N'o clock'. For example, *qulinut* (10'o clock), *qulino**or**tarpoq* (he habitually comes (to work/school/etc) at 10'o clock).

ALL{-kaq}Vb, ±*mukarpoq,* ±*mukaapput* (S goes to N). Verbalisation of the allative case. This affix can also be followed by Vb{-a}Vb (several S'es Vb) $\implies$ ALL{-kaa}Vb indicating that several are going together. Here the ending must (obviously) be plural to make sense.

Acting and seeming like

N{-licaq}Vb, -*lisarpoq* (S resembles N), seemingly used only with nouns for people, as in 'he looks like his grandfather' etc. This affix can cause sound replacivity on tə-stems.

N{-ŋa}Vb, -*ngavoq* (S resembles N). Unlike the above, this affix can seemingly be used with any N.

N{(q)palaaq}Vb, +*(r)palaarpoq* (S seems/looks like an N).

N{(q)pallak}Vb, +*(r)pallappoq* (S acts like an N; S does s.t. typical of an N).

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[9]Vb{niaq}Vb is an aq-stem, so {ut(ə)} causes loss of the final /qa/.

N{(q)paluk}Vb, *+(r)paluppoq* (S looks/seems/sounds like an N).
N{(q)pasik}Vb, *+(r)pasippoq* (S looks/seems like an N).
N{cci}Vb, *-ssivoq* (S behaves just like an N).
N{sunnit}Vb, *+sunnippoq* (there is a smell of N).
EQU{*V*q}Vb, *±toorpoq* (S acts like N; S speaks the language N). Verbalisation of the equative case. Since this case is also used for languages, the verbalisation can also mean 'speaks the language N', e.g. *kalaalli**soor**poq* (he says s.t. in Greenlandic). It can also mean 'S has a class (in school) in the language N'. Presumably because you are expected to speak the language when in class. The subject 'Greenlandic' when taught in school is *kalaalli**soor**neq*.
N{ucaaq}Vb, *-usaarpoq* (S pretends to be N).

Doing with and providing

N{-iaq}Vb, *-iarpaa, (-iaavoq)* (A removes several N's from P). This affix uses the HTR-morpheme {i} to assume intransitive form.
N{-iaq}Vb, *-iarpoq* (S is broken/damaged).
N{-iq}Vb, *-erpaa (-iivoq), -erpoq* (A removes N from P). This affix uses the HTR-morpheme {i} to assume intransitive form. If used with intransitive endings *without* HTR, *-erpoq*, the meaning is changed to 'N has been removed; it has become N-free; S removes N'.
N{-iqniaq}Vb, *-erniarpoq* (S sells/will sell N).
N{-irut(ə)}Vb, *-eruppaa (-erussivoq), -eruppoq* (A deprives P of N; A removes N from P; there are no more N's). This affix uses the HTR-morpheme {ci} for its intransitive form. Otherwise, when used with an intransitive ending, it means 'there are no more N's'.
N{-liarə}Vb, *-liaraa (-liarinnippoq)* (A makes P into an N; A makes an N from P). This affix is a true schwa-stem, so it uses the HTR-morpheme {nnək}. It may display sound replacivity on tə-stems.
N{-liq}Vb, *-lerpaa (-liivoq)* (A provides P with an N). This affix may display sound replacivity on tə-stems. It uses the HTR-morpheme {i}, yielding the form *-liivoq*. When this form is used with numerals, it can mean 'S turns N (years)', e.g. *20-liivoq* (he turns 20); an expression you would use when speaking of someone's birthday.
N{-lirə}Vb, *-lerivoq, -leraaq* (S works with N; S occupies himself with N). Although this affix is a true schwa-stem, it is seldom used with the special endings for schwa-stems today; not even the otherwise mandatory /əllu/ → /alu/ transformation for contemporative. It may furthermore display sound replacivity on tə-stems.

N{-lircaaq}Vb, *-lersaarpoq* (S tells about N). May display sound replacivity on
tə-stems.

N{-lirsuq}Vb, *-lersorpaa (-lersuivoq)* (A provides P with several N, one by one/bit
by bit). It uses the HTR-morpheme {i}, and it may display sound replacivity on
tə-stems.

N{-liuq}Vb, *-liorpoq* (S makes N). It may display sound replacivity on tə-stems.

N{-liut(ə)}Vb, *-liuppaa (-liussivoq)* (A begins to use P as N). This affix uses the
HTR-morpheme {ci} for its intransitive form. It may display sound replacivity
on tə-stems.

N{-lliq}Vb, *-llerpoq* (S serves N; S is serving out N).

N{(m)mik}Vb, *+(m)mippaa, +(r)mippaa* (A touches P with N). This affix uses the
form N{(q)mik}Vb on tə-stems; that is, the sandhi-epenthetic consonant will be
a /q/ on these stems, instead of the usual /m/ used on all other vowel stems.

OBJ{Vq}Vb, *±meerpoq, ±meerpaa* (S does s.t. with N; A does s.t. to P with N).
Verbalisation of the objective (or 'instrumental') case.

N{ŋŋuqtət}Vb, *-nngortippaa* (A makes P into an N).

N{-riaq}Vb, *-riarpoq* (S does s.t. N times). This affix is (in this sense) only used
with nouns for numerals and similar countables like {qassi}N.

N{-ruq}Vb, *-rorpaa* (A hits P in the N); usually used with nouns for body parts.

N{ccit}Vb, *-ssippaa (-ssiivoq)* (A gives N to P). This affix uses the HTR-morpheme
{i} for its intransitive form. When used with intransitive endings without HTR,
the meaning is reflexive: 'A gives *himself* N'. This affix is actually formed from
a fusion of the nominal future affix N{ccaq}N and an ancient morpheme {-lit}
similar in meaning to N{-liq}Vb (equip with), so a sense 'future N' is already
implied in this affix.

N{təQ}Vb, *+terpaa (+terivoq)* (A covers/sprinkles/smears P with N), for example
with {iməQ}N (water) $\implies^*$ *imer**ter**paa* (he sprinkles it with water = 'he waters
it'). This affix behaves similar to a nominal strong q-stem, since it ends in /əq/.
Thus, vowel-initial affixes – especially {utə} – will not be able to remove this final
/q/, but only weaken it to /r/. For example, with Vb{-utə}N (tool for Vb'ing)
we get $\implies^*$ *imer**ter**ut* (a watering can). Similarly, this affix uses the HTR-
morpheme {i} for its intransitive form, but it too will attach to /q/ and only
weaken it, such that we get $\implies$ N{təri}Vb $\implies^*$ *+teri**voq***.

N{tuq}Vb, *+torpoq* (eat/drink/consume N).[10] This is the notorious 'consumption af-
fix' mentioned in aside 3.4 on page 50. In combination with the affix Vb{uma}Vb
$\implies$ N{tuuma}Vb it means 'S often eats (or uses) N' or 'S likes to eat (or use) N'.

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[10]This affix is also found in some lexicalised stems where it means 'use N' or 'travel in N'
instead; e.g. *qajar**tor**poq* means 'he *sails* in kayak' and not 'he *eats* a kayak'.

B.7 Extender (verbal stem)

This group of affixes are designated by the label Vb{*extender*}Vb. Many of these affixes can be used on stems of all valencies, so although I give the DAKA form with the Vb{vuq} ending it does not mean that these affixes are necessarily intransitive. Only when I explicitly mention a Subject (S), or, conversely, only give the DAKA form with a *transitive* ending and describe its meaning in terms of Agents (A) and Patients (P), should you take it as indication that the affix only can be used with a specific valency.

Judging and saying

Vb{ðuucaaq}Vb, +*tuusaarpoq* (S pretends to Vb). A combination of Vb{ðuq}N and N{-ucaaq}Vb.

Vb{-gə}Vb, *-gaa (-ginnippoq)* (A considers P too Vb'ing). This affix is especially used with verbal stems having an adjectival meaning, like 'S is big', 'S is distant' etc. Note that this affix is generally *truncative* on consonant stems, *except* on q-stems where /qg/ regularly fuses to /r/. It always uses the HTR-morpheme {nnək} for its intransitive form.

Vb{-gəssaa}Vb, *-gissaavoq* (S complains about Vb'ing). This affix only makes sense on stems describing a state of being; for example {aki}N (price) + N{-kit}Vb (has a small N) $\Longrightarrow^*$ *akikippoq* (it is cheap), which in combination with this affix gives us $\Longrightarrow^*$ *akiki**gissaa**voq* (he complains about its being cheap).

Vb{gunaq}Vb, +*gunarpoq* (S looks like/seems to be Vb'ing).

Vb{kkuk}Vb, *-kkuppaa* (A reckons P Vb's).

Vb{-naaq}Vb, *-naarpaa* (A finds P too Vb'ing; more Vb'ing than expected).

Vb{niraq}Vb, +*nerarpaa* (A says that P Vb's). This affix is one of the few that may even follow the sentential segment. It can be added to both monovalent and divalent stems, which however affects the meaning slightly:

- On a *monovalent* stem (S Vb's), this affix will mean "A says that P=S Vb's" with the new Patient (P) being equal to the monovalent stem's Subject (S). If used with an intransitive ending, the meaning becomes reflexive, "S says that he (himself = S) Vb'ed". For example, *Nuumminngaanneer**nerar**poq* (he said that he (himself) was from Nuuk).

- On a *divalent* stem (A_1 Vb's P_1), this affix will mean "$A_1 = A_2$ says that he (himself = A_2) Vb'ed $P_1 = P_2$", or in other words, the Agent who did the Vb'ing (A_1) and the Agent who does the saying (A_2) is the same person, and the Patient in both the stem and this affix is also the same ($P_1 = $

229

P$_2$). For example with {taku}Vb (A sees P) and Vb{vara} (I Vb him) $\Longrightarrow^*$ *taku**nerar**para* (I said I saw him).

- It is, however, also possible to use this affix in a sense, where the two Agents do *not* coincide, such that A$_1 \neq$ A$_2$, or, in other words, that the Agent who does the Vb'ing in the stem (A$_1$) is different from the Agent who does the saying in the affix (A$_2$). This would be a so-called *double transitive* sentence, and in this case, the meaning will be "A$_2$ says that P$_1$ = P$_2$ *was* Vb'ed (by someone = A$_1$)". Here, the previous Agent of the stem (A$_1$) is left unspecified ('by someone') and is not mentioned in the ending. It can, however be added in the allative case, as an argument to the verb. Continuing the previous example, *ilin**nut** taku**nerar**para* (I said he *was* seen *by you*). You will have to rely on context to decide whether the two Agents coincide or not.

Vb{(q)palaaq}Vb, +*(r)palaarpoq* (it can be heard that s.b./s.t. is Vb'ing). Avalent.
Vb{(q)pallak}Vb, +*(r)pallappoq* (it can be heard/felt that s.b./s.t. is Vb'ing; it is said/reported that S Vb's). Avalent or monovalent.
Vb{(q)paluk}Vb, +*(r)paluppoq* (it looks/sounds like S Vb's). Monovalent.
Vb{(q)pasik}Vb, +*(r)pasippoq* (it looks like S Vb's). Monovalent.
Vb{ssaŋa}Vb, -*ssangavoq* (S expects to Vb). In combination with Vb{tət}Vb $\Longrightarrow$ Vb{ssaŋatət}Vb it mean 'A expects/thinks P will Vb'.
Vb{surə}Vb, Vb{sugə}Vb, +*(ga / na)soraa,* +*(ga / na)sugaa* (A thinks that P Vb's). This affix is one of the few that even may follow the sentential segment. It exists in two different forms, Vb{surə}Vb and Vb{sugə}Vb, which can seemingly be used interchangeably with no difference in meaning. Neither of these forms will assimilate a preceding /t/, so on t-stems we get "-ts-". Furthermore, both forms can optionally be preceded by a {ga}, again with no change of meaning. Lastly, this optional {ga} can also be {na} instead.[11] Since both variants are schwa-stems, they also both take {nnək} as HTR-morpheme $\Longrightarrow^*$ +*sorinnippoq,* +*suginnippoq*, both of which (of course) also can have the optional {ga} or {na} prefix. With intransitive endings without HTR, the meaning becomes reflexive (S thinks that he himself Vb's). The affix can be used on both monovalent and divalent stems, affecting the meaning similar to the description above for Vb{niraq}Vb:

- On a *monovalent* stem (S Vb's) this affix will mean "A thinks that P=S Vb's".

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[11]Apparently, {na} is more common than {ga} in Northern Greenland; at least according to Fortescue (1983).

- On a *divalent* stem (A_1 Vb's P_1) this affix will mean "A_2 thinks $P_1 = P_2$ *was* Vb'ed (by someone = A_1)". The stem's Agent (A_1) is not marked in the ending, but can be added to the sentence as a secondary object in the allative case.

Vb{tət}Vb, ±*tippaa* (A thinks/is of the opinion that P Vb's). This affix is generally additive, *except* on old t-stems and utə-stems, where it is truncative. Thus, on t-stems it will delete this final /t/[12] and on utə-stems it will attach to /(ə)/. In the sense given here, this affix is primarily used after stems describing a state of being; especially following N{-u}Vb (be), N{-qaq}Vb (have) and Vb{naq}Vb (it is Vb'able).

Wishing and waiting

Vb{yuma}Vb, +*jumavoq* (wants to Vb).
Vb{yumagaluaq}Vb, +*jumagaluarpoq* (would (otherwise) have wanted to Vb).
Vb{yumalliq}Vb, +*jumallerpoq* (gets a sudden urge to Vb).
Vb{yumanəru}Vb, +*jumaneruvoq* (would rather Vb (than do s.t. else)).
Vb{yumatu}Vb, +*jumatuvoq* (always wants to Vb; is one who prefers to Vb's).
Vb{(q)gusuk}Vb, -*rusuppoq* (would like to Vb; desires to Vb).
Vb{(t)siq}Vb, +*(t)serpaa (+(t)siivoq)* (A waits for the P to Vb). This affix does *not* assimilate a preceding /t/, so on vowel-stems and t-stems this affix will appear as +*ts*erpaa. It uses the HTR-morpheme {i} for its intransitive form, +*(t)siivoq*.

Causation and request

Vb{ŋŋitcuuqtət}Vb, -*nngitsoortippaa* (A prevents P from Vb'ing).
Vb{-qatəsirə}Vb, -*qatiseraa* (A asks P to Vb with him).
Vb{qqu}Vb, -*qquaa (-qqusivoq)* (A bids/asks P to Vb). Intransitive form is formed with the HTR-morpheme {ci}. When used with intransitive endings without HTR, the meaning is *passive* (S asks/bids (someone) to Vb him).
Vb{qquŋŋit}Vb, -*qqunngilaa* (A forbids P to Vb; A asks P not to Vb).
Vb{qqusaaq}Vb, -*qqusaarpoq* (S does s.t. to get people to Vb him).
Vb{qqucau}Vb, -*qqusaavoq* (S is allowed to Vb). A combination of Vb{qqu}Vb + Vb{-ðaq}N (passive participle) and N{-u}Vb (be). If we further add the negation Vb{ŋŋit}Vb we obtain $\implies$ Vb{qqucauŋŋit}Vb $\implies^*$ -*qqusaanngilaq* (S must not Vb; S is forbidden to Vb).
Vb{saaq}Vb, +*saarpaa* (A tries to get P to Vb as much as possible).

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[12]Provided that people can remember which consonant stems are actually t-stems, which is sadly not always the case. Thus, expect some irregularity w.r.t. the sandhi-behaviour of this affix.

Vb{saq}Vb, +*sarpaa (+saavoq)* (A tries to get P to Vb). The intransitive form is formed with the HTR-morpheme {i}, which thus yields /+saivuq/ $\implies^*$ +*sa**a**voq*.

Vb{tət}Vb, ±*tippaa (±titsivoq)* (A lets P Vb; A causes P to Vb). This affix is truncative on t-stems, and on ut(ə)-stems it attaches to /(ə)/, so with e.g. {ikkut(ə)}Vb we get $\implies$ /ikkut**(ə)**tetvaa/ $\implies^*$ *ikku**ti**tippaa*. Otherwise, it is additive. The intransitive form is formed with the HTR-morpheme {ci}, which does *not* assimilate the preceding /t/, thus yielding ±*ti**ts**ivoq*. When used intransitively without HTR, the meaning of this affix is *resultative passive* (S is Vb'ed).

Vb{tətəQ}Vb, ±*titerpaa (±titerivoq)* (A lets P Vb in stages/one by one). This is a combination of Vb{tət}Vb, described above, and Vb{təQ}Vb (repeatedly; one by one), so its sandhi behaviour is like Vb{tət}Vb. Its intransitive form is formed with the HTR-morpheme {i}, and like with other stems ending in /əq/, the final /q/ cannot be removed by a vowel, and is thus instead only weakened to /r/, $\implies^*$ ±*titerivoq*. When used intransitively without HTR, the meaning is *resultative passive* (S is Vb'ed in stages/several times/one by one).

Vb{t(s)aili(uq)}Vb, +*t(s)aalivaa, +t(s)aaliorpaa* (A prevents P from Vb'ing). This affix is sandhi-epenthetic, but unlike most other affixes of this kind, the epenthetic /(s)/ is injected *within* the affix (after /t/), rather than before it, and this /s/ does *not* assimilate the preceding /t/. Thus, on vowel stems we get the +*tsaalivaa* form, whilst on consonant stems we get the +***t**aalivaa* form. However, on *t-stems* we also get the form with *-ts-*, so e.g. following Vb{ŋŋit}Vb we get $\implies^*$ *-nngi**ts**aalivaa*. The affix can appear with, or without the final /(uq)/ segment; there is no difference in meaning, but +*t(s)aali**or**paa* may be the most common/preferred form by some speakers.[13]

Striving and intending

Vb{giaq}Vb, +*giarpoq* (go and Vb; go to Vb).

Vb{(gi)jaqtuq}Vb, +*artorpoq, +jartorpoq, -kkiartorpoq, -riartorpoq* (go and Vb; go to Vb). The prefix /(gi)/ is *removed* on vowel stems, but present on all consonant stems, including utə-stems. Thus we get *-kkiartorpoq* on consonant and ut(ə)-stems, and *-riartorpoq* on q-stems by the ordinary rules for assimilartion and fusion of /g/. However, on vowel stems, where /(gi)/ is not present, we instead get +*jartorpoq*, *except* when following an /i/ sound, since [j] is not written after [i]; thus we are left with just +*artorpoq* in this case.

Vb{-liqcaaq}Vb, *-lersaarpoq* (intends to Vb).

Vb{naviiqsaaq}Vb, +*naveersaarpoq* (endeavours not to Vb).

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[13]Especially speakers of the Central West Greenlandic dialect, according to Fortescue (1983).

Vb{nialuk}Vb, +*nialuppoq* (tries a little to Vb).
Vb{niaq}Vb, +*niarpoq* (tries to Vb).
Vb{niaqcarə}Vb, +*niarsaraaq* (tries (despite difficulty) to Vb).
Vb{niinnaq}Vb, +*niinnarpoq* (tries all the time/at all costs/just to Vb).
Vb{niqqicaut(ə)}Vb, +*neqqisaapput* (Several S'es compete at Vb'ing).
Vb{qqaanniuut(ə)}Vb, -*qqaanniuupput* (Several S'es compete at Vb'ing).
Vb{-riaraluaq}Vb, -*riaraluarpoq* (tries unsuccessfully to Vb).
Vb{ccamaaq}Vb, -*ssamaarpoq* (intends/plans to Vb).

Potentiality

Vb{ðariaqaq}Vb, +*tariaqarpoq* (must Vb; needs to Vb). This affix can seemingly also be followed by {-irut(ə)}, thus creating the affix Vb{ðariaqairut(ə)}Vb $\Longrightarrow^*$ +*tariaqaaruppoq* (S needs no longer to Vb).
Vb{-ðaccau}Vb, +*sassaavoq, -tassaavoq, -gassaavoq* (S is to be Vb'ed (by someone)). This affix is a combination of passive participle Vb{-ðaq}N (see it for an explanation of the special sandhi rules), future nominal affix N{ccaq}N and N{-u}Vb (be). It only makes sense on divalent stems, since it reduces the valency.
Vb{ðuccau}Vb, +*tussaa* (is supposed to Vb). This affix indicates an obligation. It is formed from a combination of intransitive participle Vb{ðuq}N, nominal future affix N{ccaq}N and Vb{-u}N (be).
Vb{ðuccaŋŋuq}Vb, +*tussanngorpoq* (S is about to Vb). This affix is formed similarly to the one above, but with the verbaliser N{ŋŋuq}Vb (S becomes N) as the last segment instead.
Vb{-ja}Vb, -*javoq* (S is apt to Vb; S can easily Vb). This affix can be followed by the privative affix Vb{-it}Vb $\Longrightarrow$ Vb{-jait}Vb $\Longrightarrow^*$ -*jaippoq* (S is not likely to Vb), or by Vb{ŋŋit}Vb $\Longrightarrow$ Vb{-jaŋŋit}Vb $\Longrightarrow^*$ -*janngilaq* (S cannot Vb; S never Vb's).
Vb{-juit}Vb, -*juippoq* (S cannot Vb; S never Vb's). Another affix formed by combination with privative Vb{-it}Vb.
Vb{-katak}Vb, -*katappoq* (is tired of Vb'ing).
Vb{llaqqik}Vb, -*llaqqippoq* (S is proficient at Vb'ing).
Vb{naq}Vb, +*narpoq* (it is Vb'able; it is Vb'some, it is such as to Vb). This affix is purely avalent; it only makes sense with endings in 3p.sg. It can even be used without verbal endings, to create an exclamatory form Vb{naq!}, for example with {quja}Vb (say thanks) $\Longrightarrow^*$ *qujanaq!* (thank you!). Vb{naq}Vb can also be followed by privative Vb{-it}Vb $\Longrightarrow$ Vb{nait}Vb (it is un-Vb'able; un-Vb'some; etc). This affix can itself be used exclamatorily, without verbal endings, but in

that case, the final /t/ will be pronounced as a [k]. For example *alia**nar**poq* (it is sad/tragic) $\Longrightarrow^*$ *alianaak!* (how wonderful!).

Vb{naviiq}Vb, +*naveerpoq* (can no longer Vb).

Vb{-riainnau}Vb, -*riaannaavoq* (S is easily Vb'ed; S is ready to Vb).

Vb{sinnaa}Vb, +*sinnaavoq* (can Vb; is able to Vb).

Vb{sinnaaŋŋuq}Vb, +*sinnaanngorpoq* (becomes able to Vb).

Vb{sinnaatətau}Vb, +*sinnaatitaa* (S has been given permission/right to Vb).

Vb{siriaq}Vb, +*seriarpoq* (can easily Vb; is liable to Vb). This affix can also combine with privative Vb{-it}Vb to create an affix with the opposite meaning, but it does so irregularly, since it behaves like an aq-stem. Thus we get $\Longrightarrow$ Vb{siriit}Vb $\Longrightarrow^*$ +*seriippoq* (S Vb's with difficulty; S is not liable to Vb) with deletion of the final /aq/.

Vb{yuminaq}Vb, +*juminarpoq* (S is easy/good to Vb). This affix can also combine with privative Vb{-it}Vb $\Longrightarrow$ Vb{yuminait}Vb $\Longrightarrow^*$ +*juminaappoq* (S is difficult to Vb)

Relation shifters

Vb{-ðau}Vb, +*saavoq, -taavoq, -gaavoq* (stative passive, 'S has been Vb'ed'). This affix is formed by a combination of passive participle Vb{-ðaq}N (so see it for an explanation of the special sandhi rules) and N{-u}Vb (be). It thus only makes sense on divalent stems. It marks the Subject as being *one who has been* Vb'ed; he is in a state of *having been* Vb'ed.

Vb{nəqaq}Vb, +*neqarpoq* (dynamic passive, 'S is being Vb'ed').

Vb{-qatəgə}Vb, -*qatigaa* (A Vb's together with P).

Vb{-qategiik}Vb, -*qatigiipput* (the S'es Vb together, reciprocally). This affix only makes sense with endings in plural.

Vb{tət}Vb, ±*tippoq* (resultative passive, 'S is Vb'ed'). This is merely the affix Vb{tet}Vb, used with intransitive endings.

Vb{-uccuq}Vb, -*ussorpai (-ussuivoq)* (A Vb's with/for P one by one/bit by bit). This affix is formed through a combination of Vb{-ut(ə)}Vb and Vb{(q)cuq}Vb (repeated action), and as such it may remove an /aq/ on aq-stems. It forms intransitive with the HTR-morpheme {i}.

Vb{-ut(ə)}Vb, Vb{ccut(ə)}Vb, -*(ss)uppaa (-(ss)ussivoq)* (A Vb's with/for P). This affix *adds a Patient* to a monovalent stem, thus increasing its valency (making it divalent). For example, *kamappoq* (he is angry) $\Longrightarrow^*$ *kama**app**aa* (he is angry **at him**). However, if the stem already is divalent, this affix *exchanges the old Patient (P_1) with a new one (P_2)*. For example *nassippaa* (he sends it$_{P_1}$) $\Longrightarrow^*$ *nassi**upp**aa* (he sends (something$_{P_1}$) **to him**$_{P_2}$). When used with intransitive endings, the result may be reflexive (he Vb's with himself) or, if the ending is

234

plural, reciprocal (they Vb each other). However, this only makes sense if the Agent-turned-Subject is a person; if it is a *thing* the meaning may instead be resultative passive (S is Vb'ed). Otherwise, to assume intransitive form without changing its meaning, this affix uses the HTR-morpheme {ci} $\Longrightarrow^*$ *-(ss)ussivoq*. Lastly, notice there are several forms of this affix:

- Vb{-ut(ə)}Vb is the general form. It can remove /aq/ on aq-stems, and weaken a /Q/ to /r/ on strong q-stems (əǫ-stems). It may even (irregularly) cause gemination in a few lexicalised stems like *tunivaa* (he gives him (something)) $\Longrightarrow^*$ *tunniuppaa* (he gives it (to someone)).
- Vb{ccut(ə)}Vb is a variant that is commonly used on vowel-stems, but it *may* also be used in a sense of "reason for Vb'ing" similar to the affix Vb{-ccutə}N.
- Vb{'-t(ə)}Vb is an old variant of this affix, which caused gemination in the stem whenever possible. It is rarely used today, except perhaps to form new, official terms for specific concepts, but many lexicalised words have been formed by it. For example, *pitsippaa* (he buys (s.t.) for him) from {pisi}Vb (buy s.t.); *atuffappaa* (he read (s.t.) to him) from {atuvaq}Vb (he reads it), and so on. Every ut(ə)-stem in the dictionary is formed by one or another form of this affix.

Vb{-utəgə}Vb, Vb{ccutəgə}Vb, *-(ss)utigaa* (A Vb's with/because of P; P is A's means/reason for Vb'ing). This affix is a straightforward combination of the nominaliser Vb{-utə}N (tool/means for Vb'ing) or one of its variants, usually Vb{ccutə}N (reason for Vb'ing), and then the affix N{gə}Vb (P is A's N).

Vb{(v)vigə}Vb, *+(f)figaa* (A Vb's with respect to P; P is A's place/time for Vb'ing). This affix is a straightforward combination of Vb{(v)vik}N (Vb'ing place/time) or (rarely) 'person', or its variant Vb{'-vik}N, which may cause gemination in the stem, and then the affix N{gə}Vb (P is A's N). For example, *oqarpoq* (he says something) $\Longrightarrow^*$ *oqarfigaa* (he says something **to him**). For a (lexicalised) example with the geminating variant, consider *qujavoq* (he thanks (someone)) $\Longrightarrow^*$ *qutsavigaa* (he thanks **him**).

B.8 Negation (verbal and sentential)

This is the group of affixes designated by the label Vb{*negation*}Vb. Note that affixes from this group can appear *both* as part of a verbal stem, *and* as part of the sentential segment.

Vb{galuaŋŋit}Vb, *+galuanngilaq* (Vb not a bit/did not Vb however).

Vb{-it}Vb, *-ippoq* (is un-Vb'ing). This affix is found in many lexicalised stems, but it can seemingly also still be used in new combinations. It is used on stems, denoting a *property* or *state*, to reverse the meaning; e.g. *pinnerpoq* (he is handsome) $\Longrightarrow^*$ *pinni**ipp**oq* (he is '**un**-handsome' = 'ugly'). It is often used in exclamations, without any verbal ending at all. In these cases the final consonant is pronounced as [k], so with e.g. *alianarpoq* (it is sad, tragic) $\Longrightarrow^*$ *aliana**ak**!* (wonderful!).

Vb{ŋŋitluinnaq}Vb, *-nngilluinnarpoq* (Vb not at all).

Vb{ŋŋit}Vb, *-nngilaq* (negation, Vb not). This affix takes a completely idiosyncratic set of endings in some of the moods, if it is the last affix before the ending (see section 9.8 on page 183). It is a very common affix; partly because many Greenlandic verbal stems have an inherently negative meaning, so the only way to express the positive/opposite meaning is by negating the stem. For example *ajorpoq* (it is bad/broken/not working) $\Longrightarrow^*$ *aju**nngi**laq* (it is good/OK/working).

Vb{ŋŋitcuuq}Vb, *-nngitsoorpoq* (happened not to Vb; unfortunately). This affix indicates that the verbal action did not take place, although it was expected to. When used on the dummy base {pi}Vb and negated again using negative contemporative it means 'definitely Vb', e.g. *pi**nngitsoor**nanga aggissaanga* (I shall definitely come).

Vb{(q)piaŋŋit}Vb, *+(r)pianngilaq* (Vb not really).

Vb{qqajaŋŋit}Vb, *-qqajanngilaq* (Vb not at all).

Vb{-viŋŋit}Vb, *-vinngilaq* (Vb not really). Possibly also 'not at all'.

Vb{ŋŋivik}Vb, *-nngivippoq* (Vb not at all; definitly not).

B.9 Modifier (verbal stem)

This is the group of affixes designated by the label Vb{*modifier*}Vb. Unlike the extenders described above, several modifiers may appear in succession in a verbal stem, as indicated in figure B.2 by the loop. Many of them are 'adverbial' in the sense that their meaning often can be translated with an English adverb, such as 'strong**ly**', 'continuous**ly**', 'half-hearted**ly**' etc. They do *not* modify the valency of the stem, so although I shall generally give their 'DAKA-form' with intransitive endings, they can just as well be used in a transitive verb.

Degree

Vb{ðuqcuu}Vb / **Vb{ðurujukcuu}Vb**, *+torsuuvoq, +torujussuuvoq* (Vb's greatly). This is a combination of Vb{ðuq}N (intransitive participle), N{(q)cu|aq*}N, and lastly followed by N{-u}Vb $\Longrightarrow^*$ *+torsuuvoq*. The affix N{-rujuk}N can be inserted before N{(q)cu|aq*}N to yield $\Longrightarrow^*$ *+to**rujus**suuvoq* for added emphasis,

and it may even be repeated arbitrarily many times for further emphasis; e.g. +to***rujorujorujus***suvoq (Vb'ed very, very, very, … much). This is a very (very, very) common construction in ordinary speech.

Vb{-aluk}Vb, *-aluppoq* (Vb's here and there; Vb's a little).

Vb{-kujuk}Vb, *-kujuppoq* (Vb's somewhat/partially).

Vb{-kuluk}Vb, *-kuluppoq* (is rather/quite Vb'ing). This affix is seemingly only used with stems for states of being (is Vb'ing).

Vb{-kutcuuq}Vb, *-kutsoorpoq* (Vb's greatly). Notice that /c/ does not assimilate /t/ withing the stem, so we get *-ts-*.

Vb{-laaq}Vb, *-laarpoq* (Vb's a little).

Vb{(l)luinnaq}Vb, *+(l)luinnarpoq* (is completely Vb'ing). Seemingly only used with stems for states of being (is Vb'ing).

Vb{-ŋaaq}Vb, *-ngaarpoq* (Vb's greatly). When this affix is combined with the negation affix Vb{ŋŋit}Vb, we get ⟹ Vb{-ŋaaŋŋit}Vb, *-ngaanngilaq* (does not especially Vb).

Vb{-ŋajak}Vb, *-ngajappoq* (Vb's almost/more or less).

Vb{nəru}Vb, *+neruvoq* (is more/most Vb'ing). This affix is used for comparing verbal stems with an adjectival meaning. It is a combination of Vb{nəQ}N (the most Vb'ing) and N{-u}Vb (is an N). Another possibility is instead to verbalise Vb{nəqpaaq}N (the most Vb'ing) ⟹ Vb{nəqpaaju}Vb, *+nerpaa(ju)voq*. The parentheses indicate that some speakers actually will treat it as a verbal affix in itself and just say *+nerpaavoq* instead. A third possibility is to combine Vb{nəQ}N with N{(q)cu|aq*}N and then verbalise *this* combination instead, as ⟹ Vb{nərujukcuu}Vb, *+nerujussuuvoq* (Vb's much more). If you use this for comparison of two nouns, like "Nuka is big**er than** Piitaq", the object of comparison (the noun following 'than', here 'Piitaq') will be in the ablative case; e.g. *Nuka Piita**mit** an**neru**voq*.

Vb{-pajaaq}Vb, *-pajaarpoq* (is partly/more or less Vb'ing).

Vb{(q)piaq}Vb, *+(q)piaq* (is exactly/really Vb'ing).

Vb{qqaq}Vb, *-qqarpoq* (barely Vb'ed). In combination with the negation affix Vb{ŋŋit}Vb we get ⟹ Vb{qqaŋŋit}Vb (Vb's a lot).

Vb{qqik}Vb, *-qqippoq* (is very/completely Vb'ing). Notice, this usage is uncommon. Usually, this affix would mean 'again', but it is also attested in the DAKA with this second, unusual meaning.

Vb{qqinnaaq}Vb, *-qqinnaarpoq* (is completely Vb'ing).

Vb{-rujuk}Vb, *-rujuppoq* (Vb's a little).

Vb{-rujuuq}Vb, *-rujoorpoq* (Vb's a little).

Vb{-ruttuq}Vb, *-ruttorpoq* (is at the height of Vb'ing; as Vb'ing as possible). This affix is used to describe the moment when someone or something, being in one

state of Vb'ing, is just about to transition into another state of Vb'ing. The classical example is that of an aeroplane (or bird etc.). The verb *tingivoq* means 'it takes off'. It transitions from a state of being on the ground, to a state of flying. By adding this affix, we obtain *tinge**ruttor**poq* which describes that the aeroplane is now at the very moment of transitioning; just when the wheels lift off the ground.

Vb{tigə}Vb, +*tigaaq* (is as Vb as s.t.). This affix is used for comparisons, usually with something in the equative case. For example, *Piitaq angivoq* means 'Peter is big' (or tall). Now suppose we want to express that 'Piitaq is **as** big **as** Nuka'. We can achieve that by adding this affix to the verb and adding the ending N{tut} (equative singular) to Nuka: *Piitaq Nuka**tut** angi**tiga**aq*. Alternatively, we can express that "Piitaq is **as** big **as that**", where 'that' then refers either to something previously mentioned, or to something you indicate with e.g. your hand. This is done with a word such as *taama(k)* or *ima*[14] thus: *Piitaq **taama** angi**tiga**aq*.

Vb{ttiaq}Vb, -*tsiarpoq* (Vb's a little/a bit).

Vb{-Vmi}Vb, -*umivoq, -imivoq, -amivoq* (Vb's a little). This affix lengthens a preceding vowel, so we get /u/, /i/ or /a/ depending on the last vowel in the stem.

Vb{-ucaq}Vb, -*usarpoq* (is more or less Vb'ing).

Vb{vallaaq}Vb, +*vallaarpoq* (is too Vb'ing; is Vb'ing too much; is Vb'ing very much). When negated using Vb{ŋŋit}Vb we obtain $\implies$ Vb{vallaaŋŋit}Vb (Vb not so much).

Vb{-vik}Vb, -*vippoq* (is really/completely Vb'ing).

Vb{-viksuq}Vb, -*vissorpoq* is really/completely Vb'ing).

Manner

Vb{-(j)allak}Vb, -*allappoq, -jallappoq* (S suddenly Vb'ed a bit). This affix irregularly injects a phonotactically epenthetic /j/, rather than the regular /v/, whenever epenthesis is required by phonotactics; that is, following a long vowel.

Vb{-aqcuk}Vb, -*arsuppoq* (Vb's half-heartedly).

Vb{galuaq}Vb, +*galuarpoq* (would (otherwise) have Vb'ed, but…).

Vb{gasuaq}Vb, +*gasuarpoq* (Vb's quickly).

Vb{(g)innaq}Vb, -*innarpoq, -ginnarpoq* (is just/only Vb'ing). This affix irregularly injects a phonotactically epenthetic /g/, rather than the regular /v/, whenever epenthesis is required by phonotactics; that is, following a long vowel.

Vb{-jaallu}Vb, -*jaalluvoq* (habitually Vb's early).

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[14]They are both demonstratives. See appendix A for a description.

238

Vb{-jaaq}Vb, *-jaarpoq* (Vb's early).

Vb{-ləqtuq}Vb, *-lertorpoq* (Vb's quickly; Vb's shortly).

Vb{llarik}Vb, *-llarippoq* (S Vb's well).

Vb{(l)luaq}Vb, +*(l)luarpoq* (Vb's well). A very common affix.

Vb{-lussinnaq}Vb, *-lussinnarpoq* (Vb'ed in vain).

Vb{-luucaaq}Vb, *-luusaarpoq* (Vb's patiently/slowly/at one's ease).

Vb{nasuaq}Vb, +*nasuarpoq* (Vb's quickly). An alternative form of Vb{gasuaq}Vb described above.

Vb{niqluk}Vb, +*nerluppoq* (Vb's badly/unpleasantly).

Vb{niqliuq}Vb, +*nerliorpoq* (Vb's badly/unpleasantly).

Vb{-palaaq}Vb, *-palaarpoq* (Vb's half-heartedly/with difficulty).

Vb{-pallak}Vb, *-pallappoq* (Vb's quickly/hurridly).

Vb{-piluk}Vb, *-piluppoq* (Vb's strongly/violently/hard).

Vb{-piluuq}Vb, *-piloorpoq* (Vb's strongly/violently/hard).

Vb{qqisaaq}Vb, *-qqisaarpoq* (Vb's carefully/exactly).

Vb{-riasaaq}Vb, *-riasaarpoq* (Vb's suddenly/unexpectedly).

Vb{-riataaq}Vb, *-riataarpoq* (Vb's suddenly/unexpectedly).

Vb{-ruluk}Vb, *-ruluppoq* (Vb's hard/violently).

Vb{-ruluuq}Vb, *-ruloorpaa* (A Vb's P hard/violently).

Vb{-rucaaq}Vb, *-rusaarpoq* (Vb's slowly/at one's ease).

Vb{tsak}Vb, *-tsappoq* (becomes Vb'ing). This affix is seemingly only used with verbs for moods/emotions to indicate a change *into* a particular mood, feeling or state of mind.

Vb{-ummiq}Vb, **Vb{-*V*mmiq}Vb**, *-ummerpoq, -ammerpoq, -immerpoq* (becomes suddenly Vb'ing). This affix appears to used only with verbs for feelings, moods, emotions to indicate that the person suddenly shifts that state of mind. The variant Vb{-*V*mmiq}Vb just lengthens a preceding vowel; the two forms appear to be used interchangeably.

Phase of completion

Vb{galuttuinnaq}Vb, +*galuttuinnarpoq* (Vb gradually, more and more).

Vb{(gi)jaqtuaaq}Vb, *-iartuaarpoq,* +*jartuaarpoq, -kkiartuaarpoq, -riartuaarpoq* (Vb gradually, more and more). The (gi)-part is *not present* on vowel stems.

Vb{(gi)jaqtuq}Vb, *-iartorpoq,* +*jartorpoq, -kkiartorpoq, -riartorpoq* (Vb more and more). The (gi)-part is *not present* on vowel stems.

Vb{li}Vb, +*livoq* (S becomes Vb'ing).

Vb{-liq}Vb, *-lerpoq* (begin to Vb; be about to Vb).

Vb{-ŋajak}Vb, *-ngajappoq* (is almost Vb'ing).

239

Vb{nəkuu}Vb, +*nikuuvoq* (has once Vb'ed; has already Vb'ed). This affix describes a perfective state, but it can also be used to emphasise that something has once happened. For example, *Qaqortumiin**nikuu**vunga* (I have once been in Qaqortoq). Similarly, you can negate this affix with Vb{ŋŋit}Vb to express that you have *never* (yet) Vb'ed; *Qaqortumiin**nikuunngi**langa* (I have *never* been in Qaqortoq).

Vb{nialiq}Vb, +*nialerpoq* (set about to Vb).

Vb{ŋŋiliq}Vb, -*nngilerpoq* (has not Vb'ed for some time).

Vb{ŋŋiqsaa(q)}Vb, -*nngersaavoq, -nngersaarpoq* (is just about to Vb). Forms with or without the final /q/ can seemingly be used interchangeably.

Vb{qqa}Vb, -*qqavoq* (S is in a state of Vb'ing). Two other affixes with a similar meaning also exist, Vb{-ŋa}Vb and Vb{ma}Vb, but they are not actively used in word construction today, although you can find them in lexicalised stems.

Vb{qqajaa}Vb, **Vb{qqajaq}Vb**, -*qqajaavoq, -qqajarpoq* (is about to Vb; is almost Vb'ing). The two forms have similar meanings.

Vb{qcaarə}Vb, -*rsaaraa* (A is in the middle of Vb'ing P).

Vb{-riaq}Vb, -*riarpoq* (set about to Vb).

Vb{-riiqsima}Vb, -*reersimavoq* (has already Vb'ed). This combination of affixes describes a perfective state. Due to the confusing nature of Vb{sima}Vb, there may also be a notion of 'apparently', as if the speaker has *deduced* that the verbal action must have taken place, but has not himself observed it.

Vb{riiqnəkuu}Vb, -*reernikuuvoq* (has already Vb'ed). This combination of affixes also describes a perfective state. It may be less ambiguous than Vb{-riiqsima}Vb mentioned above.

Vb{sima}Vb, +*simavoq* (has Vb'ed). This affix describes a perfective state. For example, *ilinniarpoq* (he studies s.t.), but *ilinniar**sima**voq* (he has completed his studies). However, due to the many other meanings of Vb{sima}Vb, this usage may be less common today. Speakers may instead prefer Vb{nəkuu}Vb in this sense, since it is less ambiguous.

Vb{simaaq}Vb, +*simaarpoq* (S feels well after having Vb'ed). This affix describes a continuing state.

Vb{ssaaq}Vb, -*ssaarpoq* (has stopped Vb'ing; Vb's no longer).

Vb{yumaaqnəqtu}Vb, +*jumaarnertuvoq* (is slow to Vb; takes a long time to Vb).

Vb{yumaataaq}Vb, +*jumaataarpoq* (is slow to Vb; takes a long time to Vb).

Vb{yunnaiq}Vb, +*junnaarpoq* (Vb's no more; Vb's no longer). There is a variant of this affix with the same meaning, Vb{-gunnaiq}Vb. This variant is truncative on all stems, even q-stems, so for example *erserpoq* (the weather clears up) but *ers**ig**unnaarpoq* (there's heavy snow-fall). It is unclear to me whether either form can be used in all cases, or if this latter form is restricted to a few, lexicalised stems. The first form, *yunnaiq*, seems to be the most common.

240

Frequency and duration

Vb{ðarə}Vb, +*taraaq* (usually, habitually Vb's). This is probably a more literary style affix than Vb{ðaq}Vb.

Vb{ðaq}Vb, +*tarpoq* (habitually Vb's). This affix is used whenever an action is recurring (habitual), as opposed to occurring only once. Consider the question: "Do you drink coffee?" If you are holding a cup of something in your hand, then I might just be inquiring about what you are *presently* drinking. In that case, I could pose the question as *kaffisorpit?* However, if I instead want to know if you *habitually* drink coffee – if you are a *coffee-drinker* – rather than whether you are drinking it *now* specifically, then I would have to use this affix and instead say *kaffisor**tar**pit?* It is also always used whenever you have a subordinate clause in the iterative mood; e.g. *ullaakkorsio**raanga**ma kaffisor**tar**punga* (**whenever** I eat breakfast, I drink coffee). There are also a few specialities:

- If this affix takes the form -***s**ar*- (as it regularly does on a vowel stem), *and* if it is followed by passive participle Vb{-ðaq}N, then it is repeated, such that we get $\implies^*$ -*sar**ta**gaq*.

- Negating this affix with Vb{ŋŋit}Vb will just mean that the verbal action is not *habitual*. You might still be drinking coffee, but it is just not something you do habitually. However, if you instead want to express that you *never* drink coffee, you must instead replace Vb{ðaq}Vb with the special construction Vb{nəq ajuq}Vb (never Vb), such that instead of *kaffisor**tar**punga* you get *kaffisor**neq ajor**punga*. Even though this looks like two separate words, the construction should be regarded as a single affix, since it preserves the valency of the stem: If you use it on a divalent stem, you can add a transitive ending to Vb{nəq ajuq}Vb.

Vb{ðainnaq}Vb, +*taannarpoq* (Vb often/all the time).

Vb{gajuk}Vb, +*gajuppoq* (Vb often/habitually).

Vb{gallaq}Vb, +*gallarpoq* (Vb still/for the time being).

Vb{(g)innaq}Vb, -*innarpoq, -ginnarpoq* (always/continually Vb). This affix will inject an epenthetic /g/, rather than the usual /v/, whenever epenthesis is required by phonotactics.

Vb{Juaq}Vb, +*juarpoq, +tuarpoq* (Vb continuously/constantly). This affix uses a completely idiosyncratic sound rule: Whenever this /J/ is added to a *consonant*, it becomes a /t/. Otherwise, when added to a vowel, it just becomes an ordinary /j/. In other words: /CJ/ → /Ct/, and /VJ/ → /Vj/. This is, as far as I know, the only example of a /j/ displaying this behaviour. However, this affix is also used in a few combinations that are also listed in the dictionary, and which thus display the same behaviour:

- **Vb{Juaaq}Vb**, *+juaarpoq, +tuaarpoq* (Vb continuously/on and on)
- **Vb{Juainnaq}Vb**, *+juaannarpoq, +tuaannarpoq* (Vb always/continually)
- **Vb{Juaqsinnaq}Vb**, *+juarsinnarpoq, +tuarsinnarpoq* (Vb all the time; Vb again and again).

Vb{-juqtuq}Vb, *-jortorpai* (A Vb's all the Ps, one after another). Note, this affix only makes sense with the Patient marker in plural.

Vb{-juraq}Vb, *-jorarpai* (A Vb's all the Ps, one after another). Note, this affix only makes sense with the Patient marker in plural.

Vb{-kula(aq)}Vb, *-kulavoq, -kulaarpoq* (Vb often/habitually). Forms with or without the final /aq/ can seemingly be used interchangably.

Vb{llattiaq}Vb, *-llatsiarpoq* (Vb briefly/for a short while).

Vb{llattaaq}Vb, *-llattaarpoq* (Vb from time to time).

Vb{llatuaq}Vb, *-llatuarpoq* (Vb for once).

Vb{mmiqsuq}Vb, *-mmersorpoq* (Vb for a long time; for quite some time).

Vb{ŋŋisainnaq}Vb, *-nngisaannarpoq* (never Vb's). This affix is a possible alternative to using the aforementioned Vb{nəq ajuq}Vb construction to express 'never'.

Vb{-qattaaq}Vb, *-qattaarpoq* (Vb again and again).

Vb{qqaaq}Vb, *-qqaarpoq* (Vb first). This affix presupposes that you intend to express something about several Vb'ings, of which this is the first. For example, *oqa**qqaar**poq* (he said something (as the) first). Supposedly, this implies that there will be several other people saying things afterwards.

Vb{qqik}Vb, *-qqippoq* (Vb again).

Vb{(q)cuq}Vb, *+(r)sorpoq* (repeated action). This affix is probably not commonly used in ordinary word construction, but you can find it in many lexicalised words. In some of these cases, it also seems to have removed a preceding /ə/. For example, {apirə}Vb $\implies^*$ *aperaa* (A asks P something), but in combination with this affix, we get {apiqcuq}Vb $\implies^*$ *aper**sor**paa* (A questions P).

Vb{-tuaq}Vb, *-tuarpoq* (Vb for once/at least).

Vb{-umicaaq}Vb, *-umisaarpoq (-amisaarpoq, -imisaarpoq)* (Vb back and forth; up and down). There is also a variant of this affix, Vb{-*V*micaaq}Vb, which just lengthens the preceding vowel.

Vb{-ucaaq}Vb, *-usaarpoq* (keep on Vb'ing).

B.10   Time (sentential)

This is the group of affixes designated by the label Vb{*time*}Vb. Greenlandic does not, in general, distinguish between past and present, so many verbal stems

can actually mean both. The affixes in this category are instead used to distinguish between completed and future actions.

Vb{yumaaq}Vb, +*jumaarpoq* (vague future, 'shall eventually/at some point Vb').

Vb{niaq}Vb, +*niarpoq* (intended/inevitable future, 'intends to Vb').

Vb{nəkuu}Vb, +*nikuuvoq* (perfect, has Vb'ed). It is probably used more commonly than Vb{sima}Vb (see below) in this sense nowadays.

Vb{qqammiq}Vb, -*qqammerpoq* (Vb'ed recently). In combination with the affix Vb{ŋŋit}Vb ⟹ Vb{qqammiŋŋit}Vb it means 'some time ago' and with Vb{nəru}Vb ⟹ Vb{qqammiqnəru}Vb 'more recently'. With Vb{sima}Vb we get ⟹ Vb{qqammiqsima}Vb (plusquamperfect recent past) 'had recently'.

Vb{-riikatak}Vb, -*riikatappoq* (Vb'ed a long time ago).

Vb{sima}Vb, +*simavoq* (perfect, has Vb'ed). Apparently, this use of Vb{sima}Vb in a strictly temporal sense as a marking of 'past' is a recent invention. It has a number of other usages (marking the state of a completed action; marking an event as 'reported' rather than 'observed'), so there will undoubtedly be some confusion as to the meaning of this affix, depending on whom you speak to.

Vb{ssa}Vb, -*ssaaq, -ssapput* (future, 'shall Vb'). The meaning of this affix is 'shall' or 'should' in a temporal sense, but it *may* sometimes also be understood in the sense of an *obligation* to carry out the verbal action at some time in the future. This affix takes *five* of the six endings in the intransitive indicative mood in an irregular fashion, deleting the single /v/ from the mood marker, but *not* the doubled /(v)v/ in 3p.pl. Thus irregularly ⟹* -*ssaanga, -ssaatit, ..., -ssaasi* but regularly -*ssapput*.

B.11   Modality (sentential)

This is the group of affixes designated by the label Vb{*modality*}Vb. They are used to indicate the speaker's impression of the *likelihood* of the described verbal action; from something he has himself witnessed ('with his own two eyes'), to reported events that may or may not be entirely correct.

Vb{gunaq}Vb, +*gunarpoq* (it seems, undoubtedly). In combination with the affix Vb{ŋŋit}Vb ⟹ Vb{gunaŋŋit}Vb (certainly not). This combination can also follow Vb{naviaq}Vb (see below) as the required negation, but with the same meaning.

Vb{yunnaqsi}Vb, +*junnarsivoq* (probably, no doubt, hopefully). It may also be found without the final {si}, but with the same meaning. This form is used in a lexicalised combination with Vb{ŋŋit}Vb ⟹ Vb{yunnaŋŋit}Vb (probably not).

Vb{naviaq}Vb + Vb{*negation*}Vb, +*navianngilaq, +naviarunanngilaq, +naviarsimanngilaq, +naviarnani* (certainly not; expression of certain conviction). This

affix must always be followed by a negation; usually Vb{ŋŋit}Vb, but as mentioned above Vb{gunaq}Vb or Vb{sima}Vb can also appear inbetween. If this affix is used in the contemporative mood (where Vb{ŋŋit}Vb is not used) the negative contemporative endings are used instead as the mandatory negation element; thus e.g. with Vb{nani} (intransitive, 3r.sg) $\implies^*$ +*naviarnani*. These usages all presuppose some previous doubt on the subject.

Vb{ŋŋuattiaq}Vb, -*nnguatsiarpoq* (probably, as far as one can see).

Vb{qqajaqə}Vb, -*qqajaqaaq* (had nearly Vb'ed; should/ought to have Vb'ed (but did not)). Note, this affix is a true schwa-stem, since the last morpheme is Vb{-qə}Vb, so it uses the special endings for schwa-stems.

Vb{qquuq}Vb, -*qqoorpoq, -qqooqaaq* (must seemingly/supposedly have Vb'ed). It is often used in combination with Vb{-qə}Vb, thus $\implies^*$ -*qqoo**qa**aq*. It can be preceded by Vb{ssa}Vb (shall supposedly have Vb'ed).

Vb{sima}Vb, +*simavoq, -ssasimavoq* (has apparently Vb'ed). This affix can follow Vb{ssa}Vb (shall apparently have Vb'ed). As a modal affix Vb{sima}Vb is used to related a *reported* or inferred event; something you regard as virtually certain must have occurred, but which you nevertheless did not witness yourself.

Vb{simassa}Vb, +*simassaaq* (must necessarily have Vb'ed). The other possible combination, with Vb{ssa}Vb instead following Vb{sima}Vb. Vb{ssa}Vb alone also appears to be usable in this sense.

Vb{ssagaluaq}Vb, -*ssagaluarpoq* (should/would have Vb'ed (but…)).

B.12   Subjective colouration (sentential)

This is the group of affixes designated by the label Vb{*colouration*}Vb. They are used to express emphasis, animated speech etc. A small subgroup of them are used particularly with the imperative mood, or contemporative used in an imperative sense, to strengthen or soften the command in various ways.

Vb{galuaq}Vb, +*galuarpoq* (*were* Vb'ing, however … (e.g. s.t. came in the way)). This affix expresses something like the English subjunctive; a difference between reality and the expected. For example, with *sulivunga* (I worked), the expression *suli**galuar**punga* means something like 'I *were* working (but got distracted)'. The parenthetical clause is not a part of the actual meaning of the word, but just an example of the kind of explanation for the difference between the actual and the expected, implied by this affix.

Vb{galuttuaqə}Vb, +*galuttuaqaaq* (be careful, there's a danger he'll Vb).

Vb{gi}Vb, +*gujoq, +gipput, +gujaa* (and so (at length)/moreover he Vb'ed). This affix is the same as the morpheme {gi} found in the set of 'future' imperative endings. However, it seems to be rarely used outside the imperative. It affects

the mood marker in endings beginning in a single /v/, transforming the combination /iv/ → /uj/, so that for example Vb{gi}Vb{vuq} $\implies$ /+**giv**uq/ $\implies$ /+**guj**uq/ $\implies^*$ +*gujoq*. Similarly for Vb{gi}Vb{vaa} $\implies^*$ +***guj**aa* etc. However, the geminated /(v)v/ in intransitive indicative 3p.pl Vb**{(v)v**uq} is *not* affected, so we get $\implies^*$ *g**ipp**ut* in the regular way.

Vb{-innaq}Vb, *-innarpoq, -ginnarpoq* (just Vb'ing). This affix will irregularly inject an epenthetic /g/ (where phonotactics require epenthesis), rather than the regular /v/.

Vb{-kasik}Vb, **Vb{-kassak}Vb**, *-kasippoq, -kassappoq* (express disdain).

Vb{-llaq}Vb, *-llarpoq, -riallarpoq* (vivid/surprising action).

Vb{-llarumaaq}Vb, *-llarumaarpoq* (will Vb, just wait and see!).

Vb{-llassa}Vb, *-llassaaq* (will definitly Vb, just wait and see!). The last morpheme in this combination is Vb{ssa}Vb, so it has the same irregularities with certain endings in intransitive indicative as that affix.

Vb{(l)luinnaq}Vb, +*(l)luinnarpoq* (really/definitely Vb'ing).

Vb{(m)mi}Vb, +*(m)mioq* (and *then* he Vb'ed). This affix deletes initial /v/ from mood markers, so e.g. Vb{(m)mi}Vb{vuq} $\implies$ /+(m)**miv**uq/ $\implies$ /+(m)**mi**uq/ $\implies^*$ +*(m)mioq*.

Vb{niq}Vb, +*nerpoq* (I wonder/maybe). This affix can be used to pose a question, either explicitly using the interrogative, or implicitly when no interrogative ending exists.

Vb{ŋŋuaq}Vb, *-nnguarpoq* (affection/comfort).

Vb{-ŋucaq}Vb, *-ngusarpoq* (thank heavens, he Vb'ed).

Vb{-qə}Vb, *-qaaq* (intensifier, Vb highly/very).

Vb{-qəna}Vb, *-qinaaq, -qinapput* (there's a danger he'll Vb; take care or he might Vb). This affix behaves like Vb{ssa}Vb in intransitive indicative, deleting the single /v/ from the mood marker. It is used to *address* a 2p ('thou' or 'you'), but is *speaking* about a 3p ('he' or 'they') mentioned in the ending; e.g. *nakkaqinaqaa**q*** (be careful ('thou' or 'you') **he** will fall down).

Vb{-rataq}Vb, *-ratarpoq, -ratannguarpoq* (suddenly, surprisingly). This affix can also be followed by Vb{ŋŋuaq}Vb to express vivid surprise at something unexpected.

Vb{ssaqqaaq}Vb, *-ssaqqaarpoq* (he will Vb, just wait and see).

Vb{vallaaq}Vb, +*vallaarpoq* (Vb too much/so very much).

Vb{-vik}Vb, **Vb{viksuq}Vb**, *-vippoq, -vissorpoq* (really Vb'ing).

Imperative colouration

Vb{ðaq}Vb, +*tarlugu!, +tarniarit!* (remember to Vb!). When contemporative is used in an imperative sense, this affix can be added to turn the command

into a kind of reminder; e.g. *matu matullugu!* means 'close the door!' but *matu matusarlugu* is more like '**remember** to close the door!' It can also be used before ordinary imperative endings in the same sense, possibly followed by one of the other imperative modifiers like Vb{niaq}Vb; e.g. *naalanniarit!* means 'behave well!' (or literally 'obey!'), whilst *naalattarniarit!* could be an expression a parent would use to admonish a child (remember to behave well!).

Vb{gallaq}Vb, +*gallaat!, gallaak!* (softens the command). It forms irregular, contracted forms with Vb{-git} $\Longrightarrow^*$ +*gallaat* and Vb{-guk} $\Longrightarrow^*$ +galla**ak**; that is, /qg/ do not fuse to /r/ in the regular fashion, instead they annihilate each other.

Vb{-kisaq}Vb, -*kisaruk!* (negative command, 'don't Vb!').

Vb{-laaq}Vb, -*laarit!* (softens the command). This is commonly used as a polite request.

Vb{llariaa}Vb, -*llariaanak!* (negative imperative strengthener, 'don't (you) Vb!').

Vb{niaq}Vb, +*niarit!* (softens the command). Perhaps impatiently, but still a somewhat politer request than the unmodified imperative. It is, however, less polite than Vb{-laaq}Vb.

Vb{-qəna}Vb, -*qinak!, -qinasi!* (don't Vb!). This affix is another way of creating a negative imperative. The last part of this affix is the morpheme {na} that also appears in the negative contemporative, which is used as a negative imperative. The endings for 2p, Vb{nak} (sg) and Vb{nasi} (pl) are thus not repeated with this affix, but instead the person markers {k} and {si} are just added directly onto it.

Vb{-riaq}Vb, -*riarit!, -riarta!* (animated speech, 'come on, Vb!').

Vb{-riassa}Vb, -*riassajuk!* (try and Vb!), e.g. *oqarfigeriassajuk!* 'try and say something to him!'

Vb{-riiq}Vb, **Vb{-riiginnaq}Vb**, -*reerit!, -riiginnarit!* (Vb already now!, immediately).

B.13   Conjunction (sentential)

Some affixes have a distinctive meaning, often quite different from their 'ordinary' meaning, when used as the very last affix in a stem, in one of the subordinate or dependent moods; that is, contemporative, participial, causative and conditional. This group of affixes is denoted by the label Vb{*conjunction*}Vb. I shall use a similar kind of label to refer to the mood(s) that must be used for a given affix to have this particular, conjunctional meaning.

Vb{gaanni}, +*gaanni* (if/when one Vb's). This 'pseudo-affix' is a lexicalised combination of a morpheme {gaa}, meaning 'when(ever)', which is also the basis for the

iterative mood marker, and an 'impersonal' person marker {nni}. Its meaning corresponds to the Danish impersonal pronoun 'man', which may be translatable as '(some/any)one' in English. For example, *suli**gaanni*** means 'when one works, (then) …'

Vb{gallaq}Vb + Vb{*causative*}, +*gallarmat* (back then, when he Vb'ed). It locates the action within a specific, past time frame. For example, {mii'raq}N (child) + N{-u}Vb $\Longrightarrow^*$ *meeraa-* (is a child) + Vb{gallaq}Vb + Vb{gama} (causative, 1p.sg 'when I Vb'ed') $\Longrightarrow^*$ *meeraa**gallarama***, which means '**back then when** I was a child'. In ordinary English we would probably render this as 'in my childhood'.

Vb{galuaq}Vb + Vb{*causative*} / Vb{*contemporative*} / Vb{*participial*}, +*galuarmat, +galuarluni, +galuartoq* (although Vb).

Vb{galuaq}Vb + Vb{*conditional*}, *(-ssa)galuarpat* (even if Vb), possibly preceded by Vb{ssa}Vb.

Vb{yuma}Vb + Vb{*contemporative*}, +*jumalluni* (in order to Vb). With negative contemporative it can instead mean 'without Vb'ing'.

Vb{llaq}Vb + Vb{*causative*}, -*llarmat* (just as he Vb'ed; vivid narration).

Vb{-ŋaaq}Vb + Vb{*causative*}, -*ngaarmat* (because it is so Vb that…).

Vb{-ŋajaliq}Vb + Vb{*participial*}, -*ngajalersoq* (just before he Vb'ed).

Vb{niaqə}Vb + Vb{*contemporative*}, +*niaqaluni* (just as/even though he Vb'ed).

Vb{niaq}Vb + Vb{*contemporative*} / Vb{*participial*}, +*niarluni, +niartoq* (while he Vb'ed).

Vb{niariaq}Vb + Vb{*participial*}, +*niariartoq* (just after he Vb'ed).

Vb{niassa}Vb + Vb{*causative*}, +*niassammat* (so that he Vb'ed).

Vb{niassaqə}Vb + Vb{*contemporative*}, +*niassaqaluni* (though one should have).

Vb{niq}Vb + Vb{*participial*}, +*nersoq* (if perhaps/I wonder). Often used with the enclitic ∗{mita(ava)} as, or on, the main clause.

Vb{ŋŋitgallaq}Vb + Vb{*causative*}, -*nngikkallarmat* (before he Vb'ed).

Vb{ŋŋuaq}Vb + Vb{*negative*}, -*(lla)nnguar(n)ani* (without even Vb'ing; without in the least Vb'ing). It can optionally be preceded by Vb{llaq}Vb. Forms of negative contemporative with and without initial /n/ can be used interchangeably on q-stems.

Vb{qqaaq}Vb + Vb{*contemporative*} / Vb{*causative*}, -*qqaarluni, -qqaarmat* (only after Vb'ing; just after Vb'ing).

Vb{qqajaŋŋit}Vb + Vb{*participial*}, -*qqajanngitsoq* (long before he Vb'ed).

Vb{qqu}Vb + Vb{*contemporative*}, -*qqulluni* (in order to Vb). With negative contemporative it can instead mean 'without Vb'ing'.

Vb{-riallaq}Vb + Vb{*causative*} / Vb{*participial*}, -*riallarmat, -riallartoq* (when he had Vb'ed; surprise).

Vb{-riaŋŋuallaq}Vb + Vb{*participial*}, -*riannguallartoq* (first when he has Vb'ed, did …).

247

Vb{-riaq}Vb + Vb{*causative*} / Vb{*conditional*}, *-riarmat, -riarpat* (as soon as he Vb'ed).

Vb{-riaq}Vb + Vb{*contemporative*}, *-riarluni* (after he Vb'ed, then he …).

Vb{-ruttuq}Vb + Vb{*participial*}, *-ruttortoq* (just as he Vb'ed).

Vb{(t)siisigə}Vb + Vb{*contemporative*}, *+(t)siisigalugu* (until he Vb'es). The first part of this affix is Vb{(t)sii}Vb, where /t/ (completely regularly) is only inserted on vowel stems. However, it is *not* assimilated by /s/, and we thus get ***ts**iivaa* on vowel stems, and also on t-stems, where the stem's final /t/ is not assimilated either. There is also a nominal form with the same meaning, constructed with passive participle Vb{-ðaq}N $\implies$ Vb{(t)siicaq}N + N{*possessive*} $\implies^*$ *+(t)siisaa* (until he Vb'es), where 'he' is here marked by the 3p.sg possessive ending N{-a}.

Vb{sinnaq}Vb + Vb{*contemporative*} / Vb{*participial*}, *+sinnarluni, +sinnartoq* (after Vb'ing).

Vb{ssa}Vb + Vb{*negative*}, *-ssanani* (without Vb'ing).

Vb{ssaqqaaq}Vb + Vb{*participial*}, *-ssaqqaartoq* (while still Vb'ing).

Vb{surə}Vb + Vb{*contemporative*}, *+(na / ga)soralugu* (if perhaps he might be Vb'ing). This affix can be used to pose indirect questions somewhat similar to Vb{niq}Vb mentioned above; often considered a polite form of request. For example, *aperiartorpara ilaasinnaa**sora**lunga* (I went over to ask him, **if perhaps I might** be able to come along).

Vb{tət}Vb + Vb{*contemporative*}, *+tillugu* (while he Vb'ed). This is a very common construction; the 'he' is here (obviously) marked by the Patient marker {gu} in the ending. Note that Vb{tət}Vb is truncative on t-stems, so with e.g. LOC{ət}Vb we can for instance construct the word *illumii**t**illunga* (while I was in the house); there is only a single /t/, because the final /t/ in {ət} was deleted.

Vb{tət}Vb + Vb{*negative*}, *+tinnagu* (until/before he Vb'ed). Also a common construction. The same considerations as mentioned above also apply here.

Vb{-utəgə}Vb + Vb{*contemporative*}, *-utigaluni* (at the same time as he Vb'ed). The first part of this affix is Vb{-utə}N, and there also exists a few other nominal forms, using possessive endings, that nevertheless have a sentence-like meaning: When preceded by Vb{llaq}Vb $\implies^*$ *-llaataa* (just as he Vb'ed), and Vb{niaq}Vb + Vb{-riaq}Vb $\implies$ Vb{nia**riu**tə}N[15] $\implies$ *+niariutaa* (just as he Vb'ed). In both cases, the 'he' is marked by the 3p.sg possessive ending N{-a}.

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[15]Vb{-riaq}Vb is an aq-stem, so it drops the final /aq/ before the morpheme {utə}.

B.14 Enclitics

Lastly – both here and in a word – we have the enclitics, denoted by the label
*{*enclitic*} in figure B.2. Recall from chapter 6 that enclitics can be added to *any*
completed word, following any ending, and consequently use some sandhi rules
that differ slightly (but regularly) from the ordinary rules. I describe them in
section 6.3 on page 88.

*{**aa**}, +*aa* (vocative, 'O …'). This enclitic is used for addressing, possibly in rather
formal or solemn way. For example, *inuk* (human) $\Longrightarrow^*$ *inung**aa*** (o Man);
Ataatarput (Our Father) $\Longrightarrow^*$ *Ataatarpun**aa*** (O Father our, something you
would hear in a church).

*{**aasiit**}, +*aasiit* (as usual; how typical of…; there … goes again). For example
*Piitar**aasiit*** (that's just typical of Piitaq). When added onto a word already
ending in [a], one of the /a/ phonemes will usually just be deleted; for example
una (he/him) $\Longrightarrow^*$ *un**aa**siit* (how typical of him; him again)

*{**aat**}, +*aat* (if you please; – right?).

*{**guuq**}, +*gooq, -rooq, -nngooq* (it is said that…). Notice, when this affix is added
onto a consonant sound (apart from [q]), it will both assimilate *and* nasalise
the sound, yielding [ŋŋ] instead of the usual [kk] by the fricative rule; thus
for example *angut* $\Longrightarrow^*$ *angu**nng**ooq* (it is said of a man that…). This affix is
often used in narration, and when reporting events, but it can also be used in
questions: *Qanoq?* (what?) $\Longrightarrow^*$ *qano**rooq**?* (what was said? what news?).[16] It
is also often used when you ask someone to give your regards to someone else;
for example *Makka**gooq** inuulluarili* (give my well-wishes to Makka (when you
see her)).

*{**li**}, +*li* (but). An alternative is to use the particle *kisianni* with the same mean-
ing.

*{**li**}, +*li* (since, already then, since) when used on words describing the past. It
may also just emphasise the remoteness of the event even more: For example
qangarsuaq (a long time ago) $\Longrightarrow^*$ *qangarsuar**li*** (a **very** long time ago).

*{**lu**}, +*lu* (and). An alternative is to use the particle *aamma* with the same mean-
ing. Notice that you add this enclitic to the *last* word in a pair; that is, the word
that would have *followed* an 'and' in English. For example, "Kaali **and** Piitaq"
 $\Longrightarrow^*$ *Kaali Piitar**lu***.

*{**lusuuq**}, +*lusooq* (just like; as if).

*{**luunniit**}, +*luunniit* (or; neither nor; (not) even; (not) at all). Like *{lu} and
*{li} above, this enclitic is added to the word that would *follow* an 'or' in the corre-
sponding English sentence, such as "Kaali **or** Piitaq" $\Longrightarrow^*$ *Kaali Piitar**luunniit***.

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[16]Incidentally, *Qanorooq* is also the title of a television news programme.

When used on interrogative words like *kina?* (who?) $\implies^*$ *kinaluunniit* (anyone), it means 'any-', e.g. anyone, any time, whenever etc. In combination with a negation it means "not even" or "not at all". For example *inoqanngilaq, Piitar**luunniit*** (there were no people (at all), **not even** Piitaq); *sininngilanga* (I have not slept) $\implies^*$ *sininngilanga**luunniit*** (I haven't slept **at all**). According to Nielsen (2019, p. 53) the combination Vb{galuaq}Vb + Vb{*conditional*} + *{luunniit} means "even though" (or 'no matter'), for example *sumiuugaluaruttaluunniit* (even though we are from anywhere). In ordinary English you would probably say "no matter where we are from".

*{**maa(nna)**)}, +*maa*, +*maanna* (eh?; how is it?). This enclitic is often shortened to just *{maa} nowadays. You can often hear it following the interrogative *qanoq*, like *qanormaa(nna)?*.

*{**mi**}, +*mi* (what about? though, indeed).

*{**mita(ava)**)}, +*mita*, +*mitaava* (I wonder…; might it be that…). This enclitic is also commonly used with interrogative words like *qanoq*, and when used with a verb the verbal stem will contain the affix Vb{niq}Vb which also expresses wonder.

*{**(t)taaq**}, +*(t)taaq* (also).

*{**tuq**}, +*toq* (expression of a wish).

*{**una**} (sg), *{**uku**} (pl), +*una*, +*uku* (it is …). This enclitic is actually a demonstrative, which is why it exists in both a singular form, *{una}, and a plural form *uku*. It is often used with interrogatives like *suna* (what) $\implies^*$ *suna**ana**?* (what is that?) or in plural *suut* $\implies^*$ *suunuku?* (what are those?). It can also be used with names: If I call someone, or pick up my phone, I might start by saying *aluu, Stiani**una*** (hi, **it's** Stian).

Annotated Bibliography

In this annotated bibliography I have added some further comments to each of the entries, to describe their contents and my personal opinion of their merits or usefulness. You can therefore also read the bibliography as my recommendation for each of the listed items.

Bergsland, K. (1955). *A grammatical outline of the Eskimo language of West Greenland*. Manuscript typed by Skrivemaskinstua, Stortingsgata 18, Oslo, Norway. *An interesting grammar with many historic details, especially on the (now lost) dual forms. Unfortunately, it only exists as a typewritten manuscript.*

Bjørnum, S. (2003). *Grønlandsk grammatik*. Forlaget Atuagkat, Nuuk, Greenland. *This book is probably* the *Graphemistic grammar* par exellence. *It contains endless tables of endings, as well as a list of some commonly used affixes. There is also an extensive list of demonstratives (pronouns and adverbs), and a description of sentence construction.*

Brochmann, H. (1998). *Qanoq 1*. Atuakkiorfik, Nuuk, Greenland, 3 edition. *Teaching materials in the Graphemistic tradition, using the new orthography. This book was meant as a supplement to Hertling's* Qaagit! *books, but with a focus on written, rather than spoken Greenlandic. It purports to give a presentation of some essential grammatics, but its 'explanations' generally amount to mere superficial statements about the alternating forms of affixes with no description of the* pattern *governing these alternations. As such, it compliments* Qaagit! *perfectly.*

Chomsky, N. (1956). Three models for the description of language. *IRE Transactions on Information Theory*, 2:113–124. *Chomsky's seminal paper wherein he suggests the use of grammars, i.e. sets of generative rules, as a model of language description and analysis.*

Fortescue, M. (1983). A comparative manual of affixes for the inuit dialects of Greenland, Canada and Alaska. *Meddelelser om Grønland, Man & Society*,

4. *A list of affixes with comparison of the morphemic forms between the main dialects of inuit languages. The notes are terse, but readable, and provide many interesting details. It is an affordable alternative to the Comparative Eskimo Dictionary.*

Fortescue, M. (1984). *West Greenlandic*. Croom Helm, Dover, New Hampshire. *A rather terse grammar, but readable and with many interesting details. It is unfortunately not structured in a particularly 'pedagogical' fashion, and details about a particular morpheme can be scattered throughout the book.*

Fortescue, M., Jacobson, S., and Kaplan, L. (2010). *Comparative Eskimo Dictionary With Aleut Cognates*. Alaska Native Language Center, Fairbanks, Alaska, 2 edition. *A dictionary of reconstructed morphemic forms in the hypothetical 'proto-Eskimoic' ancestor language. This dictionary allows comparison of the present form of morphemes between the main branches of the inuit languages. An invaluable, but sadly also quite rare and expensive, aid in the search for the underlying morphemic forms.*

Hertling, B. (1994). *Qaagit!* Pilersuiffik, Nuuk, Greenland, 3 edition. *Teaching materials in the Graphemistic tradition, using the new orthography, and with a focus on spoken Greenlandic, especially everyday-language use. It employs a method well-known from the teaching of English as a foreign language in the Danish school system, with small dialogues to be memorised and repeated by the students. This method works well for a language like English, where words can be recombined to form new sentences, but it is completely unsuitable for a language where words have complex meanings, corresponding to phrases or entire sentences in English.*

Janussen, E. (1987). *Håndbog i grønlandsk grammatik*. Pilersuiffik. *A small, unmistakably Graphemistic, handbook of Greenlandic grammar. It contains no explanations or details, and is as such, useless, except perhaps for a quick reference. However, the author admirably goes against the Grammaric tradition and tries to provide* truly Danish *words for many of the technical terms, instead of the Grammaric nonsense that besets so many other books on the subject.*

Langgård, P. (1997a). *Forsøg til en forbedret grønlandsk pædagogisk grammatica*. Forlaget Atuagkat, Nuuk, Greenland. *This is Per Langgård's grammar wherein he describes the sound rules, the construction of the system of endings, and some common affixes. The book is short and somewhat terse, and, despite its name, some people (with Graphemistic tendencies) consider it un-pedagogic, because its presentation is abstract and rule-based.*

252

Langgård, P. (1997b). *Grønlandsk for voksne*. Forlaget Atuagkat, Nuuk, Greenland. *Per's teaching materials that originally accompanied his grammar. They have recently been recast in digital form with video lessons and auxiliary tools. These materials also exist in English. See* https://learngreenlandic.com.

Nielsen, F. A. J. (2019). *Vestgrønlandsk grammatik*. Books on Demand, København, Danmark. *A thoroughly Grammaric description of the Greenlandic language. This book follows in the tradition of Kleinschmidt and others, and gives some details on the underlying morphemic forms, underlying phonemes etc. It is not a particularly* readable *book for a non-specialist, but it contains many details on historical forms not found in other recent grammars.*

Olsen, L. L. and Hertling, B. (2011). *Grønlandsk tilhængsliste*. Ilinniusiorfik, Nuuk, Greenland, 2 edition. *A Graphemistic list of affixes with examples of their usage. This book contains nothing essential that cannot also be found in the DAKA dictionary, which in turn contains very little of importance.*

Rasmussen, C. (1888). *Grønlandsk Sproglære*. G.E.C. GAD, Kjøbenhavn, Danmark. *A presentation of the contents of Kleinschmidt's orginal "Grammatik der grönländischen Sprache" from 1851, reworked into Danish. The presentation is less terse than in Kleinschmidt's book. However, it is mainly interesting for historical reasons; e.g. it contains an interesting description of the dual endings, which, at that time, had not yet fallen completely out of use.*

Sadock, J. M. (2003). *A Grammar of Kalaallisut*. LINCOM GmbH, München, Germany. *A technical, linguistic grammar. It is unreadable and completely useless for a non-specialist who simply wants to learn the language.*

Schultz-Lorentzen, C. W. (1951). *Det Vestgrønlandske Sprog*. Statsministeriet, København, Danmark. *A newer presentation of Greenlandic grammar, using the old orthography. The presentation is given in the style of Kleinschmidt and Chr. Rasmussen etc., albeit somewhat abbreviated. There is nothing essential in this book, compared to the work of Chr. Rasmussen, but it does have the advantage of being generally more readable, and thus more accessible, by virtue of being typeset with a familiar serif font, rather than a blackletter font.*

Schultz-Lorentzen, C. W. (1958). *Den Grønlandske Ordbog*. Kirkeministeriet, København, Danmark. *A relatively recent dictionary using the old orthography. This is a useful alternative to the Comparative Eskimo Dictionary, since the old orthography retains more information on the underlying phonemes than a dictionary using the new orthography.*