STUDIA TURCOLOGICA CRACOVIENSIA

14

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Standard Turkic C-Type Reduplications

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In line with the classical Middle Eastern tradition of somewhat inflated – but rhyming – titles, the present work could be named *The Book of Explication of Turkic Reduplication*. In line with the more prosaic reality, however, it shall be said that its main goal is to draw a general outline of the past and the present of one type of Standard Turkic partial interfixed reduplications whereby, primarily, adjectives and adverbs are intensified by having their initial mora repeated and prepended to the base with a lexically determined consonant in between, e.g. Tksh. *kara* ‘black’ → *ka.p.kara* ‘jet-black’, Trkm. *güry* ‘dry’ → *gu.s.güry* ‘completely dry’.

The novelty of the present work consists in a different attitude. Previous works typically only focused either on the synchronic state in modern Turkish, or on the general theoretical picture, and were based on highly selective data. This one assembles possibly complete collections of examples from more than twenty Turkic languages, and analyses them as a whole from a diachronic perspective, and combining etymological, historical-comparative, and quantitative methodology.

The book begins with an introduction to the problem and setting of general guidelines of composition (chapter 1), then proceeds to present and comment on the material (chapter 2), and then to analyse it and make general observations (chapter 3). Conclusions scattered across the book are then collected and summarized in chapter 4. Finally, accessory material and considerations are presented in the appendix.

The current shape of this work is the result of a collective effort of many people. Several of them have influenced it directly. In particular, my thanks are due to (alphabetically): José Andrés Alonso de la Fuente (Vitoria-Gasteiz, Spain), Faruk Gökçe (Ankara/Diyarbakır, Turkey), Henryk Jankowski (Poznań, Poland), Tomasz Majtczak (Cracow, Poland), Rafał Molencki (Katowice, Poland), Michał Németh (Cracow, Poland), Hatice Sofu (Adana, Turkey), Marek Stachowski (Cracow, Poland), Kamilla Termińska-Korzon...
(Katowice, Poland), and Jussi Ylikoski (Tromsø, Norway). I would also like to express my gratitude to my wife, without whose support and patience this work would have forever remained a wishful plan.

Needless to say, all the remaining errors, inaccuracies, and weaknesses are my own.
1. Introduction

This chapter introduces reduplications, gives an overview of the state of the art, sets the objectives for the present work (1.1), and explains the guidelines observed during its composition (1.2).

1.1. Problem

This section introduces the problem discussed in this book. First, it explains what the main subject is (1.1.1), then it sketches a general (extra-Altaic) background (1.1.2), next it gives an overview of previous research into the phenomenon (1.1.3), and finally it uses this information as background against which to set the primary objective of the work (1.1.4).

1.1.1. Subject

The term reduplication is used in the literature to refer to a wide array of repetitions. The present work only discusses one type in the Turkic languages. Primarily, it is a method of intensifying adjectives and adverbs, which yields a form composed of the initial mora of the original word with a lexically determined closer (typically a single consonant) appended to it, and prepended as a whole to the original word itself, for example: Tksh. bejaz ‘white’ → be.m.bejaz ‘snow-white’, Trkm. dölý ‘full’ → dosdölý ‘absolutely full’. The process is sometimes referred to as “first syllable reduplication” or “fixed-coda reduplication”; a more accurate name would be “partial interfixed reduplication”. See 3.2.6 for a more detailed discussion.

The present work is devoted to a type where the closer is a single or doubled consonant. It will be called the “C-type”. Other closers are also possible in the Turkic languages (see tab. 1.1), but they are far less numerous and, it might be suspected, secondary to the C-type.
Some terms are occasionally used as mental abbreviations in the present work. For clarity, their slightly more formal but still readable definitions are provided below. (They are given in the alphabetical order, but the reader might want to begin with the term *reduplication*.) Note that they are limited to the usage in the present work, and do not aspire to capture all the senses in which these terms can be found employed in the literature (see below). Also, the term *homolocal* has been introduced for use in the present work.

**anlaut** The first segment in a word, or less commonly, in a syllable.¹

**auslaut** The last segment in a word, or less commonly, in a syllable.¹

**base** The word that undergoes →reduplication. The repeated part of the anlaut of the base will be called the →head, and the not-repeated part of the auslaut the →tail. A secondary phonetic modification may be applied to the base regardless of the reduplicated anlaut (see 3.1.19).

**base meaning** (as a mental abbreviation) The meaning of the →base.

**C₁** (as a mental abbreviation) The initial (not: first) consonant of the →base.
In bases with a vocalic →anlaut, C₁ is null (∅).

**C₂** (as a mental abbreviation) The first postvocalic consonant of the →base.

**closer** The segment inserted between the →reduplicated anlaut and the →base during →reduplication. The closer can be null (∅), although, it seems, only in Mongolic.

**closing consonant** (as a mental abbreviation)
1. A single consonant acting as a →closer.
2. A double consonant, especially pp, acting as a →closer.

**head** (of the base) The part of the anlaut of the →base that is repeated during →reduplication. The head cannot be null (∅).

**homolocal** Pronounced at the same place of articulation.
This term has been introduced to avoid the inaccurate term *homorganic* which might be also misleading, especially for speakers of German (compare the definitions in e.g. Crystal 2008 and Trask 1996 versus those in e.g. Bußmann 1990 and Glück 1993).

**mprs-language** (mental abbreviation) Any Turkic language in which at least three of m, p, r, and s are attested as a →closer. See 3.2.1.

¹ After Trask 1996, who considers the terms to be one of those “largely confined to the older philological literature” and “often maddeningly difficult to look up” (p. viii). It is nevertheless preferred in the present work as being more practical and more widely applicable than “onset” or “the beginning of the word/syllable/…”. Mutatis mutandis, the same applies to *auslaut*. 
**p-language** (mental abbreviation) Any Turkic language that is not an \(mprs\)-language.

**reduplicated anlaut** Copy of the \(→\)head created during \(→\)reduplication\(_1\), and prepended to the \(→\)base with a \(→\)closer in between. A secondary phonetic modification may be applied to the reduplicated anlaut regardless of the head (see 3.1.19).

**reduplicated meaning** (as a mental abbreviation) The meaning of a \(→\)reduplication\(_2\).

**reduplication**

1. (in the present work) Word-derivative method yielding a form composed of the \(→\)reduplicated anlaut, plus the \(→\)closer, plus the \(→\)base.

   \[
   \begin{array}{c}
   \text{toparlak} \\
   \rightarrow t o \ s \ p a r l a k
   \end{array}
   \]

   Primarily, the meaning of reduplication\(_1\) is intensification of adjectives and adverbs. The reduplicated anlaut is typically identical to the head; in the C-type, the closer is necessarily a single or double consonant, and most commonly \(p\); the head is almost always the initial mora of the base (see 3.2.6 on the use of morae in the description).

2. (as a mental abbreviation) The form resulting from \(→\)reduplication\(_2\).

**tail** (of the base) The part of the auslaut of the \(→\)base that is not repeated during \(→\)reduplication\(_1\). The tail cannot be null (\(∅\)).

Note that the above definition of reduplication refers to the result rather than to the process. This is because the actual mechanics of the phenomenon are not, in fact, known. Traditionally, descriptions assume that the initial syllable is doubled, its vowel shortened, and, if it existed, its final consonant dropped. However, the same final form of reduplication\(_2\) can be also created by other processes, and there is no actual reason to believe that the customarily assumed one is really the one; see 3.2.6.

In the literature, the term reduplication can be found referring to a number of formations that the above set of definitions does not cover. Güler 2003: 67 gives a list of thirteen types of repetitions in Turkish (of one of which the C-type is a subtype); a much shorter list can also be found in Müller 2004: 15. It is my belief that such liberal use of the term has resulted in obfuscating it, and that it would be beneficial if it were reserved for what is sometimes called “partial
reduplications”, i.e. those where not the entire word is repeated (as e.g. in Tksh. kara (my) kara ‘very black’, güzel.ler güzel.i lit. ‘beauty of beauties’, var.yr var.maz lit. ‘comes not-comes’ → ‘as soon as [he/she/it] comes’, &c.). Especially, petrified nominal compositions would be better left excluded (e.g. Tksk. eski püskü lit. ‘old shabby’, güçlü kuvvetli lit. ‘strong powerful’, &c.).

Still, not all types of partial reduplications are covered by the above set of definitions. In particular, the so-called “m-reduplications” (e.g. Tksh. kitap mitap ‘books and such’) and “echo-words” (e.g. Tksh. delik dešik ‘all in holes’, ufak tefek ‘tiny’, see also Schönig 1988) deserve, I believe, a more specialized term than the simple repetition or doubling, but they are not discussed in the present work, and therefore excluded from the special definition of the term provided here.

Out of the many arbitrary ways to classify all the possible partial interfixed reduplications into types, it appears that the closer is the most useful criterion for the Turkic languages. Five main types can be discerned in the material, see tab. 1.1. Several unclear examples, possibly not in fact reduplications at all, do not fit into any of them, e.g. Tksh. ĕyrlĕyplak ‘stark-naked’, or paramparča ‘shattered, in pieces’. Not recognized as a separate type are here those reduplications where the closer is identical to the first postvocalic consonant of the stem, e.g. Az. jumjumšag ‘very soft’, Uzb. japjapalåq ‘completely flat’, Yak. čepčepčeki ‘very cheap’, &c., see 3.1.6.

<table>
<thead>
<tr>
<th>Type</th>
<th>Closer</th>
<th>Example closer</th>
<th>Example reduplication</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>C or Ĺ</td>
<td>p, pp</td>
<td>Tksh. kapkara, appak</td>
</tr>
<tr>
<td>V</td>
<td>V</td>
<td>a</td>
<td>Bshk. karakaršy</td>
</tr>
<tr>
<td>CV</td>
<td>CV or ĹV</td>
<td>pa, ppa, ry</td>
<td>Tksh. güpegündüz, Uzb. jäppajalyñiz, Yak. örüöhos</td>
</tr>
<tr>
<td>CVC</td>
<td>Cₐ VCₜ</td>
<td>bys</td>
<td>Yak. debisdeŋ</td>
</tr>
<tr>
<td>ma</td>
<td>ma, Vma, or Cma</td>
<td>ma, ama, pma</td>
<td>Tksh. karmakaryşy, Kklp. karamakaryşy, Bshk. kapmakarşy</td>
</tr>
</tbody>
</table>

Table 1.1. Classification of the most common types of Turkic partial interfixed reduplications by the closer. Note that reduplications with a long consonant are not considered separate types here. This is for two reasons: 1. historically, they are most probably just emphatic variants of reduplications with a single closing consonant, which 2. came about through lengthening (doubling), not elision (i.e. appak ‘snow-white’ < apak id. rather than *apapak id.), see 3.1.8.
By far the most common and most numerously represented in the Turkic languages, is the C-type, and it is to it, that the present work is exclusively devoted. See 1.1.4 for a more detailed statement of the objectives.

1.1.2. Background

Reduplication is quite a common phenomenon, but the specific type discussed here (see 1.1.1) is much less so. In the general vicinity of the Altaic languages, it seems that it only appears as a borrowing from one of them. See 3.4.3 for an overview of the Altaic state.


In Eastern Armenian, the formation of reduplications proceeds like in Turkish, and like in Turkish, it “conveys an intensive meaning, particularly of qualitative and colour adjectives” (Dum-Tragur 2009: 677). The closing consonant can be p’ or s. It seems that the rule for choosing between them might be that the closer should not be homolocal with C1 (Dum-Tragut 2009: 677); see 3.1.4 on how this applies to the Turkic material. Examples: bas-barjr ‘very high’, čep'-čermak ‘very white’, čop'-čor ‘very dry’, dep'-delin ‘very yellow’, kap'-karč ‘very short’, kas-kanač ‘very green’, kas-karmir ‘very red’, pas-parap ‘very idle, very useless’, sep'-sew ‘very, really black’, šip'-šitak ‘completely, really true’.

Also Tajik has borrowed reduplication from Azeri, the C- and other types. It is used in the spoken language with some qualitative adjectives, especially colour names, as a means of intensification. The closing consonant is always p in the C-type, and, apparently, pa in the CV-type. Unlike in the Turkic languages, the accent remains final, and the initial syllable only receives a secondary stress. Examples: آسان-آپّه آپّه-آسان ‘easy as pie / as winking’, تاریک-تارّه تارّه-تاریک ‘dark as dark (could be)’, دُرست-دپّه دپّه-دُرست ‘absolutely right, spot on’, زاب-زابّه زابّه-زاب ‘bright yellow’, سفید-سپ سپ-سفید ‘snow-white’. As in Turkish, the close homotypy of certain reduplicated adjectives is due to Azeri influence, and indeed, some examples are quite clearly borrowings (see below). He also suggests that the closer is m if C1 is a voiced consonant, and p if it is not, although the rule
is not without exceptions; see 3.1.4 on the relation between the closer and \( C_1 \) in Turkic. The reduplicated anlaut does not necessarily match the phonetics of the base. Examples: \( \text{dim}-\text{duraz} \) ‘very long’, \( \text{dim}-\text{duz} \sim \text{dib}-\text{duz} \) ‘very exact’, \( \text{ip}-\text{isp} \) ‘very white’, \( \text{sip}-\text{siye} \) ‘pitch black’, \( \text{sip}-\text{soq} \) ‘quite healthy’, \( \text{tim}-\text{tij} \) ‘very sharp’, \( \text{tip}-\text{temiz} \sim \text{tur}-\text{temiz} \) ‘very clean’, \( \text{zim}-\text{zerd} \) (Authier [in print]: 13) \sim \text{zép-zérd} \) (Gruunberg 1963: 37) ‘very yellow’, \( \text{zünde} \) ‘alive’ \rightarrow \text{zip-zünde xurde} ‘to devour raw’.

Finally, the Ingilo dialect of Georgian, and the Nij and Vartashen dialects of Udi, all spoken in present-day Azerbaijan, have also acquired the \( C \)-type reduplication from Azeri. In the former, apparently, only \( m \) is used as a closer while in the latter two only \( p \). Examples: Ingilo: \( c'i-m-c'itel \) ‘very red’, \( yi-m-yiaj \) ‘fully open’, \( ma-m-mart'oij \) ‘completely alone’, \( pe-m-peq'sola \) ‘absolutely bare-foot’, \( u-m-umarilo \) ‘absolutely unsalted’; Nij/Vartashen: \( bo-p-boxo \) ‘very long’, \( c'vo-p-c'voa'ya \) ‘red red’, \( ga-p-gari \) ‘very dry’, \( k'e-p-k'eze \) ‘very sour’, \( ma-p-marinj \) ‘absolutely black’.


In this light, it seems peculiar that shapes rather similar in built and meaning to the Turkic and Mongolic ones can be found in Finnish and perhaps Estonian. It appears that not much research has been devoted to this specific type of reduplication even though the phenomenon in general certainly did not go unnoticed; see Šijanova 2012. As for Finnish, the rather large and comprehensive grammar, VISK, barely mentions them (§§406 and 607); as for Estonian, EKK only lists
Figure 1.1. The Turkic, other Altaic, and neighbouring languages.
them in a section on orthography (O 42), while the also large EKG and the specialized paper by M. Ereit (2008) apparently omit them entirely.

Similarly to their Turkic counterparts, the Finnish and Estonian examples are intensified adjectives and adverbs which only have their initial mora reduplicated, but unlike them, they tend to use a CV sequence as a closer. The C-type which dominates the Turkic scene, appears to be absent. Finnish examples (J. Ylikoski (Tromsø, Norway) – p.c., Lindström 1995, Müller 2004: 329, Tuomi 1991): *piripinnassa* ‘(to be) full to the brim’ and *piripintaan* ‘(to become, to pour, &c.) full to the brim’, *putipuhdas* ‘completely clean’, *supistemainen* ‘purely Finnish’, *tipotiessään* ‘completely lost’, *täpötyhjä* ‘completely empty’, *täpötyhyä* ‘completely full’, *upouusi* ‘brand-new’, *ypöyksin* ‘completely alone’; Estonian examples (EKK): *uhius* ‘brand-new’, *võhivõõras* ‘total stranger’.

### 1.1.3. State of the art

Over a thousand years, study of Turkic reduplication appears to have intensified at an almost exponential pace. The first description of reduplication comes from Maḥmūd al-Kāšārī, and is followed by a six hundred year long pause. (Chaghatai material is not included in the present work, see 1.2.1 for the reason.) François à Mesgnien Meninski’s account precedes a two hundred year long gap. In the 19th century, research finally gains impetus, and it does not appear to be slowing down today. This subsection briefly outlines the background against which this book is set (see 1.1.4).

**11th century**

The earliest description of reduplication, greatly predating all the others, was given by the brilliant Maḥmūd al-Kāšārī in his *Compendium*. He described the process so: “The rule about colors and exaggerating the description of things is to take the first letter of the word and join it to *bā*’ in most of the Turkic dialects, but to *mīm* in *Oγuz*.” (Dankoff/Kelly 1982: 261) which, apart from setting the terminus ante quem for both reduplication itself, and the diversification of closing consonants, shows that al-Kāšārī viewed reduplication as a morphological or word derivative phenomenon rather than a simple combination of an, admittedly, somewhat limited in scope but otherwise independent intensifier, and an adjective. In this, he surpassed some of the modern scholars by almost a millennium.

To be fair, it must be mentioned that reduplicated anlauts are in fact called “exaggerative particles” or just “exaggeratives” in other parts of the book (*āp* in *āp āgū* ‘very good’ (p. 87), *köm* in *köm kök* ‘deep gray’ (p. 267), possibly also *čim*
in ĝim ĝīg ‘very raw’ (p. 267)), but since the same term is used to refer to köp in köp kök ‘very blue’ and sap in sap saryg ‘very yellow’ in the same entry where the previously adduced description is given, I am convinced that it is simply al-Kāsh-yaṛi’s shorthand term for ‘reduplication’ and ‘reduplicated anlaut’, which does not imply that his understanding of the phenomenon was any different from what he had stated explicitly.

17TH–19TH CENTURY

The next grammatical description that I am aware of was given as much as six hundred years later for Ottoman by François à Mesnien Meninski (note that Chaghatai material is not included in the present work, see 1.2.1), who says: “Ad intendendam autem significationem Adjectivorum utuntur particulis certis ad fonum quasi effectis, quas Adjectivo separatim præponunt” (Meninski 1680: v 39). It seems that, while noticing the oddity of reduplicated anlauts, Meninski was not prepared to abandon the classical Graeco-Roman perspective on grammar.

As far as Ottoman is concerned, a slightly more definite statement can be found in Jehlitschka 1895: 56f, where the reduplicated anlauts are described as “Vorsatzsilben […], welche mit demselben Konsonanten und Vokale beginnen, sonst aber ziemlich willkürlich sind”, and it is only in Németh 1916: 41 and Deny 1921: 236, that the phenomenon is fully recognized as a reduplication. The great majority of 17th–19th century grammars, however, either do not seem to mention it at all, or provide effectively no grammatical commentary at all (see 2.13.1 for a list).

20TH CENTURY – GRAMMARS AND DICTIONARIES

The turn of the 19th and 20th centuries, it appears, brought about the change in interpretation of reduplication. Pekarskij’s Yakut dictionary of 1907–30 well exemplifies the doubts of the 19th century. Reduplicated anlauts are typically presented as separate entries in it, and commented with more than ten different formulas, composed of such fragments as ‘alliterating particle/syllable/word’ and ‘intensifying the adjective/concept …’ or ‘intensifying the adjectives beginning with …’. Other dictionaries of the period, Budagov 1869–71 and Radloff 1893–1911, contain uncomparably fewer examples but they, too, are inconsistent in their description, hesitate between viewing reduplicated anlauts as particles, syllables or words, and are unclear about what the actual mechanism of their connectivity with specific adjectives is. In the case of sap, for example, Radloff suggests in fact a universal applicability (“слогъ, усиливающій прилагательныхъ – eine Eigenschaftswörter verstärkende Vorsilbe”).
In grammars, it was mentioned earlier, the term *reduplication* begins to dominate with the break of the 20th century, which is almost as soon as Turkic grammars start to be published in greater quantities, and to discuss reduplication. In dictionaries, however, the practice of isolating reduplicated anlauts into separate entries continues even today. In itself, such organization of the dictionary is not necessarily a sign of the lexicographer’s preferred interpretation; SKzKP, for example, gives these anlauts as separate entries and defines them consistently as ‘doubled syllable of adjectives and adverbs beginning with …’. Often, however, the anlauts are given as separate entries without any commentary, which can be only understood as a sign that the author considered them to be independent entities. Explicit mentions of *intensifying particles* can also be found in more than one 20th century dictionary. In EDAL, for example, PTkc. ‘*Ap / *Ep*’ is said to be an “emphatic strengthening particle”, and is connected with PMo. ‘*aba-‘ huge’, Proto-Japanese ‘*ąpa-‘, and Proto-Korean ‘*opi-‘ (cf. Stachowski M. 2005: 230).

But grammars, too, are frequently imperfect. Most often, they fail to mention the shift of accent to the reduplicated anlaut, and the shortening of the reduplicated vowel. Typically, the process is described as a repetition of the first syllable with an insertion of the closing consonant. Only the more careful authors note that when the initial syllable is closed, its final consonant is dropped. Attempts to establish a distribution rule for closing consonants are hardly ever made, and the possibility of secondary phonetic modifications is almost never mentioned. Müller 2004: 96f reviews several descriptions of Turkish reduplications and mundanely points out the recurring flaws; see also the “Sources” subsections in respective sections in chapter 2. Grammars of the other Turkic languages are generally no different in this regard.²

**20th CENTURY – SPECIALIZED WORKS**

In the second half of the 20th century, works devoted specifically to reduplication begin to appear. The great majority are effectively limited to Turkish, further magnifying the disproportion between it and the rest of the Altaic languages.

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² Not to stigmatize, but to exemplify, the following two descriptions can be adduced: “Pekiştirme derecesi, sıfatın ilk hecesine /p/ sesinin getirilmesiyle de yapılır: [examples]” (Kasapoğlu Çengel 2005: 188), “Простая форма превосходной степени образуется путем повторения первого слога прилагательного. В конце этого слога прибавляется согласный звук (в большинстве случаев п или очень редко — м); таким образом, открытый слог превращается в закрытый и ударение падает на него: [examples]” (Ahmerov 1958: 766).
At first, they usually concentrated on one of the two topics: 1. so rephrasing the synchronic description as to make reduplication better fit one or another general linguistic theory, or 2. establishing the rules of distribution of the closing consonant.

Works from the first group are usually ignored in the present book, not least because they typically operate on highly selective data from a wide range of completely unrelated languages, and in effect can hardly be expected to produce trustworthy and substantial conclusions about either. Here, it will be only noted that in the course of these and similar studies, the idea appeared that reduplicated anlauts could be interpreted as prefixes (see e.g. Deny 1938). I should like to object. Prefix is, of course, a secondary notion, and as effectively all notions in linguistics, it lacks a proper and, at the same time, widely accepted definition. It is therefore perfectly possible to craft one that includes reduplication, but one needs to be aware of the balance of costs of the operation. The already dubious clarity of linguistic terminology would be shed, and I fail to see for what gain. Müller 2004: 209f criticizes the idea in more detail, and see also Frankle 1948: 115, and 3.2.6.

As for the second group, three authors in particular seem to deserve a mention. All focus on establishing a set of synchronic, phonetic rules of distribution of closing consonants in Turkish. Methodologically, this is a chancy choice. It becomes clear why it is so when one begins to consider words which can have their reduplicated anlauts closed by different closing consonants (sixteen in Turkish, e.g. jamjaš ~ japjaš ‘completely wet’, see 2.16.4), or the fact that the stock and distribution of closing consonants is different in various languages (e.g. Az. dimdīri ~ Tksh. dipdīri ~ Trkm. disdīri ‘absolutely (a)live, very lively’). The answer, then, to how all the Turkish reduplications actually came to be must be sought in history and comparison with other languages, but, the rest of this work will show, in reality only fragments of it can be found even there (see 3.4.1 and 3.4.2).

In the way of an example, let us mention Di Sciullo 2005 who analyses English, Yekhee (Niger-Congo) and Turkish and, among other things, correctly recognizes ne in Tksh. nerede ‘where’ and ne zaman ‘when’ to be an independent word meaning ‘what’, but proceeds undismayed to interpret it as a “wh-affix” and to conclude that reduplication is not the only case of prefixation in Turkish (p. 109). See also p. 108 for a creative use of loanwords for the same purpose (e.g. isti in istifade ‘utilization’).

Other examples of works in this theoretical vein might be: Marantz 1982, Alde-rete et al. 1999, Kelepir 2000, Kim 2009, McCarthy/Prince 1988, or Raimy 2000. Note that certainly not all of them are as blatant as Di Sciullo, and also not all even mention any Turkic language.
Hatiboğlu 1973 was the first extensive study. She gives an overview of the history and the present state of Turkish reduplications, and concludes with a set of four phonetic rules, or rather tendencies, that capture the majority of examples (pp. 34, 37, 38, and 42):

1. İlk hecesi ünlüyle başlayan veya biten ya da sürekli ünsüzlerden biriyle kapanan sözcükler, “p” ünsüzüyle pekiştirilir.
2. Tek heceli sözcüklerin çoğu “m” ünsüzü ile pekiştirilir.
3. İlk hecesi, dudak ünsüzlerinden “b, p, m”, diş ünsüzlerinden “c, d, t”, damak ünsüzlerinden “k, y” ile başlayan bazı sözcükler “s” sesiyle pekiştirilir.
4. İlk hecesi “ç” ya da “s” ünsüzüyle başlayan ve ters orantı ilkesine göre “p, m, s” ünsüzleriyle pekiştirilemeyen sözcüklerin bazıları da “r” ünsüzüyle pekiştirilir.

Rules of this kind can be made very accurate by increasing their complexity, and at the same time, dissociating them from any reasonable phonetic motivation. In the extreme case, a separate rule could be devised for every example. On the other end of the scale, a general phonetic motivation can be captured by just one or two rules which, however, will not be without exceptions. Hatiboğlu balances these constraints and delivers an acceptable compromise. According to Demircan 1987: 26 and 1989: 161, her tendencies account for about 70% of the examples.

Demircan 1987 and 1989 aims to kill two birds with one stone, and to establish a set of rules that is both accurate and phonetically motivated. Below is an extract of the results (1987: 36f):

A. Basic processes
   2. Close the preceding syllable, (C)V, with /p/.

B. Filtering operations
   1. Avoid clusters identical with any of the base consonants […].
   2. Select the closer bearing features in contrast with the base-second consonant […].
   3. Balance and optimalise the distribution of features across the emphatic form […].

To be sure, both the 1987 and the 1989 paper explain in detail how the contrasting, balancing, &c. are supposed to be effectuated. Overall, Demircan’s procedure is more accurate than Hatiboğlu’s and, by referring to phonetic properties rather than specific sounds, it is also based on a stronger phonetic foundation.
Naturally, it is not entirely exception-free because no purely phonetic set can be so, if sixteen stems in Turkish have reduplications that can be closed by more than one consonant (e.g. čımčij ~ čipčij ‘completely raw’, tamtâze ~ taptâze ‘absolutely fresh’, &c., see 2.16.4).

By far the most extensive work on Turkish reduplication so far, and not only the C-type, is Müller 2004. It is very uneven, and therefore difficult to characterize shortly. Apparently, a larger part of it has been assembled from summaries of previous works on reduplication and various other topics, neither of which seems to serve any tangible purpose in the book. Much place is also devoted to general considerations that fall under the first type of works, i.e. the highly theoretical ones which are usually ignored here. The relevant and original bits are foremostly a new set of rules of distribution of closing consonants, and an interview of 125 Turkish students. Both are presented in the appendix.

Although more accurate than Hatiboğlu’s (they account for about 79% of examples), Müller’s rules are also complex to the point of overfitting, or beyond. Like Hatiboğlu’s, they refer to specific sounds and therefore entirely obscure the eventual phonetic motivation. This is corrected by his “Kontrast-These” (pp. 156f), not quite unlike that of Demircan’s.

Having established the rules, Müller put them to the test and asked 125 Turkish students to reduplicate some real and some non-words. It is not clear to me what results he had expected, and how he had intended to interpret them. See the appendix (A.2) for a more detailed summary, and below for a similar experiment performed by Sofu 2005 and Sofu/Altan 2009.

All things concerned, Müller 2004 is a convenient source of information on Turkish reduplication and the history of research into it, but the advance it brings into the actual understanding of the phenomenon is disproportionate to the effort. See also 2.16.1 and the appendix for other remarks on the book.

20th–21st Century

Theoretical works on reduplication (the group generally ignored here) not only continue to appear in the 21st century, but are even increasingly numerous (see fn. 3 on p. 25). By the end of the 20th century, however, also other aspects of reduplication apart from the two mentioned above, started to attract attention.

In particular, two papers in the area of language acquisition deserve a mention, Sofu 2005, and Sofu/Altan 2009. Both discuss an experiment similar to Müller’s (see above), but interpret it in an adept way. Namely, they conclude that “[w]ords beginning with vowels are rule-governed” while “of the words
beginning with consonants, frequently used ones seem to be stored individually in the lexicon”, and the infrequent ones are not, and “pose problems in production and [are] more prone to errors” (Sofu/Altan 2009: 72).

1.1.4. Objectives

The great majority of works discussing Turkic partial interfixed reduplications, especially from the last hundred years, are devoted almost exclusively to Turkish, and only ever mention other languages as if incidentally. The research is also dominated by the synchronic perspective which, I believe, cannot by definition provide certain answers (see 3.4.1 and 3.4.2).

Thus, the secondary objectives of the present work are: 1. to assemble a possibly complete collection of partial interfixed reduplications in various Standard Turkic languages, 2. to introduce the diachronic perspective into the study of Turkic reduplications, and 3. to incorporate quantitative methodology into the research into the history of the Turkic languages.

These three combine into the primary objective, which is to begin to seal the gap that previous research has been circumventing. The current work attempts to draw a general sketch of the past and the present of C-type reduplications in the Standard Turkic group as a whole. It collects the oldest available attestations, historic data from Ottoman, and modern data from twenty languages, and then analyses them etymologically, historical-comparatively, and quantitatively.

1.2. Technical

This section explains the technical aspects of the present work. It begins with a description of the sources (1.2.1), then of the transcription (1.2.2), then of the rules observed during the translation of examples (1.2.3), and lastly of the structure of entries in chapter 2 (1.2.4). Finally, the programs used during the writing of this work are listed as a modest acknowledgement (1.2.5).

1.2.1. Sources

This book collects material from twenty modern Standard Turkic languages, Ottoman, and the oldest available attestations. Only the literary varieties have been taken into account because comprehensive collections of dialectal
material are effectively only available for Turkish. Including just them would result in a skewed picture. Also excluded are Chaghatai data because they cannot be unequivocally assigned to an earlier stage of any specific modern language and, unlike the oldest attestations, are not a prospective source by which to establish termini ante quos. Several languages have not been taken into account because the sources that were available to me were found to only contain very clearly incomplete collections of reduplications: Abdal (Ladstätter/Tietze 1994), Armeno-Kipchak (DAK, Schültz 1968), Chulym (Birjukovič 1984, Li et al. 2008, Pomorska 2004), Crimean Tatar (Jankowski 1992), Fuyu (Li/Ölmez/Juwon 2007), Khalaj (Doerfer/Tezcan 1980), Salar (Tenišev 1963, 1976a), Tofalar (Rassadin 1978), and Western Yughur (Roos 2000, Tenišev 1976b, Tenišev/Todaeva 1966).

Dictionaries proved to be the richest sources. In total, included are more than 1200 C-type reduplications extracted from well above 566,000 entries. Apart from dictionaries, grammars were used for all languages, although their descriptions have generally proven to be imprecise if not plainly wrong, and the examples were scarce (see the “Sources” subsection in respective sections in chapter 2). They did, however, quite often supply unusual or borderline examples which are difficult to find or altogether missing from dictionaries. Finally, specialized works were used, but since most are devoted almost exclusively to Turkish, so was their contribution to our work. In several cases, however, interesting examples and insights regarding other languages could also be found in them.

Most reduplications, nonetheless, are relatively infrequent words. A search in many small dictionaries often yields no more than a handful of examples; a single big dictionary might well reveal many more, even if the number of entries it contains is lower than the total number of entries in the smaller works. I always used the most extensive dictionary available to me and only supplemented the results with other sources.

Nevertheless, the size and quality of sources varies dramatically between different languages. Turkish, for example, is rather well and comprehensively described, while the South Siberian languages must often settle for one medium-sized or small dictionary and just a general sketch of the grammar. It would not be ungrounded to fear that the collection of reduplications extracted from so uneven sources will be strongly biased in favour of the politically more prominent languages.

Luckily, this is not quite the case. There exists what might be considered a moderate correlation between the number of entries and the number
of reduplications in a dictionary (Spearman’s $\rho = 0.615$), but note that various dictionaries with the same or almost the same number of entries may still contain very different numbers of reduplications (see e.g. those with 40,000 entries in fig. 1.2). Size of the source is a factor, but not a decisive one. Therefore, I claim that the collections of reduplications presented in this work can be thought of as fairly representative for the respective languages, and not just for the sizes of the sources.

![Figure 1.2. The number of entries and the number of C-type reduplications in the dictionaries used in this work. The relation can be approximated by the formula $n_{\text{redup.}} = 23.41 \cdot \ln(n_{\text{entries}}) - 189.78$, resulting in $R^2$ of only 0.31 (see fn. 55 on p. 263 for the meaning of this index), and represented by the grey line.](image)

### 1.2.2. Transcription

For Turkic examples, a version of the Finno-Ugric Transcription is used at the phonological-orthographic level of abstraction (“L5”, see Stachowski K. 2011 for details).

For each source, a short summary of the specific transliteration employed for it is given in the “Sources” subsection of the respective sections in chapter 2.

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4 Spearman’s rank correlation coefficient is a measure of statistical dependence between two variables. It ranges from -1 to +1, where the extremities denote a perfect negative or positive correlation, and 0 strictly no correlation. Apart from this, there is no fixed way to interpret the result. Unlike the perhaps more popular Pearson’s coefficient, Spearman’s $\rho$ allows for non-linear models so long as they are monotonic, is significantly less sensitive to outliers, and does not assume that the variables are normally distributed, which is not the case here (in the Shapiro-Wilk test, the $p$-value is 0.22 for the number of reduplications, but only 0.016 for the number of entries).
The summaries only contain those characters which actually appear in the examples, and when there is no danger of confusion, omit the graphemes that have been left unchanged, or which are provided for by the United Nations system of romanization of Russian (UN 1987, v/18). The character(s) in the source are given in italics, and followed by the characters(s) that represent them in this work; different substitutions are separated by a vertical bar (|).

The ordering ignores diacritics for as long as possible, i.e. as in German. Greek letters are ordered as their Latin counterparts with diacritics would be. For example: ag < āg < ay < ah, sa < ša < šā < se.

For convenience, the basic notations and most common substitutions are summarized in tab. 1.2.

<table>
<thead>
<tr>
<th>Place</th>
<th>Bilabial</th>
<th>Labio-</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Post-</th>
<th>Velar</th>
<th>Uvular</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p b</td>
<td>t d</td>
<td>k g</td>
<td>k</td>
<td>?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td>c ʒ</td>
<td>ċ ĺ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>φ β</td>
<td>φ β</td>
<td>θ δ</td>
<td>s z</td>
<td>š ź</td>
<td>χ γ</td>
<td>h fi</td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td></td>
<td></td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral/Trill</td>
<td>1 l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Consonants

- Δ nasalization
- Φ, Φ, Φ and Φ slight shift back, forward, up, and down
- Φ palatalization
- Ψ and Ψ syllabicity and non-syllabicity
- SMALL CAPS half-voicedness
- rotation* reduction
- Φ, Φ and Φ overshortness, half-length, and length
- Φ and Φ: primary and secondary stress
- ΦΦ syllable boundary
- ΦΦ morpheme boundary
- small caps
- rotation* reduction
- half-voicedness
- overshortness, half-length, and length
- primary and secondary stress
- syllable boundary
- morpheme boundary
- assimilation, elision

(b) Vowels

(c) Diacritics

(d) Alternates

- ü — ū — i u
- Φ — Φ and Φ: primary and secondary stress
- ΦΦ syllable boundary
- ΦΦ morpheme boundary
- ΦΦ assimilation, elision
- Φ, Φ: ’Φ, Φ

- a = å
- i = j
- i = y
- k = q
- u = w
- ü = ŵ
Table 1.2. A fragment of the transcription (1.2a–1.2d) and transliteration (1.2e) used in the present work. See Stachowski K. 2011 for details on the former, and the respective sections in chapter 2 for the latter.

* The default is 180° rotation (œ → œ), but when this is likely to cause confusion, 90° ccw rotation is used instead (u → ú as in most typefaces ū is too similar to ň).

† Depending on the phonological status in the given language.

Non-Turkic examples are usually given in the original transcription of the source or in the official orthography, unless the focus is on the pronunciation or phonology.

1.2.3. Translation

The present work collects data from sources written in a number of languages: most frequently Russian, but also more or less sporadically Belorussian, English, French, German, Italian, Latin, Polish, Spanish, Turkish, Ukrainian, and others. For convenience, the meanings of examples in the lists in chapter 2 are always translated into English, while observing the following rules:

- Translations have been standardized and simplified as much as it was possible without falsifying the actual attestations. Examples: Bshk. takyr ‘ровный’ (BškRS58), ‘ровный, гладкий’ (BškRS96) → smooth; Oir. žapžany ‘1. yep-yeni; 2. haber’ (AltTS), ‘brand-new, quite new; novelty’ (Li et al. 2007) → ‘1. brand-new; 2. news, novelty’.

(e) Transliteration
• Where the original meaning was not specified clearly, and a correspondingly ambiguous English word was available, it was used instead of the more precise equivalents. Example: лёгкий → light rather than *lightweight or *easy. Otherwise, I avoided ambiguity to the best of my abilities.

• Where only the base was translated, and the reduplication listed without any specific meaning (which was fairly often the case), it was assumed that the reduplicated meaning is simply an intensification of the base meanings.

• Distinctions inside nomina have not been specified where they are an obvious consequence of the structure of the Turkic languages (i.e. a part of the translation rather than of the actual meaning of the word itself), and not important for the meaning of the reduplication. Examples: “1. ясный; 2. ясно” → “clear, bright” rather than *“1. clear, bright; 2. clearly, brightly”; “1. холод, мороз; 2. холодный, морозный” → “cold, frost” rather than *“1. cold, frost; 2. cold, frosty”. In less clear cases, they have been listed as one meaning. Example: “1. шар; 2. шарообразный, круглый” → “sphere, spherical, round” rather than *“1. sphere; 2. spherical, round”.

• Inside translations, a colon denotes grouping, brackets denote optionality, and italics denote additional specification. Examples: “very: light, bright” = “very light, very bright”; “(a)live” = “alive, live”; “narrow of eyes”.

Meanings outside the lists in chapter 2 are mostly translated, too, except for where I felt my translation would have to depart too far from the original, would obfuscate the general picture, or where particular precision was required.

Meanings quoted from dictionaries might have qualifiers, numbering of components, and examples of usage omitted from inside them without notification, where they were not important for the matter currently at hand. Also, in some cases the style of numbering has been slightly changed without notification for the purpose of standardization.

1.2.4. Structure of an entry

All entries in chapter 2 follow two fixed schemes, one for the lists of standard cases, and one for the lists of special cases. The former is as follows (elements in square brackets are optional):

- **base** ‘meaning of the base’ [(source of the base)] ◊ **reduplication** ['meaning of the reduplication'] (source of the reduplication) [• **example** ‘meaning of the example’ [(source of the example)]]
  [additional comments]
Remarks (ordered by topic):

- **Semantics**
  - Only those components of the meaning of the base word are listed which are also present in the meaning of the reduplication. Where they ranked one in the source, the subsequent components are omitted unless they are important for the general picture. Where they did not rank one, they are marked as “i.a.”.
  - The meaning of the reduplication is omitted where it is the same as the meaning of the base, or its simple intensification. Where additional meanings appear, the common part is abbreviated to *intens*. Example: Kzk. *tolyk* ‘full, complete’ → *toptolyk* ‘1. absolutely full, to the brim, perfectly complete; 2. puffy, fat’ is abbreviated to ‘1. *intens*.; 2. puffy, fat’.
  - Where the meaning of the reduplication was not given specifically in the source and I could not find it elsewhere, it was assumed to be a simple intensification of all the meanings of the base.

- **Sources**
  - The source of the attestation of the base is not specified when it is the same as the source of the reduplication, or when the word can be easily found in a dictionary (this refers in particular to examples extracted from grammars and specialized works).
  - Sources are ordered chronologically.
  - The exact location in the source is not specified where it is obvious. For dictionaries, the ‘obvious’ locations are: the base, the reduplicated anlaut, and the reduplication.

- **Multiple reduplications of a single base word** are listed inside a single entry, each preceded by a white lozenge (◊). Reduplications are given in full because changes in the phonetic shape can occasionally occur.

The “Special cases” sections collect unusual words, reduplications with unattested bases, &c., which, most of the times, require a longer and frequently substantial commentary. Short and mostly technical remarks relating to specific parts of the entry, are placed in footnotes. The “special” and “standard” lists are not intended to necessarily be disjoint, but words belonging to both are rare.

Entries in these lists are structured almost the same as the standard ones. The main difference is that the base word and the reduplication are swapped. This is because in standard cases, a single base can have multiple reduplications while in special cases, reduplications can occur with no base word at all. Unlike in the standard lists, additional comments that follow in a separate paragraph, are not optional.
1.2.5. Technical

During the writing of this book I used rather extensively a number of programs whose authors have been so generous as to make them available for free for everyone. I believe that at least a mention here is due.

The text was originally written in Xe\TeX in Vim on Arch GNU/Linux. Calculations were performed in R (R Core Team 2013). Plots were prepared with \texttt{ggplot2} (Wickham 2009) and Inkscape (Inkscape Team 2013), except for fig. 3.5 and 3.8 which were created with Circos (Krzywinski et al. 2009). Graphs were composed with \texttt{TikZ} \& \texttt{PGF} (Tantau et al. 2011). Maps were made in QGIS (Quantum GIS Development Team 2013) based on the GREG dataset (Weidmann/Rød/Cederman 2010), which is a digitalization of \textit{Атлас народов мира} (Bruk/Apenčenko 1964).\footnote{Maps are in the Lambert azimuthal equal-area projection centred at 55° N, 90° E (near Krasnoyarsk), and have been purposefully simplified to emphasize that they represent the literary languages rather than specific dialects. The area where Karaim is spoken has been significantly enlarged for better visibility. Map 3.12. is an exception in that it is additionally based on the map in Doerfer/Weiers 1985, and has not been simplified.}
2. **Data**

This chapter presents C-type reduplications as can be found in the oldest available sources (2.1), twenty modern Turkic languages (2.2–2.21), and one historic (Ottoman, 2.13).

All sections follow a fixed scheme. They begin with an outline of C-type reduplications in the given language, followed by an enumeration of the sources used, and a brief summary of the descriptions of the phenomenon that can be found in grammar books. Next, standard examples are listed, and after them, special cases together with a commentary. Closing the section are summaries of the structural and semantic features and peculiarities of reduplications in the given language.

Analysis of the data presented here can be found in chapter 3, and the final conclusions together with a summary in chapter 4.

### 2.1. The oldest attestations

The oldest attestations of reduplications are all post-runic. They belong to a wide array of just generally characterized dialects of the first centuries of the second millennium (Čigil (see Schönig 2004), Kipchak, Oghuz, Uighur, and others) but, it appears, are representative of none. Some interesting bits of information can be extracted from them, but in general they will be of very limited use for the present work.

Al-Kāşyari’s is a particularly precious evidence. He states quite clearly that \( p \) is the most common closing consonant, \( m \) is characteristic of Oghuz, and the one example in \( s \) is exceptional. See 2.1.1.

Four closing consonants are attested. The closers \( pp \) and \( s \) only have one example each, \( m \) has three, and the remaining 26 examples are all closed by \( p \). The non-\( p \)-reduplications are probably all Oghuz (\( kömkök \), \( sümsüçig \) and \( täs-tägirmä \)), and Kipchak (apparently \( jamjaşyl \) and possibly \( kömkök \)). See 2.1.4.
As for semantics and parts of speech, the oldest attested reduplications are very standard with only the exception of *jazi*. See 2.1.5.

Special cases are not unusually numerous, but interesting. See especially the rather mysteriously alloyed *čimjīg*, and also the dialectally unclear *köm-kök* in 2.1.3.

### 2.1.1. Sources


Clauson 1972 is ambiguous about the nature of reduplication. In some entries, he calls the reduplicated anlauts *alliterative prefixes*, but in some other *reduplicative or reduplicating prefixes* – which is in fact self-contradictory as prefixes have by definition a fixed phonetic shape – and makes his term *jingle* for ‘echoic compound’ seem acceptable in comparison.

A much more useful source is Maḥmūd al-Kāşyārī’s *Compendium* (Dankoff/Kelly 1982: 261) who explains that the “rule about colors and exaggerating the description of things is to take the first letter of the word and join it to *ba’* in most of the Turkic dialects, but to *mīm* in *Oγuz*, and, one can understand, to subsequently also bring forward the original word. While perhaps slightly clumsy from the contemporary perspective, this description is only as imprecise as the greater part of formulations in modern grammars.

One important piece of information is that the Oghuz “change the *ba’* to *mīm*” as it sets the terminus post quem for *m* as the closing consonant. The entry concludes with the statement “All exaggeratives are according to this rule. But there is no rule for changing *ba’* to *sīn*”. The latter surely refers to *tāstāgirmā* which, as is earlier mentioned, “goes against the rule”. Apparently, *p* was the usual closing consonant for al-Kāşyārī, *m* he was familiar with, but *s* surprised him to some degree. This is perfectly in line with the modern distribution, too (see map 3.2).

Another interesting piece of information in Dankoff/Kelly 1982: 162 are the two words: *essiz* ‘alas’ and *arrīy* ‘very clean’, both with a doubled consonant which al-Kāşyārī explains is “for exaggeration”. This supports the idea that the double *pp* in the general Tkc. *appak* and in Yak. *üppürün*, both ‘very white’, is just an emphatic form of this kind, rather than a separate type of reduplication. See 3.1.8.
The most exhaustive descriptions can be found in Erdal 1991: 65f and 2004: 98, 150f. They give a precise account of the process complete with examples, but unfortunately without always specifying the exact dialect the words come from. Erdal 1991: 65 notes that colour names can only be intensified through reduplication and never by means of the -rak suffix (repeated in 2004: 150), which he believes cannot be “a meaningful complementary distribution as many lexemes are expanded both ways”. Rather, he believes it to be a proof that -rak only “intensifies in terms of grade and degree, which reduplication does not”, and the reason why “reduplication never serves comparison”. The logical links between these statements are not entirely obvious to me. Nonetheless, the issue has no direct implication for our case.

Karamanlıoğlu 1994: 97 refers to a later period. He gives a succinct description of the process of reduplication and some examples, and enumerates $p$ and $m$ as the only possible closing consonants.

To sum up, although a relatively high number of reduplications has been attested in the first centuries of the second millennium, their exact dialectal affiliation is often unclear and – unless we assume a late or post-mediaeval explosion of their popularity in the entire Turkic world – they form still too small a set to be considered representative. The fact that they are missing from the runic monuments and are far from being very common in the later ones, is probably to be explained by their intensive semantics which naturally limits the number of opportunities to use them, and can easily make them seem inappropriate in an official document.

Clauson 1972: $ç \rightarrow \check{č} \mid q \rightarrow \delta \mid \check{g} \rightarrow γ \mid i \rightarrow \check{y} \mid V \rightarrow V$,
Dankoff/Kelly 1982: $q \rightarrow \delta \mid n \rightarrow η$,
DTS: $ɛ \rightarrow \check{a} \mid y \rightarrow g \mid i \rightarrow \check{y} \mid q \rightarrow k \mid z \rightarrow z$,
Erdal 1991: $ɛ \rightarrow \check{c} \mid i \rightarrow y \mid h, η \rightarrow η \mid \check{s} \rightarrow \check{š} \mid y \rightarrow j$,
Erdal 1998: $γ \rightarrow y \mid i \rightarrow y$,
Erdal 2004: $i \rightarrow y$,
Hacieminoğlu 1996: $i \rightarrow y \mid \check{s} \rightarrow \check{š}$,
Karamanlıoğlu 1994: $i \rightarrow y \mid k \rightarrow k \mid \check{s} \rightarrow \check{š} \mid y \rightarrow j$,
Kuryšžanov 1970: $θ \rightarrow ö$,
Röhrborn 1977–: $i \rightarrow y$.

### 2.1.2. Standard Cases

‘good’ ◊ äpädgü (Uighur; Erdal 1991: 66) ~ äpagü (Khakani, Uighur; DTS, Clauson 1972: 3, Dankoff/Kelly 1982: 87)
ädgü see ädgü

ak ‘white’ ◊ apak (Chaghatai, Khwarezmian, Kipchak, Oghuz; DTS, Clauson 1972: 3, 75, Dankoff/Kelly 1982: 87, Houtsma 1894: 50) ◊ appak (Kipchak; Clauson 1972: 3, 75, Räsanen 1957: 74⁶)

See also āpaq in 2.1.3.

alčak ‘friendly, mild’ ◊ apalčak (Uighur; Röhrborn 1977–)


esän see āsän


See 2.1.4 below.

jazi see jazy


jumšak ‘soft’ ◊ *jupjumšak* (Uighur; Erdal 1991: 65f)


karanu ‘dark’ ◊ *kapkaranu* (Uighur; Erdal 1991: 65)


⁶ Räsanen 1957: 74 derives appak from *ap-ak.

⁷ The final shape of the reduplication is not given explicitly, and only deduced here from the description.
The oldest attestations

no meaning given
See kömkök in 2.1.3 below.

köni ‘straight’ ◊ köpköni (Uighur; Erdal 1991: 65f)

kötgi ‘protruding’ ◊ *köpköttgi’ (Uighur; Erdal 1991: 65)

kyrmızı ‘red’ ◊ kypkyrmızı (Chaghatai; Clauson 1972: 578)

kyzyl ‘red’ ◊ kypkyzyl (Khakani, Khwarezmian, Kipchak; Brockelmann 1954:
Houtsma 1894: 90, Karamanlıoğlu 1994: 97)

säm ‘calm’ ◊ säsäm (Uighur; Zieme 1985: 144, 229, 1991: 117)

saru see saryg

saryg (DTS, Clauson 1972: 848, Dankoff/Kelly 1982: 261)  ∼ saru (Clauson
1972: 848, Karamanlıoğlu 1994: 97) ‘yellow’ ◊ sapsaryg (Chaghatai, Kha-
sapsaru (Kipchak; Clauson 1972: 848, Karamanlıoğlu 1994: 97)

savuk ‘cold’ (Toparlı 1993) ◊ sapsavuk (Kipchak; Karamanlıoğlu 1994: 97)

süçig ‘sweet’ ◊ sümüçig (Oghuz; DTS, Clauson 1972: 819, Dankoff/Kelly 1982:
267, Erdal 1991: 65)

süzök (Erdal 1991: 65)  ∼ süüzük (DTS) ‘transparent’ ◊ süpsüzök (Uighur; Erdal
1991: 65f)  ∼ süpsüzük (DTS s.v. ap 1 and süp)

süzük see süüzük

tägirmä (Dankoff/Kelly 1982: 261)  ∼ tägîrmê (Erdal 1991: 65)  ∼ tägîrmî (Erdal
1991: 65f)  ∼ tegîrmê (DTS) ‘round’ ◊ täptägîrmê  ∼ täptägîrmî (Uighur;
Erdal 1991: 65)  ∘ tästägîrmä (Oghuz; Dankoff/Kelly 1982: 261)  ∼ *tästä-
gîrmî’ (Oghuz; Erdal 1991: 65)  ∼ testegîrmä (Oghuz; DTS)

tägîrmê see tägîrmä

tägîrmî see tägîrmä

tegîrmä see tägîrmä

tirig ‘alive’ ◊ tiptîrîg (Uighur; DTS, Erdal 1991: 66)

tolu ‘full’ ◊ toptolu (Uighur; DTS, Erdal 1991: 65)

tolun ‘full’ ◊ *toptolun’ (Erdal 1991: 66)

tutçî ‘1. contiguous, osculant; 2. permanent, continuous’ ◊ tuptutçî ‘quite un-
interruptedly, always’ (Uighur; Zieme 1985: 36, 238, Erdal 1991: 66, 1998: 141,
2004: 151)

tüz ‘straight, even, level’ ◊ tüptüz (Uighur; DTS s.v. ap 1, jap 111, süp and tüp,

ürün see (j)ürün

uzun ‘long’ ◊ upuzun (Uighur; Erdal 1991: 65f)
2.1.3. Special cases

**abam** (Uighur; Röhrborn 1977–) ~ **apam** (von Gabain 1950: 173) ~ **apan** (Uighur; Röhrborn 1977–, Erdal 2004: 341) ‘in case’ ◊ ? *am or *ay ‘now’

The etymology deriving abam &c. from the word for ‘now’ was accepted by Röhrborn 1977– and Erdal 2004: 341; see both for the earlier history of the idea. Röhrborn believes that the base had the shape *ay, and Erdal that it was *am.

This issue may be kept beyond the scope of the present work. The etymology is in fact no more than an unfinished idea. Even if it is true, the word abam &c. seems to be missing from the contemporary languages, which suggests that it was but a short-lived innovation within the Karakhanid group and as such, of very little importance for the general history of Turkic reduplication.

**āpaq** (Tekin 1971: 227) ◊ **ak** ‘white’

This form is not clear. It is attested in Ibn Muhannā’s dictionary as ًآپَقْ (Melioranskij 1900: 65, 68), and Melioranskij and Battal 1988 read it with both vowels short, but Tekin 1971: 227 derives it from *āp āk (> appak) and sees in it an example of compensatory lengthening of a consonant after a long vowel.

Typically, the reduplicated vowel is short; attestations to the contrary are very few and quite problematic, see 3.1.20. Here, the base ak is spelt long when in isolation (Melioranskij 1900: 68: ًآق ~ ًآغ) but short in the actual reduplication, suggesting that the anlaut of ًآپَقْ has in fact lengthened. There is only one case outside of Yakut and Dolgan where this might also be suspected, Ott. tāstamām ‘quite right, proper, just’ and it, too, is rather uncertain, see 2.13.3.

Perhaps, the maddah was only meant to render the slight elongation of the initial a due to its being stressed? Overall, this form is not clear, and it will be excluded from the main flow of further considerations.


This word is quite mysterious. It as attested by al-Kāšāyī who defines čim as ‘an exaggerative particle of dampness or rawness’ and gives two examples of use: čim jīg āt ‘very raw meat’, and čim öl tōn ‘a very damp garment’ (DTS, Dankoff/Kelly 1982: 267). Unfortunately, the exact dialect is not specified; further examples can be found in Clauson 1972, see below.
The oldest attestations

It is not the case that al-Kāšyarī failed to recognize the mechanism of reduplication, for he explains it quite adequately s.v. tās, see 2.1.1 above. It is possible that his diagnosis is correct, though, even if the origin of čim remains unknown, because how a form such as čimjīg could have arisen through reduplication is not clear at all.

The initial č- is a Kipchak trait. The closing m- is more characteristic of Oghuz than of any other group; see 2.1.4 below. Modern Turkish and Türkmen have čīj and čīg, respectively, which Stachowski M. [in preparation] suggests to be an Old Kipchak loanword or loanwords.

It seems that no scenario can plausibly explain čimjīg as long as Old Kipchak and Old Oghuz are considered separate, disjoint, languages. Probably, it would have to be attributed to some transitive or intermediary idiolect between Old Kipchak and Old Oghuz, perhaps one akin to that attested in Houtsma 1894 (see 2.1.4; only contains چیک ‘raw’). But even in this case, a somewhat acrobatic reconstruction would apparently be necessary, which could only be accepted if supported by a sizeable number of solid proofs.

The čim part might have been simply an independent word, as yet unidentified, but there is also another interesting theoretical possibility. In more than one language, one syllable words are observed which do not seem to possess a meaning of their own, and only serve to intensify a very limited number of adjectives, in particular Trkm. čym in čym āk ‘snow-white’ and čym gyzyl ‘bright red’. At least some of them are probably severed reduplicated anlauts reinterpreted as separate words (see 3.1.10). Our čim might be one such word, perhaps even extracted from *čimčīg? – and/or related to Uigh. چیم ‘quietly’ &c. (see 2.19.3), and possibly also to Bshk. یش ‘quiet’ (see 2.3.3)?

Clauson 1972: 424, 804 reports čym ~ یش in čym āk ‘plain white; snow-white’ and čym ~ یش kara ‘pure black’ (as opposed to kap kara ‘intensely black’), čyŋ in čyŋ tolu ‘full’ and suk in suk jalŋyz ~ jalŋyz ‘lonely, isolated’. They all bear some resemblance to čym: they are one syllable long, end in a consonant that could be the closer in a reduplication, and are intensifiers which apparently can only be used with a limited group of words.

The list might be completed in a perhaps overly imaginative way with tüg ‘several’ in tüg tümen ‘several thousand’ but also ‘many myriads’ (Clauson 1972: 476, and explicitly considered a reduplication in Clauson 2002: 227), in order to allow the observation that čim and tüg are combined with front words, while čym ~ čyŋ and suk – with back ones.

See 3.4.4 for a continuation of these considerations.
**japjavyşgu** (Uighur; Erdal 1991: 66) ◊ *javyşgu* ‘leaf’

Erdal 1991: 66 mentions this case in the section on reduplication but eventually discards it accepting Ş. Tekin’s idea that the phrase should be completed as *japyrgak javyşgu*, “since *yap [= jap]* is written at the end of the line, and the rest of the word may have been omitted inadvertently in writing on in the next one”.

A more solid ground for rejection of this example is found in DTS and Yıldız 2013: 476 which attest the phrase with a *px3sg* as *japy javyşgusy* ‘leaves’ and thus prove it is simply a binomial pair of *jap + javyşgu*, both ‘leaf’.


*Kömkök*, unlike its sister reduplication *köpkök*, is somewhat moot.

Al-Kaşyari ascribes the form to Oghuz (Dankoff/Kelly 1982: 261, 267), and does not mention Kipchak at all. But the shape with *m* appears also in Houtsma 1894 which primarily contains Kipchak words with only an admixture of Turkmen (Stachowski M. 2010a: 130). The spelling is also unusual: *kün kök* (Houtsma 1894: 97).

However, Kuryşžanov 1970 notices that in the Arabic version of the manuscript published by Houtsma, the word is written كُوزْ كُوك (~*közkök*) (Houtsma 1894: 31), which Kuryşžanov reads *közkök* and considers the *m ~ n* form to be a misprint. Also Clauson 1972: 709 gives the *z* variant, but with a “sic” and no more commentary.

Both *közkök* and *künkök* would have been unique shapes. *Könkök* or *köykök* appear to be more plausible as assimilated variants of *kömkök*. But beside the reading, also the question of affiliation remains open, for Houtsma 1894 is not dialectally uniform. For the present purpose, I will include *kömkök* because it is also clearly attested elsewhere, and disregard *közkök*.

Karamanlioğlu 1994: 97 notes that *köpkök* is the ‘original’ form, but puts the word *aslı* in quotation marks. Unfortunately, he does not elaborate on this remark. Clauson 1972: 978 makes a parallelly ambiguous remark on *jamjašyl*: *japjašyl*, see 2.1.4 below.

**oposalkyja** ‘without care’ (Uighur; Erdal 1991: 65f) ◊ *osal* ‘negligent, idle; negligence, idleness’ (Clauson 1972: 247)

Erdal 1991: 65f notes that *oposalkyja* “heaps up two emotive elements”. One is the reduplicated anlaut (*op-*), and the other, I gather, must be *-kyja* DIMIN., whose usual form in Uighur is *-kyja* (Erdal 1991: 48). However, neither
*osalkyja* nor *oposal* seem to be attested. Lacking parallel examples from Uighur, it is not possible to determine whether it was the two intensifiers that were attached simultaneously, or simply an attestation of the singly intensified form that does not seem to have survived.

See 3.1.13 for more examples of multiple intensification.

**symsmyrak** ‘dish of meat cut up small’ (Čigil; DTS, Clauson 1972: 830)

The word is unclear and perhaps not a reduplication at all. However, considering *simür*– ‘to swallow in a single gulp’ (Clauson 1972: 829) ~ *sümür*– ‘to gulp down’ (Dankoff/Kelly 1982: 171), the form *simür.ak* ~ *sümür.ak* might be assumed with the meaning ‘bite-sized piece’. To it, three processes would have been applied in a probably unreconstructable order: 1. dropping of the middle high vowel (*u* or *ü*), 2. shifting to the back harmony (for a possible parallel, see Stachowski M. [in preparation] s.v. *biçak* and *biçmek*), and 3. reduplication. The sequence would eventually yield *symsmyrak*.

Reduplication of nouns is very rare but not impossible, see 3.1.14, and especially Az. *bärbäzäk* ‘decorations, …’ < *bäzäk* ‘decoration, …’ and *sör-söküntü* ‘chips, splinters’ < *söküntü* ‘chip, splinter’ (2.2.2 and 2.2.5) where, importantly, the meaning of reduplication is in fact pluralization. This fits our case perfectly as it would enable the then-trivial shift ‘bite-sized pieces’ → ‘dish of meat cut up small’.

Finally, it is not in fact very unusual for the closing consonant to be identical to *C*₂. See 3.1.6 for more examples.

### 2.1.4. Structure

Four closing consonants of *C*-type are attested in a total of 32 examples derived from 28 unique bases, in a quite even distribution:

- **m**: 3 examples: *jašyl, kök*, and *süčig*.
- **p**: 27 examples: *ätgü, ak, alčak, aryg, äsän, jašyl, jazy, jumšak, (j)ürün, kara, karaju, kök, köni, kötgi, kyrmyzy, kyzyl, sâm, saryg, savuk, süzök, tägirmä, tirig, tolu, tolun, tutčy, tüz*, and *uzun*.
- **pp**: 1 example: *ak*, and
- **s**: 1 example: *tägirmä*.

Four words have more than one closing consonant possible: *ak* (*p* and *pp*), *jašyl* (*m* and *p*), *kök* (*m* and *p*) and *tägirmä* ~ *tägirmi* ~ *tegirmä* (*p* and *s*), i.e. all have *p* as one of the possibilities. The only word whose reduplication cannot be closed by *p* is *süčig*. 

Two of three examples with \( m \) (kök and süçig), and the only one with \( s \) (tägirmä), are all marked by al-Kāšarī as Oghuz. Some other sources ad-duce kömkök as a Kipchak shape, but this is not surprising in light of the modern Bshk. and Tat. kümkük. The one remaining example with \( m \), jaşyl, Clauson 1972 ascribes to Kipchak but immediately noting that japjaşyl is ‘more correct’. It is not clear to me, what this observation was intended to mean. Karamanlıoğlu gives a parallely ambiguous remark on kömkök : köpkök; see 2.1.3 above.

It appears that as far as reduplication is concerned, it could be beneficial to assume the existence of some intermediary idiolect between Old Kipchak and Old Oghuz, perhaps one similar to that attested in Houtsma 1894. See čimjig and kömkök in 2.1.3 above.

2.1.5. Semantics

In all cases the reduplicated meaning is a simple intensification of the base meaning. With eight examples out of 26, colour names are the most numerous group, and perhaps more numerous than elsewhere, but they certainly do not monopolize the stock.

Almost all examples are of a primarily adjectival character. The only exception is jazy which, together with its reduplication japjazy, can act as both an adjective and a noun: ‘flat, level’ \( \rightarrow \) ‘intens.’, and ‘steppe, plain, open space’ \( \rightarrow \) ‘wide open space’.

2.2. Azeri

C-type reduplications have flourished in Azeri. While less numerous, they are clearly more diversified than in the neighbouring languages.

There are as many as five closing consonants and although, admittedly, two of them have very few examples (seven in total), among the other three, the domination of \( p \) is much less overwhelming than in some other languages, as \( p \), \( m \) and \( r \) have 30, 20 and 12 examples, respectively. See 2.2.4.

Reduplications of what are more nouns than adjectives are not uncommon. Indeed, in two cases, reduplication has expanded its meaning from the original intensification onto pluralization. See 2.2.5.

Also, unusually numerous among Azeri reduplications, are derivatives. The ‘order of operations’ (of derivation and reduplication) is generally impossible to reconstruct. See 2.2.5.
Finally, noteworthy among the special cases are the words *ayappag* (probably a reduplication with the base prepended to it: *ay.a.pp.ag*), and *garyş* as a representative of a larger, and quite characteristic of Azeri, family of words. See 2.2.3.

### 2.2.1. Sources

The main source of the Azeri material is AzRS which contains ca. 70,830 entries. Some attestations have also been found in Simpson 1957: 15, Širaliye/Sevortjan 1971: 61, 68f, Ščerbak 1977: 120, Schönig 1998a: 251, Tenišev 1988: 155, and Žäfârov 1984: 49, and the grammars listed below.

For grammatical descriptions, Širaliye/Sevortjan 1971, Budagov 1987: 51, and Zeynalov 1993: 149f have been used.

In Širaliye/Sevortjan 1971: 61, 68f, all description is in fact reduced to listings of examples.

Budagov 1987: 51 lists the possible closing consonants: *g* [sic], *m, p, r,* and *s,* but unfortunately gives no examples. I was not able to find any form that could be interpreted as a reduplication closed with *g.*

Zeynalov 1993: 149f only states that the intensive form is created with the help of *m, p, r,* and *s,* and gives some examples.

AzRS, Simpson 1957: *e* → ǯ | ǯ → *ç* | ç → *ä* | *ğ* → *γ* | *x* → χ | *ı* → *y* | *q* → *g* | *ş* → *š* | *y* → *j,*

Ščerbak 1977: *e* → *g* | *i* → *y*,

Schönig 1998a: *ı* → *y* | *e* → *ä* | *è* → *e* | *y* → *j,*

Širaliye/Sevortjan 1971: *ɔ* → *ä* | *θ* → *ö,*

Zeynalov 1993: *ğ* → *γ* | *ı* → *y* | *ş* → *š* | *y* → *j,*

Žäfârov 1984: *ɛ* → *γ* | *θ* → *ö.*

### 2.2.2. Standard cases

- **ačyg** i.a. ‘clear, bright’ ◊ **apačyg** (AzRS)
- **ay** ‘white’ ◊ **apay** (AzRS)
  - See *ayappag* in 2.2.3 below.
- **ajdyn** ‘bright, clear, clean’ ◊ **apajdyn** (AzRS)
- **balača** see **balaža**

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8 Also Jikia 2011: 277f lists several allegedly Azeri reduplications, but they are mixed with clearly Turkish phonetic shapes, and do not seem to be confirmed by any other source. To stay on the safe side, they will not be included here.
balaža ‘small, tiny’ ◊ bambalaža (AzRS) ◊ bapbalaža (AzRS) ~ bapbalača
‘very small, very young’ (Simpson 1957: 15)
bašga ‘different, other’ ◊ bambašga (AzR’S)
bäzäk ‘decoration, decorative’ ◊ bärbäzäk ‘1. decorations with a large number of
knick-knacks; 2. luxury’ (AzRS)
See bärbäzäklik in 2.2.3 below, and also 2.2.5 below.
bäzäkli ‘decorated, fancy, chic’ ◊ bärbäzäkli ‘1. intens.; 2. luxurious’ (AzRS)
See bärbäzäklik in 2.2.3 below, and also 2.2.5 below.
biz ‘awl’ ◊ bimbiz ‘sharp, pointed, spiky’ (AzRS)
boš ‘empty’ ◊ bomboš (Simpson 1957: 15, Zeynalov 1993: 150, AzRS)
bulašyg ‘stained, dirty’ ◊ bumbulašyg (AzRS)
buz ‘cold, frosty, chilly’ ◊ bumbuz (Zeynalov 1993: 150, AzRS)
See Bumbuzlug in 2.2.3 below.
däm i.a. ‘time, moment’ ◊ därdäm ‘1. immediately; 2. suddenly’ (AzRS)
dik ‘vertical, steep’ ◊ dim dik ‘1. apeak, on end; 2. in full length; 3. beak’ (AzRS)
diri ‘(a)live, lively’ ◊ dim diri (AzRS)
doyru ‘1. true, faithful, accurate; 2. straight, direct’ ◊ dopdoyru (AzRS) ◊ dos-
doyru (AzRS)
dolu ‘full’ ◊ dopdolu (AzRS)
duru ‘1. liquid; 2. clear, clean’ ◊ dumduru (AzRS)
durulug i.a. ‘transparency’ ◊ dumdurulug (AzRS)
düz ‘smooth, even, straight’ ◊ dümdüz (AzRS)
farayat ‘calm(ly), meek(ly)’ ◊ fas farayat ‘calmly, meekly’ (AzRS)
gara ‘black, dark’ ◊ gapgara (Širaliyev/Sevortjan 1971: 61, 69, Žäfärov 1984: 49,
See also 2.2.4 below.
garalyg ‘black(ness)’ ◊ gapgaralyg (AzRS)
garanlyg ‘dark(ness)’ ◊ gapgaranlyg (AzRS)
garyšyg ‘mixed, varied, mingled, messy’ ◊ gatgaryšyg ‘1. mixed, complicated,
entangled; 2. scattered, disordered; 3. uncombed’ (AzRS)
See Gatyş in 2.2.3 below.
garyşyglyg ‘1. entanglement, confusion; 2. disorder, unrest, stir’ ◊ gatgaryşyglyg
‘1. entanglement, confusion; 2. dispersion, disorder’ (AzRS)
See Gatyş in 2.2.3 below.
girdä ‘round’ ◊ gipgirdä (AzRS)
göjlük ‘1. azure, colour blue; 2. a (very) green area’ ◊ gömgöjlük ‘1. azure, the blue colour of something; 3. greenness, colour green; 4. a very green area’ (AzRS)
See also 2.2.4 below.
gyvrag ‘1. clever, glib, jaunty; 2. agile, nimble; 3. cheerful, buoyant, healthy; 4. taut, natty’ ◊ gysgyvrag ‘1. taut, natty, neat, trim; 2. calm’ (AzRS)
gyvraglyg ‘1. glibness; 2. freshness, cheerfulness; 3. agility; 4. restlessness’ ◊ gysgyvraglyg ‘smartness, tautness’ (AzRS)
jalgyz ‘lone(ly)’ ◊ japjalgyz (AzRS)
See jalnyz below, and 3.1.11 on families of reduplications.
jalnyz ‘lone(ly)’ ◊ japjalnyz (AzRS)
See jalnyz below, and 3.1.11 on families of reduplications.
jalnyzša ‘completely alone, completely lone(ly)’ ◊ japjalnyzša (AzRS)
jasty ‘flat’ ◊ jamjasty (AzRS)
jekä ‘1. big, large, great; 2. adult’ ◊ jesjekä (AzRS)
jeni ‘new’ ◊ jepjeni (AzRS)
joxşul ‘poor, destitute’ ◊ jorjoxşul ‘the poor, the squalid, beggars’ (AzRS)
joxşullug ‘poverty, destitution’ ◊ jorjoxşullug (AzRS)
jumru ‘round’ ◊ jupjumru (AzRS)
jumruža ‘very round’ ◊ jupjumruža (AzRS)
jumšag ‘soft’ ◊ jumjumšag (AzRS)
See 3.1.6 on the closer being identical to $C_2$.
kobud ‘rough, coarse, crude’ ◊ korkobud (AzRS)
köj see göj
kök see göj
lüt ‘naked, bare’ ◊ lümlüt ‘1. intens.; 2. poor, destitute, beggar’ (AzRS)
say i.a. ‘1. healthy; 2. unscathed, sound’ ◊ sapsay (AzRS)
saylam ‘healthy’ ◊ sapsaylam (AzRS)
saylamlyg ‘health’ ◊ sapsaylamlyg ‘1. the state of being in good health; 2. vim, good health’ (AzRS)
saylyg ‘health’ ◊ sapsaylyg ‘1. the state of being in good health; 2. vim, good health’ (AzRS)
See also 2.2.4 below.
sarylyg ‘yellowness, yellow colour’ ◊ sapsarylyg ‘1. very yellow colour; 2. bright yellow colour; 3. paleness; 4. soreness’ (AzRS)
širin ‘sweet’ ◊ šipširin (AzRS)
širinlik ‘sweetness’ ◊ šipširinlik (AzRS)
šit ‘1. sweet, not savoury; 2. not salted enough’ ◊ šipšit ‘(completely) unsalted of butter and dishes’ (AzRS)
šitlik ‘insufficient salting’ ◊ šipšitlik (AzRS)
söküntü ‘chip, splinter’ ◊ söršöküntü ‘chips, splinters’ (AzRS)
See also 2.2.5 below.
täläsik ‘hastily, hurriedly’ ◊ tältäläsik (AzRS)
See tez-täläsik in 2.2.3 below.
tämizlik ‘cleanness’ ◊ törtämizlik (AzRS)
täzäǯä ‘1. brand-new; 2. very fresh’ ◊ tärtäzäǯä (AzRS)
turš ‘sour’ ◊ tumturš (Širaliév/Sevortjan 1971: 69, AzRS)
turšlug ‘sourness’ ◊ tumturšlug (AzRS)

2.2.3. SPECIAL CASES

This word appears to be a petrified compound *ay + a.pp.ag, of a structure rather similar to that of Russ. белый-пребелый. It is not clear, however, why it has -g rather than -y in auslaut, and why the reduplication is closed with a double rather than a single p (in itself, *appag does not seem to be attested in Azeri; see 3.1.8 on appak and related forms). Possibly a borrowing? See 3.1.16 on reduplications with a prepended base.

bärbäzäklik ‘1. excessive, kitsch decoration; 2. taste for luxury’ (AzRS)
Although *bäzäklik does not appear to be attested, the form seems to be very likely, given the number of derivative reduplications in Azeri (see 2.2.4).
The root *bäzäk* is attested together with its derivatives in -čy(lyg), -län-mäg, -ly(lig), and -syzlyg, and two reduplications (*bärbäzäk* and *bärbäzäklí*). Meanings seem to match, too.

However, reduplications with unattested base are in the present work listed among other examples but excluded from further considerations (see 1.2.4).

**bešbetär** ‘worse’ (AzRS)

The alleged closing consonant š in this form would have been a highly unusual one. Apart from this word, it is apparently only attested in Kmk. *bešbeter* ‘even worse’, where it seems rather suspicious, and in Tksh. *bešbeter* ‘worse’.

A much more probable explanation, and I would like to thank prof. H. Jankowski (Poznań, Poland) for suggesting it to me, is that not only the alleged base is a Persian loanword (*badtar*, comparative of *bad* ‘bad’), but so is the would-be reduplicated anlaut which actually stems from Pers. *biš* ‘more’.

**bumbuzlug** ‘excessive cold’ (AzRS)

The word seems to be one of the many derivatives from reduplications that can be found in Azeri (see 2.2.4). However, the base *buzlug* seems to only be attested in the meaning ‘icehouse, icebox’, which makes it clear that the -lyg suffix was added to the reduplicated form, not the other way round, and thus eliminates this word from further considerations as a derivative from a reduplication, not a reduplication of a derivative.

**gatgaryš** = *gatgaryšyg* (AzRS)

The phonetic shape *garyš* is only attested with the meaning ‘span (length unit)’, which is a different word altogether; see e.g. ESTJa. The *garyš* here appears to be a derivative in -yš (see Sevortjan 1966: 140–52) from *kar-‘to mix, to stir’ with the meaning *‘mixing, mix-up, confusion’.

Related to it are two non-reduplicated forms: *garyšyg* (diminutive, see Sevortjan 1966: 166–168) and *garyšyglyg* (both see 2.2.2 above), and four reduplications: *gatgaryšyg*, *gatgaryšyglyg*, *gatgaryš*, and *gatgaryšlyg*.

In the case of the first two reduplications, the bases are attested independently, and so it was assumed here that they were derived first, and reduplicated later. In the other two cases, the bases seem to be unattested. The form *gatgaryšlyg* can be explained as a derivative of *gatgaryš*, which must be a reduplication of *garyš* which, in turn, must be the missing link between *kar* and *garyšyg*.

Alternately, *gatgaryšlyg* can be viewed as a reduplication of the unattested *garyšyg*. In either case, it will have to be excluded from further considerations here.

The family can be presented schematically as in fig. 2.1.
Figure 2.1. Reduplications of Az. *garyš i.a. ‘mixed, scattered’ &c.

Apparently, the original base has worn out over time and been replaced by its more emphatic derivatives, a reduplication and a diminutive.

See *garyšyg and *garyšyglyg in 2.2.2 above, *gatgaryšlyg below, and also 3.1.11 for other families of related reduplications.

gatgaryšlyg ‘turmoil, chaos’
See *gatgaryš above.

tez-täläsik ‘hurriedly, hastily, urgently, slapdash’ (AzRS)
At first sight, this form might be taken for a reduplication. The strange lowering of the alleged reduplicated vowel, however, and the use of z for the closer, especially before a voiceless consonant, suggest that it is much more likely to be in fact a simple composition of tez ‘quickly, soon, precipitously’ + täläsik ‘hastily, speedily, slapdash’.

2.2.4. STRUCTURE

Five closing consonants of C-type are attested in a total of 69 examples derived from 65 unique bases, in a quite uneven distribution:

m: 20 examples: balaža, baža, biz, boš, boz, bulašyg, buz, dik, diri, duru, durulug, düz, göj, göjlük, jasty, Jašyl, Jumšag, lüt, turš, and turšlug.
p: 30 examples: ačyg, ay, ajdyn, balaža, doyru, dolu, gara, garalyg, garanlyg, garyšglyg, girdä, guru, gyrmyzy, jalgyz, jalnyzä, jeni, jumru, jumruža, say, saylam, saylamlyg, saylyg, sary, sarylyg, sırin, sırinlik, şit, şitlik, and tāzä,
r: 12 examples: bāzâk, bāzâkli, dâm, joqmul, joqsmullug, kobud, sokiñtũ, tālāsik, tämiz, tämizlik, täzä, and tāzäğä,
s: 6 examples: bütün, doyru, farayat, gyvrag, gyvraglyg, and jeker, and
t: 1 example: garyšyg.

Three words have more than one closing consonant possible: balaža (m and p), doyru (p and s) and tāzä (p and r). The only regularity is that all have p and some other consonant.
Also jumjumšag is a peculiar form; see 3.1.6 for other reduplications with the closing consonant identical to \( C_2 \).

Dialectally, \( p \) can be replaced by \( f \): gasfara, gufguru and safsary ‘completely: black, dry and yellow, respectively’ (Ščerbak 1977: 120). See 3.1.21 for other examples of spirantized closing consonants.

### 2.2.5. Semantics

In the great majority of cases, the reduplicated meaning is a simple intensification or apparently the same as the base meaning. The latter case should probably be attributed to dictionary definitions not being sufficiently exhaustive.

The majority of base words are closer to being an adjective, if one agrees to regard Turkic nomina as a continuous scale. Some exhibit a more dual character (e.g. gara, joχsul), and a few lean closer to nouns (e.g. biz, bütün). The meanings of their reduplications, however, are not typologically surprising, with two clear exceptions (see also joχsul in 2.2.2 for a similar but less distinct example):

- **Bäzäk** has both a substantival and an adjectival meaning. We will ignore the latter because it is not present in the reduplicated meaning. **Söküntü** is purely substantival. In both cases, the reduplicated meaning appears to be a plural of the meaning of the base (AzRS):

  - **bäzäk**
    1. украшение: 1.1. предметы украшения, драгоценностей; 1.2. тот, кто своей деятельностью, участием придаёт особую ценность чему-л.;
    2. узор, рисунок, орнамент; 3. отделка; 4. убранство
  - **söküntü**
    обломок (остаток чего-л. прежде существовавшего, исчезнувшего)

  - **bärbäzäk**
    1. украшения (о большом количестве разнообразных безделушек);
    2. роскошь
  - **sörsöküntü**
    обломки (остатки чего-л. существовавшего, разрушенного)

Also characteristic of Azeri is that unusually many, seventeen, words are derivatives: bäzäkli, durulug, garalyg, garýšgylyg, göjlük, gyvraglyg, jalnyžä, joyšullug, jumruža, saylamlyg, saylyg, sarylyg, širinlik, šitlik, tämizlik, täžäžä and turšlug. Thirteen of them are in -lyg, three are in -ža and one is in -ly.

While in some cases a (shaky) conjecture could be ventured based on semantics, it is generally not possible to determine whether the derivation happened before or after the reduplication. All suffixes are still very productive today and
new formations with them are created with great ease. It is doubtful that even the most meticulous examination of historical sources could reveal the truth.

Here, they are all considered reduplications of derivatives because all the bases are attested independently. See in particular gatgaryš in 2.2.3.

2.3. Bashkir

Bashkir C-type reduplications are very numerous but hardly diversified. This is consistent with the state in the Kipchak languages in general.

Against 91 examples closed with p or pp, there are only two closed with m, and no other closing consonants appear to be attested. Moreover, one of these two examples can alternately be closed with p, too. See 2.3.4.

Also semantically are Bashkir reduplications very standard. Only two words are not obviously adjectives, and just one is slightly special in that its base is already an intensification itself. See 2.3.5.

2.3.1. Sources

The main sources of the material are BškRS58 and BškRS96 which contain ca. 22,000 and 32,000 entries, respectively. Some attestations have also been found in the grammars listed below.

For grammatical descriptions, Ahmerov 1958: 766 and Juldašev 1981: 196 have been used.

Ahmerov 1958: 766 gives a description of the formation of reduplications but the question of the closing consonant is reduced to the statement that in most cases, the reduplicated syllable is closed by p and only very rarely by m. This, however, is followed by an affirmation that исторически эти формы возникли из полного повторения which, he believes, is confirmed by the fact that full reduplications are used in modern Bashkir (jakšy-jakşy jorttar ‘very beautiful houses’, maturðarðyj-matury ‘very beautiful’, &c.).

In Juldašev 1981: 196, the description of the closing consonant is the same, and supplemented by the information that the stress falls on the reduplicated syllable. Also, a few interesting examples are provided. Surprisingly, örjangy is included on par with its actual reduplication, öpörgan; see 2.3.5.

Ahmerov 1958, BškRS58, BškRS96, Juldašev 1981: |

\[
\begin{array}{|c|c|c|c|}
\hline
\text{from} & \text{to} & \text{from} & \text{to} \\
\hline
\text{Ə} & \overset{\text{ä}}{\text{ä}} & \text{ғ} & \overset{\text{γ}}{\text{γ}} & \text{һ} & \overset{\text{h}}{\text{h}} & \text{ң} & \overset{\text{ŋ}}{\text{ŋ}} & \text{ө} & \overset{\text{ö}}{\text{ö}} & \text{ҫ} & \overset{\text{ϑ}}{\text{ϑ}} & \text{у} & \overset{\text{Vw}}{\text{Vw}} & \text{ү} & \overset{\text{Vw}}{\text{Vw}} & \text{ʒ} & \overset{\text{δ}}{\text{δ}} \\
\hline
\end{array}
\]
2.3.2. Standard cases

äð 'little, few' ◊ äpäð (BškRS96)

ak i.a. ‘1. white; 2. good, kind’ ◊ apak ‘snow-white’ (Ahmerov 1958: 766, BškRS58)
◊ *appak (BškRS96: only attested in appaym ‘my dear, my darling’)

See appaym and also apakaj in 2.3.3 below.

äkren i.a. ‘quietly’ ◊ äpäkren (BškRS96)

aryw ‘good, passable’ ◊ aparyw ‘best, good (s.v. an-); quite good, not bad, decent, passable (s.v. an-apwy)’ (BškRS96)

äse ‘1. bitter; 2. sour; 3. pungent’ (BškRS58) ◊ äpäse ‘1. very bitter; 2. very sour’ (BškRS58, BškRS96)

asyk i.a. ‘clear, bright, precise’ ◊ apasyk (BškRS58, BškRS96)

bäläkäj ‘very small’ ◊ bäpbäläkäj (Ahmerov 1958: 766, BškRS58, BškRS96)

bokrø ‘slouching’ ◊ bøpbökro (BškRS96)

bötön ‘whole’ ◊ bøpbötön (BškRS96)

buš ‘empty’ ◊ bupbus (BškRS58, BškRS96)

byrsak ‘dirt(y), slush(y)’ ◊ bøpbyrsak ‘very dirty’ (BškRS96)

haj ‘1. small, fine; 2. shallow’ ◊ haphaj (Ahmerov 1958: 766, BškRS96)

halkyn ‘cold, frosty, chilly’ ◊ haphalkyn (BškRS96)

hary ‘yellow’ ◊ hapbar (BškRS96)

haw ‘healthy’ ◊ hapbaw (BškRS96)

hiräk ‘rare, sparse’ ◊ hiphiräk (BškRS96)

horo ‘(dark) brown (BškRS58), (light) brown (BškRS96)’ ◊ hophor (BškRS58, BškRS96)

jakšy ‘good’ ◊ japjakšy (BškRS96)

jakty ‘light(ing), bright’ ◊ japjakty ‘very light, very bright’ (BškRS96)

jakyn ‘close, near’ ◊ japjakyn (BškRS96)

jaltyr ‘shine, gloss, glaze’ ◊ japjaltyr (BškRS96)

jangy ‘new, fresh’ ◊ japjangy (BškRS96)

janyyd ‘lone(l)’ ◊ japjanyyd (Juldašev 1981: 196)

jäš ‘young’ ◊ japjaš (BškRS58, BškRS96)

jälšel ‘(light) green’ (in BškRS96 only attested in derivatives) ◊ jämjälšel (BškRS58, Juldašev 1981: 196, BškRS96) ◊ jäpjälšel (BškRS96)

jepel ‘light, easy’ ◊ jepjevel (BškRS58, Juldašev 1981: 196)

jeväš i.a. ‘wet’ ◊ jepjeväš (BškRS96)

joka ‘thin’ ◊ jopjoka (BškRS96)

jomro ‘round’ ◊ jopjomro (BškRS96)

jomšak ‘soft’ ◊ jopjomšak (BškRS58)
jyltyr ‘brilliant, sparkling’ ◊ jypjyltyr (BškRS96)
jyly ‘tepid, warm’ ◊ jypjyly (BškRS58, BškRS96)
kak ‘1. naked, bare; 2. very slim, skinny’ ◊ kapkak (BškRS58)
kara ‘black’ ◊ kapkara (Ahmerov 1958: 766, BškRS58, Juldašev 1981: 196, BškRS96)
karanvy ‘dark’ ◊ kapkaranvy (BškRS96)
katy ‘hard, solid’ ◊ kapkaty (BškRS96)
körän ‘brown’ ◊ körkörän (BškRS96)
koro ‘dry’ ◊ kopkoro (BškRS58, Juldašev 1981: 196, BškRS96)
kujy ‘thick, dense’ ◊ kupkujy (BškRS96: only attested in ~ aš ‘very thick soup’, and ~ itep bešerew ‘to cook something very thick’)
kük ‘(dark) blue’ ◊ kümkük (Ahmerov 1958: 766, BškRS58, Juldašev 1981: 196, BškRS96)
kydyl ‘red, ruddy’ ◊ kypkydyl ‘scarlet, crimson, red’9 (Ahmerov 1958: 766, BškRS58)
kyčka ‘short’ ◊ kypkyčka (BškRS58)
matur ‘beautiful’ ◊ mapmatur (BškRS96)
nädek ‘thin’ ◊ näpnädek (BškRS58, BškRS96)
nakyθ ‘1. small, short (clothes); 2. shortage’ ◊ napnakyp ‘very little’ (BškRS58, where marked as superlative)
nasar ‘bad, nasty’ ◊ napnasar (BškRS58, BškRS96)
neskä ‘thin’ ◊ nepneskα (BškRS58, BškRS96: only attested in ~ bil ‘very thin waist’, and ~ kyrkyw ‘to chop finely’)
ör-jangy ‘brand-new’ ◊ öpörjangy (Juldašev 1981: 196)
See öpörjany in 2.3.3 below.
šaktaj ‘quite, significantly, very’ ◊ sapšaktaj (BškRS96: only attested in ~ bala ‘big, healthy child’)
salyš ‘oblique, slanted, crooked; sideways’ ◊ sapsalys ‘ramose, forked’ (BškRS96)
sarä ‘naked’ ◊ sarpšarä (BškRS58, BškRS96)
sej ‘crude, raw’ ◊ sepsej (BškRS58, BškRS96)
serek ‘rot(ten)’ ◊ serek ‘rotten’ (BškRS96)
sösö ‘unleavened’ ◊ sósösö (Juldašev 1981: 196)
sybar ‘motley’ ◊ sypsybar (Juldašev 1981: 196, BškRS96)
šyjk ‘1. elastic, flexible; 2. thin; with smooth hair of an animal’ ◊ šypšyjk ‘liquid, thin’ (BškRS96)
šym ‘quiet’ ◊ šypšym (BškRS96)
See 2.3.3.
šyma ‘smooth’ ◊ šypšyma (BškRS58)
tađa ‘clean’ ◊ taptada (BškRS58, BškRS96)

9 The original meanings in BškRS58 are: ызыл ‘красный, румяный’: ып-ызыл ‘ярко-красный, багряный, совершенно красный’.
takyr i.a. ‘smooth, groomed, footworn’ ◊ taptakyr ‘very smooth, very even’  
(Ahmerov 1958: 766, BškRS58, BškRS96)
täläšäk ‘low’ ◊ täptäläšäk (BškRS96)
taman ‘exactly, just’ ◊ taptaman (BškRS58, BškRS96)
tämheö ‘unpalatable’ ◊ täptämheö (BškRS96)
tängäl i.a. ‘straight’ ◊ täptängäl (BškRS58)
täpäs ‘low’ ◊ täptäpäs (Ahmerov 1958: 766)  
See 3.1.6 on the closer being identical to $C_2$.
täpäsäk ‘low’ ◊ täptäpäsäk (BškRS58)  
See 3.1.6 on the closer being identical to $C_2$.
tärän ‘deep’ ◊ täptärän (BškRS58)
tar ‘tight, narrow’ ◊ taptar (BškRS58, BškRS96)
tekä ‘steep’ ◊ teptekä (BškRS58, BškRS96)
tewäl ‘exactly, precisely’ ◊ teptewäl (BškRS58, BškRS96)
tiö ‘quickly, soon’ ◊ tiptiö (BškRS96)
tigeö ‘smooth’ ◊ tiptigeö (BškRS58, BškRS96)
tiņ ‘equal, similar’ ◊ tiptiņ (BškRS58, BškRS96: only attested in ~ bulyw ‘to be exactly the same’)  
töö ‘straight, direct’ ◊ töptöö (BškRS96)
tokon ‘dial. lack of exit, holes, runoff’ ◊ toptokon (BškRS58)
tokor i.a. ‘short’ ◊ toptokor (BškRS58)
tölös ‘short, undersized’ ◊ töptölös ‘very low’ (BškRS96)
tonok ‘settled, still of water’ ◊ toptonok ‘completely still (water)’ (BškRS58)
tübän ‘low’ ◊ tuptübän (BškRS58)
tuly ‘full’ ◊ tuptuly (BškRS58, BškRS96)
tumalak ‘sphere, spherical, round’ ◊ tuptumalak ‘completely round, completely spherical’ (BškRS58, BškRS96)
tünjäräk ‘round’ ◊ tüptünjäräk (BškRS58)
tun ‘frozen’ ◊ tuptun (BškRS58)
tura ‘straight, direct, even’ ◊ tuptura (BškRS58)
tüütä ‘straight, direct of road’ ◊ tüptüütä (BškRS58)
tyyöö ‘tight, narrow’ ◊ typtyyöö (BškRS58, BškRS96)
tymyk ‘quiet’ ◊ typtymyk (BškRS58, BškRS96)  
See 3.1.11 on families of reduplications.
tyn ‘quiet’ ◊ typtyn (BškRS58)  
See 3.1.11 on families of reduplications.
tynys ‘quiet, peaceful’ ◊ typtynys (BškRS58, BškRS96)  
See 3.1.11 on families of reduplications.
zäŋgär ‘(light) blue’ ◊ zäpzäŋgär (BškRS58, BškRS96)
2.3.3. **Special cases**

**appa**ym ‘my dear, my darling’ (BškRS96) ◊ **ak** 1. white; 2. *i.a.* good, kind

The meaning of ak is made up of a considerable number of components, including ‘white’ in the first place and ‘good, kind’ in the fifth (BškRS96). If we consider p and pp to be different closers, then ak is one of two words in Bashkir which have more than one closer possible (the other is jäsèl ‘(light) green’). It would seem that both p and pp are bound to only a single component of the complex meaning of the base: p intensifies ‘white’, while pp intensifies ‘good, kind’. The latter is only attested with a px. See 3.1.2 for similar examples in other languages, and also apakaj below.

**apakaj** 1. sis(ter); 2. aunt(ie)

This form might appear to be a reduplication of ak in one of its secondary meanings such as ‘clean, pure’ or ‘good, kind’ (BškRS96; see also Uigh. āpáq in 2.19.3 for a semantic parallel), combined with a diminutive suffix. However, neither Ahmerov 1958 nor Juldaşev 1981 seem to mention an appropriately shaped suffix, and BškRS96 explains apakaj as an endearing form of apaj ‘1. older sister; 2. aunt; …’ which certainly is a much more convincing interpretation. See also appayym above.

**öpörjangy** (Juldaşev 1981: 196) ◊ **ör-jangy** ‘brand-new’

This word is special in that its base meaning is already an intensification and probably a binomial. Apparently, it must have after a time become trite to a certain degree, which made it possible for a reduplication to be formed. See 3.1.13 for more examples of such erosion.

The final element (jangy) is clear but the initial ör- is less so. Perhaps, it is related to Yak. ür.îŋ ‘white’, and the original meaning of the whole was *‘white-new’ (= ‘brand-new’). The same composition is also present in Tatar, see ör-jänja in 2.15.1.

Note that jangy alone can also be reduplicated, but *ör does not seem to exist as a separate word. Juldaşev 1981: 196 lists ör-jangy among reduplications, on par with öpörjangy.

**šypšym** (BškRS96) ◊ **šym** ‘quiet’

The reduplication šym → šypšym is clear, but the base šym is much less so. Quite probably, it is related to Uigh. žim ‘quietly, calmly; silently, tacitly’, attested in particular in žimžit ‘completely silent, completely mute’. UjgRS explains žir as “пáрное к [жим]”, but this interpretation has a weak point, see 2.19.3.
The Uighur word may also be a reduplicated anlaut of *čymčyrt ‘complete silence’, which had been severed and made an independent word; see 3.1.10 for similar examples. In such case, the Bashkir reduplication šyşym would most likely be a peculiar case of double reduplication; see 3.1.9 on those.

Possibly, šym can also be related to two unclear intensifiers with indefinite semantics: Trkm. čim and al-Kāšyarī’s čim – čym; see 3.1.10.

2.3.4. Structure

Three closing consonants of C-type are attested in a total of 94 examples derived from 91 unique bases, in a rather skewed distribution:

- **m**: 2 examples: jäšel and kük,
- **p**: 90 examples: äδ, ak, äkren, arıw, äse, asyk, bäläkäj, bojok, bökrö, bötön, buš, byrsak, haj, halkyn, hary, hav, hiräk, horo, jakšy, jakty, jakyn, jaltyr, jyltyr, jyly, kak, kara, karajyy, katy, körän, koro, kuš, kydył, kyöka, matur, nādeқ, nakyd, nasar, neskä, ör-jängy, şaktaj, salyš, šärä, sej, serek, sosö, sybar, şyjjy, şym, şyna, teda, takyr, täläšäk, taman, tämhed, tängâl, tämpäš, tämpäšäk, tar, târän, tekä, tewäł, tiδ, tigeδ, tiŋ, töδ, tokon, tokor, tölös, tonok, tübän, tuly, tumalak, tuaŋ, tuaŋäräk, tura, tütä, tyyδ, tmyk, tywi, tynys, zängër, and
- **pp**: 1 example: ak.

Three words have more than one closer possible: ak (p and pp) and jäšel and kük (both m and p). Noteworthy is the semantic differentiation of the two reduplications of ak (see 2.3.3 above), and the forms täptäpäš and täptäpäšäk (see 3.1.6 on the closer being identical to C₂).

2.3.5. Semantics

The meanings of all reduplications are, unsurprisingly, the same as the base meanings or their simple intensifications. The only diversions are provided by ak, where the meaning can be reduplicated in two ways, and ör-jängy, where already the base is an intensification (see 2.3.3 above).

With, again, two exceptions, all words are fairly definite adjectives, to the degree allowed for by the general build of the Turkic languages. It is only tumalak that has – together with a purely adjectival part – a more distinct substantival component in its meaning (‘sphere’ apart from ‘spherical, round’), and tokon that is a pure noun (dialectally).
2.4. Dolgan

Unlike in the neighbouring Yakut, C-type reduplication does not appear to be the favourite method of word formation in Dolgan. Very few, and barely diversified examples are available, a fact that cannot be easily blamed on the shortage of lexicographic descriptions. Also, hardly any word in this tiny set appears to be calling for greater attention.

The large disproportion between the Dolgan and Yakut collections is most likely due to the Tungusic substrate in the former. It is not entirely clear how reduplications appeared in the Tungusic languages, but there is little doubt that the method never gained much popularity in them, see 3.4.3. Dolgan and Yakut are known to have diverged not later than in the beginning of the 17th century (Stachowski M. 1996), but there are no old attestations with which to determine whether it was the Yakut collection that expanded very rapidly after that date, or the Dolgan one that shrank. In theory, both processes could also occur simultaneously. It seems that only guesses can be made until a detailed investigation of the Mongolic and Tungusic reduplications is undertaken.

2.4.1. Sources

The main sources of the material are DW and DWS containing ca. 8900 entries in total. Some attestations have also been found in Pomorska 2004: 143f, and in the two grammatical works listed below. Altogether, only eight examples are available. As it was mentioned above, this low number is not merely due to incompleteness of the lexicographic material as even in larger collections reduplications are scarce. Li 2011: 97 states directly that in his materials, there were no intensified adjectives whatsoever.

For grammatical descriptions, Ubrjatova 1985b: 131 and Stachowski M. 1997: 89 have been used. Both are quite laconic, and effectively limited to a list of examples, and the statement that the reduplicated syllable can be closed by p or bYS.

DW, DWS, Pomorska 2004: 143f: ā → e | x → χ,
Ubrjatova 1985b: ʯ → ŋ | y → ü.

2.4.2. Standard cases

kara 'black' ◊ kapkara (Ubrjatova 1985b: 131, DW, Pomorska 2004: 144)
karanja ‘dark’ ◊ kapkaraya (DW)
küök ‘blue’ ◊ küpküök (DW)
khyyl ‘red’ ◊ kypkyhyyl ‘scarlet, purple, intensive red’ (Stachowski M. 1997: 89, DWS, Pomorska 2004: 144)
kyra ‘small’ ◊ kypkyra (Ubrjatova 1985b: 131, DW, Stachowski M. 1997: 89)
kytarkaj ‘red’ ◊ kypkytarkaj ‘pretty as a picture’ (DW, Stachowski M. 1997: 89)
tögürük ‘round’ ◊ töptögürük (Stachowski M. 1997: 89, DWS, Pomorska 2004: 144)
ürün ‘white’ ◊ üpürün (Ubrjatova 1985b: 131, DW, Stachowski M. 1997: 89)

2.4.3. Special cases

suotčogotok ‘completely alone’ (Stachowski M. 1997: 89) ◊ č|h|sogotok ‘alone’

In Stachowski M. 1997: 89, this word is considered a special case because of its unclear phonetics, and discussed separately. It is proposed that it might be a composition rather than a reduplication, and that eventually it could be traced back to *jalgōz-jalgōz.ak.

Despite its scantiness which rules out any categorical statements, the Dolgan material rather noticeably only features p and bys as the closing segments – but with the exception of če.bit.čēlkē ‘snow-white’. In theory, it is possible that suotčogotok is another exceptional form. Nevertheless, the long vowel in the reduplicated anlaut (-uo-) is suspicious. There is only one Dolgan example with a long vowel in the head. It is küök ‘blue’, and it has its vowel shortened in the reduplication – which would be unlike the hypothetical reduplication of suotčogotok.

The word is also present in Yakut as soyotoχ (see 2.21.2). Its reduplications are so.bus-, so.s- and suo.s-, and an array of seemingly irregular forms akin to Dolg. suotčogotok, see 2.21.3. Apparently, t is not allowed as a closing consonant in Yakut at all. The reduplication of Yak. kūoχ ‘blue’ has its vowel shortened, too, but in other words the vowel might (rarely) preserve – or apparently even acquire – length, see e.g. Yak. būsbütün ‘absolutely all’, čuopčuoɣur ‘very motley’, kiebiskiŋ ‘very wide’, and a more general discussion of shortening in 3.1.20.

One more factor that has to be taken into account here, is the Siberia-wide alternation of s ~ t. An influence of this phenomenon can also be suspected in the already mentioned čebitčēlkē ‘snow-white’. However, the mechanism and scope of this alternation remain for now undeciphered, and an attempt to use it to explain suotčogotok can be no more than a speculation.

Neither any of the facts above, and nor their sum, are sufficient to determine with certitude what the nature of suotčogotok is. In light of the Yakut forms with long vowels in the reduplicated anlauts, that would be
difficult to be all explained by an ancient composition, it is perhaps the possibility of secondary emphatic lengthening that should be viewed as the most likely one.

See also 3.1.11 for other big families of related reduplications.

### 2.4.4. Structure

Only one closing consonant of C-type is attested in a total of eight examples derived from eight unique bases:

**p:** 8 examples: karaŋa, kūök, kyhyl, kyra, kytarkaj, kara, tögürük and ürün.

One word has a long vowel or a diphthong, kūök ‘blue’, and it has been shortened in the reduplication. See 3.1.20 on shortening of the reduplicated vowel.

### 2.4.5. Semantics

From the point of view of semantics, the only worthwhile case is that of kytarkaj ‘red’ → kyęktyarkaj ‘pretty as a picture’. Stachowski M. 1997: 89 sees here an influence of Russ. красный ‘1. red; 2. arch. beautiful’, красивый ‘beautiful’.

Interestingly, the same development did not happen in the case of the synonymous kyhyl ‘red’ which only reduplicates to a more predictable ‘scarlet, purple, intensive red’.

### 2.5. Gagauz

Compared to its most closely related languages, Gagauz C-type reduplications do not appear to be particularly numerous. It is not clear, however, whether it is an accurate picture of the state in Gagauz, or just a reflection of the scarcity of available data. As far as diversification is concerned, Gagauz is visibly less rich than Azeri or Turkish, but it still certainly counts among the most diversified ones.

In 43 examples, four closing consonants are attested (m, p, r and s), and possibly this number should be increased by t in jat-jaban and z in bezbelli and dozdolaj. See 2.5.4 and 2.5.3.

Another structural feature to be noted is the consistent shortening of the reduplicated vowel, be it primarily or secondarily long. See 2.5.4.

Semantically, Gagauz reduplications are quite standard. Perhaps only the case of düz might be more interesting, provided that it is not merely inadequate translation that makes it appear so. See 2.5.5.
Although beyond the primary scope of this work, the Gagauz word *je.piz. jeni* ‘brand-new’ should be mentioned as the only example that I am aware of of a *CVC*-type reduplication outside of the North Siberian group (see also 3.4.4 on the origin of reduplication).

### 2.5.1. Sources

The main source of the Gagauz material is GagTS which contains ca. 10 800 entries. Some attestations have also been found Ščerbak 1977: 120 and in the grammars listed below.

For grammatical descriptions, Pokrovskaja 1964: 106 and Özkan 1996: 197f have been used.

Pokrovskaja 1964: 106 limits herself to some examples and the statement that the reduplicated syllable is closed by *p* or *s* and, more rarely, *m, r or t*. For *t*, only one example is given, namely *jat-jaban* ‘1. wild, savage; 2. foreign, alien’. This is most probably a mistake; see 2.5.3 below.

Özkan 1996: 197f is more laconic but he, too, gives some examples and a list of possible closers: *m, p, r, s and z*. The latter two appear to be merely phonetic variants but see 2.5.4 below. The form *jat-jaban* or *t* as a closing consonant are not mentioned.

GagTS, Özkan 1996: 197f: 
\[ \begin{align*}
\text{ç} & \rightarrow \text{č} | \\
\text{e} & \rightarrow \text{je} | \\
\text{ı} & \rightarrow \text{y} | \\
\text{i}a & \rightarrow \text{ija} | \\
\text{VV} & \rightarrow \text{V}, \\
\text{j} & \rightarrow \text{y},
\end{align*} \]

Pokrovskaja 1964: 
\[ \begin{align*}
\text{ӱ} & \rightarrow \text{ü} | \\
\text{ж} & \rightarrow \text{ǯ},
\end{align*} \]

Ščerbak 1977: *i* → *y*.

### 2.5.2. Standard cases

- **açyk** ‘open’ ◊ **apaçyk** (GagTS)
- **ajdynnyk** ‘light, glitter’ ◊ **apajdynnyk** (Özkan 1996: 197)
- **ak** ‘1. white; 2. clean; 3. white of the eye; 4. white speck in the eye’ (GagTS) ◊ **apak** ‘completely white’ (Pokrovskaja 1964: 106, Özkan 1996: 197)
  
  According to Pokrovskaja 1964: 106, *ak* is not used independently. It is, however, attested in GagTS with the meanings as listed here. See also 2.5.3 below.
- **ansyz** ‘sudden(ly)’ ◊ **apansyz** (Özkan 1996: 197)
- **ansyzdan** ‘sudden(ly)’ ◊ **apansyzdan** (GagTS)
- **ansyzyn** ‘sudden(ly)’ ◊ **apansyzyn** (GagTS)

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10 In *jeni, ješil*, and their reduplications.

11 In *bijaz*, after ‘бийаз’ in Pokrovskaja 1964: 106.
belli ‘clear, obvious’ ◊ bezbelli (GagTS, Özkan 1996: 198)
bijaz ‘white’ ◊ bimbijaz (Pokrovskaja 1964: 106, Şčerbak 1977: 120, GagTS)
čevre ‘surrounding, around’ ◊ česčevre ‘all around’ only in česčevreye (no meaning given; Özkan 1996: 198)
In GagTS, čevre is only attested with the meaning ‘kenarları işlenmiş mendil’, which would have made a semantically very unlikely base for reduplication. Possibly, the word is almost congruent with its Turkish equivalent čevre ‘surrounding, around, &c.;’, also ‘handkerchief, headscarf’, only not attested as such in GagTS. See 2.5.3 below.
See jat-jaban in 2.5.3 below.
diri ‘alive, lively’ ◊ dipdiri (GagTS)
dolaj ‘vicinity, surrounding, around’ ◊ dozdolaj ‘all around’ (GagTS, Özkan 1996: 198)
See dozdolajanyndan in 2.5.3 below.
dolu ‘full’ ◊ dopdolu (GagTS, Özkan 1996: 197)
döru ‘1. straight, direct; 2. true, faithful, accurate’ ◊ dopdöru (GagTS, Pokrovskaja 1964: 106) ◊ dosdöru (Pokrovskaja 1964: 106)
duruk ‘clear, limpid’ ◊ dupduruk (GagTS)
düz ‘smooth, even, straight’ ◊ düm dúz (Pokrovskaja 1964: 106) ‘1. intens. (Pokrovskaja 1964: 106); 2. openly, frankly (Pokrovskaja 1964: 106, GagTS)’ ◊ dúp dúz ‘openly, frankly’ (GagTS)
See 2.5.5 below.
jalabyk ‘brilliant, sparkling’ ◊ japjalabyk (Özkan 1996: 197)
jaš ‘wet’ ◊ jamjaš (no meaning given; Özkan 1996: 198)
In GagTS, jaš is only attested with the meanings ‘1. tear(drop); 2. age’, which would have made a semantically very unlikely base for reduplication. Possibly, the word is almost parallel to its Turkish equivalent jaš ‘1. age; 2. wet; 3. tear(drop)’, only not attested in full in GagTS. See 2.5.3 below.
jeni ‘new’ ◊ jepjeni (GagTS)
ješil ‘green’ ◊ jemješil (GagTS)
kajyl ‘consentient’ ◊ kankajyl (Özkan 1996: 198)
kara ‘black’ ◊ kapkara (GagTS, Özkan 1996: 197)
kirli ‘dirty’ ◊ kipkivli (GagTS)
kожamiti ‘1. old; 2. (well-)known’ ◊ koskožamiti ‘very big, huge’ (GagTS)
Gagauz

**kuru** ‘dry’ ◊ **kupkurku** (Pokrovskaja 1964: 106, GagTS)

**kyrmzyz** ‘red’ ◊ **kypkyrmzyz** (Pokrovskaja 1964: 106, GagTS)

**kyzgyn** ‘angry, furious, passionate’ ◊ **kypkyzgyn** (Özkan 1996: 197)

**māvi** ‘blue’ ◊ **masmāvi** (Pokrovskaja 1964: 106, GagTS)

**mor** ‘purple, violet’ ◊ **mosmor** (Pokrovskaja 1964: 106, GagTS)

**pak** ‘clean, clear’ ◊ **pampak** (Özkan 1996: 198)

**sā** ‘healthy’ ◊ **sapsā** (GagTS)

**sary** ‘yellow’ ◊ **sapsary** (Pokrovskaja 1964: 106, GagTS, Özkan 1996: 197)

**sērt** ‘hard, harsh, rough’ ◊ **sepsert** (GagTS)

**silme** ‘deletion’ ◊ **sipsilme** (GagTS: no meaning given)

GagTS does not attest *silme*, but it does attest *silmē* with the meaning ‘to delete, wipe, erase, cancel’. The reduplication is unlikely to be a loanword because a similar form does not seem to be attested for Ottoman, Turkish or Azeri. See 2.5.3 below.

**sökük** ‘rip’ ◊ **söpsökük** (GagTS)

**sūk** ‘cold’ ◊ **supṣuk** (GagTS)

**tülü** ‘hairy, feathery’ ◊ **tüptülü** (Pokrovskaja 1964: 106)

**ülen** ‘(at) noon’ ◊ **üptülən** ‘meridian, daily’ (Pokrovskaja 1964: 106)

**uzun** ‘long, tall’ ◊ **upuzun** (GagTS)

### 2.5.3. Special cases

In seven cases, GagTS failed to attest a base with a meaning suitable for reduplication. For four (*ač, *olmuš, *soluk and *syky below), I could not find any additional support, and so they have been classified as special cases and will be excluded from further considerations. For the other three (ćevre, jaš and *silme in 2.5.2 above), it was only a specific meaning that was missing, or the exact morphological form. These will be treated on par with the entirely clear forms.

**apač** (Özkan 1996: 197: no meaning given)

It seems unlikely that *ač ‘hungry’ should be missing from Gagauz. A borrowing is no more plausible as *apač does not appear to be attested for Ottoman, Turkish or Azeri. However, it is missing from GagTS and, be it for methodological consistency alone, it will be considered a special case here. See the comment at the beginning of 2.5.3 above.

**dozdolajanyndan** (Özkan 1996: 198: no meaning given)

This form is not clear. Perhaps a misprint for *dozdolajyndan ‘from all around’?
Data

jat-jaban (Pokrovskaja 1964: 106, Pomorska 2004: 144) ◊ jaban ‘wild, savage, alien’
This word is not clear. Eventually, it can be a reduplication of jaban, or a composition of *jat ‘foreign’ + jaban id., and either could have possibly happened outside of Gagauz.

If it is a reduplication, then it is a highly unusual one, and the only example with t in the role of the closing consonant. Note that also r can only be found in one example in this function (čyrçyplak ‘stark naked’, see 2.5.2 above), but unlike t, r is well rooted in Turkish, Azeri and others. Apart from jat-jaban, t appears in one Azeri reduplication (gatgaryšyg ‘entanglement, confusion, …’, see 2.2.2 above) and in one Crimean Tatar (četčešit ‘completely different; very diversified’, see Jankowski 1992: 129). These provide a modest support.

On the other hand, if it is a composition, then it can barely be attributed to Gagauz as the word *jat does not seem to be attested in it. Note that this does not exclude the possibility of inheritance.

It appears, then, that the available options are: 1. Gagauz or earlier reduplication, which seems unlikely; 2. Gagauz or earlier composition, which seems more likely; and 3. borrowing from Turkish, Karaim, Urum or perhaps yet another (see 2.6.3 and Stachowski K. 2010: 153), which seems equally likely.

The presently available data do not seem sufficient to allow to continue these considerations. This example might, however, prove valuable for more distant musings, as in fact, it could be also interpreted as a composition which is at the same time a reduplication in statu nascendi; see 3.4.4 on the origin of reduplication.

opolmuštular (Özkan 1996: 197: no meaning given)
This reduplication is most probably native Gagauz because a corresponding one does not seem to be attested for Turkish or Azeri. Nevertheless, the base *olmuš (probably ‘ripe’) is missing from GagTS, and so the word will be considered a special case here. See the comment at the beginning of 2.5.3 above.

sopsoluk (GagTS)
GagTS defines sop as ‘intensifying prefix’ and gives sopsoluk as an example. Nevertheless, the base *soluk (probably ‘pale’) does not seem to be attested, and the word will be considered a special case here. See the comment at the beginning of 2.5.3 above.

sypsyky ‘very tight, very narrow’ (GagTS)
GagTS defines syp as ‘word-intensifying prefix’ and gives sypsyky as an example. Nevertheless, the base *syky does not seem to be attested, and the word will be considered a special case here. See the comment at the beginning of 2.5.3 above. Perhaps a borrowing from Turkish (see 2.16.2)?
2.5.4. Structure

Five closing consonants of C-type are attested in a total of 43 examples derived from 41 unique bases, in a quite uneven distribution:

*m*: 6 examples: bijaz, düz, jaş, ješil, kajyl, and pak,

*p*: 27 examples: ačyk, ajdynnyk, ak, anysz, anyszdan, anyszyn, diri, dolu, dörü, duruk, düz, jalabyk, jeni, kara, kiri, kuru, kyrmzy, kyzgyn, sā, sary, sert, silme, sökük, sük, tūlu, ülen, and uzun,

*r*: 1 example: çyplak, and

*s|z*: 9 examples: belli, *čevre, dolaj, dörü, katy, koža, kožamiti, māvi and mor.

The status of *z* is not entirely clear. It appears to be but a phonetic variant of *s*, presumably before voiced non-liquid consonants. However, three words provide such environment (belli, dolaj and dörü), and it is only in the first two that *z* is attested. Also the expected *b* as a variant of *p* is missing. Despite these doubts, *z* will not be considered an independent closing consonant here.

Two words have more than one closer possible: düz and dörü (*m* and *p*, and *p* and *s*, respectively). The only significant regularity is that both have *p* and some other consonant as options.

In six words, the first vowel of the stem is long (dörü, māvi, sā, sük, tūlu, and ülen). In all these cases, the reduplicated vowel is short. Note, however, that it is only in māvi, that the length is original (≈ Ar. مائي mā‘ī ‘water(y), aquatic’, see Nişanyan ÇTES for Tksh. mā‘i ‘blue’); in the remaining four words, the reduplication can, with equal probability, be assumed to have taken place before or after of the dropping of *g/j* and the subsequent lengthening of the preceding vowel. See also 3.1.20 on shortening of the reduplicated vowel.

Two groups of words are derivatives: anysz, anyszdan, anyszyn, and koža, kožamiti. In all cases the closing consonant is the same: *p* in the first group, and *s* in the second. It does not seem possible to determine whether derivation preceded or followed reduplication.

2.5.5. Semantics

In the great majority of cases, the reduplicated meaning is a simple intensification or apparently the same as the base meaning. Most cases are also clear adjectives, with the degree of conventionality necessary with the Turkic languages.

In two cases, düz and ülen, a modest evolution can be observed in the reduplicated meaning; see also below. In two other, koža and kožamiti, the reduplicated meaning suggests that perhaps not the full spectrum of the base meaning has been attested in the source. Such occasions must, unfortunately, be expected when only
a limited amount of data is available. Finally, in two more, čevre and jaš, the reduplicated meaning clearly could not have arisen from what meaning is attested for the base. Again, the scarcity of the data is probably to blame; see 2.5.3 above.

The meanings of düz and its reduplications are perhaps of greater interest: ‘smooth, even, straight’ → dümdüz ‘1. intens.; 2. openly, frankly’, and düpdüz ‘openly, frankly’. It seems as if the reduplication with m intensified the meaning both literally and figuratively, while the one with p only figuratively. This would have been similar to Bshk. ak i.a. ‘1. white; 2. good, kind’ → apak ‘snow-white’, and *appak in appayym ‘my dear, my darling’. However, until a considerably more exhaustive dictionary of Gagauz is compiled, this is a too far-fetched conclusion. See 3.1.2 on other examples of reduplications with different closing consonants and different meanings.

2.6. KARAIM

Judging from their number, C-type reduplications are hardly popular in the western Karaim languages (see e.g. their complete absence from Németh 2011b), but much more so in Eastern Karaim. There is also an unusually large number of special cases in the latter, most of them loanword suspects. This harmonizes very well with the areas of influence of Ottoman (rich in reduplications) and of non-Turkic languages (which do not know the method at all) – suggesting that the actual native general Karaim stock of reduplications is in fact much smaller. Unfortunately, separating native formations from old loanwords appears to be usually impossible at present, and so all reduplications for which the base is independently attested, are treated here as native.

In the western Karaim languages, only m, p and pp are attested as closing consonants; Eastern Karaim additionally has r and s. See 2.6.4.

Examples which are not clearly adjectival in character are very few. However, in Eastern Karaim, one reduplicated verb is attested, which is a very rare occurrence. See 2.6.5, and also 3.1.22 on reduplication of verbs.

Perhaps most noteworthy among the special cases are appaçyk ‘snow-white’ because of its double pp, bombos ‘completely empty’ because of its geography, and čöpçövre ‘all around’ because of its phonetics. See 2.6.3.

2.6.1. SOURCES

The Karaim material had been collected in Stachowski K. 2010. Here, it is mostly only summarized for convenience, but certain words have been reclassified
and certain parts modified and extended; see especially 2.6.3 below (the special cases).

The main sources are KarRPS, RKarS-Haf and RKarS-Lev, containing in total ca. 17 400 + 7300 + 8120 = 32 820 entries. Some attestations have also been found in Berta 1998b, Grønbech 1942, Józefowicz 2008, Kakuk 1991, Kowalski 1929, Mardkowicz 1935, Sulimowicz 1973, and in the grammars listed below.

For grammatical descriptions, Zajączkowski 1931 (Kar.SW), Musaev 1964: 183 (Kar.NW and SW), Prik 1976: 85 (Kar.E) and Musaev 1977: 36 (Kar.NW and SW) have been used. All are similar. They indicate p as the most common closing consonant, some also mention the exceptionality of m in jemješil ‘very green’, and only Prik 1976: 85 enumerates all four possible closers, m, p, r, and s. Neither attempts to formulate a rule of distribution.

Notation is quite inconsistent in some of the sources. I will retain here the unified phonological transcription used in Stachowski K. 2010 with only one modification, i.e. with the æ for the guttural voiceless fricative being here replaced with ‘h’; for phonetic details see Németh 2011a.

2.6.2. Standard cases

The data from all the three Karaim languages are all treated together here. The affiliation is only marked after the ◊ symbol, as E, NW or SW for ‘eastern (= Crimean)’, ‘northwestern (= Trakai)’, and ‘southwestern (= Lutsk/Halych)’, respectively.

ačyk ‘open’ ◊ E apačyk (KarRPS, RKarS-Haf s.v. открытый настеж and распахнуть, RKarS-Lev); ◊ E appačyk (KarRPS, RKarS-Lev)
See 2.6.4 below.

ačmak ‘to open’ ◊ E apačmak ‘to break open, to throw open’ (RKarS-Haf)
See 2.6.5 below.

ah see ak

ak &c. ‘white’ ◊ E apak (KarRPS, RKarS-Lev) ~ NW apah (Józefowicz 2008 s.v. bialuteńki and bieluteńki) ~ SW apak (Zajączkowski 1931, Mardkowicz 1935, Musaev 1964: 183, KarRPS) ◊ E appak (RKarS-Haf s.v. белоснежный) ~ SW appak (KarRPS)

al ‘red’ ◊ E apal (KarRPS, RKarS-Lev)

ansyz ‘sudden(ly), unawares’ ◊ E apansyz (KarRPS, RKarS-Haf, RKarS-Lev)
See 2.6.4 below.
ansyzyn ‘sudden(ly), unawares’ ◊ E *apansyzyn* (RKarS-Lev)
See 2.6.4 below.

aryh see *aryk*

aryk ‘thin, lean’ ◊ E *aparyk* (KarRPS, RKarS-Lev) ~ NW *aparyh* (Józefowicz 2008)

baška ‘other’ ◊ E *bambaška* (KarRPS, RKarS-Lev)

bedava ‘free of charge’ ◊ E *besbedava* (KarRPS, RKarS-Haf s.v. совершенно даром, RKarS-Lev)

belli ‘clear, obvious’ ◊ E *besbelli* ‘probably’ (KarRPS, RKarS-Lev)

beter ‘worse’ ◊ E *besbeter* (KarRPS, RKarS-Lev)

bijaz ‘white’ ◊ E *bimbijaz* (KarRPS, RKarS-Haf s.v. белоснежный, RKarS-Lev)

bos see *boś*


◊ NW *bopboś* (Musaev 1964: 183; Musaev 1977: 7) ~ SW *bopbos* (Musaev 1977: 7)

See *bomboś* in 2.6.3 below.

bošyna ‘in vain’ ◊ E *bombošyna* (RKarS-Haf, RKarS-Lev)
See 2.6.4.

bütün ‘whole’ ◊ E *büsbütün* (KarRPS, RKarS-Lev)


See *čarčebik* in 2.6.3 below.

čevre see *čövre*

ćivre see *čövre*


See *čöpčövre* and *čöpčövretin* in 2.6.3 below.

čüvre see *čövre*

čyplak ‘naked’ ◊ E *cyńcyplak* (KarRPS, Prik 1976, RKarS-Haf s.v. догола, нацим и совершенно голый, RKarS-Lev)


jalyngyz ‘lone’ ◊ E *japjaligyz* (RKarS-Lev)

jahši see *jahsy*

jaksy see jahiš
ješil &c. ‘green’ ◊ E jemješil (Prik 1976, RKarS-Lev) ~ E jymješly (RKarS-Haf s.v. совершенно зеленый) ~ NW jemješil (Józefowicz 2008 s.v. zieloniutki) ~ SW jemješil (Zajączkowski 1931)
See čarčebik in 2.6.3 below.
ješil see ješil
ješil see ješil
ješly see ješil
jumalak ‘round’ ◊ E jumjumalak (KRPS, RKarS-Lev)
See jumjumarlak in 2.6.3 below.
kara ‘black’ ◊ E kapkara (KarRPS, Prik 1976, RKarS-Haf s.v. до черна, совершенно черный and черный-пречерный, RKarS-Lev) ~ NW kapkara (Kowalski 1929, Józefowicz 2008 s.v. czarniusieńki) ~ SW kapkara (Zajączkowski 1931)
karavlyk ‘darkness’ ◊ E kapkaravlyk ‘darkness, blackness’ (KarRPS, RKarS-Lev)
keňata see kenete
keňeta see kenete
kenete see kenete
kök ‘blue’ ◊ E kömkök (KarRPS, RKarS-Haf s.v. темно-голубой, RKarS-Lev)
kuru ‘dry’ ◊ E kupkuru (RKarS-Haf, RKarS-Lev)
kyzył ‘red’ ◊ NW kypkyzył (Musaev 1964: 183, Józefowicz 2008 s.v. czerwony -czerwoniutki) ~ SW kypkyzył (Zajączkowski 1931, Musaev 1964: 183)
mavu see mavy
mor ‘violet’ ◊ E mosmor ‘dark violet’ (RKarS-Haf s.v. темно-лиловый, RKarS-Lev)
saglam ‘1. healthy; 2. whole’ ◊ E sapsaglam (KarRPS s.v. сагълам, RKarS-Haf s.v. совершенно здоровый, RKarS-Lev)
sary ‘yellow’ ◊ E sapsary (RKarS-Haf s.v. совершенно желтый and желтый-прежелтый) ~ NW sapsary (Musaev 1964: 183, KarRPS) ~ SW sapsary (Zajączkowski 1931, Musaev 1964: 183)
slah see sylak

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12 The form with -i is most probably a spelling mistake under the influence of Russian orthography; on pp. 33, 35 &c., it is given as ğahšy.
sylak &c. ‘wet’ ◊ E symysylak (KarRPS s.v. köm, RKarS-Lev) ◊ E sypslah (RKarS-Haf s.v. насквозь промокший) ◊ E syrsylak (KarRPS s.v. сылакъ; RKarS-Lev)
See sypslah in 2.6.3 below.
tamam &c. ‘whole, wholly’ ◊ E tastamam (KarRPS s.v. тамам, RKarS-Lev) ~ E testaman ‘precisely, accurately’ (RKarS-Haf)
taman see tamam
temiz ‘clean’ ◊ E teptemiz (RKarS-Haf) ◊ E terteemiz (KarRPS s.v. тэр and тэр-тэ миз, RKarS-Haf s.v. совершенно чистый)
tez ‘quick(ly)’ ◊ E tepez (KarRPS s.v. тез, RKarS-Haf)
tok ‘full, satiated’ ◊ E tomtok (RKarS-Lev) ◊ E toptok (KarRPS, RKarS-Lev)
tokal ‘blunt’ ◊ E tostokal (Kakuk 1991)
tolu see tolu
toly see tolu
tomalak ‘round’ ◊ E tostomalak (KarRPS, RKarS-Lev)
tögerek ‘round’ ◊ E tömtögerek (KarRPS, RKarS-Lev)
tyk ‘vertical, upright’ ◊ E tymtyk (RKarS-Haf)
See tymtyk in 2.6.3 below.
uzun ‘long’ ◊ E upuzun (Prik 1976)

2.6.3. Special cases

Similarly to the subsection on standard cases above (2.6.2), data from all the three Karaim languages are all treated together here. The affiliation is marked inside parentheses, before the sources, as E, NW or SW.

afansyz ‘sudden(ly), unawares’ (E; KarRPS)
The base *afansyz does not seem to be attested. The closer f is most probably just a spirantized p which, together with the archaic η, suggests that the form must be a very old one. Borrowing seems less likely as there apparently

13 The form is unclear. See Stachowski K. 2010: 146.
is no obvious source for one. See Stachowski K. 2010: 141, and also *apansyzdan* below, and 3.1.21.

**apansyzdan** ‘sudden(ly), unawares’ (E; KarRPS, RKarS-Haf s.v. от внезапности, RKarS-Lev)

The base *ansyzdan* does not seem to be attested. Possibly then, the form is a derivative of *apansyz* ‘sudden(ly), unawares’, rather than a simple reduplication. It would seem that the relations between these words are as presented in fig. 2.2.

![Figure 2.2. Reduplications of Kar.E *ansyz* 'suddenly, unawares' &c.](image)

However, it needs to borne in mind that this conclusion might well be a hasty one because in fact all it is based on is that *ansyzdan* is not attested in the most comprehensive dictionary of Karaim, KarRPS.

See also *ansyz* and *ansyzyn* in 2.6.2, and *afaŋsyz* above.

**bomboš** (E; KarRPS, Prik 1976, Musaev 1977: 7, RKarS-Haf s.v. совершенно пустой) ~ **bomboš** (NW; KarRPS, Józefowicz 2008) ~ **bopboš** (NW; Musaev 1964: 183; Musaev 1977: 7) ~ **bopbos** (SW; Musaev 1977: 7) ◊ E, NW boš ~ SW *bos* ‘empty’

These words are interesting because of their geography.

The situation would have been clear if northwestern Karaim only had *p*, similarly to other Kipchak languages, eastern Karaim only had *m*, which would have been a rather likely influence of Ottoman, and southwestern Karaim had both, being in an intermediary position between the two.

However, the distribution in the two western languages is inversed: in the southern dialect only *p* seems to be attested, while in the northern one, there is both *p* and *m*.

It seems, then, that *m* in the reduplication of *boš* should be regarded as a common Karaim trait, which happened to be the weakest in southwest, stronger in the north, and the strongest in the east, where it was surely also reinforced by Ott. *bomboš* id. (see 2.13.2).

See 3.2.5 for further discussion of *boš*, and also 3.1.4 for other reduplications where the closing consonant is the same as the initial consonant of the base.
čarčebik (E; KarRPS, RKarS-Lev) ~ čyrčebik (E; RKarS-Haf) ◊ čebik
‘quick(ly)’
The form čarčebik might be a contamination with CTat. čarčabik id. (AiM) or Ott. čarčabuk id. (see 2.13). The form čyrčebik probably results from the eastern Karaim manner of pronouncing e higher and more backed in the first syllable (Prik 1976: 25f, Jankowski 1997: 7f).

See Stachowski K. 2010: 142 and also ješil ‘green’ → jymješly in 2.6.2 above, and 3.1.19 for other reduplications with anlaut not matching the base.

čöpčevirtin (E; KarRPS, RKarS-Lev) ~ čöpčövretin (E; KarRPS, RKarS-Lev) ~ čüpčüvretin ‘from all around’ (E; KarRPS, RKarS-Lev)
The bases *čevirtin, *övretin and *üvretin do not seem to be attested. The latter two appear to be ablatives of the attested čövre and čüvre, so does the first one, although is a less transparent way. See čöpčövre below.

čöpčövre (E; Grønbech 1942, KarRPS, RKarS-Lev) ~ čöpčüvre (E; KarRPS, RKarS-Lev) ~ čüpčüvre (E; KarRPS, RKarS-Lev) ◊ čevre &c. ‘around’
These forms are not entirely clear. The oldest attested shapes are čövre, which exists no more, and čöpčövre (both in Codex Cumanicus). The present ones are: čevre, čivre, čüvrä, and čüvre. The first and the last of them appear in reduplications and are not phonetically transparent. It seems that the most likely course of events was as follows:

1. †čevre → čöpčövre.
   This must have happened before 1330, when the oldest surviving parts of Codex Cumanicus were copied.
2. †čövre ≥ čevre, čüvre.
   This can be explained by the general Turkic tendency to avoid ő in the first syllable.
3. čevre → čepčevre, čüvre → čüpčüvre.
   After this stage, it would appear that the tendency to avoid ő must have significantly weakened, and the morphological transparency of reduplications disappeared, in order for čöpčüvre to arise in the next step.
4. čöpčövre ◊ čüpčüvre → čöpčüvre.

Especially the last conclusion seems somewhat grandiose for just a few vowel alternations in what is essentially one word. A different, and at least equally acceptable scheme, however, is not known to me.

See *čöpčevirtin above, and 3.1.19 for other reduplications with anlaut not matching the base.
čöpčö|üvretin see čöpčevirtin

cö|üpčüvre see čöpčövre

čymčyrt ‘complete silence’ (E; KarRPS, RKarS-Haf s.v. полная тишина, RKarS-Lev)
The base *čyrt does not seem to be attested, but the word is not an isolate. See 3.1.15 for what are probably its cognates.

jumjumarlak (E; KRPS, RKarS-Lev) ◊ jumalak ‘round’
The base *jumarlak does not seem to be attested. Most probably, it is the original shape of the word which had been later simplified to jumalak (→ jum-jumalak, see 2.6.2 above), and eventually went entirely out of use.

A more interesting peculiarity of these forms is that they are closed by m, which is also the second consonant of the base. See 3.1.6 for other such examples.

kaskat ‘stupor, stupefaction’ (E; RKarS-Lev)
The origin of this word is unclear. It might be a native formation whose base has gone out of use, a borrowing from Ottoman (see Ott. kaskaty in 2.13.2), or other. It is present in two idioms: ~ kalmak ‘to be taken aback’ and ~ külmek ‘to laugh loudly’. See Stachowski K. 2010: 144.

komkos ‘very stupid’ (E; RKarS-Haf s.v. совершенно глупый)
This word resembles a reduplication both phonetically and semantically but the hypothetical base *kos does not seem to exist in Karaim or any of the neighbouring languages.

koskoja ‘incredibly’ (E; RKarS-Haf), ‘1. incredible; 2. huge’ (RKarS-Lev)
This word is probably a borrowing from Ott. koskoja ‘huge’; see 2.13.2 and also Stachowski K. 2010: 144.

öpjuvus (NW; Józefowicz 2008) ◊ juvus ‘wet’
This word is not clear. The base is also present in other Turkic languages, where it has the form jibi and similar; see Zajączkowski 1932: 154. The labial vowels in juvus can be explained, so can be the lack of the expected j- in the reduplicated öp-, and the frontness of the initial vowel in it (see Stachowski K. 2010: 143), but the fact that it is an ö rather than an *ü, remains mysterious. Explanation by a composition is not likely because *öp does not seem to exist independently.
**simsijah** ‘completely black’ (E; KarRPS, RKarS-Lev) ~ **simsijak** ‘completely black (E; KarRPS, RKarS-Lev), completely (dark) blue’ (E; RKarS-Haf s.v. совершенно синий)’

The base *sijah|k does not seem to be attested in unanimously Karaim texts. It does appear multiple times in at least one anthology, its language however is mixed and under heavy influence of Turkish (Aqtay 2009: 33 and 706).

From the point of view of eastern Karaim as a whole, it is probably a borrowing from Ott. **simsijah** ‘completely black’ (see 2.13.2). The form with -k is likely the result of hypercorrectness. See Stachowski K. 2010: 145, and *sypslah* below.

**simsijak** see **simsijah**

**sypslah** ‘completely wet’ (E; RKarS-Haf s.v. насквозь промокший)

The base *slah does not seem to be attested. It is most probably a slovenly pronunciation of sylak; on -k ~ -h see also **simsijah** above.

Regardless of the specific pronunciation, the base sylak is unusual in that its reduplications can be closed with as many as three different consonants. There is only one more such word in the present collection, Yak. kyžy ‘contrariness, …’, see 2.21.3 and also 3.1.1 on alternative closing consonants.

The three forms are not entirely clear. The *m*-variant could possibly be seen as a Crimean Tatar influence (CTat. symsylak (AiM)), but that would be just moving the problem beyond the scope of the present work (Crimean Tatar is not discussed here), as all of the Kipchak languages typically close their reduplications with p(p) and no other consonant. The *p*-variant, then, may be a native, Kipchak reduplication (see 3.2.1).

Finally, the *r*-variant could be tied to a possible influence of Ott. and Tksh. syrsyklam ‘completely wet’ (see 2.13.2 and 2.16.2, respectively).

Although Urum is essentially not analysed in the present work, it should be noted that it, too, has three possible reduplications of *sylah &c. ‘wet’: symslah, syypsylah, and syrsylah (Garkaveć 2000), and the similarity to Eastern Karaim is unlikely to be accidental.

See also 3.1.19 for other reduplications with anlaut not matching the base.

**syrsyklam** ‘completely wet’ (E; KarRPS, RKarS-Lev)

The base *syklam does not seem to be attested. Probably a borrowing from Ott. syrsyklam id. (see 2.13.2). See Stachowski K. 2010: 145.
tentek ‘very stupid, very sloven’ (E; KarRPS, RKarS-Haf s.v. разгильдяй, RKarS-Lev s.v. нерадивый, разгильдяй and рассеянный) ~ teňtaľ (NW; KarRPS, Józefowicz 2008) ~ tentek (SW; Mardkowicz 1935, KarRPS)

The word resembles a reduplication both phonetically and semantically but the hypothetical base *tek does not seem to exist in Karaim or any of the neighbouring languages. See also Kirg. tentek ‘1. naught, imp usually of children; 2. fool, stupid’, e.g. in ak tentek ‘oafish’, kypkyzyl tentek ‘blooming fool’.

tüztümüz ‘straight’ (E; RKarS-Haf)

The base *tümüz does not seem to be attested. However, the word might be a double intensification, a reduplication with the base prepended to it again: tüz → tümtüz → *tüztümtüz → tüztümüz, similarly to Russ. белый-пребельный. See 3.1.16 on reduplications with the base prepended to them.

tyntyk (E; RKarS-Haf) ◊ tyk ‘vertical, upright’

The spelling with ›ъ in RKarS-Haf is unusual and probably only meant to denote the lack of palatalization in the preceding т, accompanied perhaps by a slightly retracted pronunciation of i. In KarRPS, the word is given as tik; the Armeno-Kipchak, Crimean Tatar, Ottoman and Urum forms are all front.

2.6.4. Structure

Altogether, attested are 73 examples of C-type, derived from 45 unique bases. The distribution is strongly skewed in the two western languages, and much less so in the eastern one.

Eastern (= Crimean) Karaim is the richest in reduplications. Five closing consonants of C-type are attested in it in a total of 49 examples derived from 43 bases, in a quite uneven distribution:

m: 12 examples: baška, bijaz, boš, bošyna, ješil, jumalak, kök, sylak, tögerek, tok, tüz, and tyk,
p: 22 examples: ačmak, ačyk, ak, al, anysz, anyszyn, aryk, çövre, jalynyz, kara, karavl-lyk, kenete, kuru, saglam, sary, sylak, temiz, tez, tok, tolu, tüz, and uzun,
pp: 2 examples: ačyk, and ak,
r: 4 examples: čebik, çyplak, sylak, temiz, and
s: 9 examples: bedava, belli, beter, bütün, mavy, mor, tamam, tokal, and tomalak.
Five words have more than one closing consonant possible: ačyk (p and pp), ak (p and pp), sylak (m, p and r), temiz (p and r), tok (m and p), and tüz (m and p). The only regularity is that all have p. Unusual among them is sylak, as it is one of the two examples in this work, which have more than two closing consonants possible; see 3.1.1 for other examples of alternative closers.

Eastern Karaim is also one of two Turkic languages where double pp can be used as a closing consonant with any other word than ak ‘white’. The word is ačyk ‘open’, but as it begins with a vowel, it is at least theoretically possible that the form appačyk is in fact a contraction of *appa.ačyk, i.e. a CV-type reduplication where double pp appears to be more common, as in Az. sappasaγ ‘absolutely healthy’ (Zeynalov 1993: 149) &c. See also 3.1.8 on double pp as a closer.

Also noteworthy are the forms jumjumalak and jumjumarlak ‘completely round’, where the closing consonant is the same as the second consonant of the base. See 3.1.6 for parallel examples.

There are two small groups of derivatives: one based on ansye ‘suddenly’, and one on boš ‘empty’. For the first, see apansyzdan in 2.6.3. The latter only contains boš itself, and bošyna ‘in vain’. However, since both bases are attested, there are no grounds to suspect anything else than simple reduplications of two independent words.

**North-** (= Trakai) and **southwestern** (= Luck/Halych) Karaim have a very similar and much more limited stock of reduplications. Three closing consonants are attested in them in a total of 24 examples (12 in NW and 12 in SW), and again, in a rather uneven distribution.

- **m**: 2 + 1 examples: NW boš, and NW + SW ješil,
- **p**: 10 + 10 examples: NW + SW ak, boš, incke, jahšy, kara, kenete, kyzyl, sary and tolu, NW aryk, SW čivre, and
- **pp**: 1 example: SW ak.

Two words have more than one closing consonant possible: NW boš (m and p), and SW ak (p and pp).

Seven words have reduplications in both eastern Karaim and the two western languages: ak ‘white’, boš ‘empty’, ješil ‘green’, kara ‘black’, kenete ‘sudden(ly)’, sary ‘yellow’ and tolu ‘full’. The closing consonants are almost always the same: m in ješil and p in all the other ones, but there are two exceptions: one is ak for which the variant with a double pp is not attested in northwestern Karaim, and the other is boš which has m in eastern Karaim, both m and p in the northwestern and only p in the southwestern. See bomboš in 2.6.3 above.
2.6.5. **Semantics**

In the great majority of cases, the reduplicated meaning is a simple intensification of the base meaning, or apparently the same. The latter should probably be attributed to dictionary definitions not being sufficiently exhaustive.

Almost all of the base words are closer to being adjectives, if we regard Turkic nomina as a continuous scale. There are two exceptions: karavlyk, which is primarily a noun (‘darkness’), and ačmak, which is quite explicitly a verb (‘to open’). The latter is a surprise as reduplicated verbs are most rare in the Turkic languages. See 3.1.22 for the other few examples.

2.7. **Karakalpak**

Karakalpak C-type reduplications are moderately numerous and very uniform.

Only p and pp are attested as the possible closing consonants, if besbeter ‘?’, kumkuwyt ‘commotion, …’ and ğyμğyrt ‘quiet(ly), …’ are put aside as being foreign to the Karakalpak system (borrowed or inherited from a period long predating independent Karakalpak).

One notable feature is to be found in the structure of Karakalpak reduplications. Namely, words beginning with ğα- have their first vowel palatalized in the reduplication. Out of eight such examples, a half also have alternate, standard, reduplications, e.g. ğaman ‘bad’ → ğapząman ~ ğąpʒəman. See 2.7.4.

Reduplications of non-adjectives almost do not occur, tomalak ‘1. ball, …; 2. bit, …’ being the single exception. The meaning of its reduplication, however, is adjectival. See 2.7.5.

2.7.1. **Sources**

The main source of the material is KklpRS which contains ca. 30 000 entries. Some attestations have also been found in Baskakov 1951–52: 2/1: 210f and Pomorska 2004: 143f.

Baskakov 1951–52: 2/1: 210f: дж → ğ | қр → k | нп → ğh | ю → ü14,
KklpRS: ɺ → ģ | ɛ → γ | ɺ → k | ɥ → ğ | ø → ö | ɨ → w | ɣ → ü | ɺ → h | ɺ → ğ.

14 Only appears once, in ɺлкен.
2.7.2. Standard cases

ak ‘white’ ◊ appak (Baskakov 1951–52: 2/1: 210, KklpRS)
nəşat ‘easy, toilless’ ◊ aپaڼ sat (KklpRS)
anyk ‘clear, understandable’ ◊ aپaڼ canյ (KklpRS)
aşyk ‘1. open; 2. light, bright’ ◊ aپaڼ şyk (KklpRS)
awyr ‘heavy’ ◊ aپaڼ wyр (KklpRS)
bijik ‘high, tall’ ◊ bپbپijik (Baskakov 1951–52: 2/1: 211)
boz ‘grey, pale’ ◊ bپbپboz (Baskakov 1951–52: 2/1: 211)
dəŋyyəl ‘smooth, even’ ◊ dپaپdəŋyyəl (KklpRS: only attested in ~ ۇل ‘a very smooth road’)
domalak ‘round’ ◊ dپdəpdomalak ‘i. completely round; 2. completely full’ (KklpRS)
  See topptomalak in 2.7.3 below.
durys ‘correct, faithful, accurate’ ◊ dپdəpdurys (KklpRS)
kara ‘black’ ◊ kپaپkara (Baskakov 1951–52: 2/1: 211, KklpRS)
karaŋyy ‘dark(ness), gloom’ ◊ kپaپkarayyy (KklpRS)
katty ‘hard, solid’ ◊ kپaپkatty (KklpRS)
kiškene ‘small, little’ ◊ kپiپkiškene (KklpRS)
kiškentaj ‘small, little’ ◊ kپiپkiškentaj (KklpRS)
kojyw ‘thick, dense’ ◊ kپkoپkojyw ‘1. intens.; 2. Okay!, Good!’ (KklpRS)
kuyw ‘hoary, pale’ ◊ kپkپkuyw (KklpRS)
kyska ‘short’ ◊ kپkپkyska (KklpRS)
kyzył ‘red’ ◊ kپkپkyzył ‘very red; bright red’ (Baskakov 1951–52: 2/1: 210, KklpRS, Pomorska 2004: 144)
melle ‘yellow’ ◊ mپeپmelle (Baskakov 1951–52: 2/1: 211)
möldir ‘transparent, clear, pure’ ◊ mپeپmöldir (KklpRS)
šak i.a. ‘fit, just’ ◊ şپaپşak (KklpRS)
sary ‘yellow’ ◊ sپaپsary (Baskakov 1951–52: 2/1: 211, KklpRS)
saw ‘healthy’ ◊ sپaپsaw (KklpRS)
semiz ‘fatty, greasy’ ◊ sپeپsemiz (KklpRS)
šukyr ‘deep’ ◊ şپşپşukyr (KklpRS)
suluw ‘beautiful’ ◊ sپsپsuluw (KklpRS)
sur ‘1. grey, pale; 2. formidable, fearsome’ ◊ sپsپsur (KklpRS)
šymyr ‘strong, thick, dense’ ◊ şپşپşymyr (KklpRS)
synyk ‘meek, gentle, soft’ ◊ sپşپsynyk ‘very suave, very courteous’ (KklpRS)
tajar ‘ready’ ◊ tپaپtajar (KklpRS)
takyr ‘naked, bare’ ◊ tپaپtakyr (KklpRS)
taza ‘clean, neat’ ◊ tپaپtaza (KklpRS)
tegis ‘smooth, even’ ◊ tپeپtegis (KklpRS)
ten ‘smooth, even’ ◊ teptey (KklpRS)
tez ‘fast, quick’ ◊ teptez (Baskakov 1951–52: 2/1: 211)
tik ‘straight, erect, vertical’ ◊ tiptik (KklpRS)
tikke ‘straight, erect, vertical’ ◊ tiptikke (KklpRS)
tokalak ‘lopped’ ◊ toptokalak ‘hummel, hornless’ (KklpRS)
tomalak ‘1. ball; hank; 2. bit, morsel, crumb’ (Baskakov 1951–52: 1: 194, 386) ◊ top-
tomalak ‘1. completely round; 2. full of a person’ (KklpRS)
See toptomalak in 2.7.3 below.
tompak ‘1. full, thick; 2. convex’ ◊ toptomak (KklpRS)
tuwa ‘straight, direct’ ◊ tuptuwra (KklpRS)
tynyk ‘1. transparent, clear; 2. quiet, calm’ ◊ tyntynyk (KklpRS: only attested in hawa ~ ‘a perfectly clear sky, a completely cloudless sky’)
See also 3.1.11 for the entire family.
ülken ‘big, huge’ ◊ üpülken (Baskakov 1951–52: 2/1: 211, KklpRS)
uzak i.a. ‘distance, distant, far’ ◊ upuzak (KklpRS)
uzun (Baskakov 1951–52: 2/1: 211) ~ uzyn (KklpRS) ‘long’ ◊ upuzun (Baskakov 1951–52: 2/1: 211) ~ upuzyn (KklpRS)
yras ‘true, faithful, accurate’ ◊ ypyras (KklpRS)
ţaksy ‘good’ ◊ ţăpţaksy (KklpRS)
ţakty ‘light, bright’ ◊ ţăpţakty (KklpRS)
ţakyn ‘close, near’ ◊ ţăpţakyn (Baskakov 1951–52: 2/1: 211, KklpRS) ◊ ţăpţakyn (KklpRS)
ţalyyz ‘only, single, lonely,’ ◊ ţăpţalyyz (KklpRS)
ţaman ‘bad’ ◊ ţăpţaman (Baskakov 1951–52: 2/1: 211) ◊ ţăpţaman (KklpRS)
ţaŋa (KklpRS) ~ ţaŋy (Baskakov 1951–52: 2/1: 211) ‘new’ ◊ ţăpţaŋa (KklpRS) ~ ţăpţaŋy (Baskakov 1951–52: 2/1: 211) ◊ ţăpţaŋa (KklpRS)
ţas ‘young’ ◊ ţăpţas (KklpRS)
ţasyl ‘green’ ◊ ţăpţasyl (Baskakov 1951–52: 2/1: 211, KklpRS) ◊ ţăpţasyl (KklpRS)
ţenil ‘light’ ◊ ţepţenil (KklpRS)
ţuka ‘thin’ ◊ ţupţuka (KklpRS)
ţumyskas ‘soft’ ◊ ţupţumsak (KklpRS)
ţumyry ‘round’ ◊ ţupţumyry (KklpRS)
ţuwan ‘thick, fat’ ◊ ţupţuwan (KklpRS)

2.7.3. SPECIAL CASES

The general tendency in the Kipchak languages is that reduplications are relatively numerous, and p and pp are the only possible closing consonants. Karakalpak
Data

seems to follow this pattern, but three words go against it: two unclear forms that might be reduplications closed by \( m \) (\textit{kumkuwy}t and \textit{ʒumzy}r), and one reduplication closed by \( s \) (\textit{besbeter}).

In all three cases, alternative and plausible explanations can be found, which assume that these words have been formed outside of Karakalpak. In lack of any conclusive evidence, they will be treated as special here, and ignored in further considerations.

\textbf{besbeter} (Baskakov 1951–52: 2/1: 211, KklpRS, Pomorska 2004: 144) ◊ \textbf{beter}

\textit{‘intensifier’} (Baskakov 1951–52: 1: 327); *\textit{bad} (Baskakov 1951–52: 2/1: 211, Pomorska 2004: 144); more (Baskakov 1951–52: 1: 327, KklpRS); worse (e-sozlik)

There is a certain confusion regarding the meaning of \textit{beter} in Karakalpak. A closer inspection of the examples adduced in the sources suggests that perhaps ‘worse’ might be the most accurate translation. All the other propositions (‘\textit{intensifier}’, ‘\textit{bad}’ and ‘more’) seem correct in some sentences but much less so in others, and only ‘worse’ appears to fit all. This conclusion is consistent with the history of the word which ultimately stems from Pers. \( \varkappa \beta \partial \) \textit{badtar}, the comparative of \( \varkappa \beta \) \textit{bad} ‘bad’. But see below.

Closed by \( s \), \textit{besbeter} has no parallel in Karakalpak. This invites the idea of borrowing, and a perfect candidate can be found in Turkmen. There are as many as 12 or 13 reduplications closed by \( s \) in it (more than 20\% of the total number), it is the natural geographic intermediary between Persian and Karakalpak, and what is more, \textit{besbeter} has two meanings in it: ‘1. more so, very; 2. worst of all’ which very well fits the inconsistency seen in the translations of Kklp. \textit{besbeter}. See 2.17.2 on Trkm. \textit{beter}.

Note that the general rule adopted in this work is to only exclude reduplications from further considerations, if their base is not attested independently in the given language. Kklp. \textit{besbeter} is an exception from this practice that was only made due to the unusual accumulation of premises pointing to a borrowing.

\textbf{kumkuwy}t (KklpRS)

‘excitation, commotion, agitation’

The base *\textit{kuwy}t does not seem to be attested, and the whole form is not clear. The \( m \) as the supposed closing consonant is quite unusual – but see \textit{besbeter} above and \textit{ʒumzy}r below. Perhaps a borrowing or merely an apparent reduplication (see 3.1.3 for other examples)? A parallel situation with dominating \( p \) and two unclear cases in supposed \( m \) can be found in Kazakh (see 2.8.3).
toptomalak ‘1. completely round; 2. full of a person’ (KKlpRS) ◊ tomalak ‘1. ball; hank; 2. bit, morsel, crumb’ (Baskakov 1951–52: 1: 194, 386)
This word and domalak ‘round’ (see 2.7.2 above) are no doubt related. The exact nature of this relationship, however, is not clear. Importantly, the closing consonant is the same in both cases (p).

ţyumţyrt ‘quiet(ly), silence’ (Baskakov 1951–52: 2/1: 211, KklpRS)
The base *ţyrt does not seem to be attested, but the word is not an isolate. See 3.1.15 for possible cognates.

2.7.4. Structure

Technically, two closing consonants of C-type are attested in a total of 60 examples derived from 60 unique bases, in a very uneven distribution:

p: 59 examples: anyk, aŋsat, aşyk, awyr, bijik, boz, daŋyyl, domalak, durys, kara, karanyyy, katty, kiškene, kiškentaj, kojyw, kuw, kyska, kyzyl, melle, möldir, šak, sary, saw, semiz, şukyr, suluw, sur, şymyr, synyk, tajar, takyr, taza, tegis, ten, tez, tik, tikke, tokalak, tomalak, tompak, tuwra, tynyk, ülken, uzak, uzun, yras, şaksy, şakty, şakyn, şalyyyz, şaman, şaŋa, şas, şasyl, şenjil, şuka, şumsak, şumry, şuwan, and

pp: 1 example: ak.

Not even ak ‘white’ has more than one closer possible.

Unusual are the eight words in ǯa-, because all can have their reduplicated vowel palatalized to ą. In four cases (ǯaksy ‘good’, ǯakty ‘light, bright’, ǯalyyyz ‘only, single, lonely’, and ǯas ‘young’), only the -ą-form is attested; in the remaining four (ǯakyn ‘close, near’, ǯaman ‘bad’, ǯaŋa ‘new’ and ǯasyl ‘green’) – both, the -a- and -ą-forms are. All attestations are from KklpRS, but since they are listed s.v. xan and xen as examples illustrating the use of these ‘intensifiers’, it must be suspected that alternate forms might possibly exist for all reduplicated words in ǯa-. A plausible, albeit not necessarily sine qua non condition that would allow such a phonetic assimilation to occur, is that reduplications loose their morphological lucidity. From the available data, no definite conclusions can be drawn.

2.7.5. Semantics

In almost all cases, the reduplicated meaning is either a simple intensification of the base meaning, or very close to it. Also, almost all words are, for all practical purposes, adjectives.
The only two exceptions are *kojyw*, the reduplication of which has evolved an additional meaning not very directly related to the meaning of the base (‘thick, dense’ → ‘Okay!, Good!’), and *tomalak*, the meaning of which is of a quite clear substantival character (‘1. ball; hank; 2. bit, morsel, crumb’). Note that the meaning of the reduplicated *toptomalak* is no longer a noun, but already a plain adjective (‘1. completely round; 2. full of a person’).

2.8. Kazakh

C-type reduplications are very numerous in Kazakh, but also very uniform and standard.

Only *p* and *pp* are attested as closing consonants. Reduplications of non-adjectives or non-trivial semantic evolutions effectively do not occur. See 2.8.4 and 2.8.5.

Unusually, however, special cases seem to fall into distinct groups rather than being a loose collection of unrelated words. See in particular *tymtyrakaj* ‘in disarray, …’ and *žypžylmayaj* ‘without a trace, …’ in 2.8.3.

2.8.1. Sources

The main sources of the material are KzkRS and SKzkP, which contain ca. 21 000 and 15 000 entries, respectively. Some attestations have also been found in Balakaev 1959, Pomorska 2004: 144, Ščerbak 1977: 120, and in the grammars listed below.

For grammatical descriptions, Somfai Kara 2002: 33 and Kulikovskaja/Musaeva 2006: 69 have been used. Both are rather brief and effectively limited to the statement that the reduplicated syllable is closed by *p*.

KzkRS, Kulikovskaja/Musaeva 2006, SKzkP: ζ → α | ε → γ | η → i | ι → i | ξ → k | η → η | ο → ο | v → uw | Vv → w | y → ü | y → u,

Ščerbak 1977: ό → γ.

2.8.2. Standard cases

ädeemi ‘beautiful’ ◊ äpademi (KzkRS, Kulikovskaja/Musaeva 2006, SKzkP)
ajkyn ‘clear, precise, explicit’ ◊ apajkyn (KzkRS)
ak ‘white’ ◊ appak (Tekin 1971: 227, KzkRS)
ala ‘motley, colourful; palomino’ ◊ apala ‘all in patches’ (SKzkP)
alasa ‘low’ ◊ apalasa (KzkRS)
aly ‘far’ ◊ apalys (SKzkP)
anyk ‘clear, obvious’ ◊ apanyk (KzkRS, SKzkP)
arik ‘thin, lean’ ◊ aparyk (KzkRS)
arzan ‘cheap’ ◊ aparzan (KzkRS)
äsem ‘beautiful’ ◊ äpäsem (SKzkP)
aşyk ‘open’ ◊ apasyk (KzkRS, SKzkP)
awyr ‘heavy; hard, difficult’ ◊ apawyr (KzkRS)
äzir ‘ready’ ◊ äpäzir (SKzkP)
bajay ‘1. old, past, earlier; 2. just this, precisely this; 3. ordinary’ ◊ bapbajayy
   ‘1. very old; 2. as before, as used to be’ (SKzkP)
bajalsy ‘calm, staid’ ◊ bapbajalsy (SKzkP)
begili ‘known’ ◊ bapbegili ‘commonly known, very obvious’ (SKzkP)
berik ‘tough, durable’ ◊ bapberik (SKzkP)
bijik ‘tall’ ◊ bapbijik (SKzkP)
bose i.a. ‘empty’ ◊ bopbose (SKzkP)
bujra ‘curly’ ◊ bupbujra (SKzkP)
bütin ‘whole’ ◊ bupbütin (SKzkP)
dajar ‘ready’ ◊ dapdajar (KzkRS)
dajyn ‘ready’ ◊ dapdajyn (KzkRS)
däl ‘just, precisely’ ◊ däpdäl ‘precisely so’ (SKzkP)
dämdi ‘tasty’ ◊ däpdämdi (Kulikovskaja/Musaeva 2006: 69)
dardaj ‘stalwart, portly, strapper’ ◊ dapdardaj ‘quite stalwart, quite portly’
   (KzkRS, SKzkP)
domalak ‘round’ ◊ dopdomalak (KzkRS, SKzkP)
durys ‘correct, accurate, proper’ ◊ dupdurys (KzkRS, SKzkP)
er ‘early in the morning’ ◊ eperte (KzkRS)
kara ‘black’ ◊ kapkara (KzkRS, Somfai Kara 2002: 33, SKzkP)
karanyy ‘dark’ ◊ kapkaranyy (KzkRS, SKzkP)
katty ‘hard, solid’ ◊ kapkatty (KzkRS, SKzkP)
kišketaj ‘small, little’ ◊ kipkišketaj (KzkRS, SKzkP)
kuryak ‘dry’ ◊ kupkuryak (KzkRS, SKzkP)
kuw ‘1. dry, dried up; 2. yellowed, faded’ ◊ kupkuw (SKzkP)
kuwnak ‘brisk, sprightly’ ◊ kupkuwnak (SKzkP)
kzyyl ‘red’ ◊ kypkzyyl (KzkRS, SKzkP)
majda ‘small, fine’ ◊ mapmajda (SKzkP)
möldir ‘transparent, clear’ ◊ möpmöldir (KzkRS, SKzkP)
momakan ‘obedient, well-behaved’ ◊ mopmomakan (SKzkP)
momyn ‘humble, quiet, conciliatory’ ◊ mopmomyn (SKzkP)
muzdaj ‘cold’ ◊ mupmuzdaj (KzkRS, SKzkP)
nyk ‘tough, durable’ ◊ nypnyk (SKzkP)
onaj ‘easy’ ◊ opojaj (KzkRS, SKzkP)
onđi ‘1. with (nice) skin, with (nice) complexion, with (nice) colour; 2. obverse’ ◊ öpöydi ‘very beautiful’ (SKzkP)
öttirik ‘a lie’ ◊ öpatöririk ‘a blatant, outright lie’ (SKzkP)
sayyn ‘small, little’ ◊ şapşayyn (KzkRS, SKzkP)
sak ‘just right’ ◊ şapşak (SKzkP)
salmakty ‘serious, weighty, ponderous’ ◊ sapsalmakty (KzkRS)
sary ‘yellow, flaxen, fair(-haired)’ ◊ sapsary (Ščerbak 1977: 120, KzkRS, Pomorska 2004: 144, SKzkP)
saw ‘healthy’ ◊ sapsaw (KzkRS, SKzkP)
sheber ‘master’ ◊ šepšèber (Balakaev 1959: 35)
seldir ‘loose, sparse, thin’ ◊ sepseldir (KzkRS, SKzkP)
semiz ‘fat’ ◊ sepsemiz (SKzkP)
sergek ‘alert, snappy’ ◊ sepsergek (KzkRS, SKzkP)
siğki ‘raw, green’ ◊ šipšïsdk (SKzkP)
šolak ‘short, scanty’ ◊ šopšolak (SKzkP)
šoşak ‘pointed, conical’ ◊ šopšošak (SKzkP)
šobar ‘dappled, mottled’ ◊ šupšobar (SKzkP)
süjir ‘sharp, pointed’ ◊ süpsüjir (SKzkP)
šunyyyl ‘1. deep; 2. sunken, hollow’ ◊ šupšunyyyl (SKzkP)
šunkyr ‘hole, pit, hollow’ ◊ šupšunkyr ‘all in: holes, pits’ (SKzkP)
sur ‘grey, pale’ ◊ supsur (KzkRS, SKzkP)
synyk ‘crack(ed), fracture(d)’ ◊ sypsynyk ‘completely broken, shattered’ (SKzkP)
tajaw ‘close, near’ ◊ taptajaw (SKzkP)
tapal ‘low’ ◊ taptapal (SKzkP)

tar ‘tight, narrow’ ◊ taptar (SKzkP)
tastaj ‘like a stone’ ◊ taptastaj ‘1. rock-solid; 2. stone-cold’ (SKzkP)
tätti ‘sweet’ ◊ täptätti (SKzkP)
täwir ‘good, not bad’ ◊ täptäwir (KzkRS, SKzkP)
tegin ‘free of charge’ ◊ teptegin (SKzkP)
tegis ‘smooth, even’ ◊ teptegis (KzkRS, SKzkP)
tez ‘fast, quick’ ◊ teptez (SKzkP)
tike ‘straight, vertical, steep’ ◊ tiptike (SKzkP)
tolyk ‘full, complete’ ◊ toptolyk ‘1. intens.; 2. puffy, fat’ (SKzkP)
tügel ‘everything, everyone’ ◊ tüptügel ‘full, complete’ (KzkRS, SKzkP)
tunyk ‘transparent’ ◊ tuptunyk (SKzkP)
tutas i.a. ‘full, complete’ ◊ tuptutas (SKzkP)
tuwra ‘straight’ ◊ tuptuwra (SKzkP)
tyyyyz ‘dense, close, tight’ ◊ typtyyyz (SKzkP)
tynyk ‘quiet, peaceful’ ◊ typtynyk (SKzkP)
   See 3.1.11 on possible cognates.
tynš ‘quiet, peaceful’ ◊ typtynš (KzkRS, SKzkP)
   See 3.1.11 on possible cognates.
ülken ‘big, huge’ ◊ üpülken (KzkRS, SKzkP)
usak ‘small, fine’ ◊ upusak (KzkRS, SKzkP)
uzyn ‘long’ ◊ upuzyn (SKzkP)
žaksy ‘good’ ◊ žapžaksy (KzkRS, Kulikovskaja/Musaeva 2006: 69)
žakyn ‘1. close, near; 2. recent’ ◊ žapžakyn (SKzkP)
žalañaš ‘naked, bare’ ◊ žapžalañaš (SKzkP)
žalpak ‘flat’ ◊ žapžalpak (SKzkP)
žaman ‘bad’ ◊ žapžaman (SKzkP)
žaňa ‘new(ly)’ ◊ žapžaya (KzkRS, SKzkP)
žaryk ‘clear, bright’ ◊ žapžaryk (KzkRS, SKzkP)
žas i.a. ‘young’ ◊ žapžas (SKzkP)
žasyl ‘green’ ◊ žapžasyl (SKzkP)
žatyk ‘1. lying, horizontal; 2. sloping, inclined’ ◊ žapžatyk ‘even, smooth, sleek’ (KzkRS)
ženil ‘light’ ◊ žepženil (SKzkP)
žiji ‘often’ ◊ žipžiji (SKzkP)
žijren ‘sorrel, red (hair)’ ◊ žipžijren (SKzkP)
žiniške ‘thin, narrow’ ◊ žipžiniške (SKzkP)
žuka ‘thin’ ◊ župžuka (KzkRS, Kulikovskaja/Musaeva 2006: 69, SKzkP)
žumsak ‘soft, tender, gentle, subtle’ ◊ župžumsak (KzkRS, SKzkP)
žumyr ‘round’ ◊ župžumyr (KzkRS, SKzkP)
žuwan ‘fat’ ◊ župžuwan (KzkRS, SKzkP)
žuwas ‘1. quiet; 2. calm, obedient’ ◊ župžuwas ‘1. very quiet; 2. very calm’ (SKzkP)
žyjnaky ‘arranged, orderly’ ◊ žypžyjnaky ‘1. intens.; 2. very tidy, sparkling clean’ (KzkRS, SKzkP)
žyldam ‘quick, fast, hasty’ ◊ žypžyldam (SKzkP)
žylytyr ‘shiny, glossy’ ◊ žypžylytyr ‘very smooth, polished’ (SKzkP)
žyly ‘warm’ ◊ žypžyly (KzkRS, SKzkP)
   See also žypžylnayaj ‘without a trace, clean; very smooth’ in 2.8.3 below.
2.8.3. SPECIAL CASES

Kazakh special cases, with the exception of taptapal ‘very low’ and župžubymen ‘in pairs, in twos’, seem to fall into five partially overlapping groups:

1. closed by \( m \) (save apparent reduplications and loanwords): tymtyrakaj, tymtyrys, žymžylas and žymžyrt,
2. with the root tyr: tymtyrakaj and tymtyrys,
3. with the root žyl: žypžylmayaž, žymžylas and, although not a special case, žypžyly,
4. with the root žyl ~ žyr: žypžylmayaž, žymžylas and žymžyrt,
5. žymžyrt, which is clearly related to words in Karakalpak, Turkish and Uighur, and tymtyrys which might belong to the same family.

**Group 1** collects four words which appear to be reduplications closed by \( m \) but whose bases do not seem to be attested.

Against 107 Kazakh reduplications closed by \( p \), this group strongly resembles the situation in Karakalpak where along 59 standard examples in \( p \), two special cases can be found in \( m \). Incidentally, one of them is common to both languages: Kklp. žymžyrt :: Kzk. žymžyrt. See also 3.1.15 for other possible cognates of the word.

It is not clear whether these words are apparent reduplications, loanwords, or simply their bases had gone out of use (see also 3.1.3 and 3.1.15 for examples of these categories). In theory, they could also be the last relics of hypothetical bygone reduplications in \( m \) in Kazakh; see in particular žypžylmayaž below, which is probably related to the standard žypžyly in 2.8.2 above.

**Group 2** might be just a coincidental phonetic similarity. There is no obvious semantic tertium comparationis to connect its two members.

**Group 3** is fragile from the semantic point of view, but not altogether impossible. See žypžylmayaž below.

**Group 4** is semantically more plausible than group 3 (‘without a trace’ : ‘silence’) but somewhat uncertain phonetically. Maybe variants of an onomatopoetic root?

**Group 5**, finally, includes the Kazakh representative in a small family of words which obviously are related, but the exact relationships remains unclear. There is no clue by which to judge with certainty whether it is a case of multiple borrowing, or an archaism whose structure had long become obscure to the speakers, and hence the surviving \( m \). See 3.1.15 for more commentary.

To sum up, as far as grouping is concerned, groups three and five are possible but definitely not trivial. Groups one, two and four might well be coincidental.
**tymtyrakaj** ‘in disarray, disorderly, in all directions’ (KzkRS, SKzkP)
The base *tyrakaj does not seem to be attested. The closer m is highly unusual as all the 108 reduplications in Kazakh are closed by p or pp – but see the comment on group 1 in 2.8.3 above.

The similarity of the hypothetical root *tyrakaj to that of tymtyrys is probably illusory, in view of the semantics. A connection of the latter with žymžyrt (see below) seems more plausible. See also Kirg. *tymtyrakaj ‘in disarray, every which way’ in 2.10.3.

**tymtyrys** ‘(in) complete silence, completely silent, completely mute’ (Balakaev 1959: 173, KzkED, KzkRS, SKzkP)
The base *tyrys does not seem to be attested. The word is surely related to Kirg. tymtyrys ‘complete silence’ (see 2.10.3), and possibly several other forms in different languages; see 3.1.15. See also *tymtyrakaj above and žymžyrt below.

**župžubymen** ‘in pairs, in twos’ (SKzkP)
The base *žubymen does not seem to be attested, and the whole form is not clear.

**žypžylmaγaj** ‘without a trace, clean (KzkRS), very smooth (SKzkP)’
The base *žylmaγaj does not seem to be attested. It is probably related to žymžylas below.

The origin of this word is not clear. Maybe it is a derivative from źulu-‘to (get) warm? See źylmšy ‘rotten, musty’ and žylmakaj ‘sleek, smarmy, slick, smooth-tongued, slippery’ (KzkRS). The semantic evolution would have to go along these lines: ‘warm’ → ‘rotten’ → ‘smarmy’ → ‘slippery’ → ‘clean’ → ‘without a trace’.

See the standard case žyly ‘warm’ in 2.8.2 above. The exact relations between these words are not clear but if they were found to eventually be related, a hypothesis could be put forward based on them that m had been at some remote point in time a valid closing consonant in Kazakh.

**žymžylas** ‘without a trace’ (KzkRS)
The base *žylas does not seem to be attested. For -m-, see *tymtyrakaj above; for źyl-, see *žypžylmayaj above.

**žymžyrt** ‘complete silence’ (KzkRS)
The base *žyrt seems to only be attested as a verb root with the meaning ‘to tear, to rip’. This root is probably the parent of a small family of related forms in six different languages, and ultimately also of Kzk. *tymtyrys ‘(in) complete silence, completely silent, completely mute’. See 3.1.15.
2.8.4. Structure

Two closing consonants of C-type is attested in a total of 108 examples derived from 108 unique bases, in a rather one-sided distribution:

\( p \): 107 examples: ädemi, ajkyn, ala, alasa, alys, anyk, arik, arzan, äsem, ašyk, awyr, äzir, bajayy, bajsaldy, begili, berik, bijik, bos, bujra, bütin, dajar, dajyn, däl, dämni, dardaj, domalak, durys, erte, kara, karayyy, katty, kiškentaj, kuryak, kuw, kuwnak, kyzyl, majda, möldir, momakan, momyn, muzdaj, nyk, oŋaj, öndi, ötirik, šayyn, šak, salmakty, sary, saw, šeber, seldir, semiz, sergek, šijki, šolak, sošak, šubar, süjir, šuŋyl, šųŋkyr, sur, synyk, tajaw, tapal, tar, tastaj, tätti, täwir, tegin, tegis, tez, tike, tolyk, tųgel, tunyk, tutas, tuwra, tyyz, tynyk, tynyśl, ülken, usak, uzyn, žakys, žakyn, žalaqaš, žalpak, žaman, žanja, žaryk, žas, žasyl, žatyk, ženjil, žiji, žijren, žiniške, žuka, žumsak, žumyr, žuwan, žuwas, žyjnaky, žyldam, žyltyr, žyly, and

\( pp \): 1 example: ak.

One quite specific form is taptopal ‘very low’; see 3.1.6 for other reduplications with the closing consonant identical to \( C_2 \).

2.8.5. Semantics

In almost all the cases, the reduplicated meaning is a straightforward intensification or (apparently) the same as the base, the latter resulting probably from imprecise dictionary definitions. The not entirely trivial evolutions can be found in öndi, where i.a. ‘with nice complexion’ → ‘very beautiful’, and tųgel, where ‘everything, everyone’ → ‘full, complete’.

The great majority are quite clear adjectives. A stronger substantival component can only be found in ötirik ‘a lie’, šeber ‘master’, šųŋkyr ‘hole, pit, hollow’ and synyk ‘crack(ed), fracture(d)’.

2.9. Khakas

C-type reduplications are pronouncedly more numerous in Khakas than in most South-Siberian languages, and on par only with Tuvinian. Otherwise, they are quite compatible with the others in that \( p \) is the only closing consonant, and that semantics is confined within the borders of relatively basic adjecitval and adverbial meanings – albeit not as strongly limited to colour names as grammars tend to picture it.
Only two cases can be considered special: *appagas* ‘snow-white’ and *köppeges* ‘very blue’. Both belong to a large family of related forms in Khakas, Oirot and Shor. See 2.9.3.

2.9.1. Sources

The main source of the material is HakRS which contains ca. 14,000 entries. Some attestations have also been found in Anderson 1998: 23, Butanaev 1999, HakOS, Li et al. 2007, Ščerbak 1977: 120, Serebrennikov/Gadžieva 1986: 112, Subrakova 2006, and the grammatical descriptions listed below.


HakRS: 409 does not mention closing consonants at all. Interestingly, the process is described in it as happening “обычным удвоением или удвоением прилагательных с сокращением первого компонента до одного слога”.

Dyrenkova 1948: 42 mentions the prevalence of colour names, gives an inaccurate description of the process and some examples, and states that the closing consonant is always *p*.

Patačakova 1962: 151 effectively limits herself to a very general information and some examples, without specifying what the closing consonant is.

Babuškin 1975: 94 only gives a somewhat unclear description of the process and several examples, but does not specify what the closing consonant is.

Anderson 1998: 23 states that reduplication is limited in Khakas to “a small number of basic color terms” and two more words (*ćôn* ‘fat’ and *ćaryh* ‘light, bright’), and that the closing consonant is always *p*. Also, he interprets the process as prefixation of *CVp*-, but theoretical issues of this kind will not interest us here (see fn. 3 on p. 25).

Anderson 1998: \(i \rightarrow y\ | \ x \rightarrow h\ | \ VV \rightarrow \overline{V}\),

Babuškin 1975: 94, Dyrenkova 1948: 42, HakOS, HakRS, Patačkova 1962, Serebrennikov/Gadžieva 1986: \(y \rightarrow \dot{\tilde{z}}\ | \ z \rightarrow g\ | \ i \rightarrow \dot{i}\ | \ u\overline{b} \rightarrow \eta\ | \ \dot{o} \rightarrow \ddot{o}\ | \ VV \rightarrow \overline{V}\),

Li et al. 2007: \(y \rightarrow g\ | \ i \rightarrow y\),

Ščerbak 1977: \(b \rightarrow g\ | \ \ddot{i} \rightarrow y\).

2.9.2. Standard cases

agrín & c. ‘slowly, quietly, gradually’ ♦ *apagrín* ‘very quietly’ (HakRS) \(\sim\) *apagyrín* (HakOS: no meaning given)

*agyrin* see *agrín*
ajas ‘light, bright’ ◊ apajas (HakRS, HakOS)
amyr ‘peace(ful), calm, quiet’ ◊ apamyr (HakOS)
aryg ‘clean; bright, clear, serene; transparent, limpid; cleanly’ ◊ aparyg (HakRS: ‘quite clean; very cleanly’; HakOS, Li et al. 2007: no meaning given)
čagyn ‘close, near’ ◊ capčagyn (HakRS)
čiňke ‘straight, direct’ ◊ čipčiňke (HakRS, HakOS)
čylbyraŋ ‘smooth, even’ ◊ čypčylbyraŋ (Patačakova 1962: 151, HakOS)
hara ‘black’ ◊ baphara (Dyrenkova 1948: 42, HakRS, HakOS, Anderson 1998: 23)
harashy ‘dark’ ◊ bapharashy (Babuškin 1975: 94)
hū ‘pale, white’ ◊ baphū ‘very pale’ (HakRS)
hyjyr ‘oblique, slanted, crooked’ ◊ hyphyjyr (Patačakova 1962: 151)
hyr ‘grey, hoary, roan’ ◊ hyphyr (HakRS)
hyzyl ‘red’ ◊ hyphyzyl ‘extremely red, the reddest (Dyrenkova 1948: 42, Babuškin 1975: 94, Ščerbak 1977: 120, Anderson 1998: 23); bright red (HakRS)’
kinetin ‘suddenly’ ◊ kipkinetin (HakRS, HakOS)
nā ‘new’ ◊ napnā (HakRS, HakOS, Li et al. 2007)
orta ‘correct’ ◊ oporta (HakRS)
sah ‘sober’ ◊ sapsah (HakRS, HakOS)
sirgek ‘sensitive, sharp-eyed’ ◊ sipsirgek (Patačakova 1962: 151)
symsyryh ‘silence, quiet(ly)’ ◊ sypsymysyryh ‘very quiet(ly)’ (HakRS)
See symsyryh in 2.9.3 below.
syn ‘truth(ful), true’ ◊ sypsyn (HakRS)
tadylyg ‘sweet’ ◊ taptadylyg (HakRS: 409, Patačakova 1962: 151)
tegilek see tigilek
tērpek ‘circle, round’ ◊ teptērpek (HakOS)
tigilek &c. ‘t. wheel; 2. round’ ◊ tiptigilek 16 (Dyrenkova 1948: 42) ~ teptegilek (HakOS)
tiň ‘1. same, equal; 2. even, smooth’ ◊ tipiň (HakRS: only attested in ~ kis- ‘to cut: evenly, smoothly’, HakOS)

15 Not explicitly. Only mentions that “[…] and čarɨx ‘bright, light’–have an expressive reduplicative prefix [RD] of the shape CVp-”.
16 With a not unusual syncope of the middle high vowel in a three-syllable word.
In Khakas, Shor and Oirot, ak and kök have grown into entire families of 17 or 18 forms in total. The patterns are very similar and often the commentary for Oirot, mutatis mutandis, also applies for Khakas. See 2.12.3 for more commentary, and also 3.1.11 for other such families.

**appagas** (HakRS: 409, Patačakova 1962: 151) ◊ **ab** ‘white’

According to HakRS, appagas is composed of a'p + ah + as. The last morpheme must be the diminutive suffix -as, as in a'jah ‘cup’ → a'jagas ‘small cup’ (HakRS: 404). Since the shape agas seems to only exist with the meaning ‘tree; wood’, which is a different word altogether, the diminutive was most probably added to the already reduplicated form. The whole is then a multiple intensification; see 3.1.13 for more examples.

As for the double pp, different possible explanations exist (see mutatis mutandis Oir. a'pāš in 2.12.3), but the most probable one is perhaps that of emphatic lengthening (see 3.1.8 and 3.1.12).

Interestingly, the simple reduplication a'pah does not seem to exist at all.

The word, together with köppeges ‘light blue; very blue’ below, belongs to a large family of related forms in Khakas, Oirot and Shor; see 2.12.3, and also 3.1.11 for other such families.

**köppeges** ‘light blue; very blue’ (HakRS, HakRS: 409, Patačakova 1962: 151)

◊ **kök** ‘1. green; 2. blue’

Patačakova 1962: 151 confirms that this word stems from kök ‘1. green; 2. blue’. It might have arisen in at least three different ways (see mutatis mutandis Oir. köpp’öš in 2.12.3), but neither seems to be more likely than the others. Here, additionally a backward vowel harmony will most probably need to be assumed to explain the e in the middle syllable. Similarly in Shor köpegeš (see 2.14.3).

The diminutive -es was probably added to the already reduplicated shape as *ke’ög|kes does not seem to be attested on its own.
Similarly to *appagas ‘snow-white’ above, a simple *köpkök does not seem to exist. Both words are part of a large family of related forms in Khakas, Oirot and Shor; see 2.12.3, and also 3.1.11 for other such families.

**symsyryh** ‘silence, quiet(ly)’ (HakRS)

This word might be an ancient reduplication and belong to one family with such words as Kar.E čymčyr ‘complete silence’ and similar.

The base *syryh* is attested in Khakas with several meanings: 1. fine snow; 2. drizzle; 3. arrow with a tetrahedral head; 4. bone plate used for whistling arrows17 (Subrakova 2006); 5. whistling arrow (Butanaev 1999). None of these can be directly linked to ‘silence’ and, it seems, indeed to one another. A certain connection, however, would be conceivable if syryh really were cognate with čyrт.

See 3.1.15 for more commentary.

### 2.9.4. Structure

Only one closing consonant of *C*-type is attested in a total of 33 examples derived from 33 unique bases:

**p:** 33 examples: agrín, ajas, amyr, ayyg, aqyyn, čaryh, čike, čôn, čylbyraŋ, hara, harashy, hú, hyjyr, hýry, hyzyl, kinetyn, ná, orta, sah, saryg, sirgek, symsyryh, syn, tadylyg, tērpek, tigilek, tıŋ, toglah, togyr, tôj, tüs, tyŋ and uzun.

Note that this does not include appagas and köppeges in 2.9.3 above.

In five words, the first vowel of the stem is long: čôn ‘fat’, hú ‘pale, white’, ná ‘new’, tērpek ‘circle, round’ and tôj ‘similar, like’. It was shortened in the reduplication in all of them. See 3.1.20 on shortening of the reduplicated vowel.

### 2.9.5. Semantics

The reduplicated meaning is always simply the intensification of the base meaning. Only in the case of hyzyl, the definition is not strictly compatible between the sources – though not mutually exclusive, either – but the difference is ignorable from the point of view of the present work (‘extremely red, the reddest’: ‘bright red’).

All words can be considered adjectives or, rarely, adverbs, with only occasional additional substantival meanings.

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17 An arrow with a hollow bone bulb attached below the head, which emits a whistle in flight.
2.10. Kirghiz

C-type reduplications in Kirghiz are very numerous and very uniform. In just one single case, can the closing consonant be other than \( p \). It is with the word \( ak \) ‘white’, which, beside \( apak \), may also be reduplicated to \( appak \).

\( Ak \) is generally rather productive, and the eventual base for three out of five multiple intensifications in Kirghiz. This is a relatively high number, and it includes such formations as \( ap.ap.ak.aj \) where double reduplication has been combined with diminutive to create even more vivid semantics. See 2.10.4.

Reduplications of non-adjectives are relatively rare and, in most cases, quite straightforward. However, Kirghiz has the only reduplicated pronoun attested in the present work. See 2.10.5.

2.10.1. Sources

The main source of the material is KirgRS which contains ca. 40 000 entries. Some attestations have also been found in Radloff 1883: 280, Ščerbak 1977: 120, and in the grammars listed below.


Sağdan uulu / Barmanov 1933: 50f give a brief description of the process, complete with a few examples, only mention \( p \) as the closing consonant, and note that adjectives in \(-lū\) and \(-syz\) do not form reduplications.

Wurm 1949: 107 is even more brief as he only gives the basic description of the process and one example. The closing consonant \( p \) is mentioned as the only one possible.

In Hebert/Poppe 1963: 27, the description is in fact one sentence: “Adjectives differ from true nouns in that the former can be reduplicated”, followed by two examples. So worded, it suggests that all Kirghiz adjectives can be reduplicated. I believe that it is merely an unhappy wording.

Imart 1981: §1109f states clearly that only certain adjectives can be reduplicated, and notes that the reduplicated syllable is closed by \( p \). Next, he offers the following remark:

Noter parallèlement à la réduction des voyelles longues un cas de gémination consonantique expressive:

\[ ak < apak \sim appak \sim appappak \quad \text{extrêmement blanc} \]
After it, an apparent support is expressed for M.L. Bazin’s proposition (the exact source is not specified) to equal reduplication with the Turkish construction of the *hava güzel mi güzel* type. It is accompanied by the observation that the initial *m-* of *mi* alternates with *b* and *p* which, according to Imart, would have yielded *“ak + py + ak > appak.”

Altogether, Imart’s stance is somewhat indefinite. How his diagnosis of *gémination expressive* for *p* in (ap)appak can be made compatible with the scheme inspired by Bazin’s idea, is not conspicuous in itself, and not explained, either.

A view similar to Bazin’s is expressed by Abduldaev et al. 1987: 169, where reduplications are interpreted as a juxtaposition of a truncated form of an adjective with its full form, and glued together by a semantically empty structural element *p*. Also, it is noted that stress is initial in them.

Finally, Kasapoğlu Çengel 2005: 188 limits herself to stating that reduplications are formed by appending *p* to the initial syllable.

Imart 1981: *ɨ → y,*
Kasapoğlu Çengel 2005: *c → ʒ | ɨ → y | ş → ʃ,*
Radloff 1883: *a → a | ɨ → ʒ | o → u | q → k,*
Sağdan uulu / Batmanov 1933: *o → ö | q → k | b → y,*
Wurm 1949: *ɨ → y | l → 1 | q → k,*
Other: *VV → V | η → η | o → ö | y → ü | J → ʒ.*

### 2.10.2. Standard cases

<table>
<thead>
<tr>
<th>Stem</th>
<th>Meaning</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ačū</td>
<td>‘1. bitter; 2. pungent’</td>
<td>* apačū (KirgRS)*</td>
</tr>
<tr>
<td>ačyk</td>
<td>‘1. open; 2. clear, obvious’</td>
<td>* apačyk (KirgRS)*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See also apapakaj and apappak in 2.10.3.</td>
</tr>
<tr>
<td>alys</td>
<td>‘far’</td>
<td>* apalys (KirgRS)*</td>
</tr>
<tr>
<td>apakaj</td>
<td>‘very white’</td>
<td>* apapakaj (KirgRS) very nice, very good’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See 2.10.4 below.</td>
</tr>
</tbody>
</table>
| appak | ‘very white’ | * apappak (KirgRS, Imart 1981: §1110)*
| | | See 2.10.4 below. |
| bapbalpak | ‘fat and squat of a person’ | * bapbalpak (KirgRS)* |
| beker | ‘vain’ | * bepbeker (KirgRS: only attested in maktangany ~ ‘you boast completely in vain’)* |
| bijik | ‘high, tall’ | * bipbijik (KirgRS)* |
| birdej | ‘same, identical’ | * bipbirdej (KirgRS)* |
boz ‘light grey, ash grey, earthy grey’ ◊ bopboz (KirgRS)
bütün ‘whole’ ◊ büpbütün (KirgRS)
čak ‘fit, just’ ◊ čapčak ‘exactly, just right’
čoŋ ‘big, huge’ ◊ čopčoŋ (KirgRS, Imart 1981: §1110)
čuŋkurčak ‘depression, basin’ ◊ čuŋčuŋkurčak (KirgRS: only attested in ~ kyl-‘to shatter to the ground’)
dajar ‘ready, prepared, preparation’ ◊ dapdajar ‘fully ready’ (KirgRS)
dajyn ‘(well-)known, certain’ ◊ dapdajyn ‘accurately known’ (KirgRS)
dāna ‘1. (well-)known; 2. knowing, wise’ ◊ dapdāna ‘clearly, distinctly’ (KirgRS)

döŋgölök ‘cart-wheel’ ◊ döpdöŋgölök ‘completely round’ (KirgRS)

dōn ‘desert, secluded, lorn’ ◊ epēn (KirgRS)
ičke ‘thin, slim’ ◊ ipičke (KirgRS)
kačan ‘when?’ ◊ kapkačan ‘(very) long ago’ (KirgRS)

dardaj ‘strapper, whopper, hefty’ ◊ dapdardaj (KirgRS)

dōn ‘desert, secluded, lorn’ ◊ epēn (KirgRS)

ēn ‘desert, secluded, lorn’ ◊ epēn (KirgRS)
ičke ‘thin, slim’ ◊ ipičke (KirgRS)
kačan ‘when?’ ◊ kapkačan ‘(very) long ago’ (KirgRS)
kačanky ‘1. related to what time? 2. old, past, earlier’ ◊ kapkačanky ‘(very) old, past’ (KirgRS)

kajdagy ‘located at any place’ ◊ kapkajdagy ‘located god knows where; god knows what sort of’ (KirgRS)

kara ‘black’ ◊ kapkara ‘1. intens.; 2. species of golden eagle (KirgRS s.v. kanarka)’

karangy ‘dark(ness)’ ◊ kapkarangy ‘complete darkness’ (KirgRS)

kēn ‘wide, spacious’ ◊ kepkey (KirgRS)
kenen ‘sufficient, ample, generous, spacious’ ◊ kepkenen ‘very spacious’ (KirgRS)
kičine ‘very little, very small’ ◊ kipkičine ‘very small’ (KirgRS)

kojū ‘thick, dense’ ◊ kŏpkjū (KirgRS)
kōk ‘blue’ ◊ kōpkōk (Sasdān uulu / Batmanov 1933: 50f, Hebert/Poppe 1963: 27, Abduldaev et al. 1987: 169)
kū i.a. ‘1. pale, white; 2. dry’ ◊ kupkū (KirgRS: only attested in ōnjū ‘he is very pale’, ~ karagaj ‘a completely dried up spruce’)
kurgak ‘dry’ ◊ kupkurgak (KirgRS)


mölůr i.a. ‘clean, clear, transparent’ ◊ mōpmölůr (KirgRS)
muzdak ‘cold, chilly’ ◊ mupmuzdak (Imart 1981: §1110)
okšoš ‘same, similar’ ◊ opokšoš (KirgRS)
onoj ‘easy’ ◊ oponoj (KirgRS)
ör ‘heavy’ ◊ opör (KirgRS, Ščerbak 1977: 120, Imart 1981: §1110)
sakaldū ‘a bearded man, a man of age’ ◊ sapsakaldū (KirgRS: only attested in ~ bašny menen ‘you and your huge beard’)
sary ‘yellow’ ◊ sapsary (Radloff 1883: 280, KirgRS)
semiz ‘fatty, greasy’ ◊ sepsemiz (KirgRS)
širin ‘sweet’ ◊ šipširin (KirgRS)
sō ‘healthy’ ◊ sopsō (KirgRS)
sonun ‘(very) good’ ◊ sopsonun (KirgRS)
sūk i.a. ‘1. cool, cold; 2. unpleasant, surly; 3. opposed to’ ◊ supsūk (Sabdan uulu / Batmanov 1933: 50, KirgRS)
sulū ‘beautiful’ ◊ supsulū (KirgRS, Imart 1981: §1110)
sur ‘grey’ ◊ supsur (KirgRS)
syjda ‘smooth’ ◊ sapsyjda (KirgRS)
sylyk ‘delicate, polite, suave’ ◊ sapsylyk (KirgRS)
synyk i.a. ‘delicate, polite, suave’ ◊ sapsynyk (KirgRS)
tak i.a. ‘exactly, precisely’ ◊ taptak ‘1. intens.; 2. a sharp jump, sharp movement’ (KirgRS)
takyrb ‘naked, bare’ ◊ taptakyrb ‘smooth, even’ (KirgRS)
takyrbčak ‘naked’ ◊ taptakyrbčak ‘entirely, clean’ (KirgRS)
tatynakaj ‘nice, kind’ ◊ taptatynakaj (KirgRS: only attested in ~ kyze ‘a very nice, very kind girl’)
taza ‘clean’ ◊ taptaza (Sabdan uulu / Batmanov 1933: 50, KirgRS)
tegerek ‘round’ ◊ tepetegerek (KirgRS)
tegiz ‘smooth, even’ ◊ tepetegiz (KirgRS)
tenj ‘equal’ ◊ tepetenj (KirgRS)
tik ‘vertical, steep’ ◊ tiptik (KirgRS)
tirū ‘live’ ◊ tiptirū (KirgRS)
totok ‘full; satisfying’ ◊ toptotok (Sabdan uulu / Batmanov 1933: 50)
toltura ‘completely full’ ◊ toptoltura (KirgRS)
toluk ‘full’ ◊ toptoluk (KirgRS)
tügöl ‘all, completely, entirely’ ◊ tüptügöl (KirgRS)
tūra ‘rightly, correctly’ ◊ tuptūra (KirgRS)
tüz i.a. ‘flat, smooth, straight; plain, flatland’ ◊ tüptüz (KirgRS, Kasapoğlu Çengel 2005: 188)
tyjpyp ‘entirely, to a man’ ◊ tuptypyp ‘1. entirely, clean; 2. completely empty’ (KirgRS)
tyrmaktaj ‘with nails, with claws’ ◊ tuptyrmaktaj (KirgRS: only attested in ~ bala ‘a tiny child’)

uzun ‘long’ ◊ upuzun (Imart 1981: §1110)
ynak i.a. ‘a close friend’ ◊ ypynak (KirgRS)

See 2.10.5 below.
yras ‘truly, really, as should be, good, skillfully’ ◊ ypyras ‘pure truth, very accurately’ (KirgRS)
žaj i.a. ‘calmly, slowly, quietly’ ◊ žapžaj (KirgRS)
žakšy ‘good’ ◊ žapžakšy (KirgRS)
žalgyz ‘only, single, lonely’ ◊ žapžalgyz (KirgRS)
žaman ‘bad’ ◊ žapžaman (KirgRS)
žanaša ‘in file, cheek by jowl’ ◊ žapžanaša ‘very close, by the side’ (KirgRS)
žany ‘new’ ◊ žapžany (KirgRS, Kasapoğlu Çengel 2005: 188)
žaš ‘young’ ◊ žapžaš (KirgRS, Imart 1981: §1110)
žašyl ‘green’ ◊ žapžašyl ‘light green (KirgRS), very green (Kasapoğlu Çengel 2005: 188)’
žeke ‘separate, singular, only’ ◊ žepžeke ‘completely alone’ (KirgRS)
ženil ‘light, mild’ ◊ žepženil (KirgRS, Kasapoğlu Çengel 2005: 188)
žön ‘fatty, greasy’ ◊ žopžön (Imart 1981: §1109)
žuka ‘thin’ ◊ župžuka (KirgRS)
žumšak ‘soft’ ◊ župžumšak (Radloff 1883: 280, KirgRS)
žumuru ‘round’ ◊ župžumuru (KirgRS)
žylašač ‘naked’ ◊ žypžylašač (KirgRS)

See also 3.1.10 on other intensifications of the word.
žylas i.a. ‘gone, demolished’ ◊ žypžylas ‘gone without a trace’ (KirgRS)
žylma 1. smooth, even; 2. well-mannered, polite, diplomatic ◊ žypžylma 1. very smooth, slippery; 2. well-mannered, diplomatic, sly, crafty fellow’ (KirgRS)
žylmakaj 1. smooth, slippery; 2. entirely, clean e.g. rob ◊ žypžylmakaj (KirgRS)

2.10.3. Special cases

apapakaj ‘1. very white; 2. child. very nice, very good’ (KirgRS) ◊ apakaj ‘very white’

This word is a triple intensification: ap- redup. + ap- redup. + ak + aj dimin.
Most probably, the order of formation was ak → apak → apakaj → apapakaj as all these forms are attested, and *akaj does not seem to be so.

The second meaning is marked as детское in KirgRS which explains both the exaggerated emphasis and nothing about the productivity of reduplication in Kirghiz or the actual emotional load of the formation.

See apappak below, and 3.1.13 for other examples of multiple intensification, and 3.1.2 for related examples of alternative reduplications with different meanings.
apappak (KirgRS, Imart 1981: §1110) ◊ ak ‘white’
This word is a double reduplication. Apparently, appak was no longer felt as sufficiently intense by some speakers. See 3.1.13 for other examples of multiple intensification, and also apapakaj above and kipkičinekej below.

KirgRS confirms the interpretation as double reduplication but decomposes the word to ap-ap-ak, rather than the more manifest *ap-app-ak. This is surprising as both apak and appak exist in Kirghiz. Moreover, the doubling of p cannot be easily and surely explained on a purely Kirghiz ground. Perhaps the two ap-’s are to be read symbolically for ‘reduplication’, and the notation is meant to explain the morphological build rather than phonetic intricacies – as a definition in a dictionary might be expected to.

*čypćyrga ‘all, everything’ (KirgRS) ◊ ? čyrga ‘lure; bait for Golden Eagle’
In KirgRS, čyp is defined as ‘intensifier for words beginning with čy-’ (s.v. чып i), and exemplified by the untranslated phrase čypćyrgasyn korotpoj which refers to the entry for čyrga. There, čyrga is translated as ‘lure; bait for Golden Eagle’, and among the examples, two phrases with the form in čyp- are listed, čyp čyrgasy (or čypčyrgasy) koroboj, bāry esime ‘I have every last detail in my memory’, and čyp čyrgasyn korotpoj saktap žürdüm ‘I kept everything intact and untouched’.

The semantic evolution suggested by this attestation is not impossible, but also not trivial. The attestation itself is also not entirely clear. Here, the word will be considered a special case, and excluded from further considerations.

kapkačan ‘(very) long ago’ (KirgRS) ◊ kačan ‘when?’
The semantic shift ‘when?’ → ‘(very) long ago’ might seem unusual at first, but it is not necessarily so. The primary meaning of reduplication is intensification. Intensified ‘when?’ might be rendered as ‘when, oh when?’ in English, and that can quite naturally be understood as ‘(very) long ago’ – especially if used as an introduction to a tale or in a similar context.

Very similar semantics can be found in an adjectival derivative from kačan, kačanky, where the two meanings are already present in the base: ‘1. related to what time? 2. old, past, earlier’, and it is only the etymologically later one that is reduplicated.

See also Kirg. alda kačan ‘1. long ago; 2. god knows when’ (KirgRS).

To be noted about this example is that kačan is primarily a pronoun, which makes it the only case of a reduplicated pronoun in the present work.
**kapkačank**y see *kapkačan* above.

**kepkenedej** ‘very small, tiny’ (KirgRS)

The base *kenedej* does not seem to be attested, and the word is not clear. Maybe related to *kipkičinekej* ‘very small’ below?

**kipkičinekej** ‘very small’ (KirgRS)

The base *kičinekej* does not seem to be attested. However, *kičine* is, therefore the process was here apparently the same as in *apakaj* (see *apapakaj* above) and Oir. *apačʃ* (see 2.12.3), i.e. it was the diminutive that was derived from a reduplicated base, rather than the other way round. However, see also Kklp. *kipkiškene*, *kipkiškentaj*, and Kzk. *kipkiškentaj*, all ‘very: small, little’ in 2.7.2 and 2.8.2, respectively.

**kyp žylač** (KirgRS) ◊ *žylač* ‘naked’

Technically, this is not a reduplication at all. The word is, nevertheless, interesting because it shows how the morphological awareness of reduplication vanishes, and how the reduplicated anlauts are being promoted to independent words, if with an as yet somewhat unspecified meaning. This particular form, in all probability, is derived from *kypkyzyl žylač* ‘red-naked = stark-naked’ (KirgRS s.v. кыпкызыл).

See 3.1.10 for other cases of emancipation of reduplicated anlauts.

**taptatynakaj** ◊ ‘very nice, very kind’ (KirgRS: only attested in ~ kyz ‘a very nice, very kind girl’) ◊ *tatynakaj* ‘nice, kind’

This word is only unusual in that it is a double intensification, a combination of reduplication with a diminutive. Apparently, the amplification of the semantics ensured by the latter must have waned away over time as KirgRS gives the meaning of *tatyna* as ‘то же, что татынакай’.

See also 3.1.13 for other examples of multiple intensification.

**tymtyrakaj** ‘in disarray, every which way’ (KirgRS)

In KirgRS, the base *tyrakaj* only refers to *tymtyrakaj*. The word is certainly related to the equally unclear Kzk. *tymtyrakaj* ‘in disarray, disorderly, in all directions’ in 2.8.3.

**tymtyrs** ‘complete silence’ (KirgRS)

The base *tyr* seems to only be attested with the meaning ‘click, snap, crack(le), crunch’. The evolution from it to ‘complete silence’ is not trivial, but not impossible.
2.10.4. Structure

Technically, two closing consonants of C-type are attested in a total of 92 examples derived from 91 unique bases, in a rather one-sided distribution:

**p**: 91 examples: ačū, ačyk, ak, alys, apakaj, appak, balpak, beker, bijik; birdej, boz, büütün, čak, čoj, čunjkurčak, dajaran, dajyn, dāna, dardaj, dōngölök, ēn, ičke, kačan, kačanky, kajdagy, kara, karangy, kej, kenen, kičine, kojū, kık, kū, kurgak, kyzyl, mōldür, muzdak, ojŋ, ołyq, ông, ôngaj, şirin, sō, sonun, sūk, sulū, sur, syjda, sylyk, synyk, tak, takyr, takyrčak, tatynakaj, taza, tegerek, tegiz, teŋ, tik, tok, toltura, tołuk, tūgöl, tūra, tüz, tyjpyl, tyrmaktaj, uzun, ynak, yras, šaj, šakşy, šalgyz, şaman, şanasa, şany, şaş, şaşyl, şeke, şeñil, şın, şuka, şumšak, şumuru, şylarač, şylma, şylnakaj, and

**pp**: 1 example: ak.

Only one word has more than one closer possible. It is ak ‘white’, and its two closers are p and pp; see also apapakaj and apappak in 2.10.3 above.

In eight words the first vowel is long: dāna ‘(well-)known, …’, ēn ‘desert, …’, kū ‘1. pale, white; 2. daffodil’, ör ‘heavy’, sō ‘healthy’, sūk ‘cold, …’, tūra ‘rightly, …’, şın ‘fatty, …’. In all cases, the reduplicated vowel has been shortened. See 3.1.20 on shortening of the reduplicated vowel.

The word kačan ‘when?’ is the only case of a reduplicated pronoun in the present work. The thought of intensifying an interrogative pronoun might seem unusual at first to a speaker of English – incidentally, much less so to a speaker of Polish or some other Slavonic language, see e.g. któ.ź ‘who, oh who?’ &c. – but the case is actually quite straightforward. See 2.10.3 above.

The base ak ‘white’ is unusually productive in Kirghiz, with as many as five different intensifications: apak, apakaj, apapakaj, appak, and apappak. The middle one is particularly noteworthy, being the only example in the present work of a combination of double reduplication and a diminutive. See apapakaj and apappak in 2.10.3 above.

There are two more words created by combining reduplication and diminutive: kipkičinekej and taptatynakaj, see 2.10.3 for both. The total number of multiple intensifications in Kirghiz amounts thus to five, which is relatively many. Notably, one of them is a triple intensification: ap.ap.ak.aj.

2.10.5. Semantics

In most examples, the reduplicated meaning is apparently the same as the base meaning or its simple intensification.
The only stronger deviation can be observed in *apakaj* and *kačan*. For the latter, see 2.10.3 above. As for the former, apart from the expected ‘very white’, its reduplication also has the meaning ‘very nice, very good’, which can be neither found in the base word nor in *ak*. Among the meanings of *ak*, there are also such components as ‘clean’ and ‘innocent’, and they are perhaps the closest match to be found here. See 3.1.24 on reduplications of ‘white’.

With the notable exception of *kačan* ‘when?’ (see 2.10.3 above), most examples are also quite clear adjectives. Only the following five words have a less determined characted:

Perhaps the most interesting is the case of *ynak* ‘1. чистый, без примесы; 2. близкий друг’, where apparently only the second, substantival, meaning is present in the reduplication while the first, adjectival one, is lost: *ypynak* ‘очень близкий друг’. This goes somewhat against the essence of reduplication which generally is adjective intensification.

In the case of *karangy*, an insufficiently exhaustive definition might be suspected. A word translated as ‘тъма-тъмушая; тъма непроглядная’ (KirgRS) is likely to also be used as an adjective in a Turkic language, even if the Russian definition does not quite reflect this.

The remaining three cases appear to be simpler: *čuŋkurčak* ‘углубление, впадина, котловина’, *döŋgölök* ‘1. колесо (телеги); 2. шут[ивое слово, выражение] автомобил’, and *sakaldū* ‘бородач, пожилой мужчина, мужчина почтенного возраста’. In each of them, there is a quite straightforward link between the meaning of the base and that of the reduplication. Note that the first and the last of these three are only attested in what seem to be fixed phrases.

There are five multiple intensifications in Kirghiz, three of them derived from *ak* ‘white’. See 2.10.4 above.

### 2.11. KUMYK

*C*-type reduplications are fewer in Kumyk than in the majority of Kipchak languages, but equally uniform.

Three closing consonants are attested. Two of them only have one example each, and one might likely be a loanword (*büsbütün*).

Two points in the build of Kumyk reduplications need to be noted. One is the word *parahat* ‘calm’, one of the generally very few beginning with *p*, and reduplicating interestingly to *papparahat*. The other point is the existence of
three reduplications which are apparently pronounced differently than their origin and spelling would suggest. See 2.11.4.

As far as semantics is concerned, Kumyk reduplications are quite standard. See 2.11.5.

### 2.11.1. Sources

The main source of the material is KmkRS which contains ca. 13,000 entries. Some attestations have also been found in Ščerbak 1977: 120, Doniyorova 2004: 19, and in the grammars listed below.

For grammatical descriptions, Dmitriev 1940: 71f and, to a certain degree, KmkRS, have been used.

Dmitriev 1940: 71f states that the closing consonant is \( p \) and, more surprisingly, that the majority of Kumyk adjectives can be reduplicated and, therefore, that intensive needs to be recognized “как живую категорию кумыкских (и вообще тюркских) прилагательных”. The general Turkic part of this remark is incorrect, and this casts doubt on the Kumyk bit. The scarcity of examples attested in KmkRS, too, makes this opinion seem exaggerated, but it must be remembered that this dictionary only contains ca. 13,000 entries in total.

KmkRS does not contain a grammatical description. The reduplicated anlauts, however, are usually described as “препозитивная усиливающая частица, присоединяемая к словам, начинающимся на ...”, but this description is not consistent: sometimes it limits the scope of the ‘particle’ to ‘adjectives’ or ‘certain adjectives’ only, sometimes to merely one or two concrete examples. In any case, it quite clearly disagrees with Dmitriev’s diagnosis.

The matter cannot be resolved without extensive research directed specifically at Kumyk, which goes beyond the scope of the present work. The material discussed here will be limited to the explicitly confirmed examples.

Dmitriev 1940: 71f: \( ә → \ddot{ә} \) | \( ϋ → k \) | \( ә → l \),
Doniyorova 2008: \( ϋ → k \),
KmkRS, RKmkS: \( e- → je- \) | \( z̄ → g \) | \( ϋ → k \) | \( ϋ → ü \).

### 2.11.2. Standard cases

\( \text{ačyk} \) ‘1. open; 2. clear of weather’ ◊ \( \text{apačyk} \) ‘1. completely open; 2. very clear, very bright, very obvious’ (Dmitriev 1940: 72, KmkRS)
ak ‘white’ ◊ apak (KmkRS, Ščerbak 1977: 120, Doniyorova 2008: 19\(^{18}\)) ◊ appak (Dmitriev 1940: 72, KmkRS)
See 2.11.4 below.

belgili ‘clear, (well-known)’ ◊ bepbelgili (Dmitriev 1940: 72)

boş ‘empty’ ◊ bopboş (KmkRS)

bütün ‘whole’ (RKmkS s.v. целый and others\(^{19}\)) ◊ büsbütün ‘1. intens.; 2. very, quite, altogether’ (KmkRS)
See 2.11.4 below.

gavajyn ‘free of charge’ ◊ gapgavajyn (KmkRS)

gazir ‘ready’ ◊ gapgazir (KmkRS)

gerti ‘true, faithful, accurate’ ◊ gepgerti (KmkRS: only attested in ~sin ajtmak ‘to speak the absolute truth’)

jangy ‘new’ ◊ japjangy (KmkRS)

jangyz ‘only, single, lonely’ ◊ japjangyz (Dmitriev 1940: 72, KmkRS, Doniyorova 2008: 19)

jašil ‘green’ ◊ japjašil (Dmitriev 1940: 72)

jengil ‘light, easy’ ◊ jepjengil (KmkRS)

kara ‘black’ ◊ kapkara (Dmitriev 1940: 71, KmkRS, Doniyorova 2008: 19)

karangy ‘dark(ness)’ ◊ kapkarangy (KmkRS)

kuru ‘dry’ ◊ kupkuru (KmkRS)

kyzyl ‘red’ ◊ kypkyzyl ‘bright red’ (Dmitriev 1940: 72, KmkRS)

parahat ‘calm’ ◊ papparahat (KmkRS)

sangyrav ‘deaf’ ◊ sapsangyrav (KmkRS)

sari ‘yellow’ ◊ sapsari (Dmitriev 1940: 72, KmkRS)
See 2.11.4 below.

takyr ‘naked, bare (RKmkS s.v. гольýý)’ ◊ taptakyr ‘completely naked, completely bare; with no vegetation at all’ (KmkRS)

taza ‘clean’ ◊ taptaza (Dmitriev 1940: 72, KmkRS)

tegiš ‘smooth, even’ ◊ teptegiš ‘1. intens.; 2. dog-poor’ (KmkRS)

tuvra ‘straight, direct’ ◊ uptuvra (Dmitriev 1940: 72)

tüz ‘1. accurate; 2. straight, direct’ ◊ tüptüz (KmkRS: only attested in ~ ok eki ‘exactly two’, ~ üstüne ürümek ‘to go directly’)

\(^{18}\) In Doniyorova 2008: 19, apak is spelt ‹ап-ак› rather than *‹ап-акъ›. It is most probably a misprint.

\(^{19}\) In KmkRS, бютюн only references to бютюнлей without any commentary.
2.11.3. Special cases

beşbeter ‘even worse’ (KmkRS) ◊ beter ‘1. more; 2. worse’ (RKmkS s.v. паче (in ondan da ~ ‘even more so’), and сколько, KmkRS: only attested in ~ин-ден allag saklasyn ‘god forbid it gets worse’, KmkRFS s.v айтгъандан…, бетерин…, бесчестье…, and сверх всякого…) This word is immediately suspicious as a loanword: the closing consonant प is overwhelmingly the most frequent one in Kumyk, and the attestations of the alleged base beter in the dictionaries are quite circumstantial. In fact, ṣ only appears in the place of the closing consonant in Az. beşbetēr and Tksh. beşbeter, both ‘worse’, and in both it can be more reliably explained as a borrowing from Pers. پیش بدتر biš badtar ‘(even) worse’ than as a reduplication; see beşbetēr in 2.2.3. Surely, the Kumyk shape originates from the same source.

zepzemre ‘very wet’ (Dmitriev 1940: 72)
The base *zemre is missing from both KmkRS and RKmkS. It seems that only the former contains a similar shape, namely zemire ‘arch. ritual song to invoke rain in a dry summer’. Also MifyNM attests земирé as the name of a (the?) goddess of fertility in pre-Islamic Kumyk mythology, whose cult has been preserved in the rainmaking ritual. It is obvious that there is a semantic relation between the two words, but less clear what the nature of this relation exactly is.

2.11.4. Structure

Three closing consonants of C-type are attested in a total of 25 examples derived from 24 unique stems, in a distribution so even, that it is rather suggestive of borrowing in the two outstanding cases:

**p**: 23 examples: ačyk, ak, belgili, boš, gavajyn, gazir, gerti, jangy, jangyz, jašil, jengil, kara, karangy, kuru, kyzyl, parahat, sangyrav, sari, takyr, taza, tegiš, tuvra, and tüz.

**pp**: 1 example: ak, and

**s**: 1 example: bütün.

Only ak ‘white’ has more than one closer possible: p and pp.

The use of ṣ as the closing consonant in büsbütün is surprising against the remaining examples. It is quite probable that it is, like beşbeter (see 2.11.3 above),
a loanword, but in the case of bütün the base is attested independently in Kumyk, and there are no more arguments than the uniqueness of the closing consonant, to demonstrate its possible foreign origin. See also 3.2.5 on the distribution of closing consonants across the Turkic languages.

Kumyk is one of just three languages which have a reduplication derived from a word beginning with p-, and the only one which also employs p as a closing consonant in this case. See 3.1.6 on the closing consonant being identical to C₂.

Three of the examples given by Dmitriev 1940: 72 are annotated as being pronounced differently than spelt. They are: apak, pronounced [appak], kappa kart [kappagart], and sapsari [säpsäri].

2.11.5. Semantics

In the great majority of cases, the reduplicated meaning is a simple intensification of the base meaning, or apparently the same. The latter should probably be attributed to dictionary definitions not being sufficiently exhaustive.

The only slight diversions are provided by açyk and bütün, where the meaning of the reduplication has evolved one little step further away from the base (respectively, ‘1. open; 2. clear of weather’ → ‘1. completely open; 2. very clear, very bright, very obvious’, and ‘whole’ → ‘1. intens.; 2. very, quite, altogether’), and by tegiš, where it has developed an additional, figurative meaning (‘smooth, even’ → ‘1. intens.; 2. dog-poor’).

2.12. Oirot

Relatively few C-type reduplication are attested in Oirot, pronouncedly less than in Khakas and Tuvinian. The majority are standard and uniform, but ak ‘white’ and kök ‘blue’ have evolved into unusually large families.

Technically, two closing consonants are attested: p in 16 examples, and pp in one (appak). See 2.12.4.

Reduplications of non-adjectives almost do not exist. Semantic evolutions going beyond simple intensification are just slightly more numerous. See 2.12.5.

Ak and kök have proven unusually productive as they have sprouted a total of 15 or 16 derivatives in Oirot and Shor combined, plus two in Khakas. Also interesting is what appears to be emphatic lengthening of k in čipčikke ‘exactly, precisely’. See 2.12.3.
2.12.1. Sources

The main sources of material are AltTS, which contains more than 13,000 entries, and Dyrenkova 1940: 77. Some attestation have also been found in Baskakov 1972: 202 and 1985: 30, Li et al. 2007, Ramstedt 1952: 249f, Ščerbak 1977: 120, Schönig 1998b: 408, and Serebrennikov/Gadžieva 1986: 112.

For grammatical descriptions, Dyrenkova 1940, Baskakov 1985: 30, and AltTS have been used.

Dyrenkova 1940: 77 gives a slightly more elaborate description of the process which, however, only informs that the closing consonant is “один из губных”. This is confusing, given that all Oirot examples have their reduplicated anlauts closed by either p or pp.

Baskakov 1985: 30 limits himself to the information that the superlative is formed by reduplication of the first syllable.

AltTS does not contain a chapter on grammar but some information can be deduced from how ap and ǯap are defined, namely “Pekistirme sıfatlarinda p sesi ile yapilan ön ek” and “Pekistirme sıfati yapmada kullanılan p sesi ile ön ek”, respectively.

AltTS: c → į | i → y | ň → ǹ | ǯ → ž | y → j,
Dyrenkova 1940: dB → ž | VV → V,
Li et al. 2007: d’ → ž | i → y,
Schönig 1998b: q → k,
Serebrennikov/Gadžieva 1987: ǭ → k.

2.12.2. Standard cases

ak ‘white’ ◊ apak (Dyrenkova 1940: 77) ◊ appak (Ramstedt 1952, Baskakov 1972: 202)
See also apag in 2.12.3 below.
boro ‘grey’ ◊ bopboro (Ščerbak 1977: 120)
čike ‘straight, right, accurate’ ◊ čipčik(k)e ‘exactly, precisely’ (Dyrenkova 1940: 77)
See čipčikke in 2.12.3 below.
čokur ‘motley’ ◊ čopčokur (Dyrenkova 1940: 77, Ščerbak 1977: 120)
kara ‘(pitch) black’ ◊ kapkara (Baskakov 1985: 30, Schönig 1998b: 408, AltTS)
kök ‘blue’ ◊ köpkök (Dyrenkova 1940: 77)
kozyr ‘large’ ◊ kopkozyr (Dyrenkova 1940: 77)
kyzyl ‘red, crimson’ ◊ kypkyzyl ‘1. carmine, crimson; 2. bright red’ (Dyrenkova 1940: 77, Serebrennikov/Gadžieva 1986: 112, AltTS)
sary ‘yellow’ ◊ sapsary (Dyrenkova 1940: 77)
temej ‘to no avail, in vain’ ◊ teptemej (AltTS)
ten ‘same, identical’ ◊ tepten ‘very straight, very smooth’ (AltTS)
tünej ‘same, similar’ ◊ tüptünej ‘1. completely the same; 2. all right, okay’ (AltTS)
uzun ‘high’ ◊ upuzun (Dyrenkova 1940: 77)
ǯaŋ ‘new’ ◊ ǯapǯaŋy ‘1. brand-new; 2. news, novelty’ (AltTS, Li et al. 2007)
ǯažyl ‘green’ ◊ ǯapǯažyl (Dyrenkova 1940: 77)

2.12.3. SPECIAL CASES

In Oirot, Khakas and Shor (see 2.14.3), the reduplications of ak ‘white’ and kök ‘blue’ have evolved into entire families of 17 or 18 forms in total (Oir. apag is not clear). All derive eventually from a composition of the reduplicated form with a diminutive suffix, and further phonetic simplifications or semantic amplification.

Discussion and the appropriate schemes are given s.v. Khak. appagas and köppeges, Oir. apagaš and köpögöš, and Shor apagaš and köpegeš (respectively, 2.9.3, here, and 2.14.3). The recommended entry to start with is Oir. apagaš, and later köpögöš.

See also 3.1.11 for other big families of related reduplications.

akpāš (Dyrenkova 1940: 77) ◊ ak ‘white’

Dyrenkova 1940: 77 seems to interpret this form as a contraction of ap + ak + -aš (see apagaš below). Within this position, it appears that the only way to understand the k in akpāš is through dissimilation of *pp in *app. ak.aš, or else there is no reason for the ȃ in the second syllable to be long.

An alternative solution would be a composition of *ak + apagaš (< ap.ak.aš). The loss of the second a in *akapagaš appears to be quite natural within Turkic phonotactics (see e.g. Ölmez 2011: 402f for a similar example, KB adakšu : Uigh. adkašu ‘together’). See 3.1.16 for parallel constructions with the base prepended again to the reduplication.

In theory, akpāš can also be connected with apaš below: apagaš > *apāš > apaš, *akapāš > akpāš. However, *akapāš gives less ground for a contraction such as in adakšu, and so this possibility will be dismissed as being less plausible.

See apagaš below.

---

The original meanings in AltTS are: kizıl ‘1. Kırmızı, kızıl; […]’ : kıp-kızıl ‘kipkızıl, tamamiyle kırmızı […]’.
apačš (Baskakov 1985: 30) ◊ ak ‘white’

According to Baskakov 1985: 30, apaš is a contraction of *ap.ak.aš. If so, apač should be a contraction of *ap.ak.ač. Both, -ač and -aš are diminutive suffixes (see Baskakov 1985: 27). Neither *ag|kač nor *ag|kaš seem to be attested, which implies that the suffixes have been added to the already reduplicated form.

See apagaš below.

apag (Baskakov 1972: 202) ◊ ak ‘white’

This form is not clear. *ag ‘white’ appears to be missing from Oirot. If not a misprint, perhaps a secondary shortening of apagaš (see below)?

apagaš ‘1. intens. (Dyrenkova 1940: 77, AltTS); 2. rabbit (AltTS)’ ◊ ak ‘white’

Dyrenkova 1940: 77 derives this form from ap- + ak + -aš, which seems very plausible. The suffix -aš is diminutive (see Baskakov 1985: 27), and it must have been added as the last component because *ag|kaš does not seem to be attested; see 3.1.13 for parallel examples.

There are five similar forms based on ak, five more based on kök ‘blue’ (see köpögöš below), and in addition, two in Khakas (see 2.9.3), and five in Shor (2.14.3). Those with a double pp present the greatest difficulty (in Oirot, these are appāš and köppeges). The ak side of the Oirot family can be presented as in fig. 2.3.

\[
\begin{align*}
\text{apak} &\quad + \text{-ač} \quad \rightarrow \quad \text{apagač} \quad \rightarrow \quad \text{apač} \\
\text{apak} &\quad + \text{-aš} \quad \rightarrow \quad \text{apagaš} \quad \rightarrow \quad \text{apaš} \\
\text{appak} &\quad + \text{-aš} \quad \rightarrow \quad \text{*appagaš} \quad \rightarrow \quad \text{appag} \\
\text{appak} &\quad + \text{-aš} \quad \rightarrow \quad \text{pp} \quad \rightarrow \quad \text{pp} \\
\end{align*}
\]

Figure 2.3. Reduplications of Oir. ak ‘white’ &c.

See köpögöš and also Khak. appagas and köppeges in 2.9.3, and Shor apagaš and köppeges in 2.14.3.

appāš (Dyrenkova 1940: 77) ◊ ak ‘white’

Dyrenkova 1940: 77 appears to interpret this form as a composition of ap- + ak + -aš, which does not explain the double pp.

The form appak exists in Oirot (see 2.12.2), most probably continuing an ancient emphatic lengthening in apak (see 3.1.12 on the phenomenon). The present word, then, should perhaps be understood as a contraction of
*appak.aš. However, at least two other interpretations are also possible, yielding in total three versions:

- contraction of *appak.aš,
- contraction of *ap.apagaš, and
- simplification of *-kp- in *akpagaš < ak + apagaš.

As for the last two options, both double reduplication and prepending the base to the reduplication, can be observed in various Turkic languages as methods of strengthening the intensification; see 3.1.9 and 3.1.16, respectively.

Double reduplications do not seem to be attested for Oirot, but one is present in Shor (apapagaš, see 2.14.3). Prepending of the base does seem to be attested in Oirot, in akpāš above. Additionally, support for the second option could be sought in köppōš below but that word itself requires a parallel example, so this would create a vicious circle.

In lack of arguments that could lend support to the two alternative options, the simplest solution must be tentatively accepted, and that is the first option, *appak.aš > appāš.

See apagaš above.

berbek ‘fat’ ◊ bek ‘healthy’ (AltTS)

The use of r as a closing consonant, however, is absolutely extraordinary. This would have been the only South Siberian reduplication with any other closer than p or pp, which invites the idea that berbek is either not a native formation, or actually not a C-type reduplication at all.

In Turkish, the variants with and without r coexist (berk ~ pek). Composition of synonyms, such as in Tksh. pek çok lit. ‘much much’ or ‘very very’, or güçlü kuvvetli, lit. ‘strong powerful’, is no less a popular method of intensification in Turkic than elsewhere. If a hypothetical Oir. *berk were combined with bek, a simplification of the resulting consonant cluster would have to be expected, most probably leading to *berbek.

In the present work, berbek will be assumed to not be a reduplication, and as a consequence, excluded from further considerations.
čipčikke ‘exactly, precisely’ (Dyrenkova 1940: 77) ◊ čike ‘straight, right, accurate’

It seems that the base word is only attested in one form, with a single k.
The reduplication has two variants: čipčike and čipčikke. The latter results most probably from an expressive lengthening (a cross-linguistic phenomenon, see e.g. Blevins 2004: 174, and appāš below), which makes it one of the very few multiple intensifications of this kind (see 3.1.12 for more examples).

kökpö göš (AltTS) ◊ kök ‘blue’

Despite the superficial similarity to akpāš above, here a composition of kök + *köp.kö göš does not at all appear likely. The simplest solution is perhaps to assume a metathesis in *köpkö göš.

See köp göš below.

köpōš (Dyrenkova 1940: 77) ◊ kök ‘blue’

This form is most likely a contraction of kökpö göš above, parallel to köp göš > köpōš below. See köp göš below.

köpö göš (Dyrenkova 1940: 77) ◊ kök ‘blue’

By the same token as apagaš above, this form is most probably a composition of köp- + kök + -aš (diminutive, see Baskakov 1985: 27), only here with an additional simplification of *-pk- to -p-. The diminutive must have been added to the already reduplicated form because *kō göš does not seem to be attested.

There are four similar forms based on kök, and also five based on ak ‘white’ (see apagaš above), two more in Khakas (see 2.9.3), and five in Shor (see 2.14.3). The kök side of the Oirrot family can be presented as in fig. 2.4.

Figure 2.4. Reduplications of Oir. kök ‘blue’ &c.

Note that other schemes are also conceivable. This one assumes one simplification of an intervocalic consonant cluster, one metathesis and twice a loss of intervocalic g, i.e. more of a frequent phenomenon and less of rarer ones. The proportion would be turned in alternative orderings, which makes them less plausible.

See apagaš above and also Khak. appagas and köppeges in 2.9.3, and Shor apagaš and köpegeš in 2.14.3.
köpōš (Dyrenkova 1940: 77) ◊ kök ‘blue’
This form is most likely a contraction of köpōgōš above, parallel to kökpōgōš > kökpōš above, although other schemes are also conceivable, see köppōš below, and köpōgōš above.

köppōš (Dyrenkova 1940: 77) ◊ kök ‘blue’
This form is phonetically very similar to appāš above, but its history must have been different.

At least three explanations are available:

• simplification of *-pk- in *köpkōš < *köpkōgōš < köpkök + -aš,
• simplification of *-kp- in kökpōš < *kökpōš < *köpkōgōš, and
• emphatic lengthening of p in köpōš.

The first option is simpler and thus appears more plausible than the second, but a metathesis is not at all impossible, as attested by the existence of kökpōgōš and kökpōš (see above). Note that the order of transformations presented here is for illustration only. It is not possible to determine whether the simplification of the consonant cluster would occur before or after the merger of *-ōgV- > ő, or whether the second vowel was already *ő at that point, or still *e (the primary shape of the suffix is -eš), &c.

The last option requires one of the first two to have had occurred first, and the resulting *-pp- to have been simplified to *-p- to create a phonetic shape appropriate for it to operate. This is much less improbable than it might seem as in fact köpōš already exists, see above.

Theoretical scenarios can be multiplied with relative ease, but at present the actual data seem to be missing with which to select the most probable one of them.

See köpōgōš above.

2.12.4. Structure

Technically, two closing consonants of C-type are attested in a total of 16 examples derived from 15 unique bases, in a very uneven distribution:

\[ p: 15 \text{ examples: } ak, boro, čike, čokur, kara, kök, kozyr, kyzyl, sary, temej, ten, tünej, uzun, žaŋy, žažyl, \text{ and} \]

\[ pp: 1 \text{ example: } ak. \]

The only word with more than one closer possible is ak with p and pp.
2.12.5. Semantics

In most cases, the reduplicated meaning is a simple intensification, but exceptions are relatively numerous. They include: čike where it is not the first meaning that is intensified in the reduplication (‘straight, right, accurate’ → ‘exactly, precisely’), kyzyl where the intensification is not entirely straightforward (‘red, crimson’ → ‘1. carmine, crimson; 2. bright red’, but see also fn. 20 on p. 109), and ten, tünej and žany where a further semantic evolution can be observed (respectively, ‘same, identical’ → ‘very: straight, smooth’, ‘same, similar’ → ‘1. completely the same; 2. all right, okay’, and ‘new’ → ‘1. brand-new; 2. news, novelty’).

A non-adjectival or non-adverbial meaning only appears once, in žapžany ‘news, novelty’, a not particularly complex evolution from ‘brand-new’ ← ‘new’.

2.13. Ottoman

With 58 examples, the Ottoman collection is not small, but it is nevertheless quite incomplete. The real number of reduplications might have been even about twice as high. See 2.13.4.

Five closing consonants are attested, which is one more than in modern Turkish. The one that has apparently disappeared is pp in the only example, ap-pak ‘snow-white’. Unusually, it seems unclear on which syllable the Ottoman reduplications were stressed. See 2.13.4.

Semantically, Ottoman reduplications are quite standard. Non-trivial shifts and non-adjectives almost do not occur. See 2.13.5.

In aphāyır ‘absolutely ready’, biz butoun ‘absolutely all’, öpuzun ‘very long’ and topdolu ‘absolutely full’, the reduplicated anlaut does not match the anlaut of the base. Especially the last of them is interesting, even if in no way central to the question of reduplication. Also, in the cases of māvi ‘blue’, sāfī ‘pure’, and sāry ‘yellow’, there is a suspicion that the reduplicated vowels might have retained their length through reduplication, and in the case of tamām ‘proper, …’ that the reduplicated vowel might have been actually lengthened. See 2.13.3.

2.13.1. Sources

The main sources are: Comidas de Carbognano 1794, von der Berswordt 1839, Németh 1916: 41, and TaS. Some attestations have also been found in Abdül-
bâkî 1934, Hızir, Mesʿûd, Qorqut, Tuhfê, Argenti 1533, Ferraguto 1611, Har-
sâny 1672, Mascis 1677, Köroğlu, Vefik Paşa 1890, Jehlitschka 1895: 56f, Sami
1901, Deny 1921: 236, Rässänä 1949: 239, Ramstedt 1952: 249f, Rässänä 1957: 74,
Clauson 1972, Šupa/Aleksandrović-Miškinene 1995, and in the grammars
listed below.

Mentions in grammars are surprisingly rare: Molino 1641, Seaman 1670, Vaughan
1709, Holderman 1730, Viguier 1790, Romero [18th c.], Jaubert 1833, Schroeder
1835, Davids 1836, Fuʿād-Efendi/Ğâvdât-Efendi 1855, Dubeux 1856, Mallouf 1862,
and Redhouse 1884 all appear to skip the phenomenon entirely. De Preindl
1790: 19, Comidas de Carbognano 1794, von der Berswortd 1839: 11f, Jehlitschka
1895: 56f and Guzev 1979: 46 give some examples but limit the grammatical de-
scription to actually less than the minimum, and it is only Meninski 1680: v 39,
Németh 1916: 41, Deny 1921: 236 and Özer 2008: 29f who provide slightly more
elaborate descriptions, albeit still far from comprehensive.

De Preindl 1790: 19 speaks about the adjectives’ propres particles and von der
Berswortd 1839: 11 about eigenthümliche Wörter, so it is understandable that neither
touches the question of the closing consonant.

Meninski 1680: v 39 and Jehlitschka 1895: 56f are closer to the truth when they
describe the reduplicated anlauts as “particulis certis ad fonum quaﬁ ef-
fictis” and “Vorsatzsilben […], welche mit demselben Konsonanten und Vokale
beginnen, sonst aber ziemlich willkürlich sind”, respectively, but they do not
take their analyses any further.

Németh 1916: 41, Deny 1921: 236, Guzev 1979: 46 and Özer 2008: 29f rec-
ognize the phenomenon as reduplication. Németh 1916: 41 gives a description of
the process and lists m, p (~ b), r and s (~ 2) as the possible closing consonants
but without attempting to formulate rules of distribution. Similarly, if much less
clearly, in Deny 1921: 236. Guzev 1979: 46 does not even go this far. Özer 2008: 29f
offers a somewhat wordy description according to which, it appears, b (sic) and p
are the only possible closing consonants, and the reduplicated anlauts are prefixes
(also pointed out by Stachowski M. 2010b: 361).

The diversity of spellings employed in the sources is high, but their consistency and
accuracy is considerably less so. The forms used for the main entries are (possibly
symbollic) tertia comparationis between the different spellings, which in most
cases can be found to be the same as the modern Turkish continuants. The original
notations are given after the historical sources and skipped after the modern ones,
if not necessary.
2.13.2. Standard cases


ak 'white' ◊ apak (von der Berswordt 1839: 11: آپ اک, Juhlitschka 1895: 57: آپ اک ap aq, Räsänen 1957: 74) ◊ appak (Clauson 1972: 3 (14th c.), TaS: آپ اک ap ațiuk) See ap(p)ak in 2.13.3 below.

ala(140,656),(470,716) 'multicoloured, motley' ◊ apalaǯa (Qorqut: ‹abalaca›, ‹apalaca›)


ansyzda(n) see ansysz

ansyzyn(a) see ansysz

ary 'clean' ◊ apary (Abdülbâkî 1934: 266)

barabär see beraber


beräber 'together' ◊ besberäber (TaS: ‹بگ برادر, بس برادر› (17th c.), ‹bes beräber› (18–19th c.)) See ‹basberäber› in 2.13.3 below.


büjük 'great' ◊ buşbüjük (Meninski 1680: v 39: بوز بچیک, ‹buz büjük›, Comidas de Carbognano 1794: 27: بوز بچیک)

See ‘biz butoun’ in 2.13.3 below.

cabuk ‘quick(ly)’ ◊ čabuk (Vefik Paşa 1890)


cürük ‘rotten’ ◊ čyrćiürük (Comidas de Carbognano 1794: 27: ‘چوپ چورک’، Özer 2008: 29)

cyplak ‘naked’ ◊ čýplak (Meninski 1680: ii 1593: ‘چم چپلاق’، Özer 2008: 29f)

demir ‘round’ ◊ desdemir (TaS: ‘دس درمی’ (16th c.))


dolajinje ‘around’ ◊ dosdolajinje (Meninski 1680: ii 2155: ‘دوپدز’)


See topdolgu in 2.13.3 below.

duru ‘clear, limpid’ ◊ dupduru (Mesψud: 641a: ‘تپتری’)


**Data**


**gök ‘blue’ ◊ gömgök** (TaS: ‘extremely’ 15th c., Németh 1916: 41: kom kök, göm-gök)

**götürü ‘all, whole’ ◊ gösgötürü** (TaS: and similar 16–17/18th c.)


**karšy ‘opposite’ ◊ kapkaršy** (TaS: qap qaršu, 14th c., Meşûd 618a: qap karšu, kap karšu)


**koğa ‘big, huge’ ◊ koskoğa** (Comidas de Carbognano 1794: qop qoğa, Jehlitschka 1895: qop qoğa, qop qoğa)


**kryyk ‘broken’ ◊ kypkyryk** (Comidas de Carbognano 1794: qop qurkyk)

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21 Erroneously extracted from gömgök deli in the example. See also top below.
kyvrak ‘firm’ ◊ kyskyvrak (Comidas de Carbognano 1794: 27: kys kyrák)
See māsmāvi in 2.13.3 below.
mor ‘violet’ ◊ mosmor (Comidas de Carbognano 1794: 27: mos mor, Jehlitschka 1895: 57: mos mor)
sāfi ‘pure’ ◊ sāmsāfi (Comidas de Carbognano 1794: 27: sám sfá, sām sa)
See sāmsāfi in 2.13.3 below.
See sāpsāry in 2.13.3 below.
sivri ‘pointed’ ◊ sipśivri (Comidas de Carbognano 1794: 27: sip sivri, sām sīfā)
syklam ‘wet’ ◊ syrsyklam (Jehlitschka 1895: 56: syr sykłam, Németh 1916: 41: syr-syklam)
syky ‘tight, firm’, ◊ symsyky (Jehlitschka 1895: 57: bpm bpm)
syrłak ‘smooth, sleek, glazed, shiny’ (DS) ◊ sypsyrłak (TaS: syp syrłak, 15th c.))
tamām ‘proper, right, just’ ◊ tāstamām (Comidas de Carbognano 1794: 27: tamām)
See tāstamām in 2.13.3 below.
tatlu ‘sweet’ ◊ tamatlū (TaS: tatlū, 15th c.))
tāze ‘fresh’ ◊ tamtāze (TaS: tamtāze, 16th c.))
temiz ‘clean’ ◊ tertemiz (Räsänen 1949: 239)
tolu see dolu
top ‘a round body’ ◊ tortop (TaS: tor-top, 17th c.), Németh 1916: 41: tor-top ‘completely round’
uzun ‘long’ ◊ ῥουζ (Meninski 1680: 1 481: ῥουζ uzun) ~ ῥουζ (Deny 1921: 236: ῥουζ uzun, Räsänen 1957: 74)
See ῥουζ in 2.13.3 below.

22 Perhaps erroneously extracted from a sentence; see also gök above.
2.13.3. SPECIAL CASES

**ap(p)ak** (Clauson 1972: 3 (14\textsuperscript{th} c.), TaS: اَپِ اَبَكَ (15\textsuperscript{th} c.), اَپِ اَبَكَ (15–16\textsuperscript{th} c.), von der Berswordt 1839: 11: اَپِ اَپِ اَکُ, Jehlitschka 1895: 57: اَپِ اَپِ اَکُ, Räsänen 1949: 239: اَپِ اَپِ اَکُ) ◊ **ak** ‘white’

This word is attested with two closing consonants: \( p \) and \( pp \). Strangely, double \( pp \) seems to only occur till the 16\textsuperscript{th} century, followed first by a gap in the 17\textsuperscript{th}–18\textsuperscript{th} century, and then by single \( p \) which does not appear before the 19\textsuperscript{th} century. Both forms seem to be even missing from Meninski’s large dictionary of 1680.

One is tempted to conclude that reduplication must have been productive in Ottoman at least as late as the 19\textsuperscript{th} century. This is not necessarily wrong; see *topdolu* below, and also 3.1.8 on double \( pp \).

**aphāzyr** (Meninski 1680: I 6: اَپُ حَاضِر، de Preindl 1790: 487: اَپِ حَازِر) ◊ **hazyr** ‘ready, prepared’

The two attestations are clearly missing the expected initial \( h- \). It seems that at least Meninski would have been too familiar with Ottoman for this shape to be ascribed to his mishearing.

More probably, it was the general lack of understanding of how exactly reduplication operates, that combined with the natural poor audibility of \( h \) to cause the modification of the anlaut, faithfully recorded by Meninski and later de Preindl.

It might be that e.g. *autā, angisi* or *epsindēn* written down by Ferraguto 1611: 216, 223 and 232 for *hafta, hangisi* and *hepsinden*, illustrate the same phenomenon rather than the author’s limited knowledge of Ottoman, that could be otherwise suspected.

See also 3.1.19 for other reduplications with anlaut not matching the base.

**basberāber** (TaS: اَپِ بَرَابِرِ, basberaber (17\textsuperscript{th} c.)) ◊ **barābar ~ berāber** ‘together’

The word stems from Pers. bārābar [bärābär], and existed in Ottoman with two vocalizations: *a-a-a* and *e-a-e* (VEWT, where vowel lengths have been omitted). Hence only the forms *basbarābar* and *besberāber* are to be expected in Ottoman.

Here, TaS most probably regarded the spelling with *ص* to be a sign of back vocalization, but it is not clear why the authors should suggest reading the base with *e-a-e* rather than with *a-a-a*. Perhaps an influence of modern Turkish phonetics? (See *berāber* in 2.16.2.)
biz butoun (de Preindl 1790: 19) ◊ bütün ‘all, whole’
This spelling is most probably a mistake. Note that the base bütün itself
is spelt ‹butoun› in this work until p. 475, but ‹butun› starting with p. 561,
and Arabic spelling, unfortunately, is not given at all. Also, one earlier and
four later sources, including von der Berswordt which is just 49 years later,
all only give shapes with ṭ in the reduplicated anlaut.

čymčyy ‘pure’ (TaS: جمچیج (16th c.))
The base *čyy does not seem to be attested. Possibly a variant of čak ~ čay
‘1. only, …; 2. exact(ly)’ (TaS (13–19th c.)?*

dardayan ‘scattered, cluttered, all over the place’ (TaS: طار طغان, tartağan,
dardağan) (15–19th c.), Mascis 1677: 87a: 〈dardaghan〉
The base *d[a]yan does not seem to be attested. The word dardayan is surely
linked to Ott. طابق داجماک ‘to disperse’ (Meninski 1680: 113070), دعده دغدغه
daydayet(t) i.a. ‘confusion, commotion’ (Meninski 1680: 112093f), and
dagdagan daydayan ‘1. dispersed; confused; 2. confusion’ (Menin-
ski 1680: 113070). Its exact etymology, and the nature of this relation, how-
ever, are not clear.

The shape dardayan most probably evolved from daydayan. It might have
been because the latter ceased to be morphologically transparent, or generally,
because C-type reduplication was a more common phenomenon than what-
ever process created daydayan, so that analogy, facilitated by phonetic sim-
ilarity, caused daydayan to shift to what was seen as a more regular shape.

As for daydayan, the first, and less probable possibility, is that it was
originally a germ of a separate type of reduplication where the first three
sounds are reduplicated and prepended to the base without any additional
element in between. There are more examples which might be interpreted
as supporting this idea (see 3.1.6) but it is more likely that, with perhaps
one exception, they are just a collection of special cases within the standard
C-type of reduplication.

The second, considerably more plausible possibility is that daydayan is
a phonetically simplified participe in -gan from an intensified causative of
dayytmak: *dayyt.a > *dayyt.a.yan > *dayt.a.yan (the syncope of a high vowel
in the middle syllable is natural in the Turkic languages) > dayd.a.yan, which
was finally reinterpreted as dar.dayan. The weak point of this proposition
is that it is based on the use of the -gan participe, which is rather atypical
of the Oghuz languages.

See also Trkm. duv dagyn ‘scattered, diffused’ in 3.1.10.
**dipdiňszüz** in \~ *ölmak* ‘to entirely lose one’s peace’ (TaS: دب دکر، dipdiňszüz‘ (15th c.))

The base *diň* does not seem to be attested. The word is probably linked in some way to Tat. *tyn* ‘quiet, peaceful’ and related forms (see Bshk. tynyk, *tyn, tynys*, Kklp. *tynyk*, Kzk. *tynyk*, *tynys*, Tat. *tymyzyk*, *tyn, tynyc* and Uigh. *teč*, *tin* and *tinc* in 3.1.11).

Semantically, this would seem to be a more plausible connection than دنسر *dinsyz* ‘without faith; infidel’ (Meninski 1680: 11 2218) or دکر *densyz* ‘unrestrained, lax, shameless’ (Meninski 1680: 11 2107).


Of the sources used here, this form is only attested in four, and neither of them marks vowel length in its Latin transcription, if the word has one. The Arabic spelling is the same in all cases, and suggests quite clearly a long ā in the reduplicated anlaut. This goes against the general Turkic practice (see 3.1.20).

A guess could be ventured that the spelling with ماس merely attempts to preserve the original orthography of the Arabic etymon (ماوی, see Nişanyan ÇTES), and to mark the relation between the two parts of the reduplication, rather than to faithfully reflect the Ottoman pronunciation.

This conjecture can be strengthened by the example of *sāry* attested as both صپ صاری and صاپ صاری, in this chronological order (see below). Likewise, the reduplicated vowel is short in Ott. *aphāzyr* and *tamtāze*, but it is at the same time spelt long in *sāmsāfī*, and surprisingly, in *tāstamām* (see below on both).

**öpuzun** (Meninski 1680: 1 481: اوپ اووزون) ◊ *uzun* ‘long’

The unusual reduplication is perhaps the result of fluctuations in labial vowels in 17th century Ottoman; see also اون *ojun* ~ *ōjn* ‘game’ and بوري *borî* ~ *bury* ‘tuba; acumen’ in Meninski 1680: 1 560 and 917, respectively. The choice of this specific shape might have been dictated by Meninski’s general preference for front variants, see e.g. his remarks on declensional suffixes: “Dativus […] pronuntiatur propriè e; fape autem, præfertim apud plebem, ut a” (Meninski 1680: v 26), “Ablativus […] den autem & ten regulariter pronuntiatur, fed plerumque, in vulgari præfertim fermone, profertut ut tan & dan” (v 27).

See also 3.1.19 for other reduplications with anlaut not matching the base.

**sāmsāfī** (Comidas de Carbognano 1794: 27: صام صاфи) ◊ *sāfi* ‘pure’

Apart from the stress, which Comidas de Carbognano for some reason marks consistently on the ultima, this form is unusual in that it appears to
have its vowel not shortened during reduplication. This is against the Turkic practice in general, and against the Turkish one in particular. Two more Ottoman words appear to reduplicate likewise (see māsmāvi and sāpsāry above and below), and in both cases it might be suspected that the long spelling is but an orthographic device to highlight the link between the base and the reduplicated anlaut. It seems plausible, that the case of sāmsāfī is no different. See also aphāzyr and tamtāze, but also the unusual tāstamām below.

◊ sary 'yellow'
The spelling of this form is inconsistent: the earlier versions suggest a short vowel in the reduplicated anlaut, and the later one a long one.

This chronology is rather fortunate for us here. Since shortening of the reduplicated vowel is considered here to be the oldest method (see 3.2.6 and 3.4.4), it would be groundless to assume a lengthening in Ottoman and subsequent reshortening of the vowel by the end of the 19th century. Rather, it seems that the ا in ضاب, صاب serves no other purpose than to orthographically emphasize the relation between the two parts of the reduplication.

Possibly, māvi and sāfī are parallel cases (see above), but see also the rather atypical tāstamām below.

sersebz (Pomorska 2013) ◊ sebz 'green'
The base sebz is clearly a borrowing from Pers. سبز sabz 'green' (Pomorska 2013). The reduplicated form is more puzzling. It is attested in modern Persian (سرسبز sarsabz 'very green; fresh; blooming; flourishing; prosperous; joyful'), it even has a simple derivative in it (سربزی sarsabzi 'freshness; prosperity; joy'), and the general direction of borrowing between Persian and Turkish is definitely from the former to the latter. However, C-type reduplication does not seem to be employed in Persian; I could not find mentions of it either in grammars (Moises 1792, Chodźko 1852, Boyle 1966, Windfuhr 1979, Mahootian 1997, Mace 2003) or in specialized papers (Ghaniabadi et al. 2006, Khanjan/Alinezhad 2010); see also 1.1.2.

It seems likely for sersebz to have been coined in Ottoman or to borrowed from Persian to Ottoman, and unlikely to have been coined in Persian or borrowed from Ottoman to Persian. It will be left out of the main flow of further considerations.
tastamām (Comidas de Carbognano 1794: 27: تاز تمّم) ◊ tamām ‘proper, right, just’
This form is quite extraordinary. In general, the long vowel in the reduplicated anlaut can be explained as a reduplication of more than just the initial mora (see 3.2.6 on morae), as a secondary lengthening, or as an inaccurate attestation.

Since the base comes from Ar. قَامُ tamām ‘complete, proper, right’ (Nişanyan ÇTES), and does not seem to have ever had its first vowel lengthened on the Ottoman ground, the first possibility must be excluded.

The second possibility (secondary lengthening) would have been unusual, but it is not entirely impossible. What appears to be parallel cases can be found in Dolgan and Yakut, e.g. Yak. būsbūtūn, ūnutary (see 2.21.4), and possibly also the unclear attestation آيئي in Ibn-Muhannâ’s dictionary (see 2.1.3).

Finally, the third option (inaccurate attestation) seems to be quite likely. This explanation has been assumed in the cases of Ott. māsmāvi, sāmsāfī, and sāpsāry (see above), the last of which happens to provide a convenient chronological argument in favour of this interpretation.

At present, the final answer cannot be given. It might seem that there did exist in Ottoman something like an orthographic tradition of spelling the reduplicated vowel long, but actual material support for it is weak. Parallel cases of secondary lengthening, likewise, can only be found in geographically very remote and barely related languages.

This reduplication is quite unusual in that the reduplicated anlaut often does not match the anlaut of the base. As many as four combinations are attested: t-t (14th c.), t-t (17th c.), t-d (17th and 19th c.), and d-d (18th–19th c.).

It seems as if the change t- > d- occurred between the 14th and 17th century in the base, but the reduplication has not caught up with it until the 19th century. The Arabic spelling generally does not reflect this differentiation, and employs ط for both places.

This suggests that the voicing in dopdolu occurred later than would have been expected by Doerfer 1975–76: 121; see fig. 2.5.
However, Doerfer’s impression (p. 124) is that “… kommt bei all solchen Wörtern vor, auf denen ein starker Nachdruck ruht, […] oder die Dinge mit starkem Gefühlssakzent […] bezeichnen”. This is accurately confirmed by what can be found in Meninski 1680, where dolu is always given with $d$-

\[
\begin{align*}
\text{do} & \text{ly} (\text{ii} 2190), \\
\text{do}l & \text{y} (\text{ii} 3122), \\
\text{do} & \text{ly} (\text{ii} 3153), \\
\text{to} & \text{tolu} (\text{ii} 3154), \\
\text{to}p & \text{tol}u (\text{ii} 3135)
\end{align*}
\]


Figure 2.5. Voicing of Oghuz initial $t$: 1. (above the line) according to Doerfer 1975–76: 121, in a back (‘A’) and front (‘E’) environment, and 2. (below the line) as observed in dopdolu ‘absolutely full’. The abbreviation ‘as.’ denotes assimilation caused by a voiceless consonant occurring later in the word. Small caps $d$ is for ‘half-voiced $d$’.

 Apparently, four tendencies were at play here: 1. voicing of initial $t$ $->$ $d$; 2. reluctance of 1. to occur in emphatic words; 3. assimilation to the following voiceless consonant (here -p- or -pr-), and 4. desire for morphological transparency of reduplications.

With this conclusion, it might seem, the case can be closed. However, there are more reduplications in Ottoman which begin with $d$-, and do not display similar variation: degirmi, diri, doyru, dolajinğe, duru, and düz.

One possible explanation of the uniqueness of the behaviour of dopdolu is that the reduplicated to.p- happens to have a form identical to top ‘ball, sphere’ which, accidentally, is a semantically conceivable attributive for ‘full’. The word might have been at some point in time reinterpreted as *top tolu* lit. ‘ball-full’, i.a. ‘full like a ball = completely full’, and thus have its phonetic evolution stalled.

Naturally, it must be kept in mind that the above considerations depend solely on the accuracy of romanized attestations. To ascertain this, however, research extending far beyond the scope of the present work would be necessary.

See also 3.1.19 for other reduplications with anlaut not matching the base.
Four closing consonants of C-type are attested in a total of 58 examples derived from 54 unique bases, in a relatively even distribution:

**m:** 13 examples: bejaz, boš, čyplak, düz, gök, jaš, jassy, ješil, sāfī, sījāh, syky, tatly, and tāze,

**p:** 25 examples: ačyk, ak, alaǯa, ansyz, ary, čevre, čürük, diri, dolu, duru, düz, eji, hāzyr, jalynyz, jassy, kara, kārį, kuru, kyrmyzy, kyryk, kyzyl, sary, sivři, syrlak, and uzun,

**pp:** 1 example: ak,

**r:** 5 examples: čabuk, čyplak, syklam, temiz, top, and

**s:** 14 examples: belli, berāber, bū̀jųk, bū̀tûn, degirmi, doyru, dolajinǧe, götürü, katy, koǯa, kyvrak, māvi, mor, and tamām.

Apart from ak with a single and double p, only three words have more than one closing consonant possible: čyplak (m and r), and düz and jassy (both m and p).

The first vowel of the base is long in five cases: hāzyr, māvi, sāfī, sāry and tāze.

In the first and the last one, it clearly has been shortened in the reduplication. The cases of māvi, sāfī, and sāry are more ambiguous, and possibly parallel; see mās-māvi, sāmsāfī, and sāpsāry in 2.13.3 above. Rather unusual is the case of tās tamām, where the reduplicated vowel appears to have been actually lengthened; see tās tamām in 2.13.3 above. See also 3.1.20 on shortening of the reduplicated vowel in general.

Beside the shortening of long vowels, the reduplicated anlaut does not exactly match the head of the base in four cases: aphāzyr, 〈biz butoun〉, öpuzun, and topdolu. See 2.13.3 above.

One unexpected finding that needs to be made note of is accent. In all the sources used in the present work, not just the Ottoman, whenever accent is discussed or marked in the examples, it is said to fall on the reduplicated anlaut. Here, however, Comidas de Carbognano 1794 consistently marks it on the final syllable, and Jehlitschka 1895 – assuming that acute denotes accent in his notation, which he does not clarify – transliterates two of his examples as 〈apańñźyz〉 and 〈büșbüțûn〉, and the remaining twenty as two words, the second of which (the base) has an acute on its final syllable, if it is not monosyllabic.

At the same time, no other source seems to make a statement about accentuation of reduplications at all.

The only possible conclusion, it seems, is that Ottoman reduplications were stressed on the final syllable, which is inconsistent with what we find in modern Turkish and, in fact, any other Turkic language. The situation is not sufficiently clear for me to attempt final judgements.
In all likelihood, the data collected here are incomplete, and must be considered an illustration rather than a solid base for far-reaching conclusions which, accordingly, will not be drawn in the present work.

The main reason for this supposition is that reduplications are primarily emotional formations, and a greater part of them was most probably considered just as, or even more colloquial in the Ottoman period as they are now. The lexicographical practice of the time tended to be highly selective and only focus on what was considered to be the beautiful variety of the language. Many reduplications might have been discarded, or even unknown to the authors of dictionaries.

But it is also intriguing that the Ottoman collection is just about a quarter of the size of that of modern Turkish. (Ottoman has 58 examples, seven of which are no longer attested in the 176-strong Turkish set; see 3.4.6 for a comparison.) It does not seem plausible, that the 133 reduplications which mark the difference between the two collections should all have been coined during the 20th century, more than tripling the stock accumulated over the previous ten centuries. Especially so, as in the 21st century reduplication is considered to be essentially not productive any longer.23

In reality, however, apparently only about 84 examples are in actual widespread use across the territory of modern Turkish (see 2.16.4). The other half of the collection is, it seems, territorially or otherwise limited, and so probably not inherited directly from (literary) Ottoman.

Thus, the gap in attestations between Ottoman and Turkish can be estimated at about forty reduplications. A part of this group has probably entered literary Turkish from dialects after 1928, and possibly some might have also been coined after that date, but their exact number seems impossible to establish based on the data collected here, just as it is impossible to estimate the number of reduplications that might have arisen and gone out of use unrecorded, both entirely during the Ottoman period.

See 3.4.6 for another argument supporting these conclusions.

2.13.5. Semantics

The reduplicated meaning is almost always a simple intensification or the same as the base meaning. The only exceptions are: the meaning of dümdüz in von der Berswordt 1839: 12 (‘entirely conjunct’) which, in the light of the other attestations, appears to be imprecisely extracted from some sentence the author used

23 Although, there exist examples such as hyphyzly ‘very fast’ or koskomik ‘very funny’, which can be found e.g. in the TS Corpus (Sezer [draft]) or the Turkish National Corpus (Aksan et al. 2012), but are apparently missing from traditional dictionaries. Their number and status are not clear.
as the source, and what seem to be two mistakes of the same kind in TaS in gömgök (‘extremely’) and tortop (‘derlenip toparlanmış olarak’).

The only word that is not clearly an adjective or an adverb, is top ‘a round body’ (→ ‘completely round’). Taking into account, however, how porous the border between adjectives and nouns is in Turkic, it hardly is an improbable example.

2.14. Shor

Very few C-type reduplication are attested in Shor, pronouncedly less than in Khakas and Tuvinian, or even Oirot. Only one closing consonant can be observed. All examples are adjectives or adverbs, and no non-trivial semantic evolutions are to be seen. It is only the derivatives of ak ‘white’ and kök ‘blue’ in 2.14.3 that are more unusual.

2.14.1. Sources

Sources for Shor are scarce. Here, Čispijakov 1992: 106, Dyrenkova 1941: 78, Kürpeşko Tannagaševa / Akalın 1995 (ca. 4000 entries), and Ščerbak 1977: 120 have been used, and some further attestations have also been found in Schönig 1998b: 408 and Stachowski M. 1998b: 109.

Dyrenkova 1941: 78 gives a rather imprecise description of the formation of reduplications in Shor. Namely, it states that adjectives have a syllable prepended to them, whose “первые два звука […] тождественны с первым слогом этого качественного имени, а последний согласный — губной п”, in spite of apak being given as an example just four lines below. She also suggests that reduplications might stem from doubled adjectives, as in cön cön lit. ‘fat fat’ = ‘very big, very fat’.

Čispijakov 1992: қ → қ,
Dyrenkova 1941: ә → ә | қ → қ | ө → ө | ы → ү | VV → Ы,
Schönig 1998b: қ → қ,
Shors: ɪ → ɨ | ş → ʂ,

2.14.2. Standard cases

ak ‘white’ ◊ apak (Dyrenkova 1941: 78, Ščerbak 1977: 120, Čispijakov 1992: 106)

See apagaš in 2.14.3 below.

apagaš ‘snow-white’ ◊ apapagaš (Dyrenkova 1941: 78)

See apagaš in 2.14.3 below.
kök ‘blue’ ◊ köpkgök (Dyrenkova 1941: 78)
kyzyl ‘red’ ◊ kypkyzyl (Dyrenkova 1941: 78, Čispikov 1992: 106, ShorTS)
saryg ‘yellow’ ◊ sapsaryg (Dyrenkova 1941: 78, Čispikov 1992: 106)
tegen ‘to no avail, in vain’ ◊ teptegen (Dyrenkova 1941: 78, Čispikov 1992: 106, ShorTS)

2.14.3. Special cases

In Khakas, Shor and Oirot, ak and kök have grown into entire families of 17 or 18 forms in total. The patterns are very similar and often the commentary for Oirot, mutatis mutandis, also applies for Shor. See 2.12.3 for more commentary, and also 3.1.11 for other such families.

apagaš (Dyrenkova 1941: 78, Stachowski M. 1998b: 109) ◊ ak ‘white’

Similarly to Oir. apagaš in 2.12.3, this form is derived by Dyrenkova 1941: 78 and Stachowski M. 1998b: 109 from ap- + ak + -aš, which is very plausible. Here, too, -aš is a diminutive suffix (see Dyrenkova 1941: 32 (§6) and SchorTS), and, in absence of *ag|kaš, must be concluded to have been added to the already reduplicated form.

Two more forms are linked to this one: appagaš above and apapagaš below, and can be presented as in fig. 2.6.

See also köpegeš for similar examples with kök ‘blue’.

\[
\begin{align*}
\text{apak} & \rightarrow + \text{-aš} \rightarrow \text{apagaš} \\
*\text{appak} & \rightarrow + \text{-aš} \rightarrow ? \rightarrow \text{appagaš} \\
\end{align*}
\]

Figure 2.6. Reduplications of Shor ak ‘white’ &c.

apapagaš (Dyrenkova 1941: 78) ◊ ak ‘white’

This word is a re-reduplication of apagaš above, resulting in a triple intensification (two reduplications and one diminutive), perhaps due to the emphatic erosion of the original apak. See apagaš above, and also 3.1.13 for parallel examples.

appagaš (Dyrenkova 1941: 78, SchorTS, Stachowski M. 1998b: 109) ◊ ak ‘white’

Mutatis mutandis, the commentary to Oir. appaš in 2.12.3 applies. See apagaš above.
köpegeš (Dyrenkova 1941: 78, Stachowski M. 1998b: 78) ◊ kök ‘blue’

Similarly to Oir. köpö göš &c. in 2.12.3, this form is most probably a composition of köp- + kök > köpkök + -aš (diminutive, see Dyrenkova 1941: 32 (§6), ShorstS, and Stachowski M. 1998b: 78). Here, too, *kegeš and *kögeš do not seem to be attested, suggesting reduplication was applied before the diminutive.

Interesting, however, is the vocalism of this form and of the related köppegeš below, which seems to imply backward propagation of harmony from the suffix (-aš) to the stem (köpkök). Similarly in Khak. köppeges (see 2.9.3).

See apagaš above for a similar set of examples based on ak ‘white’.

köppegeš (Dyrenkova 1941: 78, Stachowski M. 1998b: 78) ◊ kök ‘blue’

Mutatis mutandis, the commentary to Oir. köppøš in 2.12.3 applies, plus the remark on what appears to be backward harmony in köpegeš above.

2.14.4. Structure

One closing consonant of C-type is attested in a total of seven examples derived from seven unique bases:

\[ p: 7 \text{ examples: ak, apagaš, kara, kök, kyzyl, saryg and tegen.} \]

2.14.5. Semantics

All reduplicated meanings are simple intensifications of their bases. Parts of speech other than adjectives and adverbs do not occur.

2.15. Tatar

Tatar reduplications are moderately numerous, and quite uniform.

Three closing consonants are attested, but one can only be found in one word (pp with ak), another in just three (m with jäšel, kük and tügäräk), and the remaining 55 cases, i.e. 93% of the entire stock, are all closed with p. See 2.15.4.

Also semantically are Tatar reduplications quite standard. Non-adjectives or non-trivial evolutions effectively do not occur. See 2.15.5.

Perhaps only the case of čepči ‘completely raw, …’ and its phonetic anomaly in the reduplicated anlaut stands out from the general picture. See 2.15.3.
2.15.1. Sources

The main source of the material is TatRS which contains ca. 38,000 entries. Some attestation have also been found in Berta 1998a: 284, Pallas 1786–89, Pomorska 2004: 144, Räsänen 1957: 74, Ščerbak 1977: 120, Serebrennikov/Gadžieva 1986: 112, and in the grammars listed below.

For grammatical descriptions, Latypov 1969: 173f and TatGramm: 69 have been used.

The information is Latypov 1969: 173f is presented from the perspective of intensification in general, and the description of reduplication is reduced to a few examples and a statement that not all adjectives can be thus intensified. Interestingly, however, the process is considered prefixation rather than reduplication – which, up to a point, justifies the inclusion of ör-jaŋ ‘completely new’ among what are in fact reduplications; see Bshk. örjaŋy in 2.3.3.

In TatGramm: 69, the perspective is the same, but here, intensification is considered to be carried out “при помощи однослоенных усилительных слов”. Only three examples are given: apak ‘snow-white’, in avyr ‘very heavy’ and örjaŋ ‘brand-new’. It is also noted that stress is initial in such formations.

Latypov 1969, TatGramm, TatRS: ø → ä | h → h |ŋ → ŋ | ö → ŋ | ü → ü | ө → ö | ю → ju, jü |

Berta 1998a: e → ä | đ → e | q → k | y → j,
Pallas 1786–89: x → χ | b → ignored,
Ščerbak 1977: i → e,
Serebrennikov/Gadžieva 1986: a* → a | ө → k.

2.15.2. Standard cases

äče ‘bitter; sour’ ◊ äpäče (Ščerbak 1977: 120)
ačyk i.a. ‘light, bright’ ◊ apačyk (Räsänen 1957: 74, TatRS)
ajaz ‘clear, serene, bright’ ◊ apajan (TatRS)
aχ see ak
ak ‘1. white; 2. grey; 3. clean, pure; 4. happy, cheerful’ (TatRS) ~ aχ ‘white’ (Pallas 1786–89 s.v. бяло: ахь) ◊ apak ‘very white’ (TatRS, Latypov 1969, TatGramm: 69, Berta 1998a: 284) ◊ appax (Pallas 1786–89 s.v. было: Tobolsk annexь) ~ *appak (TatRS and Tekin 1971: 227: only attested in appagym ‘my little white one’)
See appagym in 2.15.3 below.
aryk ‘very slim, skinny’ ◊ aparyk (TatRS)
az ‘little, few’ ◊ apaz (TatRS)
buš ‘empty, free’ ◊ bupbuš (TatRS)
či ‘1. raw, half-baked; 2. round, complete, true; 3. dial. immature, unripe’ ◊ čepči
‘1. intens.; 2. =; 3. inveterate, double-dyed, genuine’ (TatRS)
See čepči in 2.15.3 below.
čibár ‘beautiful’ ◊ čipčibár (TatRS)
čista ‘clean’ ◊ čipčista (TatRS)
čuar ‘motley’ ◊ čupčuar (TatRS)
čyn ‘true, faithful, accurate, certain’ ◊ čypčyn (TatRS)
döres ‘true, faithful, accurate’ ◊ döpdöres (TatRS)
gadi ‘simple, normal, ordinary’ ◊ gapgadi (TatRS)
jakty ‘light(ing)’ ◊ japjakty ‘very light, very bright’ (TatRS)
jakyn ‘close, near’ ◊ japjakyn (TatRS)
jalangač ‘naked, stripped’ ◊ japjalangač (TatRS)
jäš ‘young’ ◊ jäpjäš (TatRS, Latypov 1969)
jäšel ‘green’ ◊ jämjäšel (TatRS, Latypov 1969, Berta 1998a: 284)
Pallas 1786–89 sv. зелено lists ямьяшь for the Tobolsk region. The intended form is probably the same.
jomry ‘round’ ◊ jopjomry (TatRS)
jomšak ‘soft’ ◊ jopjomšak (TatRS)
juan ‘thick, stout’ ◊ jupjuan (TatRS)
juas ‘meek, gentle, soft’ ◊ jupjuas (TatRS)
jües ‘1. wet; 2. raw’ ◊ jüpjües (TatRS)
jumart ‘generous’ ◊ jupjumart (TatRS)
käkre ‘crooked’ ◊ käpäkre (TatRS)
kara ‘black, dark’ ◊ kapkara (TatRS, Latypov 1969, Serebrennikov/Gadžeiva 1986: 112)
karanęg ‘dark(ness)’ ◊ kapkaranęg (TatRS)
katı ‘hard, solid’ ◊ kapkatı (TatRS)
kory ‘dry’ ◊ kopkory (TatRS)
kük ‘blue’ ◊ kümkük (TatRS, Ščerbak 1977: 120)
kyska ‘short’ ◊ kypkyska (TatRS)
kytynś ‘rough, coarse’ ◊ kypkytynś (TatRS, Pomorska 2004: 144)
kyzyl ‘red’ ◊ kypkyzyl (TatRS, Latypov 1969, Pomorska 2004: 144)
načar ‘bad’ ◊ napnačar (TatRS)
näzek ‘thin’ ◊ năpnäzek (TatRS)
salkyn ‘cold, frosty, chilly’ ◊ sapsalkyn (TatRS)
šară ‘i.a. ‘naked, bald’ ◊ šăpšară (TatRS)
sary ‘yellow’ ◊ sapsary (TatRS)
simez ‘fatty, greasy’ ◊ sipsimez (TatRS)
šoma ‘smooth’ ◊ šopšoma (TatRS)
sory ‘grey’ ◊ sopsory (TatRS)
takyř ‘smooth, even’ ◊ taptakyř (TatRS)
taza ‘healthy, sturdy’ ◊ taptaza (TatRS)
tekä ‘steep’ ◊ teptekä (TatRS)
tīgez ‘smooth, even’ ◊ tiptīgez (TatRS)
tīn ‘equal, similar’ ◊ tiptīn (TatRS: only attested in ~ bulu ‘to be identical’)
tūgārāk ‘round’ ◊ tümtūgārāk (TatRS) ◊ tüptūgārāk (TatRS)
  See 3.1.4 on m as the closing consonant in Tatar.
tuly ‘full’ ◊ tuptuly (TatRS)
tury ‘straight, direct’ ◊ tuptury (TatRS, Latypov 1969)
tygyz ‘tight, narrow’ ◊ typtygyz (TatRS)
tymyzyk ‘quiet, peaceful’ ◊ typtymyzyk (TatRS)
  See 3.1.11 on possible cognates.
tyn ‘quiet, peaceful’ ◊ typtyn (TatRS)
  See 3.1.11 on possible cognates.
tynyč ‘quiet, peaceful’ ◊ typtynyč (TatRS)
  See 3.1.11 on possible cognates.
zānger ‘blue’ ◊ zāpzānger (TatRS)
žiņel ‘light’ ◊ žipžiņel (TatRS)
žīly ‘warm’ ◊ žipžīly (TatRS)

2.15.3. Special cases

appagym ‘my little white one’ (TatRS, Tekin 1971: 227) ◊ ak ‘1. white; 2. grey;
3. clean, pure; 4. happy, cheerful’
Beside the concrete meanings ‘white’ and ‘grey’, ak also has a number of
figurative ones. It also has two separate reduplications, apak and appak, and
it appears that each only intensifies one aspect of its semantics: p is literal,
and pp is figurative.
  See 3.1.2 for similar examples in other languages.
čepči ‘1. intens.; 2. =; 3. inveterate, double-dyed, genuine’ (TatRS) ◊ či ‘1. raw,
half-baked; 2. round, complete, true; 3. dial. immature, unripe’
The shape čep seems to only be attested in this form, and in čep-čep (= čip-čip)
‘chuck chuck (a noise made when calling chicken)’. On the other hand, či is
the literary shape which exists along the dialectal variant čēj (so transcribed
by Berta 1989: 267f). The reason behind the difference in the vowels is not
clear to me. It is, however, beyond the scope of the present work, and so it
will be ignored here, and the word included in further considerations.
  See also 3.1.19 for other reduplications with anlaut not matching the base.
2.15.4. Structure

Three closing consonants of C-type are attested in a total of 59 cases derived from 57 unique bases, in a rather one-sided distribution:

- **m**: 3 examples: jäšel, kük, and tügäräk,
- **p**: 55 examples: äče, ačyk, ajaz, ak, azyk, az, buš, či, čibär, čista, čuar, čyn, döres, gadi, jakty, jakyn, jalangač, jäs, jomy, jomšak, juan, juaš, jüeš, jumart, käkre, kara, karangy, katy, kory, kyska, kytyrşy, kyzyl, načar, näzek, salkyn, särä, sary, simez, sorna, sory, takyr, taza, tekä, tigez, tiŋ, tügäräk, tuly, tury, gygyz, tymyzyk, tyn, tynyč, zänger, žiŋel, žyly, and
- **pp**: 1 example: ak.

Two words have more than one closer possible: ak ~ aχ (p and pp) and tügäräk (m and p).

Perhaps noteworthy is also the pair jäš → jäpjäš, jäšel → jämjäšel, where the closing consonant appears particularly clearly to be entirely independent from the phonetic shape of the rest of the word.

2.15.5. Semantics

In the great majority of cases, the reduplicated meaning is a simple intensification of the base meaning, or apparently the same.

As far as the distinction between adjectives and other nomina can be drawn in Turkic, all examples are of quite distinctly adjectival character.

2.16. Turkish

C-type reduplications are much more numerous in Turkish than in any other Turkic language. In fact, unrealistically so; see 3.2.2. They are also quite diversified, second only to the neighbouring Azeri – in which, however, the examples are fewer by almost two thirds – and to Yakut, where they are fewer by almost a half.

Four closing consonants are attested. With 101 examples, p is decidedly the most common, followed by s in 38 words, m in 29, and r in just 8. In as many as sixteen examples, more than one closing consonant is possible. The long vowel in the stem is regularly shortened in the reduplication. See 2.16.4.

Semantic evolutions are very rare and very moderate in Turkish reduplications. Apart from a handful of half-substantival bases, only adjectives and adverbs can be reduplicated. See 2.16.5.
Special cases are neither numerous nor intricate. This might surprise, seeing how many examples there are in total. The most interesting ones are perhaps kőskütük ‘completely drunk’, perperišan ‘in utter disarray, …’ and tamtakyr ‘completely empty’. See 2.16.3.

2.16.1. Sources

The main sources of the material are Hatiboğlu 1973 and Müller 2004 (see below for the latter). Some additional attestations and new examples have also been found in later works (Balci 2006 and Stachowski M. 2009), and two earlier ones but not included in Hatiboğlu 1973 and Müller 2004 (Kononov 1956 and Ščerbak 1977: 120).

To the best of my knowledge, Hatiboğlu 1973 was the first extensive study of Turkish C- and CV-type reduplications. Her focus was primarily on establishing synchronic, phonetic rules of distribution of closing consonants. See 1.1.3.

Müller 2004 is the second, and newest, extensive study. Based on his annotation, his main source (47% of the examples) is Steuerwald 1972 or 1974 (not clear from Müller 2004: 85 and 353). 23% of the examples are marked as coming from Hatiboğlu 1973 (in reality she lists 74.27% of the reduplications in his collection), and 14% are from Wedel 2000 and 2003#. The remaining 16% are scattered across ten sources. A list is given in Müller 2004: 353–357, but it has many gaps. More examples can be found on pp. 86f, 109, 119, 155 and 218f.

Müller considers Wedel’s examples to be unreliable (p. 218) and as to this, I could not agree with him more. They are included in the list in 2.16.2 for the record but marked with a question mark and excluded from further considerations, even if some appear to be considerably more believable than others (e.g. japjašly ‘very old’ or koskomik ‘very funny’ which are apparently missing from traditional dictionaries but can be found in the TS Corpus (Sezer [draft]) and the Turkish National Corpus (Akşan et al. 2012)).

Meanings are sometimes given in a slightly particular way in Müller 2004, e.g. čanly ‘glockenförmig’. To avoid irrelevant digressions on German and other semantic fields, I will simply ignore them here and provide my own translations, based mostly on Alderson/İz 1959, Podolak/Nykiel 2008, and Redhouse 2001.

Finally, I added the notation of length in vowels which Müller ignores completely, based primarily on BTS.

The literature on reduplication in Turkish is relatively vast. The majority struggles to establish synchronic phonetic rules describing the choice of the closing consonant in modern Turkish. As such, it is of rather limited use here (see 3.4.1f
for reasons). Müller 2004 is the newer one of the two bigger studies, and by far the most comprehensive of all. See 1.1.3 for more about this and other works.

Müller reviews many previous trials mundanely pointing out the constantly recurring weaknesses (p. 90–106, especially 96f), but focuses primarily on Hatiboğlu 1973 and Demircan 1987 and 1989. He discusses the three thoroughly and demonstrates their rules to be insufficient or imprecise (pp. 118–133). He then builds on them his own set of seven rules (p. 149f) and, perhaps not entirely realizing it, proceeds to disprove these, too (p. 251f).

His rules are purely synchronic and based solely on phonetics. This is their first weakness. Knowing that sixteen words have more than one closing consonant possible (e.g. jesjeni : jesjeni ‘brand-new’, see 2.16.4) suffices to realize even before setting to formulate the first rule that the enterprise is already doomed, and the best it can yield are tendencies. See 3.4.1 for more on the subject.

Secondly, although Müller goes out of his way (p. 156f) to produce a phonetic motivation for his phonetic rules, the results must be judged dubious at best simply because they so often fail to match the actual attestations (in about a fifth of the times, see argument six below).

Thirdly, information about the shortening of the reduplicated vowel (as in tāze → *tāptāze → taptāze ‘very fresh’) is missing entirely.

Fourthly, in some cases, the rules are mutually exclusive. For example, Regel E (see the appendix) assigns s as a possible alternative to p in such words as berrak ‘limpid, clear’ or ḏāynyk ‘scattered, dispersed’ but at the same time, it also assigns to them m “und kein anderer Laut”. (The actual reduplications are besberrak and ŏapdānyk.)

Fifthly, exceptions appear in almost all the critical points. In fact, the ‘rule’ for r (Regel F) is nothing but a list of exceptions. This is consistent with the evident general overfitting of the rules (see the second argument above).

Last but not least, if one counts affricates as Zischlaute, which Müller apparently does,24 21% out of the 165 reduplications he used as the base to formulate his rules, are described incorrectly. It needs to be admitted, however, that this number drops to mere 6% if the unfortunate restriction is removed from the rule for m (“m (und kein anderer Laut”)”. But again, the rules for m and s then become just optional alternatives for p, and the rule for r already contains nothing but exceptions.

Thus, Müller’s rules can be either plain wrong (incorrect for 21% of examples), or for all practical purposes reducible to one, single rule as follows:

---

24 See e.g. “[…] keine Zischlaute (von den Affrikaten c in […] und ç in […] und von ş in […] abgesehen)” (p. 151).
“the closing consonant in Turkish is p, m, s or r, the latter in the following eight words only: …”.

Altogether, Müller’s effort appears to have been severely mislaid. He decided nonetheless to test the predictive power of his rules. The results are significant in the statistical sense of the word; for further details see the appendix. See also 1.1.3 for more commentary on Müller’s work.

To some extent, the choice of the closing consonant in Turkish reduplications can be correlated with the phonetic shape of the base, but formulation of rules in the proper sense of the word is not possible. See the appendix for the tendencies as described by Müller 2004 and for my own test.

Ščerbak 1977: š → e | š → š, j | ĭ → ĭ.

2.16.2. Standard cases

Most examples attested in Müller 2004 can be found on multiple pages. Below, only the lowest numbers are given.

ajdynlyk ‘light(ness), illumination’ ◊ apajdynlyk (Hatiboğlu 1973)
ajny ‘the same, identical’ ◊ apajny (Stachowski M. 2009: 116)
alaža ‘motley, multicoloured’ ◊ apalaža (Hatiboğlu 1973, Müller 2004: 353)
ā,yr ‘heavy, serious’ ◊ apā,yr (Hatiboğlu 1973, Müller 2004: 353)
bajat ‘stale’ ◊ basbajat (Müller 2004: 353)
berâber ‘together’ ◊ besberâber (Hatiboğlu 1973, Müller 2004: 353)
berrak ‘limpid, clear’ ◊ besberrak (Hatiboğlu 1973, Müller 2004: 354)
See also bešbeter in 2.16.3 below.
bež ‘beige’ ◊ bembež (Müller 2004: 218 after Wedel)
bok ‘shit(ty), crap(py)’ ◊ bombok (Hatiboğlu 1973, Müller 2004: 354)
boz ‘grey’ ◊ bomboz (Hatiboğlu 1973, Müller 2004: 354)
buruš ‘wrinkle, crease’ ◊ bumburuš (Müller 2004: 354)
buz ‘ice(-cold), glacial’ ◊ bumbuz (Müller 2004: 354)
čanly ‘having a bell’ ◊ čapčanly (Müller 2004: 218 after Wedel)
See čerčeve in 2.16.3 below.
čilk ‘?’ ◊ čimčilk (Müller 2004: 219 after Wedel)
čirkin ‘ugly’ ◊ čipčirkin (Hatiboğlu 1973, Müller 2004: 354)
čürük ‘rotten’ ◊ čümčürük (Müller 2004: 109)
Čybył ‘churn’◊ čyščybył ‘?’ (Müller 2004: 219 after Wedel)
Čybyldak ‘?’◊ čyščybyldak ‘?’ (Müller 2004: 219 after Wedel)
See čyščybyldak in 2.16.3 below.
Čybyvyk ‘?’◊ čyščbyvyk ‘?’ (Müller 2004: 219 after Wedel)
See dap|sdara|yk in 2.16.3.
Dā|ynyk ‘scattered, dispersed’◊ dapdā|ynyk (Müller 2004: 354)
Dejirmi ‘round’◊ dese|dejirmi (Hatiboğlu 1973, Müller 2004: 354)
Dinč ‘vigor|ous, fresh’◊ dipd|inč (Hatiboğlu 1973, Müller 2004: 354)
Durgun ‘still, stagnant’◊ dupd|urgun (Hatiboğlu 1973, Müller 2004: 119)
Dür|ü ‘roll(ed up)’◊ dupd|ür|ü (Hatiboğlu 1973, Müller 2004: 354)
Dyzlak see dazlak
Ejri ‘crooked, bent, awry’◊ epe|jri (Hatiboğlu 1973, Müller 2004: 354)
Ekši ‘sour’◊ epekši (Hatiboğlu 1973, Müller 2004: 354)
Erken ‘early’◊ eper|ken (Hatiboğlu 1973, Müller 2004: 355)
gergerin ‘tense, tight, nervous’ ◊ gepgergin (Hatiboğlu 1973, Müller 2004: 355)
geçe ‘(at) night’ ◊ gepgeçe (Hatiboğlu 1973, Müller 2004: 355)
gök ‘1. sky; 2. blue’ ◊ gömgök (Hatiboğlu 1973: no meaning given, Müller 2004: 355: ‘very blue’)
götürü ‘(in a) lump sum’ ◊ gösgötürü (Hatiboğlu 1973, Müller 2004: 355)
güdük ‘stubby, squat’ ◊ güsgüdük (Müller 2004: 355)
gündüz ‘(at) daytime’ ◊ güpgündüz (Hatiboğlu 1973, Müller 2004: 355)
gür ‘abundant, dense, stentorian’ ◊ güpgür (Hatiboğlu 1973, Müller 2004: 355)
hyzly ‘fast, rapid’ ◊ hyphyzly (Müller 2004: 219 after Wedel)
ibiş ‘idiot, fool’ ◊ ipibiş (Müller 2004: 355)
iri ‘large’ ◊ ipiri (Hatiboğlu 1973, Müller 2004: 355)
işsiz ‘unemployed, jobless’ ◊ ipişsiz (Müller 2004: 355)
jabanţy ‘foreign, alien’ ◊ japjabanţy (Müller 2004: 357)
jakyn ‘close, near’ ◊ japjakyn (Müller 2004: 357, Stachowski M. 2009: 119)
jakyšykly ‘handsome’ ◊ japjakyšykly (Müller 2004: 219 after Wedel)
janlyş ‘wrong, incorrect’ ◊ japjanlyş (Hatiboğlu 1973, Müller 2004: 357)
jaryk ‘cleft, cracked’ ◊ japjaryk (Müller 2004: 357)
jaşly ‘elderly, old’ ◊ japjasly (Müller 2004: 219 after Wedel)
jaşyl ‘green’ ◊ japjasyl (Müller 2004: 357)
See ješil above, and 3.1.11.
javaş ‘slow(ly), leisurely’ ◊ japjavaş (Müller 2004: 219 after Wedel)
◊ jesjeni (Müller 2004: 357, Stachowski M. 2009: 119)
See jašyl above, and 3.1.11.
jō,un ‘dense, intense’ ◊ jopjō,un (Müller 2004: 219 after Wedel) ◊ josjō,un (Hatiboğlu 1973, Müller 2004: 357)


jumuşak ‘soft’ ◊ jusjumuşak (Hatiboğlu 1973, Müller 2004: 357)


kahve ‘brown?’ ◊ kapkahve (Müller 2004: 219 after Wedel)

kalyş ‘thick, dense, stout’ ◊ kapkalyn (Hatiboğlu 1973, Müller 2004: 355)

kapaly ‘closed’ ◊ kapkapaly (Müller 2004: 219 after Wedel)


kel ‘bald, hairless’ ◊ kepkel (Hatiboğlu 1973, Müller 2004: 355)

kirli ‘dirty, soiled’ ◊ kipkirli (Hatiboğlu 1973, Müller 2004: 355)


komik ‘funny’ ◊ koskomik (Müller 2004: 219 after Wedel)

kör ‘blind’ ◊ kömkör (Hatiboğlu 1973, Müller 2004: 355)

kötü ‘bad’ ◊ köpkötü (Hatiboğlu 1973, Müller 2004: 355)


koğa ‘old, large’ ◊ koskoğa ‘very large’ (Hatiboğlu 1973, Müller 2004: 355, Stachowski M. 2009: 118)


küçük ‘small’ ◊ küküçük (Müller 2004: 355) ◊ küsküçük (Müller 2004: 219 after Wedel)


Müller 2004: 219 cites the meaning ‘kaffeefarben’ but is right to note that kahve is not in fact used as a colour name.
kütük ‘tree-stump; baulk; log’ ◊ köskütük ~ küskütük ‘completely drunk’ (Müller 2004: 88, 106f &c.)
See köskütük in 2.16.3.


kysa ‘short’ ◊ kypkysa (Hatiboğlu 1973, Müller 2004: 355)


ղավ ‘dark blue’ ◊ laplnivert (Müller 2004: 355)


ológun ‘mature, ripe’ ◊ opolgun (Müller 2004: 355)

ölgün ‘withered, lifeless’ ◊ opölgün (Müller 2004: 356)


perişan ‘scattered, disordered, distraught, miserable’ ◊ perperişan (Müller 2004: 76)
See 3.1.6 on the closer being identical to C2.


renkli ‘coloured, colourful’ ◊ reprenkli (Müller 2004: 356)

sâ ‘1. right(-hand), dexter; 2. alive, sound, safe’ ◊ sapsâ (Müller 2004: 356)

sâde ‘simple, plain, pure’ ◊ sapsâde (Hatiboğlu 1973, Müller 2004: 356)

salak ‘stupid, idiot’ ◊ sapsalak (Müller 2004: 219 after Wedel)


šekerli ‘sweet(ened), sugared’ ◊ šepšekerli (Müller 2004: 219 after Wedel)

serin ‘cool, chilly’ ◊ sepersin (Hatiboğlu 1973, Müller 2004: 356)


sevimli ‘cute, amiable’ ◊ sepsevimli (Müller 2004: 219 after Wedel)
silik ‘worn, weak, indistinct’ ◊ sipsilik (Hatiboğlu 1973, Müller 2004: 356)

See sipsirin in 2.16.3 below.

širkin ‘?’ ◊ šipširkin [sic] (Müller 2004: 219 after Wedel)
sulu ‘watery, moist’ ◊ supsulu (Müller 2004: 219 after Wedel)
syk ‘frequent, dense, thick’ ◊ symsyk (Hatiboğlu 1973, Müller 2004: 356)
sykkyn ‘distressed, annoyed, troubled’ ◊ sypsykkyn (Müller 2004: 219 after Wedel)
syska ‘skinny, gaunt’ ◊ sypsyska (Hatiboğlu 1973, Müller 2004: 356)
tam ‘accurate, precise’ ◊ tastam (Müller 2004: 356)
tekerlek ‘1. wheel; tire; 2. round’ ◊ testekerlek (Hatiboğlu 1973: no meaning given, Müller 2004: 356: ‘completely round’)
tok ‘full, satiated’ ◊ tomtok (Müller 2004: 356)
turunžu ‘orange’ ◊ tupturunžu (Hatiboğlu 1973, Müller 2004: 356)
tuzlu ‘salty’ ◊ tuptuzlu (Hatiboğlu 1973, Müller 2004: 356)
tykyz ‘compact, dense’ ◊ tymtykyz (Müller 2004: 356)
ufak ‘small, little’ ◊ upufak (Müller 2004: 357)
ujuz ‘itch, mange, scab, mangy, scabby’ ◊ upujuz (Hatiboğlu 1973, Müller 2004: 357)
şnli ‘famous, renowned’ ◊ şnpli (Müller 2004: 357)
şrjan ‘naked, nude’ ◊ şrjan (Müller 2004: 357: şrjan, up-şrjan)
uslu ‘well-behaved’ ◊ upuslu (Hatiboğlu 1973, Müller 2004: 357)
ujuz ‘cheap, inexpensive’ ◊ upujuz (Hatiboğlu 1973, Müller 2004: 356)
ylyk ‘lukewarm, tepid’ ◊ yplyyk (Hatiboğlu 1973, Müller 2004: 355)
ýrak ‘far, distant’ ◊ ypyrak (Müller 2004: 355)
zengin ‘rich’ ◊ şzşengin (Müller 2004: 219 after Wedel)
zor ‘difficult’ ◊ şszor (Müller 2004: 357)
şybyl ‘naked, nude’ ◊ şşşybyl (Hatiboğlu 1973, Müller 2004: 354)
şybyldyk ‘wet?’ ‘naked?’ ◊ şşşybyldyk (Müller 2004: 219 after Wedel)
See şşşybyldak in 2.16.3 below.
şylk ‘addled, rotten’ ◊ şşmşylk (Hatiboğlu 1973, Müller 2004: 354)
şylz ‘feeble, scrawny, puny’ ◊ şşşylyz (Hatiboğlu 1973, Müller 2004: 354)
şvylyk ‘? ’ ◊ şşşvylyk (Müller 2004: 219 after Wedel)
şvyv ‘juicy, saucy’ ◊ şşşvyv (Hatiboğlu 1973, Müller 2004: 354)

2.16.3. SPECIAL CASES

Most examples attested in Müller 2004 can be found on multiple pages. Below, only the pages with commentary are given if it is available, and the lowest ones if it is not.
Turkish

beşbeter ‘worse’ (Müller 2004: 354)

The same word can be found in Azeri (beşbetär) and Kumyk (beşbeter). In both it is quite conspicuous, and for both a Persian origin has been proposed. The Turkish form is surely of the same origin. See 2.2.3 for details.

čerčeve ‘frame(work)’ (TS, Stachowski S. 1998: [48], Nişanyan ÇTES) ~ čerčive
(Stachowski S. 1998: [48])

This word is suspiciously similar both in form and meaning to ćevre ‘around, ambient’ (see 2.16.2 above) and to Turkish reduplications in general.

However, this is not the case. Stachowski S. 1998: [48], Nişanyan ÇTES and other sources unanimously derive it from Pers. čahr čube (چهار چوبه ‘four’) ‘(wooden) frame’, lit. ‘four stick’, and this etymology does not seem to be lacking in any way.


It is not possible to determine whether it was reduplication or diminutive that was first here. Both scenarios seem to be equally plausible: dap|sdar → dap|s-daraţiyk, and daraţiyk → dap|sdaraţiyk. The fact that dasdar is only attested dialectally can hardly be viewed as conclusive. See also žyţiykyladak below.

However, the -(y)ţiyk diminutive suffix is even nowadays very productive (see e.g. Stachowski M. 2006: 122), while reduplication is no longer so. It will be assumed in the present work, therefore, that it was diminutive that was added later, and that dap- and dasdaraţiyk are not separate reduplications.

Both forms are doubly intensified. See 3.1.13 for more examples of this phenomenon.

epej ~ epeji ~ epejše (Hatiboğlu 1973, Müller 2004: 108, BTS) ~ epejiše (BTS) ‘quite, fairly’ ◊ Ott. ēji ‘good’

The modern phonetic shape of the base is īji. The four forms here reduplicate the now-obsolete, Ottoman sounding with an ē-. They will be included in the list for Ottoman (2.13.2), and omitted from the list for Turkish (2.16.2 above).

See also 3.1.15 for other cases of the base becoming obsolete, and 3.1.19 for other reduplications with anlaut not matching the base.

köskütük ~ küskütük ‘completely drunk’ (Müller 2004: 106f) ◊ kütük ‘tree-stump; baulk; log’

Müller 2004: 106f considers kö|uskütük together with kör kütük ~ kökürťük id., and concludes that they are “keine Intensiv-Adjektive”. It is not clear to me what exactly brought him to this opinion.
Kör, kös and küs are all independent words: kör means ‘blind’, kös means ‘big drum’ (also in ~ jürümek or ~ ~ ‘to walk slowly, pensively, heavily’), and küs means ‘sulky, offended’.

The alleged base word, kütük, means ‘tree-stump; baulk; log’. A comparison of an intoxicated person to a tree, or generally something numb and stuporous, is quite possible; see e.g. Tksh. kütük gibi sarhoş lit. ‘drunk as a tree-stump, baulk, log’, but also Pol. pijany jak bela lit. ‘drunk as a log’ or Russ. пьяны как дрова lit. ‘drunk as firewood’, and Engl. stoned and dead drunk. Blindness (as with kör ‘blind’) is also a conceivable intensification; see e.g. Engl. blind drunk or Nor. blind drukket.

Big drum would be a less obvious choice, albeit not entirely impossible because in this field, creativity seems to be bottomless; see e.g. Germ. betrunken wie eine Strandhaubitze lit. ‘drunk as a beach howitzer’ or Pol. narqbany jak Messerschmitt lit. ‘smashed like a Messerschmitt.

Only küs ‘sulky, offended’ appears to be somewhat out of line.

In itself, kütük does not appear to be attested in the meaning ‘drunk’, but this needs not be considered an obstacle to deriving köskütük &c. from it, whether as a reduplication or as a composition.

The shape küskütük is phonetically most likely of the three to be a reduplication as it is the only one where the alleged reduplicated vowel and the vowel of the base actually match. At the same time, it is semantically least likely to be a composition. In the present work, it will be considered a reduplication.

On the other hand, körkütük is a semantically likely composition and a phonetically unlikely reduplicaton. Also, it is the only one of the three words that is also attested spelt separately. In the present work, it will be considered a composition.

Finally, köskütük is neither likely as a composition nor as a reduplication. Perhaps the most plausible explanation is that it is a variant of the reduplication küskütük created by analogy to the composition körkütük, and also to the reduplication köskötürüm ‘crippled, paralyzed’ – since it is probably the inertia and numbness of the drunk that motivated the comparison to a log.

sap saman ‘the whole crop’ (Marchand 1952: 62)

Although this form has the phonetic and semantic appearance of a reduplication, and reduplications of nouns are quite possible in the closely related Azeri, it seems that Marchand 1952: 56 is probably right in interpreting it as a composition of sap ‘stalk, stem’ + saman ‘straw; hay’. See also 3.1.3 for more examples of apparent reduplications.
sipsirin (Müller 2004: 87 &c.) ◊ sirin ‘cute’

In Müller 2004: 87 &c., the words (sip)sirin ‘(very) cute’ are mentioned, but with only a question mark instead of the source. I could not find such forms in Alderson/İz 1959, BTS, GTS, TS, or TurRS. Most probably, they are phantom words brought to life by Müller’s erroneous reading of širin ‘sweet; cute’ and its reduplication šipširin – which, incidentally, is also included in his book.

See also sersebil below.

sersebil ‘?’ (Müller 2004: 87 &c.) ◊ ? sebil ‘1. road; 2. public fountain’

This form is given in Müller 2004: 87 &c. without a source or meaning. It is indeed an exciting challenge to imagine what the intensification of ‘road’ or ‘public fountain’ could be.

serseri ‘vagabond, tramp’ (Müller 2004: 107) ◊ seri ‘quick, swift’

Müller 2004: 107 rightly notes that serseri is a loanword from Persian and thus not a reduplication. The Persian source is šarsar(i) ‘careless(ness), inattentive(ness), foolish(ness)’; see e.g. Nişanyan ÇTES.

sersem ‘stunned, bewildered; scatter-brained, foolish’ (Müller 2004: 106)

Most likely, Müller 2004: 106 rightly notes after Stachowski S. 1998: [191] that this word is a borrowing from MPers. šarsām lit. ‘head inflammation’ → ‘(delusional) fever; delirium; meningitis’, and therefore just an apparent reduplication.

Nonetheless, two other possible leads should also be mentioned. Firstly, the word sem actually exists in modern Turkish, and has the meaning of ‘poison’ from which the shift to ‘stunned, bewildered’ → ‘scatter-brained, foolish’ is not at all impossible. Secondly, in Old Uighur the form säpsäm is attested with the meaning ‘completely calm’ which, too, is not inconceivable in this context; see 2.1.2.


Hatiboğlu 1973 only lists the word among her examples and devotes no more thought to it. Müller 2004: 100f and 139 notes the oddity of semantics and hesitates whether the word is a reduplication, but does not reach any specific conclusion.

One argument for reduplication which Müller seems to have overseen, is the initial accent (tamtakyr). But the word is an emphatic one, and this invites
in a natural way a shift of the accent to the initial syllable; see e.g. *tamters* ‘the exact opposite’ < *tam* ‘perfect; exact’ + *ters* ‘back, reverse, opposite’.

All the different meanings associated with the phonetic shape *takyr* can actually be connected if one sets off from either ‘tapping, knocking noise’ or ‘devoid, destitute’, but it is not possible without a good pinch of imagination. In the present work, I choose to stay on the safe side and exclude the word from further considerations.

*ʒysʒybı̯ldak* (Hatiboğlu 1973) ◊ *ʒybı̯ldak* ‘naked, nude’

Both *ʒybı̯ldak* and its reduplication are dialectal. Hatiboğlu 1973 includes them in the list for what I understand to be literary Turkish, but in the present work it will be excluded. Turkish dialects are a plentiful source of very interestingly diversified reduplications, and they deserve a study in their own right.

The forms ćysćybı̯ldak and ćysćybı̯ldyk, which Müller 2004: 219 quotes after Wedel, must either be phonetic variants of ʒysʒybı̯ldak, or Wedel’s errors.

### 2.16.4. Structure

Four closing consonants of C-type are attested in a surprisingly high total of 176 examples (see below) derived from 160 unique bases, in a quite uneven distribution:

- **m**: 29 examples: *baška, bejaz, bok, boš, boz, bulanyk, buruş, buruşuk, buz, čij, čürük, dazlak, dik, düz, gök, jaš, jasy, ješil, kör, pis, sert, sijah, syk, syky, syžak, tāze, tok, tykyz, and ʒylk*.
- **p**: 101 examples: *acyık, ajdyn, ajdynlyk, ajny, ajry, ak, alaža, anysz(yn), ašıkär, āyr, ašy, čevre, čij, čirkin, dar, dā wynk, derin, dinč, diri, dolu, durgun, dürü, duru, düz, düzgün, ejri, eksi, erken, eski, genč, geniş, gergin, geçe, giündüz, giir, giüzel, ibiš, inše, iri, išisiz, jabanzy, jakyn, jalnyz, janylyš, jaryk, jaš, jasy, jašyl, jeni, ješil, kalyn, kara, karanlyk, katy, kel, kirli, koju, kolaj, kötü, küčük, kuru, kyrmyzy, kysa, kyzyl, läžıvırt, olgun, olgün, renkli, sā, sâde, sâlam, sary, serin, sijah, slik, širin, sivi, sō uk, syka, syžak, tatly, tāze, temiz, turunţu, tuzlu, ufak, uţgun, uţuz, ünlü, urjan, uslu, uzun, uţuz, ylyk, yrak, yslak, yssyz, zajiʃ, zor, žanly, and žylyz*.
- **r**: 8 examples: *čabuk, cyplak, perišan, sefiš, skylak, temiz, top, and topač, and*
- **s**: 38 examples: *bajat, bajāy, bedāva, beli, berāber, berrak, beter, bulanyk, bütıń, čyplak, dejırmı, dolu, dörü, götıри, güdıık, jeni, jöun, jumru, jumusak, juvarlak, katy, koju, kötıırum, koža, kožaman, kütüık, kyyrak, māvi, mor, pembe, tam, tamam, tekerlek, topač, toparlak, žavlak, žybyl, and žyvyk*. 

Sixteen words have more than one closing consonant possible: *bulan*yk (*m* and *s*), čijb (*m* and *p*), čyplak (*r* and *s*), dolu (*p* and *s*), düz (*m* and *p*), jaš (*m* and *p*), jassy (*m* and *p*), jeni (*p* and *s*), ješil (*m* and *p*), koju (*p* and *s*), sijah (*m* and *p*), syšak (*m* and *p*), tāze (*m* and *p*), temiz (*p* and *r*), and topač (*r* and *s*).

The combinations are: *m* and *p* (8 words), *p* and *s* (4 words), *r* and *s* (2 words), and *m*-*s* and *p*-*r* (1 word each). No word has more than two closing consonants possible. The most common is *p* (13 words), followed by *m* (9 words), *s* (8 words), and *r* (3 words).

The shape *perperišan* is unusual; see 3.1.6 on other reduplications where the closing consonant is the same as *C₂*.

In twelve words, the first vowel is long: *aši*kar ‘obvious, apparent’, *āyr* ‘heavy, serious’, *dāyn*yk ‘scattered, dispersed’, *dōru* ‘correct, accurate’, *jō*un ‘dense, intense’, *laž*ivert ‘dark blue’, *māvi* ‘blue’, *sā* 1. right, …; 2. alive, …’, *sāde* ‘simple, …’, *sālam* ‘sound, solid, …’, *sō*uk ‘cold’, and *tāze* ‘fresh’. In all it is shortened in the reduplication. Note that the length is secondary in seven cases, and original in five: *aši*kar, *laž*ivert, *māvi*, *sāde*, and *tāze* (see Nişanyan ÇTES and Stachowski S. 1998). See also 3.1.20.

Overall, the number of reduplications is unusually high in Turkish. The language with the second most numerous collection is Kazakh with 108 examples, and the gap between the two is the only one so big across all the Turkic languages. Müller’s 2004 questionnaire (see the appendix) showed that on average, Turkish students only knew 84.2% of a hundred reduplications they were presented with. Combined, these two pieces of information allow to presume that only a part of the 176 examples listed here are actually commonly known and used across the entire Turkish territory, and to estimate this part to be about a half of the collection – or a little less, taking into account that it did not always had to be the same 84.2% that the students knew.

This is not to say that the attestations of the other half can be deemed untrue. Rather, they are simply very rare or geographically limited forms, which only found their way to linguistic descriptions because of the relatively much attention that has been paid to Turkish reduplications. See also 1.2.1 on the general availability of sources, and 3.2.2 for a comparison of Turkish with other languages.

It should be also noted that thanks to this observation, it is to some point possible to explain the large gap between the 176-strong Turkish collection and the humble Ottoman set of 58 reduplications.

See 3.4.6 for another argument supporting these conclusions.
2.16.5. SEMANTICS

In almost all the cases, the reduplicated meaning is a simple intensification of the base meaning, or apparently the same. As for the latter, finer distinctions might have been lost in translation, or the strength of the reduplication might have somewhat faded over the years due to overuse.

Apart from kösküttük &c. (see 2.16.3 above), the observed semantic shifts are few and simple, as e.g. in kyvrak, where ‘lithie, brisk, agile, dexterous’ → ‘strongly, firmly’.

Even Wedel’s examples excluded, almost all cases have a primarily adjectival or adverbial character, as far as the distinction is valid in Turkic. The strongest substantival component can be observed in: ajdynlyk ‘light(ness), illumination’, buruş ‘wrinkle, crease’ (along buruşiük ‘wrinkled, creased’), geže ‘(at) night’, gündüz ‘(at) daytime’, kütük ‘tree-stump; baulk; log’, top ‘1. ball; 2. round’, topač ‘1. (spin)top, teetotum, whirligig; 2. ~ gibi sturdy’, and ujuz ‘itch, mange, scab, mangy, scabby’.

2.17. TURKMEN

For an Oghuz language, Turkmen C-type reduplications are neither particularly numerous nor diversified. Only Gagauz has less examples, but then the data available for Gagauz are also much more modest, which likely distorts the picture.

Three closing consonants are attested. The domination of p is less pronounced than in the majority of languages. Interestingly, all words which have more than one closing consonant possible, always only have p and s for alternatives. See 2.17.4.

Semantically, Turkmen reduplications are very standard with effectively no non-adjectives and no far or unusual semantic evolutions. See 2.17.5.

2.17.1. SOURCES

The main source of the material is TrkmRS which contains ca. 40,000 entries. Some attestations have also been found in Ščerbak 1977: 120, Schönig 1998c: 264, Zeynalov 1993: 149f, and the two grammars listed below. Long vowels are marked based primarily on TrkmRS.

For a grammatical description, Clark 1998: 150, 510 has been used, as Hanser 1977: 176 and 2003: 176 are effectively reduced to a short list of examples.
Reduplication is discussed in two places in Clark 1998. On p. 150, only a brief mention can be found along with three examples. The body of the description is on p. 510, where more examples are given, and the information that the closing consonant is p. This must be an overlooking, as dosdogry is among the examples on p. 150; reduplications closed by m do not seem to be included in the book. Also not mentioned in the commentary, but evident from examples is the shortening of the reduplicated vowel. The next section (p. 511) is perhaps more intriguing as it discusses what apparently are severed and emancipated reduplicated anlauts (see 3.1.10).

Clark 1998: $V \rightarrow \bar{V} \mid \delta \rightarrow z \mid i \rightarrow y \mid j \rightarrow ǯ \mid \theta \rightarrow s \mid y \rightarrow j$,  
Hanser 1977: $V \rightarrow \bar{V} \mid e \rightarrow e \mid g \rightarrow g \mid o \rightarrow o \mid \theta \rightarrow s$,  
Hanser 2003: $V \rightarrow \bar{V} \mid e \rightarrow e \mid g \rightarrow g \mid o \rightarrow o \mid \theta \rightarrow s \mid \eta \rightarrow h \mid \omega \rightarrow v$,  
Ščerbak 1977: $s \rightarrow g \mid i \rightarrow y \mid j \rightarrow ǯ \mid \theta \rightarrow s \mid \eta \rightarrow \ddot{u}$,  
TrkmRS: $a \rightarrow â \mid y \rightarrow \eta \mid \theta \rightarrow \ddot{u} \mid \gamma \ddot{u} \rightarrow \ddot{u} \mid \gamma \rightarrow ǯ$,  
Zeynalov 1993: $c \rightarrow ǯ \mid e \rightarrow \ddot{c} \mid i \rightarrow y \mid \ddot{s} \rightarrow \ddot{u} \mid \ddot{u} \rightarrow \ddot{z} \mid y \rightarrow j$.

2.17.2. **Standard cases**

äjdyň i.a. ‘moonlit, light, bright’ ◊ apājdyň ‘very light, very bright’ (TrkmRS)  
See apāk in 2.17.3 below, and also 3.1.10 on other intensifications of the word.  
ānsat ‘light, easy’ ◊ apānsat (TrkmRS)  
arassa ‘unspotted, clean, neat’ ◊ aparassa (TrkmRS)  
arakajyn ‘1. quiet, peaceful; 2. free, unimpeded’ ◊ aparhajyn ‘1. very confidently, very surely; 2. very quietly, very peacefully’ (TrkmRS)  
āşy ‘bitter’ ◊ apāşy (TrkmRS, Ščerbak 1977: 120, Zeynalov 1993: 150)  
belli i.a. ‘clear, obvious’ ◊ besbelli ‘completely clear, completely obvious, absolutely certain’ (TrkmRS)  
beter ‘particularly, more so’ ◊ besbeter ‘1. more so, very; 2. worst of all’ (TrkmRS)  
bütin ‘all, whole’ ◊ biusbütin ‘completely, entirely’ (TrkmRS)  
čāl ‘grey’ ◊ *čapčāl (Zeynalov 1993: 150: <čapčal>)  
See *čapčāl in 2.17.3 below.  
dajav ‘strong, sturdy, healthy’ ◊ dapdajav ‘very hefty’ (TrkmRS)  
der ‘equal, identical’ ◊ depey (TrkmRS) ◊ desdey (TrkmRS)  
dik ‘steep’ ◊ dimdik (Zeynalov 1993: 150, TrkmRS)  
diri ‘(a)live’ ◊ disdiri (TrkmRS)  
dōły ‘full’ ◊ *dosdōły* (TrkmRS)
dury ‘clean, clear’ ◊ *dupdury* (TrkmRS)
düz i.a. ‘1. smooth, straight; 2. true, faithful, accurate’ ◊ *düp dúz* (TrkmRS)
gadyrly ‘dear, close, respected’ ◊ *gapgadyrly* ‘dear, cordial’ (TrkmRS)
    See also 3.1.10 on other intensifications of the word.
garanqky ‘dark(ness)’ ◊ *gapgaranqky* (TrkmRS, Clark 1998: 510)
    See also 3.1.10 on other intensifications of the word.

genisi ‘remarkable, good’ ◊ *gepge nis* (TrkmRS)
genisilik ‘beaut(ifull)y’ ◊ *gepge nisilik* ‘great, very well, wonderfully’ (TrkmRS)
giń ‘wide’ ◊ *gipgiń* (TrkmRS)
gök 1. blue; 2. green’ ◊ *gömgök* 1. very blue; 2. light blue; 3. very green (TrkmRS);
    completely green (Schönig 1998c: 264); very blue (Hanser 1977: 176, 2003)
göni ‘straight, direct’ ◊ *gös göni* (TrkmRS, Zeynalov 1993: 150)
govy ‘good’ ◊ *gop gov y* (TrkmRS)
gürü ‘dry’ ◊ *gupsür y* (TrkmRS) ◊ *gusgür y* (TrkmRS)
gyrmyzy ‘red’ ◊ *gyp gyrmyzy* (TrkmRS, Clark 1998: 510)
jagty ‘light, bright’ ◊ *jap jagty* (TrkmRS)
jany ‘recently, only just’ ◊ *jap jany* (TrkmRS) ◊ *jasjany* (TrkmRS)
jäšyl ‘green’ ◊ *jap jašyl* (Clark 1998: 510)
jenil ‘light’ ◊ *jepjenil* (TrkmRS, Clark 1998: 510)
    2003: 176)
semiz ‘fatty, greasy’ ◊ *se pse miz* (TrkmRS)
sovuk ‘cold, frostly, chilly’ ◊ *sopsovuk* (TrkmRS)
süzi ‘sweet’ ◊ *sip süzi* (TrkmRS, Ščerbak 1977: 120, Zeynalov 1993: 150, Clark
    1998: 510)
tajjar ‘ready, completed’ ◊ *taptajjar* (TrkmRS)
takyry i.a. ‘smooth, bare, blank, empty’ ◊ *taptakyry* (TrkmRS, Clark 1998: 510)
tämiz ‘clean’ ◊ *täptämiz* (TrkmRS)
täze ‘new’ ◊ *täptäze* (TrkmRS)
tegelek ‘round’ ◊ *testegelek* (STrkmJa, TrkmRS)
    See *teptegelek* in 2.17.3 below.

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26 In Hanser 1977: 176, the meaning is given as ‘very long’ on p. 176 and as ‘very much,
consequently’ on p. 261. The former must be mistake and is corrected in Hanser
2003: 176 with the following comment: “Hanser, „çok uzun (very long) anlamını
vermiş, ama sözlüklerde sadece „çok” anlamı var.”
tekiz ‘smooth, even’ ◊ tepekiz (STrkMJa, TrkmRS)

See *teptegelek in 2.17.3 below.

togalak ‘round’ ◊ tostogalak (TrkmRS, Ščerbak 1977: 120)

turšy ‘sour, tart’ ◊ tupturšy (Zeynalov 1993: 150)

ullakān ‘big, huge’ ◊ upullakān (TrkmRS)

uzyn ‘long’ ◊ upuzyn (TrkmRS, Zeynalov 1993: 150: upuzun)

ysy ‘hot, sultry’ ◊ ypyssy (Zeynalov 1993: 150)

2.17.3. Special cases

āpāk (Hanser 1977: 176, 2003: 176) ◊ āk ‘white’

In both editions of Hanser’s grammar (1977 and 2003), āpāk is given with the initial, reduplicated ā not shortened. This is rather suprising as it goes against not only the attestations in Clark 1998: 150 and 510 (〈ap-a:k〉) and the remaining twelve examples in Turkmen, but also against the general Turkic rule, undisputable exceptions to which can only be found in Dolgan and Yakut (see 3.1.20). Unfortunately, the word seems to be missing, or is given without indication of vowel length, from STrkmJa and TrkmRS.

In the present work, it will be assumed that the shapes given by Hanser are misprints.

*čapčāl (Zeynalov 1993: 150: 〈çapçal〉) ◊ čāl ‘grey’

Unfortunately, Zeynalov 1993 does not mark vowel length, and TrkmRS only attests the base word but not the reduplication. Shortening of the reduplicated vowel is more likely than not as in eleven out of the twelve remaining examples it has been shortened, and the last one is probably a misprint (āpāk above). See 2.17.4 below and also 3.1.20 on vowel shortening in general.

čypčynym ‘absolute truth, sheer truth’ (TrkmRS, Clark 1998: 510) ◊ ? čyn ‘truth, true’

The shape *čynym is missing as a separate word from STrkmJa, TrkmRS and TrkmTS. It makes the impression of being a composition of čyn ‘truth, true’ with a px1sg, but in that case, the function of this alleged suffix would be incomprehensible to me. Also, if this word is a reduplication, it is the only one of a noun in Turkmen.

The form is not clear and will be omitted from further considerations so as to not point to false conclusions.

Interestingly, čyp can also be used as an intensifying particle in a composition with jaląnač ‘naked, bare’ (see 3.1.10).
gumgūkluk ‘complete silence’ (TrkmRS)
The base gūk seems to only be attested in the phrases gūk bermek and gūk dijmek ‘подавать голос, откликаться (при игре в прятки); 2. перен[осное значение] сообщать, давать знать о чем-л.; 3. перен. заходить к кому-л., куда-л., навешивать кого-л. (изредка)’ (TrkmRS). The semantic shift from these meanings to ‘complete silence’ is definitely not trivial, but possibly not without a parallel example in Tuv. šipšimén (see 2.18.4).

*teptegelek (TrkmRS) ◊ tegelek ‘round’
With two bases, tegelek ‘round’, and tekiz ‘smooth, even’, the wording in TrkmRS is quite unclear, and I am not certain how many reduplications either of them has:

ТЭП- см. тес-; ~-текиз ровный-преровный.
ТЭС- (тен-) препозитивная усили[ительная] частица, присоединяемая к словам, начинающимся на букву «т»: ~-тегелек круглый-прекрыйкий, совершенно круглый; [the entry continues but without mentioning tekiz]

Two forms are explicitly attested, then, teptekiz and testegelek, and both are confirmed by STrkmJa. Two more can be suspected, testekiz and teptegelek, but as they are uncertain, and also apparently missing from STrkmJa, they will be ignored in further considerations.

2.17.4. Structure

Three closing consonants of C-type are attested in a total of 53 examples derived from 48 unique bases, in a relatively uneven distribution:

**m:** 2 examples: dik, and gōk,

**p:** 39 examples: ādýn, ak, anšat, arassa, arkajyn, āży,  הדו, dajav, deŋ, dogry, dury, 
düz, esli, gadyrly, gara, garangky, geński, genšilik, giŋ, gový, güry, gyrmýzy, jagty, 
jaŋ, jåšyl, jeŋið, sąry, semiz, sovuk, sůği, taʃjar, takyr, tâmiz, tâze, tekiz, turşy, 
ullakan, uzyn, yssy, and

**s:** 12 examples: belli, beter, bütin, deŋ, diri, dogry, döly, gönì, güry, jaŋŋa, tegelek, 
and togalak.

Four words have more than one closer possible: deŋ ‘equal, identical’, dogry 
1. smooth, …; 2. accurate, …’, güry ‘dry’, and jaŋŋa ‘recently, only just’, and possibly also tegelek ‘round’ and tekiz ‘smooth, even’ belong here (see *teptegelek in 2.17.3 above). In all cases, the alternatives are p and s.
In thirteen cases, the first vowel of the base is long: ājdyn i.a. ‘moonlit, …’, āk ‘white’, ānsat ‘light, easy’, āžy ‘bitter’, čāl ‘grey’, diri ‘(a)live’, dōly ‘full’, giŋ ‘wide’, gōk ‘1. blue; 2. green’, gūry ‘dry’, jāšyl ‘green’, sāry ‘yellow’, and sūţi ‘sweet’. In eleven, the reduplicated vowel has been shortened; āk and čāl are not entirely clear (see 2.17.3). See also 3.1.20.

2.175. Semantics

Almost all reduplicated meanings are simple intensifications or the same as their respective base meanings. Perhaps only arkajyn shows a slightly further development: ‘1. спокойный, тихий, лишённый тревог; 2. свободный, беспрепятственный’ → ‘1. очень уверенно; 2. совершенно спокойно’ (TrkmRS).

As far as such a statement can be made with reference to a Turkic language, all examples are adjectives.

2.18. Tuvinian

Compared to most South Siberian Turkic languages, Tuvinian C-type reduplications appear to be relatively numerous, on par only with Khakas. Indeed, K.D. Harrison goes as far as to declare full productivity of reduplication across several parts of speech. This claim seems exaggerated; see 2.18.2.

Only p is attested as a closing consonant. Harrison’s examples aside, all words are clear adjectives except for one, which has in addition a substantival meaning. See 2.18.5 and 2.18.6.

Beside the standard ‘pitch-black’, kara also reduplicates to ‘dear’ and possibly ‘world’, and can be found in the rather unusually built kap-la kara. See 2.18.4.

2.18.1. Sources

The main source of the material is TuvRS which contains ca. 22 000 entries. Some attestations have also been found in Krueger 1997: 77, Li et al. 2007, Ölmez 2007, Pomorska 2004: 144, Ščerbak 1977: 120, Schönig 1998b: 408, Serebrennikov/Gadžieva 1986: 112, and the grammatical descriptions listed below. The data provided by K.D. Harrison are dealt with separately in 2.18.2 below.

For grammatical descriptions, Palьmbah 1955: 656, Ishakov/Palьmbah 1961: 187, Èrgil-oöl 1993: 109 and Takashima 2008 have been used. See also 2.18.2 below on Harrison’s data.
Palymbah 1955: 656 is rather brief on reduplication. Ishakov/Palymbah 1961: 187 are less so and, along with some examples, they provide a description of the process and the statement that the closing consonant is p.

Likewise, Èrgil-ool 1993: 109 and Takashima 2008: 83f, 102 are quite condensed, and limited effectively to several examples and a brief description of the process with the information that reduplicated anlauts are closed by p.

Krueger 1997: η → η | VV → Ŷ,
Harrison 2000, 2004: i → y | u → u | q → k | x → h,
Harrison/Raimy 2004: y → g | i → y | f → č | q → k | VV → Ŷ | x → h,
Ščerbak 1977: e → g | i → y,
Schönig 1998b: q → k,
Serebrennikov/Gadžieva 1986: e → g,
TuvRS: η → η | θ → ö.

2.18.2. K.D. HARRISON

Altogether, three works authored or co-authored by K.D. Harrison have been considered: Harrison 2000 and 2004, and Harrison/Raimy 2004. Harrison’s data are not universally noted for fidelity and credibility; see e.g. Salminen 2006 or Pomorska 2010, also Helimski 2001. I have adopted here an accordingly cautious attitude. In fact, since much of it is rather sensational, and extraordinary claims require extraordinary evidence, I generally chose to ignore it in lack of the latter. Exceptions have only been made for four much more standard cases.

The two most important claims made by K.D. Harrison are that: 1. Tuvinian verbs can be reduplicated, and 2. reduplication is “fully productive across several word classes in Tuvan”.

The claim of verb reduplication is thus formulated in Harrison 2000: 158:

In Tuvan, unlike in any other Turkic language, CVp- reduplication has become fully productive for verbs as an aspectual marker. This reduplication may apply to various tenses to add an aspectual connotation of rapid or intense action […]. It may also indicate unexpected or sudden action […]. In other instances, it simply adds a meaning of strong assertion to the verb […].

A partially compatible description is given in Harrison/Raimy 2004, where the semantics are defined as “‘emphatic’ for modifiers, and ‘emphatic’, ‘intensifying’ or ‘iterative’ for verbs”.

27 Only in saryg → ‘yellow’.
I will forgo here the terminological discussion on Harrison’s understanding of the term *aspect* and instead, will look in a little more detail into semantics. Despite the advertised full productivity, he gives no more than three examples of reduplicated verbs:

**haly-** ‘to run’ ◊ **haphaly-** only attested in oblique forms (Harrison 2000: 158, Harrison/Raimy 2004) • *haphalän* ‘ran really fast’ (Harrison/Raimy 2004), *haphalän men* ‘I was driving fast’, *haphaladym* ‘I drove fast’ (Harrison 2000: 158)

**kör-** ‘to see’ ◊ **köpkör-** only attested in oblique forms (Harrison 2000: 158, Harrison/Raimy 2004) • *köpkörbēn* ‘did not see at all’ (Harrison/Raimy 2004), *köpkörbēn men* ‘I have never seen at all’, *köpkördüm* ‘I saw! unexpectedly/suddenly’ (Harrison 2000: 158)

**sag-** ‘to milk’ ◊ **sapsag-** only attested in oblique forms (Harrison 2000: 158, Harrison/Raimy 2004) • *inekti sapsär men* ‘I will definitely milk the cow’, *inekti sapsagbas men* ‘I will definitely not milk the cow’ (Harrison 2000: 158), *sapsagbas* ‘will definitely not milk’, *sapsär* ‘will definitely milk’ (Harrison/Raimy 2004)

Thus, the semantic changes are as follows ‘to run’ → ‘to run fast’, ‘to see’ → ‘to see unexpectedly or suddenly’, ‘to not see’ → ‘to not see at all’, and ‘to milk’ → ‘to definitely milk’. They match very closely the description given in Harrison 2000: 158 (quoted above). One might be even surprised that it was possible to find examples illustrating so accurately and fully the general meaning of reduplication of Tuvinian verbs. The 2004 description is clearly an abstraction, albeit apparently based on a partially different set of examples. Unfortunately, I was not able to find any more than the three listed above.

The possibility of verb reduplication does not seem to be mentioned in any of the grammars used here.

The claim of full productivity is particularly difficult to evaluate. The number of examples that can be found in TuvRS seems to speak against it. A dictionary of that size, however, cannot be expected to contain very many more. Nevertheless, the claim is rather unusual for a Turkic language, and I expect that at least one grammar book should like to make a note of it. As it seems, neither of the three employed here did.

Summing up, if Harrison’s data were accurate, they would constitute a very clear evidence of the very independent and unique path that the evolution of reduplication has taken in Tuvinian. For them to be believable, however, more evidence needs to be published, and preferably, by more than one author. I think that even the modest collection extracted mainly from TuvRS and presented here, shows sufficiently the autonomy of Tuvinian reduplication.
2.18.3. Standard cases

den ‘equal, identical’ ◊ depdey (TuvRS)
deski ‘smooth, even’ ◊ depdeski (TuvRS)
henerten ‘suddenly, unexpectedly’ ◊ bephenerten (Pälymbah 1955: 656, TuvRS)
See kap-la kara, and kapkara ‘dear’ and ‘world’ in 2.18.4 below.
kök ‘blue’ ◊ köpkök (Takashima 2008: 83)
kurug ‘empty’ ◊ kupkurug (Takashima 2008: 84)
nogān ‘green’ ◊ nopnogān (Harrison/Raimy 2004)
tögerik ‘round’ ◊ töptögerik (TuvRS)
tura participle of turar ‘to stand up’ (TuvRS: only attested in ~ halyl ‘to jump, to spring, to start’) ◊ tuptura (TuvRS: only attested in ~ halyl ‘to immediately get on one’s feet’)

2.18.4. Special cases

kapkara ‘dear’ (TuvRS) ◊ kara ‘black’
The shift ‘black’ > ‘dear’ is rare and might surprise, but it is not impossible. Laude-Cirtautas 1961: 20 collects examples from different Turkic languages
where phrases such as ‘black-eyed’ and similar are used with positive meanings (‘beautiful, attractive’, ‘my dear’ when with a pxISG), which she explains by that black eyes, especially in girls, are often considered to be particularly beautiful. An omission of the word ‘eye’ from the phrase seems to be quite conceivable in a clear (cultural) context, and is probably what happened in our Tuvinian example.

See also kap-la kara below.

**kapkara** ‘world’ (Ölmez 2007) ◊ ? **kara** ‘black’

The entry in Ölmez 2007 is not entirely clear:

**kap-kara** → **kara-kara kaptagay** dünya, evren [...] Etim.: Mo[ngolisch].

*kabtağay* “düz; tahta; yassı düzey” [...] It is my understanding that kapkara can be used interchangeably with kara-kara as an attributive for kaptagaj. Laude-Cirtsautas 1961: 34 lists a series of examples where kara acts as an intensifier with effectively no reference to ‘blackness’ whatsoever, e.g. Oir. *kara jaypi* ~ Sag., Sho *kara çagyś* ‘completely (a)lone’, Tat. *kara karšy* ‘exactly opposite’, 28 &c. Perhaps this form is also to be understood in the same way?

**kap-la kara** ‘dear’ (TuvRS) ◊ **kara** ‘black’

Beside the standard kapkara, TuvRS also attests the phrase *kap-la kara meň ežim* ‘my dear friend’. While multiple intensification is not a rarity in itself (see 3.1.13 for more examples), this is the only example of it being created in this way. Perhaps a contraction of *ka-p.yl-a-kara* (as in Tksh. čy-ryl-čyplak ‘stark-naked’), combined with a CV-type reduplication as in gü-p.e-gündüz ‘in broad daylight’? Or possibly a Mongolian influence, see *dala dalbagaar* &c. in 3.4.3?

See also kapkara ‘dear’ above.

**sapsajtyk ~ sypsyjtyk** ‘1. imitation of a gopher’s scream; 2. a chirring sound made by a rabbit or hare; 3. chirping or calling of a magpie; 4. squeaking of a mouse’ (Harrison 2004: 201)

TuvRS only attests sajt, and only in ~ dër ‘to chirr of a magpie’. The reduplication is therefore plausible, but as the base does not seem to be attested on its own, the whole must be considered a special case here and ignored in further considerations.

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28 This example is less clear. In theory, the form could also be a CV-type reduplication with the closing consonant identical to C₂. This occurs sometimes in C-type reduplications (see 3.1.6), but I am only aware of one such example in the CV-type, namely Yak. *sürüsürdêx* ‘absolutely: fearsome, dreadful’ (Pekarskij 1907–30).
šipšimēn ‘silence, peace’ (TuvRS) ♦ šimēn ‘noise, clamour’

If šipšimēn really is the reduplication of šimēn, than it has undergone a peculiar semantic evolution which I am not able to explain. Possibly, however, a parallel example can be found in Trkm. gumgūkluk (see 2.17.3).

šypšyk ‘most’ (TuvRS, Ölmez 2007)

The form and meaning of this word strongly resemble a reduplication. The shape šyk, however, does not seem to be attested other than with the meanings ‘1. wet, moisture; 2. meadow, pasture’, which hardly can be considered a match here. Perhaps merely an apparent reduplication (see 3.1.3 for other examples)?

2.18.5. Structure

Only one closing consonant of C-type is attested in a total of 18 examples derived from 18 unique stems. See 2.18.2 above for claims of verb reduplication and of full productivity of reduplication.

p: 18 examples: ak, borbak, čă, čingge, den, deski, dorăn, henerten, kara, kök, kurug, kyzyl, nogăn, saryg, tögerik, tura, türgen, and uzun.

In one word, čă ‘1. new; 2. recently, only just’, the first vowel of the stem is long. It has been shortened in the reduplication. See also 3.1.20 on the phenomenon in general.

2.18.6. Semantics

Most reduplicated meanings are, predictably, simple intensifications or the same as their respective base meanings. Two points, however, are interesting about kara ‘black’, see kapkara ‘dear’ and ‘world’ in 2.18.4 above.

All words are quite clear adjectives, only borbak additionally has a stronger substantival component in its meaning (‘clot, ball; round, spherical’). K.D. Harrison believes reduplication is fully productive across several parts of speech in Tuvinian, including even verbs; see 2.18.2.

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29 TuvRS: ‘самый (о высшей точке чего-л.)’, Ölmez 2007: ‘en, pek (birşeyin en yüksek noktasi için) | sehr (die Spitze von irgend etwas)’. TuvRS also gives two examples: dagnyaı ~ baży ‘the very top of a mountain’, and yjaštıı ~ baży ‘the very top of a tree’.
2.19. **Uighur**

The present section only collects modern Uighur material; the few reduplications attested in Old Uighur are listed in 2.1. The modern examples of the C-type are neither particularly numerous nor diversified. They are fewer than in Uzbek and decidedly more uniform, a fact which cannot be blamed on insufficient sources.

Technically, three closing consonants are attested: \(p\) in 33 examples, \(pp\) in one, and \(v\) in one. The latter is dialectal, and obviously a phonetic variant of \(p\). A noteworthy characteristic is that reduplicated is the pre-umlaut shape of the vowel, so that e.g. \(je\)šil ‘green’ \(\rightarrow\) \(japje\)šil instead of \(*japja\)šil. See 2.19.4.

Semantically, Uighur reduplications are quite standard. They are all nomina and only rarely non-adjectives. The reduplicated meanings are generally simple intensification, with perhaps the only notable exception being \(a\)q ‘white’. See 2.19.5.

### 2.19.1. **Sources**

The main source of the material is UjgRS which contains ca. 33 000 entries. Some attestations have also been found in Baskakov 1978, Jarring 1964, Malov 1954, Menges [1936], Ščerbak 1977: 120, and in the grammars listed below.


All are imprecise in that they speak of the reduplication of the (entire) first syllable, or even of the root (Tursun 2007: xviii). Kaşgarlı 1992: 126 and De Jong 2007: 60 report that the closing consonant \(p\) is added to the reduplicated syllable which ends in a vowel; neither specifies what happens when it ends in a consonant. Also Öztürk 1994: 58 and Tömür 2003: 110f mention that the closing consonant is \(p\).

De Jong 2007: 60 and Tömür 2003: 110f limit the scope of the phenomenon to adjectives expressing colour and outward appearance. The latter also mentions that reduplication is not as productive as the Decreasing Degree of the adjective. Sadvakasov 1976: 156 effectively does not go beyond listing a few examples.

Only Friederich/Yakup 2002: 31 devote a little more space to reduplication. Surprisingly, they do not mention the term but rather speak of a prefix which “ähnelt in seiner Lautung immer dem eigentlichen Adjektiv”. One important piece of information they provide is that the vowel of the reduplicated anlaut reflects a pre-umlaut vowel of the root, as can be observed in sapseriq ‘very yellow’.
2.19.2. Standard cases

The list below contains many dialectal variants. Where the differences between them are small, the main entry is the same as in UjgRS, and only the alternative reduplications are all listed after the ◊ symbol (so e.g. in \textit{jeji} ‘new’ or \textit{ješil} ‘green’). Where the differences are greater, the forms are broken up into separate entries (so e.g. in \textit{teč:} \textit{tinč} ‘quiet, peaceful’).

\texttt{aq} ‘white’ ◊ \texttt{apaq} ‘1. intens. (Jarring 1964: ‹ap aq, āp aq, ap aχ›, Tömür 2003: 111); 2. address to a respected woman (Malov 1954)’ ◊ \texttt{appaq} ‘1. intens. (Malov 1954, UjgRS, Tekin 1971: 227, Sadvakasov 1976, Baskakov 1978, Kaşgarlı 1992: 126; Öztürk 1994: 58); 2. Frau der kleinen Bäge und der Groß-Mułłā’ (Menges [1936])’ • \texttt{appaim} ‘my dear, my darling’ (UjgRS) \sim \texttt{appid} ‘my little white one’ (Malov 1954)

See ‹āpāq› in 2.19.3 below.

\texttt{aškara} ‘clear, obvious, bright, open’ ◊ \texttt{ apaškara} (Öztürk 1994: 58)

\texttt{baravār} ‘equal(ly), identical(ly)’ ◊ \texttt{bapbaravār} (UjgRS, Kaşgarlı 1992: 126, Tömür 2003: 110)

\texttt{boš} ‘empty’ ◊ \texttt{bopboš} (UjgRS, Kaşgarlı 1992: 126, Öztürk 1994: 58)

\texttt{jeji} ‘new’ ◊ \texttt{jepjeji} (Tömür 2003: 110) \sim \texttt{jipji} (Kaşgarlı 1992: 126)

\texttt{jaš} ‘young’ ◊ \texttt{japjaš} (Sadvakasov 1976: 156)

\texttt{ješil} ‘green’ ◊ \texttt{japješil} (Jarring 1964: ‹jāp \sim jep + ješil \sim ješil \sim jišil, Kaşgarlı 1992: 126”; Tömür 2003: 111) \sim \texttt{jāpješil} (Öztürk 1994: 58)

See 2.19.4 below.

\footnote{Besides \texttt{appaq} (appaķ), Kaşgarlı 1992: 126 also gives \texttt{appak} (appak), which is probably a misprint. Similar mistakes might be suspected in the case of \texttt{ješil} and \texttt{saq}.}

\footnote{Besides \texttt{japješil} (yapyešil), Kaşgarlı 1992: 126 also gives \texttt{japjäšil} (yapyešil), which is probably a misprint. Similar mistakes might be suspected in the case of \texttt{aq} and \texttt{saq}.}
joruq ‘light, bright’ ◊ jopjoruq (UjgRS)
jumulaq ‘spherical, round’ ◊ jopjumulaq (UjgRS)
See 2.19.4 below.
köklak ‘green field’ ◊ köpkökläjk ‘rich verdure’ (Jarring 1964: köp köklek, köp köklık)
köklık see köklak
küčük ‘powerful, strong’ ◊ küpküčük (Ščerbak 1977: 120, Öztürk 1994: 58)
kündüz ‘by day’ ◊ küpkündüz (UjgRS s.v. içiddä: only attested in ičidä ‘in broad daylight’)
očuq ‘clear, distinct’ ◊ apačyq (Sadvakasov 1976: 156) ~ opočuq (UjgRS)
saq ‘healthy, happy’ ◊ sapsaq (UjgRS) ~ *sapsaq ‘sound, healthy’ (Kaşgarlı 1992: 126)32
See *sæpsær in 2.19.3, and 2.19.4 below.
šük ‘silence’ ◊ šüpšük (UjgRS)
tän ‘equal, identical’ ◊ täptän (UjgRS)
taqr ‘smooth, bare’ ◊ tapqaqr ‘intens.’ ~ tapteqir ‘1. intens.; 2. complete absence of something’ (UjgRS)
See 2.19.4 below.
taza ‘clean’ ◊ taptaza (UjgRS)
taziliq ‘cleanness’ ◊ taptaziliq (UjgRS)
teč ‘quiet, peaceful’ ◊ tipteč ‘complete peace’ (UjgRS)
See 2.19.4 below, and also 3.1.11 on possible cognates.
tekis|z ‘smooth, even’ ◊ teptekiz ~ tüptekis (UjgRS)

32 The original spelling in Kaşgarlı 1992: 126 is ‘sap, sak’, which is probably a misprint for *sapsaq (sapsaḵ). Similar mistakes might be suspected in the case of aq and ješil.
\textbf{tin} i.a. ‘silence, peace’ ◊ \textit{tiptin} (UjgRS: only attested in \textit{ātrap} ~ ‘complete silence around’.)

See 3.1.11 on possible cognates.

\textit{tinč} ‘quiet, still, peaceful’ ◊ \textit{tiptinč} (Kaşgarlı 1992: 126, Tömür 2003: 110)

See 3.1.11 on possible cognates.

\textit{tiniq} ‘clear, transparent’ ◊ \textit{tiptiniq} (UjgRS)

See 3.1.11 on possible cognates.

\textit{toyrə} i.a. ‘true, accurate, just’ ◊ \textit{toptoyra} (UjgRS)

\textit{tüzü} ‘smooth, even, straight, direct’ ◊ \textit{tiptüzü} (UjgRS)

\textit{uzun} ‘long’ ◊ \textit{upuzun} (Ščerbak 1977: 120)

\section*{2.19.3. Special cases}

\textit{āpáq} ‘wife of an aq saqal or a dāroyə’ (Menges [1936] after Le Coq (exact source not specified))

With respect to meaning, this form corresponds quite well with \textit{apaq} i.a. ‘address to a respected woman’ (Malov 1954), \textit{appaq} i.a. ‘Frau der kleinen Bāge und der Groß-Mullā’ (Menges [1936]), and also with \textit{appiyəm} ~ \textit{appiyəyəm} (with a px1sg) ‘my dear, darling; my little white one’ (UjgRS and Malov 1954, respectively).

Menges [1936] does not specify the exact source in Le Coq’s works. If, however, the notation ‘\textit{āpáq}’ is to be read as /\textipa{a}ˈpaq/, then the form of this word is rather extraordinary, as the first vowel seems to always be short in reduplications, and the accent initial (see 3.1.20 on the shortening).

It is maybe for this reason, that Menges [1936] suggests that the word might be a borrowing from Mo. \textit{ababaj}. Lessing et al. 1960 attests \textit{abayə} with the meaning i.a. ‘wife of a prince; lady’. The phonetic side of this proposition might require a more detailed investigation. Perhaps a contamination with the native \textit{apaq} ~ \textit{appaq} ‘1. snow-white; 2. address to a respected woman, …’, facilitated by its use with a px1sg in the meaning ‘my dear, my darling’ (see 3.1.2 on alternative closers intensifying different components of the base meaning)?

In the present work, Menges’s suggestion will be accepted and ‘\textit{āpáq}’ excluded from further considerations.

\textit{čöp čā} ‘motley’ (Jarring 1964: \textit{če̱p ča}:)

If this word were a reduplication, an unusual change \textit{*a} > ə would need to be assumed in its reduplicated anlaut. More likely, it is a composition of the same kind as e.g. Tksh. \textit{güčlü kuvvetli} lit. ‘strong powerful’ = ‘very strong’. 
As for the would-be base čā, Jarring 1964 attests it (ča:) with the meaning ‘spotted’. For the shape čōp he lists three meanings: ‘pasture’, ‘pieces of dough […]’ (see čopčūrə below), and ‘reinforcing word (in čōp čā)’. The first one is not clear to me; the other two may well be brought down to a single source.

Stachowski M. [in preparation] derives Tksh. žibre ‘Ausgepreßtes, Trester, Treber’ together with related forms in other languages ≪ general Tkc. *čōp ‘Überbleibsel, Ausgepreßtes’ (> Tksh. čōp ‘garbage’). The semantic relation between ‘pomace’ and ‘spots’ might not be immediately obvious. A surprisingly accurate parallel can be found in Polish which, incidentally, is even phonetically similar: ěap.ać ‘to hit water, to bath splashing about’ → ěap.ka which denotes the result of this splashing, i.e. ‘spot, dot, splash’, and at the same time ‘soft and dense mass, mash, pulp’ (Boryś 2005).

The whole would be then a composition of *čōp ‘1. spot, dot, splash; 2. soft and dense mass, mash, pulp’ + čā ‘spotted’ → čōp čā lit. ‘spot-spotted’ = ‘all in dots, motley’. The first meaning of čōp was probably not preserved outside of this phrase, and this fact resulted in the meaning of ‘reinforcing word’ that Jarring 1964 assigned to it, and made čōp resemble severed reduplicated anlaunts (see 3.1.10).

čopčūrə ‘a kind of noodles’? (Jarring 1964 s.v. čōčūrə &c.)
This form is recorded in Menges [1936] with the meaning ‘eine Mehlspeise ähnlich der Russen’ but, as Jarring reports, “Katanov hat fast überall zuerst čopčūrə geschrieben dann das p weggestrichen”.

Jarring himself lists čōčūre ~ čōčūrə ~ čōčūrə ‘a dish, described in […]’ and, after UjjgR39, čöcyɾə ‘small noodles, boiled in bouillon’ (possibly related to Tksh. žibre ‘Ausgepreßtes, Trester, Treber’ &c., see Stachowski M. [in preparation], and čōp čā ‘motley’ above.), and below, čōp ‘2. pieces of dough boiled in water, a kind of noodles; […]’.

Reduplication can be used with nouns and, in fact, denote plural, but the only examples known to me come from Azeri, where reduplication is incomparably more common and more diversified than in Uighur (see 2.2.5, but also kim kiček ‘garment, clothes’ below). Also, the vowel in the reduplicated anlaut can fail to match the vowel of the stem, as a number of Uighur examples attests but, phonetic details aside, the difference lies almost always in the Uighur umlaut (see 2.19.4).

Neither of the words mentioned above is really clear, but despite that, it seems relatively certain that whatever they are, it is not a C-type reduplication. See also čōp čā above.
**kim kiček &c.** ‘garment, clothes’ (Jarring 1964: 「kim kiček ~ kim keček ~ keimkiček）

Jarring 1964 considers these forms to be a reduplication, but it appears to me that a composition is a more likely interpretation.

Only the initial part of this form seems to be attested independently: 「ki:m ~ ki·m ~ kim ~ keim» ‘garment, clothes, dress’. Most probably, the word is related to Tksh. 「kežim ~ kičim’ (horse) armour < Mo. kežim ‘saddlecloth, caparison’ ≪ Tkc. *kāḍ.im (≫ Tksh. gijim ‘clothing’), see Stachowski M. [in preparation]. The final part, 「kiček &c.», although less clear, can probably be eventually reduced to the same root.

Our word would be then a composition of two synonyms, much like Tksh. 「güčli kuwettì」 lit. ‘strong powerful’ and many similar.

See also 3.1.3 for other examples of apparent reduplications.

**「sæpsær」 (Jarring 1964) ◊ 『sæjïγ ~ 『særïγ ~ 『säriγ ~ 『síriγ」 ‘yellow’ (Jarring 1964）

The base 「sær does not seem to be attested with the appropriate semantics. The word is probably a truncated form of 「sæp særïγ」, but how exactly it came about is not clear to me.

**žimžit** (Jarring 1964: 『džimdžit」 ‘sudden silence’, UjgRs: ‘completely silent, completely mute’)

It is not absolutely clear whether this form is actually a reduplication. The base 「žit does not seem to be attested, whereas the would-be reduplicated anlaut 「žim is. Its meaning is ‘quietly, calmly; silently, tacitly’, as in 「žim (žim)! ‘be quiet, shut up!», 「žim turmaq ‘to keep quiet’ or 「žim bolmaq ‘to quiet down, to grow silent’. Accordingly, UjgRS classifies 「žit as “парное к ğım”.

However, Turkic echo words and echoic compounds are typically built on rhyme and consonance, as in Uigh. 「nan-pan’ bread, all sorts of pastry’, 「opul-topul’ ‘quickly, hastily’ or 「taraq-turuq ‘noise, crash, crack’, while 「žimžit is clearly a case of alliteration.

Further, 「m would have been a highly unusual closing consonant for Uighur, where all the 35 examples are closed with 「p or its derivatives (see 2.19.4 below).

More probably, 「žim is the reduplicated anlaut of 「žimžit which was severed and promoted to an independent word, while 「žit belongs to a small family of words across several languages. See 3.1.10 for emancipated anlauts, and 3.1.15 for 「çyr ‘silence’.

As an alternative – or perhaps complementary? – explanation, a connection with Bshk. 「ṣym ‘quiet’ can be offered (see 2.3.3), and maybe also
with two somewhat mysterious intensifiers with unclear semantics: Trkm. čym and, attested in the oldest documents, čim ~ čym (see 3.1.10).

See also žimžitiq below.

žimžitiq ‘complete silence’ (UjgRS)

This word is obviously related to žimžit above. Given that neither *žit nor *žitiq seems to be attested, it has to be interpreted not as a reduplication of a derivative, but rather a derivative from a reduplication – if it really is a reduplication. See žimžit above.

žuyžemi ‘stock and block’ (Jarring 1964: <dʒu dʒæmi>)

Jarring 1964 supposes that the word might be a reduplication, but composition appears to be a more likely explanation.

The second part of this form is attested independently with the meaning ‘all, whole’ (Jarring 1964: <dʒæmi ~ dʒemi ~ dʒeme ~ dʒemí>). The first part does not seem to be so, but see <dʒuyla- ~ dʒuyla- ‘to gather, to collect’.

As a reduplication, žuyžemi would have been the only one across all of the Turkic languages closed by y. Should this have evolved from *r, it would have been the only reduplication in Uighur closed by that consonant. There is also no parallel for the u – e correspondence in the reduplicated anlaut and the base.

See also 3.1.3 for other examples of apparent reduplications.

2.19.4. Structure

Technically, two closing consonants of C-type are attested in a total of 34 examples derived from 33 unique bases, in a rather even distribution:

p: 33 examples: aq, aškara, baravăr, boš, jeri, jaš, ješil, joruq, jumulaq, kòk, kòklak, küčlük, kündüz, očuq, qara, qarayyu, qizil, saq, seriq, šük, süzük, täŋ, taqir, taza, tazılıq, tec, tekiʃ[z, tin, tinę, tiniq, toyra, tüz, and uzun,

p: 1 example: aq.

Only one word has more than one closing consonant possible: aq with p and pp.

Dialectally, p can be spirantized in the reduplication of the literary ješil ‘green’ → javjäšel (Malov 1954). See 3.1.21 on spirantization of the closing consonant.

In six words, the reduplicated vowel does not match its original in the root.

The cases of 1. ješil ‘green’ → japješil, javjäšel, 2. seriq ‘yellow’ → sapseriq and 3. taqir ‘smooth, bare’ → taptaqir, tapteqir are explained by the information in Friederich/Yakup 2002: 31 that it is the pre-umlaut vowel that becomes
reduplicated (see 2.19.1). The shapes jäpješil and sepseriq apparently reflect the two successive stages of secondary unification.

Next, tipteč ‘complete peace’ is possibly a result of contamination: teč ~ tič → *tepteč Ḍ *tiptić > tipteč. The shape *teptić does not appear to be attested. It might also be the same case with jopjumulaq ‘completely round’: domalaq ~ jumulaq ~ žumulaq → *dopdomalaq Ḍ *jupjumalaq Ḍ *župžumalaq > jopjumulaq.

And finally, tüptekis ‘absolutely: smooth, even’ (beside the regular teptekiz id.) is not at all clear, as neither *tükis seems to be attested, nor any other similar shape with a ū in the first syllable.

See also 3.1.19 for other reduplications with anlaut not matching the base.

### 2.19.5. Semantics

In the majority of cases, the reduplicated meaning is a simple intensification of the base meaning.

A more distant evolution is only to be observed in apaq and appaq ← aq ‘1. white; 2. bright; 3. grey; 4. white of an egg; 5. corneal ulcer; …’ (UjgRS), which beside the straightforward ‘snow-white’ can also be used with a px1sg in the meaning ‘my dear, my darling’, or without it to address a respected woman. The latter might have arisen under the influence of āpāq, probably a borrowing from Mo. abayai i.e., ‘the wife of a prince; lady’; see 2.19.3.

A not entirely trivial evolution is also attested in taqir, where ‘smooth, bare’ → ‘1. intens.; 2. complete absence of something’. There has been a slight semantic shift in köklık, too, where ‘green field’ → ‘rich verdure’.

As far as parts of speech are concerned, are Uighur reduplications fairly standard. The great majority of examples are adjectives or adverbs. Three words, köklık ‘green field’, šük ‘silence’ and tin ‘silence, peace’, have a substantival character, and in one case, teč ‘quiet, peaceful’ → tipteč ‘complete peace’, an adjectival base reduplicates to a noun.

### 2.20. Uzbek

Uzbek C-type reduplications are relatively few, moderately diversified, and seem to quite accurately mirror the composite character of the language.

Four closing consonants are attested, but p or pp are the only possibility for 80.43% of the bases. Both numbers fit precisely between the typical values found in the Oghuz languages on one hand, and the Karakhanid and Kipchak on the other, and as such, are characteristic of none but Uzbek. See 2.20.4.
Non-trivial semantic evolutions or reduplications of non-adjectives are less than rare, but there are two rather unusual exceptions, the reduplicated verbs qipqizarmaq ‘to turn very red; to blush strongly’, and qåpqårajmåq ‘to turn completely black’. See 2.20.5, and also 3.1.22 on reduplication of verbs in general.

2.20.1. Sources

The main source of the material is UzbRS59 which contains ca. 40,000 entries. Some attestations have also been found in Doerfer 1967: 52, von Gabain 1945: 49, Harrison 2004: 201, Johanson 1998: 39, Räsänen 1957: 74, Ščerbak 1977: 120, Zeynalov 1993: 149f, and in the grammars listed below.


Wurm 1945: 46f deals briefly with reduplication. He mentions that the possible closing consonants are m, p, r and s. Unfortunately, the only example provided is kök ‘1. blue; 2. green’ → ‹kømkök›. I could not find any examples for r in other sources.

Borovkov 1959: 695, interestingly, only lists m and p as the possible closing consonants, although büsbütün ‘absolutely all’ and tostopålån ‘disorder, …’ are attested in UzbRS59, of which Borovkov 1959 is a part. It is not clear whether these examples have been discarded for some reason, or simply overlooked. Double pp is not listed either, even though âppåq ‘snow-white’ is among the examples that follow. Perhaps Borovkov considered it a simple phonetic variant of p. Directly after the examples, nevertheless, the CV-type with double pp is discussed (e.g. sàppasåγ ‘completely healthy’, čippačin ‘absolutely: true, genuine’), and the lengthening of the closing consonant is explicitly mentioned. Borovkov 1959: 695 also points out that reduplications can [only] be formed from adjectives “обозначающих цвета и некоторые свойства”.

Kononov 1960: 161f gives an unnecessarily complicated description of the process of reduplication and lists m, p, and s as the possible closing consonants. Some examples follow, including âppåq ‘snow-white’ which is explained as “(< ‹öp-ök›)”. The lack of asterisk might suggest that âpåq does exist in parallel but since the form is apparently not attested in any other source, I believe that it is merely an imperfection of the notation. Also, it is noted that stress in reduplications is initial.

Sjoberg 1963: 65 is very brief. He describes the structure, lists most of the possible closers (p ~ b, m, and s), mentions the initial stress, and gives several examples.
Kissen 1975: 20 effectively limits his description to three examples and the statement that reduplications can only be formed from certain adjectives, mainly names of colours.

Bodrogligeti 2003: 351 lists the closing consonants (p, m, and s), mentions the initial stress, and that it is primarily adjectives denoting colours and physical characteristics that are reduplicated. The description is completed with a list of examples, also as used in a sentence.

Bodrogligeti 2003: 351f, Kissen 1975: 20, Kononov 1960, UzbRS59: 161f: ғ → γ | қ → q | ө → ө | ş → š | y → ü |ъ → i | small caps ignored,

Harrison 2004: ɯ → i,
Johanson 1998: 39: e → a, Ščerbak 1977: к → q | ɔ → å | ъ → o, ö | ş → š | y → ü |ъ → i | small caps ignored,

von Gabain 1945: 49: a → a, å | ə → a | ƣ → γ | ө → ө | ş → š | y → ü |ъ → i | small caps ignored,

Zeynalov 1993: ğ → ē | ɬ → i, ș

2.20.2. Standard cases

åčiq '1. open; 2. clear, fair of weather; 3. nice, clear, legible; 4. open, frank’ ◊ āpāčiq (UzbRS59, Zeynalov 1993: 150)

See äppāyım in 2.20.4 below.

åsän 'light, easy’ ◊ ápāsän ‘simple, plain’ (UzbRS59)

baravar ‘same, equal’ ◊ bapbaravar (UzbRS41: 'баб-баравар’, Sjoberg 1963: 65: 'баббарвар')

boš ‘empty’ ◊ bomboš (UzbRS59, Ščerbak 1977: 120, Bodrogligeti 2003: 352)
Đőpboš (von Gabain 1945: 49, UzbRS59: 'бўб-бўш'.)
See 3.1.4.

33 Based on the etymology: u in järut, junsåq, jawmåq, quruq, suv, toyru, tumbat, učmåq; ü in büttän, jüzlar, tüng and üğ.
34 Based on the etymology: o in bojın, boš, jol, orin, ot, toyri, tola, topålän, tosatdan and tosindan; ö in čoir, köjlak, kök, körmåq and öz.
35 Based on UzbRS59: a in qåra and tola; å in åq, jalyiz and qåra.
36 In the only example, jamjašil.
See 3.1.6.

čiräjli ‘beautiful, pretty’ ◊ čipčiräjli (UzbRS59)
cötit ‘1. pockmarked; 2. rough, uneven, tuberous’ ◊ čöpčötit (UzbRS59)
See 3.1.6.

jajdåq ‘bare, devoid of vegetation’ ◊ japjajdåq ‘1. bareback; 2. unbridled’ (UzbRS59)
jalanyäč ‘naked, bare, bald, stripped’ ◊ japjalanyäč (UzbRS59)
jalýyz ‘(a)lone, lone(ly)’ ◊ japjalýyz (von Gabain 1945: 49, UzbRS59)
jangi ‘1. new, fresh, young; 2. recently’ ◊ japjangi (Borovkov 1959: 695, UzbRS59, Bodrogligeti 2003: 352)
japalåq ‘flat’ ◊ japjalåq (Borovkov 1959: 695)
See 3.1.6.

järu ‘light, bright’ ◊ japjäru (UzbRS59)

jengil ‘light’ ◊ jepjengil (UzbRS59)
Katta ‘big, huge’ ◊ kapkatta (UzbRS59, Bodrogligeti 2003: 352f)
låjiq ‘1. worthy, deserving; 2. of appropriate size’ ◊ lâplâjiq (UzbRS59)
See also 3.1.10 on other intensifications of the word.
qårarmåq ‘to blacken, to turn black’ ◊ qåpqårarmåq (UzbRS59)
qåranyi ‘dark, gloomy’ ◊ qåpqåranyi (UzbRS59)
qizarmåq ‘to redden, to turn red, to flush’ ◊ qipqizarmåq (von Gabain 1945: 49, UzbRS59)

37 Wurm 1945: 47: “kömkök = ‘sehr grün’ (eigentlich: sehr blau)”. 

quruq ‘1. dry; 2. empty; 3. vain’ ◊ qupquruq (UzbRS59)


sijå(h) i.a. ‘ink’ ◊ simsijå(h) (UzbRS59) ‘completely dark’ See 2.20.5 below.

šijdam ‘naked, bare, empty, clean (e.g. rob)’ (Magrufov et al. 1981) ◊ šipšijdam (UzbRS59)

silliq ‘smooth’ ◊ sipsilliq (Borovkov 1959: 695, UzbRS59, Bodrogligeti 2003: 352)

tajin ‘(well-)known, certain’ ◊ taptajin (UzbRS59)

tajjår ‘ready, prepared’ ◊ taptajjår ‘1. intens. (UzbRS59, Bodrogligeti 2003: 352); 2. very definitely (UzbRS59)’

taqir ‘smooth, bare, bald’ ◊ taptchaqir ‘1. intens.; 2. devoid’ (UzbRS59, Harrison 2004: 201)

tåza ‘clean, neat’ ◊ taptåza (UzbRS59, Bodrogligeti 2003: 352f)

tekis ‘smooth, even’ ◊ teptekis (UzbRS59, Bodrogligeti 2003: 352) ‘1. intens.; 2. united, harmonious’

tikka ‘straight, direct’ ◊ tiptikka (von Gabain 1945: 49)

tin ‘still, steady’ ◊ timtin (von Gabain 1945: 49, UzbRS41)

tola ‘full, whole, complete, all’ ◊ toptola (von Gabain 1945: 49, UzbRS59) See also 3.1.10 on other intensifications of the word.

topålån ‘turmoil, commotion, uproar’ ◊ tostopålån ‘disorder, chaos, turmoil’ (UzbRS59)

tosatdan ‘suddenly, unexpectedly’ ◊ toptosatdan (UzbRS59)

tosindan ‘suddenly, unexpectedly’ ◊ toptosindan (UzbRS59)

toyri ‘1. straight, direct; 2. true, faithful, accurate’ ◊ toptoyri (UzbRS59, Kissen 1975: 20) ~ toptoyru (von Gabain 1945: 49)

### 2.20.3. Special cases

åppåyim ‘my dear, my darling’ (UzbRS59) ◊ åq ‘white’ Similarly to the state in Bashkir, Kirghiz, Tatar and possibly Uighur, Uzb. åq has two different reduplications, each of which intensifies a different component of its base meaning. See 3.1.2 on other such cases.
pakpakana (Bodrogligeti 2003: 352) ◊ pakana ‘short of a person’

This word is mentioned by Bodrogligeti 2003: 352 together with bütbütıñ, dumdumalåq, and japjapalåq as “adjectives […] [that] use in the reduplication the consonant that follows the first syllable”.

However, pakpakana is a different case than the other three, because here the closing consonant would have to be k, and this does not occur except for one example in Yakut (mañan ‘white’, see 2.21.4). Perhaps, the word really is a germ of a separate type of reduplication, as Bodrogligeti apparently wants it?

See 3.1.6 for other examples with the closing consonant identical to C₂.

ʒimʒit ‘completely silent, completely mute’ (UzbRS59)

The base *ʒit does not seem to be attested in itself, but apparently cognate forms can be found in different languages, see 3.1.15.

2.20.4. Structure

Four closing consonants of C-type are attested in a total of 46 examples derived from 42 unique bases, in a relatively even distribution:

m: 6 examples: boš, dumalåq, jašil, kök, sijah(h) and tin,
p: 36 examples: åčiq, åq, åsån, baravar, boš, čiråjli, čötir, jajdåq, jalanynç, jalyiz, jangi, japalåq, järuy, jašil, jengil, katta, lâiq, qara, qarajmåq, qärényi, qizar-måq, qizil, quruq, sariq, šijdam, silliq, tajin, tajjar, taqir, tâza, tekit, tikka, toyri, tola, tosatdan, and tosindan,
pp: 1 example: åq,
s: 2 examples: bütün, topålån, and
t: 1 example: bütün.

Four words have more than one closing consonant possible: åq (p and pp; see âppâyim in 2.20.3 above), boš (m and p), bütün (s and t), and jašil (m and p).

The forms bütbütıñ ‘absolutely all’, dumdumalåq ‘completely round’, japjapalåq ‘completely flat’, and pakpakana ‘very short of a person’ are quite specific because they all use their C₂ for the closer; see 3.1.6 for more examples and a discussion.

Derivatives and non-adjectives are not unusually numerous, with the notable exception of two verbs: qipqizarmåq and qåpqårajmåq; see 2.20.5 below.

2.20.5. Semantics

The majority of reduplicated meanings are simple intensifications or apparently the same as their respective base meanings.
The reduplicated meaning departs a little further away in five cases: åsån where ‘light, easy’ → ‘simple, plain’, qizil where ‘red’ → i.a. ‘present, explicit, uniform’, sijâ(h) where i.a. ‘ink’ → ‘completely dark’, tajjår where ‘ready, prepared’ → i.a. ‘very definitely’, and tekiş where ‘smooth, even’ → i.a. ‘united, harmonious’.

The first of two nontrivial cases among them is qizil. It is not clear to me exactly which component of its meaning could have given rise to the evolution. Magrufov et al. 1981 only defines the word as ‘1. қон рангидаги; қирмизи; 2. юзнинг, баданнинг шу тусга мойил ранги; қизиллик; 3. революцион ҳа ракатта, совет социалистик тузумига, Қизил Армияға оид’, and neither of these seems a likely starting point for intensification to ‘present, explicit, uniform’. Perhaps it is a mistake in UzbRS59? (Note that no other source appears to confirm such meaning of the reduplication.)

Also unclear is sijâ(h) ‘1. чернила; 2. вид, внешность, наружность, облик, лицо; 3. ...’, as the word eventually stems from Pers. سیاه sijāh, primarily ‘black; dark’. Traces of these meanings can still be found when it is used with dil ‘1. heart; 2. soul’, e.g. in sijâ dil ‘regretful, resentful, sad’ and similar, see UzbRS59 s.v. cuê. However, since the reduplicated meaning ‘completely dark’ can be easily derived from ‘ink’, the history behind the meaning ‘form, appearance’ needs not concern us here.

The majority of examples are quite clearly adjectives, to the degree allowed by the structure of Turkic in general. However, one example is a noun, and two, rather surprisingly, are verbs.

First, the noun. UzbRS59 translates töpälân as ‘хаотический беспорядок, хаос, суматоха, сумятица’, and its reduplication appears to be no more adjectival in character: ‘1. суматоха, сумятица, шум, скандал; 2. буйство; 3. озорство, шалость’. See more on reduplications of nouns in 3.1.14.

But the most interesting are the two verbs: qâpqârajmâq ‘to blacken, …’ and qipqizarmâq ‘to redden, …’. Both qâra ‘black’ and qizil ‘red’ are among the most common bases for reduplication in all the Turkic languages. Reduplications of verbs, however, are more than rare. The pair at hand appears then to be an Uzbek innovation. No evidence seems to exist to suggest whether it is a vestige of a failed attempt to broaden the scope of reduplication onto verbs in Uzbek, or two isolate cases of analogy to qipqizil and qâpqâra. See more on reduplications of verbs in 3.1.22.
2.21. Yakut

Reduplications in general, and C-type in particular, have prospered in Yakut. They are quite numerous and rather diversified. Interestingly, this is strictly unlike Dolgan (see 2.4).

Although most can be reduced to the standard four, as many as ten closing consonants are attested, which is almost twice as many as in the second Azeri. Interestingly, m is not one of them. As long as only C-type reduplications are considered, words with multiple closing consonants are relatively few. The reduplicated long vowel or diphthong is not always shortened; in fact, in four or more cases a short vowel of the stem has been actually lengthened in the reduplication. See 2.21.4.

The semantic side is much more temperate. Reduplicated are primarily adjectives and adverbs, and only rarely words of a more definite substantival character. The reduplicated meaning never departs too far from the base. See 2.21.5.

Special cases are surprisingly few, given the general bloom of reduplications in Yakut. Three words cause a certain difficulty with categorization as their reduplicated anlaut is exactly the same as the initial syllable of the base (bosbosxo ‘absolutely straight, …’, čepčepčki ‘very cheap’, and tastastyŋ ‘completely outer, …’), one is not clear because it has its reduplicated anlaut closed by pp, normally only reserved for ak ‘white’ (üppürüŋ, also ‘snow-white’), and one has evolved into an entire family of twelve words (soččōtoχ ‘very lone(ly)’ &c.). Also rather unusual is the form ūnutary ‘completely opposite, …’. See 2.21.3.

Although beyond the primary scope of this work, it ought to be noted here that beside C-type reduplications, Yakut has a large number of examples in several other types such as ah.ys.ash ‘very bitter’, bö.rü.böyö ‘very strong, sturdy’, or di. bis.diriŋ ‘very deep’. They will not be discussed in the present work, but see 3.4.3 for similarities with the Mongolic reduplications.

2.21.1. Sources

The main source of the material is Pekarskij 1907–30 which contains ca. 40,000 entries. Some attestations have also been found in Ščerbak 1977: 120, Serebrennikov/Gadžieva 1986: 112, and the grammars listed below.

For grammatical descriptions, Korkina/Ubrjatova et al. 1982: 159 and Kirişcioğlu 1999: 84 have been used.

Korkina/Ubrjatova et al. 1982: 159 provide a slightly random description of the process, and list a few examples of different types (C, CV, CVC). They clearly
treat the forms closed by p separately from those closed by č, n and s but without explaining why. Sadly, they also fail to even remark upon the peculiarities in the reduplicated anlaut (e.g. the long vowels in bütün ‘absolutely all’ vs. upullayas ‘completely thawed’).

Kirişcioğlu 1999: 84 gives a one sentence description, which is imprecise to the point of being useless ([…] pekiştirme değişik şekillerde yapılabilir: […] sifatın ilk sesinin veya ilk hecesinin ekli tekrarlanmasıyla), and adds a few examples but does not remark upon their phonetic or other peculiarities (e.g. in küpküox, suossogotox or ybysyrās).

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2.21.2. Standard cases

ahy ‘1. bitter; 2. sour; 3. oversalted’ ◊ apahy ‘1. very bitter (Pekarskij 1907–30, Ščerbač 1977: 120, Korkina/Ubrjatova et al. 1982: 57, 159, Kirişcioğlu 1999: 84); 2. very sour; 3. very oversalted (Korkina/Ubrjatova et al. 1982: 159)’

arayas ‘1. (light) yellow; 2. reddish’ ◊ aparayas (Korkina/Ubrjatova et al. 1982: 159)

boso xo i.a. ‘straight, upright’ ◊ borboso xo (Pekarskij 1907–30) ◊ bosbos xo (Pekarskij 1907–30)
See čepčepčeki in 2.21.3 below.

budan ‘misty, foggy’ ◊ busbudan (Pekarskij 1907–30)

bütün ‘all, whole’ ◊ büsbütün (Pekarskij 1907–30) ◊ būsbūtūn (Korkina/Ubrjatova et al. 1982: 159)
See 2.21.4 below.

byrtaχ ‘unclean, icky, foul, vile’ ◊ byskyrtax ‘lousy, crappy’ (Pekarskij 1907–30)

čačaraj i.a. ‘with auburn, gingery hair of people’ ◊ čapčačaraj ‘fulvous, chestnut, blond’ (Pekarskij 1907–30)

čaras ‘thin’ ◊ čapčaras (Pekarskij 1907–30)

čegejkēn ‘with head high on a thin neck and wide eyes’ (Pekarskij 1907–30)
◊ čepčegejkēn (Pekarskij 1907–30: only attested in the riddle ~ ojun ‘мутъ [?] шаманъ (о клея въ клейкъ))’

čepčeki i.a. ‘inexpensive, cheap’ ◊ čepčepčeki (Pekarskij 1907–30)
See čepčepčeki in 2.21.3 below.
čugas ‘close, near’ ◊ čupčugas (Pekarskij 1907–30)
čuoyur ‘motley’ ◊ čupčuoyur (Pekarskij 1907–30)
čyčás ‘small, shallow, light, modest’ ◊ čyćyčás (Pekarskij 1907–30)
čyχ|ka atyn ‘completely other, completely different’ ◊ čyćyχ|ka atyn (Pekarskij 1907–30)
č|sylās ‘warm’ ◊ čypćylās ~ sypsylās (Pekarskij 1907–30)
On č ~ s, see soćçoγotoχ in 2.21.3.
delej ‘plentiful, affluent’ ◊ depdelej (Pekarskij 1907–30)
den ‘unexpectedness, unexpected event’ ◊ depdeny ‘completely by accident’ (Pekarskij 1907–30)
dirĩ ‘deep’ ◊ dipdirĩ (Pekarskij 1907–30)
doyoloŋ ‘lame, limping’ ◊ dopdooyoŋ (Pekarskij 1907–30)
eder ‘young’ ◊ epeder (Pekarskij 1907–30)
erien ‘motley’ ◊ eperien (Pekarskij 1907–30)
χobū ‘slander, calumny’ ◊ χorχobū (Pekarskij 1907–30)
χojoŋ ‘thick, dense’ ◊ χorχojoŋ (Korkina/Ubrjatova et al. 1982: 57, 159)
χojoŋyor ‘slender, tall, svelte’ ◊ χorχojoŋyor (Pekarskij 1907–30)
itĩ ‘hot, torrid’ ◊ ipiti (Pekarskij 1907–30, Korkina/Ubrjatova et al. 1982: 159)
ketit ‘wide, broad, vast’ ◊ kepketit (Pekarskij 1907–30)
kien ‘wide, broad, spacious, vast’ ◊ kipkieŋ (Pekarskij 1907–30)
kilekiŋ ‘glossy’ ◊ kipkilekiŋ (Pekarskij 1907–30)
kiligir ‘polished, smooth’ ◊ kipkiligir (Pekarskij 1907–30)
könō ‘smooth, straight, right, proper’ ◊ kōpkönō (Pekarskij 1907–30)
könüllük ‘freely’ ◊ kōpkönüllük (Pekarskij 1907–30)
kugas ‘red, rufous’ ◊ kupkugas ‘completely red-haired’ (Pekarskij 1907–30)
kufhayan ‘thin, bad, unfit, rubbish’ ◊ kupkufhayan ‘very bad, very thin’ (Pekarskij 1907–30)
küox ‘1. blue; 2. green’ ◊ kupküox ‘1. very blue (Kirişçioğlu 1999: 84); 2. very green (Pekarskij 1907–30)’
küütür i.a. ‘wicked, rabid, fierce’ ◊ kupkütür (Pekarskij 1907–30)
kyra ‘small, tiny, fine’ ◊ kypkyra (Pekarskij 1907–30)
kyžy ‘passion to act contrary to the usual way’ (Pekarskij 1907–30) (= ‘perversity, contrariness’) ◊ kynkyžy (Pekarskij 1907–30): only attested in: ~ byhylax ‘perverse, contrary of a person; capricious, unruly of a horse’, and ~ majgylax ‘bad-tempered’) ◊ kynkyžy (Pekarskij 1907–30: only attested in: ~ syrylax
‘perverse, contrary’, and ~ majgylà ‘unruly of cattle which does not walk on the road’ ◊ kypkyşy (Pekarskij 1907–30: only attested in ~ syrýlax ‘perverse, contrary’)

mañan ‘white’ ◊ makmañan (Pekarskij 1907–30) ◊ matmañan (Pekarskij 1907–30)  
See 2.21.5 below.
naryn ‘fine, trim, thin, subtle’ ◊ napnaryn ‘very tiny’ (Pekarskij 1907–30)  
egneg|ŋej ‘unfit, improper, bad’ ◊ nepneg|ŋej (Pekarskij 1907–30)  
ne|ŋej see neg|ŋej
níženkir ‘transparent, clear of rock, water’ ◊ nepñe|ŋkir ~ žpe|ŋkir (Pekarskij 1907–30)

níčçeyej ~ nilççeyej ‘wet’ ◊ nipníčçeyej ~ nipnilççeyej (Pekarskij 1907–30)  
nilççeyej see níčçeyej
niŋsik ‘stale of food and bread, musty’ ◊ nipniŋsik (Pekarskij 1907–30)  
ñulun ‘savourless, insipid’ ◊ nupñulun (Pekarskij 1907–30)  
očçuguj ‘small, tiny’ ◊ oposição (Pekarskij 1907–30)  
saharançaj ‘reddish) yellow, rufous, bay, brown’ ◊ sapsaharançaj ‘very yellow’ (Pekarskij 1907–30)  
salañ ‘generous, very’ ◊ sapsalay (Pekarskij 1907–30: only attested in ~ tymny ‘terrible cold’)
seber ‘clean, neat’ ◊ sepseber (Pekarskij 1907–30)  
sibetiej ‘holy, saint’ ◊ sipsibetiej (Pekarskij 1907–30)  
sibilgin ‘now, this instant’ ◊ sipsibilgin (Pekarskij 1907–30)  
sikej ‘crude, raw’ ◊ sinsikej (Pekarskij 1907–30) ◊ sipsikej (Pekarskij 1907–30)  
simigir ‘narrow of eyes, purblind’ ◊ sipsimigir ‘very narrow-eyed’ (Pekarskij 1907–30)  
siñiges ‘thin of round objects, narrow’ ◊ sipsiñiges (Pekarskij 1907–30)  
siñes ‘thin’ ◊ sipsiñes (Pekarskij 1907–30)  
See suoço|tɔx in 2.21.2 below.  
sonū ‘a cry, weep’ ◊ sojso|tu ‘a great sob’ (Pekarskij 1907–30)  
sotoru i.a. ‘now, immediately’ ◊ sopsotoru ‘very soon’ (Pekarskij 1907–30)  
See 2.21.5 below.  
suon ‘thick, fat, corpulent, stout’ ◊ supsuo|n (Pekarskij 1907–30, Korkina/Ubrjatova et al. 1982: 159)  
sür ‘fear, horror’ ◊ sipsür ‘dreadful’ (Pekarskij 1907–30)  
sygy|tɔx ‘naked, nude’ ◊ sypsygy|tɔx (Pekarskij 1907–30)  
sylas see č|sylas
symnayas ‘soft’ ◊ sypsymnayas (Pekarskij 1907–30)
symyja ‘a lie’ ◊ sypsymyja ‘pure lie’ (Pekarskij 1907–30)
syrδyk ‘light, bright, enlightened’ ◊ sypsyrdyk (Pekarskij 1907–30)
sytý ‘sharp(-sighted), acute’ ◊ sypsyty (Pekarskij 1907–30)
sytýgan ‘rotten, foul, fetid’ ◊ sypsytygan ‘fetid, rancid’ (Pekarskij 1907–30)
talaryaj ‘excessively long of a house’ ◊ taptalaryaj (Pekarskij 1907–30)
tarayaj ‘bald, hairless’ ◊ taptarayaj (Pekarskij 1907–30)
tastyŋ ‘outer, outsider’ ◊ tastastyŋ (Pekarskij 1907–30)

See čepčepčeki in 2.21.3 below.
tehyes ‘holey, leaky of utensils, bags’ ◊ teptehyes18 (Pekarskij 1907–30)
tenigir ‘wide, vast, loose’ ◊ teptenigir (Pekarskij 1907–30)
tereger ‘1. with a broad edge and a narrow base; 2. split, forked’ ◊ teptereger (Pekarskij 1907–30)
tetekej ‘pink’ ◊ teptetekej (Pekarskij 1907–30)
tiere i.a. ‘contrariwise, the other way round, inside out’ ◊ tiptiere (Pekarskij 1907–30)
töğürük ‘round’ ◊ töptöğürük (Pekarskij 1907–30, Ščerbak 1977: 120, Korkina/Ubrjatova et al. 1982: 159)
toku ‘amiss, awkward’ ◊ toptoku ‘very awkward, very odd, very clumsy’ (Pekarskij 1907–30)
toloru ‘full’ ◊ toptoloru (Pekarskij 1907–30: only attested in ~ žollőx ‘blissful’; see žollőx below)
tolős ‘amiss, awkward’ ◊ toptolős ‘very awkward, very odd, very clumsy’ (Pekarskij 1907–30)
tüökün i.a. ‘swindler, rogue, thief’ ◊ tüöptüökün ‘big cheater’ (Pekarskij 1907–30)
türgennik ‘soon’ ◊ tüptürgennik (Pekarskij 1907–30)
tüstäx ‘salted’ ◊ tuptüstäx ‘oversalted’ (Pekarskij 1907–30)
tynmy ‘cold, frosty’ ◊ typtynmy (Pekarskij 1907–30)
üllayas ‘thawed’ ◊ upullayas (Korkina/Ubrjatova et al. 1982: 159)
ürük ‘high, tall’ ◊ üpürük (Pekarskij 1907–30)
ürün ‘white’ ◊ üpürün ‘very white (Pekarskij 1907–30), brightness, illumination (Kirişçioglu 1999: 84)’ ◊ üppürün (Pekarskij 1907–30)
See üppürün in 2.21.3 below.
ürünŋük ‘whiteness’ ◊ üpürünŋük (Pekarskij 1907–30)

18 Possibly a misprint for *teptehyes.
utary ‘across, opposite’ ◊ ūnutary (Pekarskij 1907–30, Korkina/Ubrjatova et al. 1982: 159)
See ūnutary in 2.21.3 below.

yaraχan ‘heavy’ ◊ ypyaraχan ‘very heavy of smell’ (Pekarskij 1907–30), very heavy (Korkina/Ubrjatova et al. 1982: 159, Kirişcioğlu 1999: 84)

yksary i.a. ‘tightly’ ◊ ypyksary (Pekarskij 1907–30)

yrās ‘clean, pure, flawless, saint’ ◊ ypyrās (Pekarskij 1907–30, Korkina/Ubrjatova et al. 1982: 57, 159)

ytyk i.a. ‘respected, honourable’ ◊ ypytyk (Pekarskij 1907–30)

ǯadaŋ ‘poor, destitute’ ◊ ǯapǯadaŋ (Pekarskij 1907–30)

ǯeŋkir see ǯi|ǯeŋkir

ǯikti ‘unusual, extraordinary, wonderful’ ◊ ǯipǯikti ‘wonderful, marvelous’ (Pekarskij 1907–30)

ǯollōχ ‘happy, blessed, blissful’ ◊ ǯopǯollōχ (Pekarskij 1907–30)

ǯülej ‘deaf’ ◊ ǯüpǯülej (Pekarskij 1907–30)

2.21.3. SPECIAL CASES

bas battaχ ‘here and there, every which way, aimlessly, pointlessly, in vain’ (Pekarskij 1907–30)
The base battaχ does not seem to be attested independently in an at least remotely matching meaning. Pekarskij 1907–30 explains it as a derivative of a pronominal ba, refers to antaχ, ǯajtaχ and betteχ, and gives two examples: bas battaχ and sir battaχ, both with the same meaning.
The word is not clear and will be excluded from further considerations.

bosbosχo see Ćepčepčeki below

Čepčepčeki (Pekarskij 1907–30) ◊ Ćepčeki i.a. ‘inexpensive, cheap’
There is a minor uncertitude as to the exact shape of this word as Pekarskij 1907–30 s.v. ǯan actually gives the form ǯan ǯančakči. On the next page, however, the base is already spelt ǯančakči, suggesting that the disharmonic variant is a mere misprint.

More interestingly, this word together with bosbosχo ‘absolutely straight, …’ and tasta|tastasyŋ ‘completely outer, …’ appear as if they had their full initial syllables reduplicated. There are more examples like this in other languages, and their classification is not entirely clear, see 3.1.6.

Possibly, one could also see in Ćepčepčeki a double reduplication, but this is not the case. The would-be base Ćeki does not seem to exist, and Ćepčeki
as a whole is in fact a Mongolian loanword (see WMo. seb ki-, sebki-, segki- ‘to restore strength, to recover, to relax’, &c. in Kalużyński 1979 s.v. čäpčiä-, supported in DW s.v. čäbäki).

čuoččoyotoyn ~ sotčoyotoyn ~ suoččoyotoyn ~ tötčoyotoyn (Pekarskij 1907–30) ◊ soyotoyn ~ *čoyotoyn ‘alone, individually’
See soččoyotoχ below.

χön χotojon see mōnmötöj below

mōn mötöj (Pekarskij 1907–30: only attested in ān atajan tijen kellim ebe-et, ~ tijen kellim ebe-et ‘and know that I came propitiated and satisfied’ ⇴ ‘with my chest puffed out’) ◊ mōnmötöj ‘to buckle, to bulge, to puff out of chest’
Pekarskij 1907–30 suspects mōn could be an “alliterative syllable” and compares it to ān and χön.

The first is certainly not limited to words beginning with an- or ān-, see e.g. küden ‘(light) fog’ : ān küden ‘dense fog’. (In itself, this does not outrule a reduplicative origin; see 3.1.10 on severed reduplicated anlauts promoted to (relatively) independent intensifiers.)

The second, χön, is only attested in two phrases (s.v. χomoi: χön χotoj-but yal ‘an impressive household’, and ān atajan χön χotojon olor ‘he lives contentedly, richly and importantly’). The semantics is not clear here as χotoj appears to only be attested with the meanings ‘1. eagle; 2. tortuous; 3. to not support the weight, to bend, to cave in, to sag’ (see JakRS and Pekarskij 1907–30).

One intriguing thing to note is that both mōn in its only attestation and χön in one of its two, form highly rhythmic wholes. This suggests that they could be in fact ad hoc poetic creations rather than established reduplications.

Semantic difficulties, reinforced by this supposition, render the two words unclear and unsuitable for drawing conclusions from in the further part of the present work.

Nonetheless, a note needs to be made of the fact that the ‘reduplicated’ vowel is long in these two examples, while the first vowel of the would-be base is short. Most likely, this is due to emphatic lengthening, see 3.1.12.

soččoyotoχ ~ soččoyotoχ ~ suoččoyotoχ (Pekarskij 1907–30) ◊ soyotoχ ~ *čoyotoχ ‘lone(ly)’
These words need to be considered together with two groups of reduplications based on derivatives of soyotoχ, listed under čuoččoyotoyn above and
soččoγotoχ below. What sets them apart from the regular reduplications sos-, suoč- and suos.soγotoχ in 2.21.2 above, is the anlaut of the base. (The word regular is used rather loosely here. In light of Yakut reduplications as a whole, lengthening of the reduplicated vowel and use of č as the closer appear to be relatively standard compared to modification of the initial consonant of the base.) See tab. 2.1.

<table>
<thead>
<tr>
<th>Base</th>
<th>Regular</th>
<th>Irregular</th>
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<tr>
<td>soγotoχ</td>
<td>sos.s-</td>
<td>soč.č-</td>
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<td>suoč.s-</td>
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<td>tot.č-</td>
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</tbody>
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Table 2.1. A comparison of regular and irregular reduplications of Yak. soγotoχ ‘lone(ly)’ &c.

Three factors can be adduced to explain it:

1. the Siberia-wide alternation s ~ t which in Yakut additionally extends to č (e.g. yrsaj- ~ yrtaj- ~ yržaj- ‘to protrude especially of bones, to put forward, to show one’s ivories, to smile’ (ÊSTJa s.v. уржай, Pekarskij 1907–30), see also čylās ~ sylās in 2.21.2 above),
2. contemporary Yakut consonant assimilations on morpheme boundary whereby -t + s- → -čč- (see Jastremskij 1938: 21), and
3. historical Yakut consonant assimilations whereby -s + s- > -čč- if the final -s stems from *-č (see Ubrjatova 1985a: 38).

In the forms with -tč-, it would only be option 1 (alternation) that needs to be taken into account as option 2 (-t + s- → -tč-) seems impossible, and the conditions are not met for option 3 (-s < *č).

Thus, a *čoγotoχ needs to be assumed. Such a form is also suggested by čuoččoγotoγun, but it does not seem to be attested in its own right, not at least in the literary language. This renders the -čč- variants unclear.

In theory, any kind of mutual influence between all these related forms is conceivable. In fact, the only C-type reduplication with č for a closing consonant, are all members of this family. It appears to be quite likely that they result from such mutual contamination rather than are genuine reduplications. For the forms in -čč-, perhaps even a double descent might be imagined, from two separate (dialectal?) forms created
one by alternation and the other by assimilation, which both yielded the exactly same shape.

See also Dolg. suotčogotok in 2.4.3, where a possibility of explaining the word as a nominal composition, is presented, and 3.1.11 where other large families of related reduplications are collected.

soččoyotoχto ~ sotčoyotoχto ~ suocččoyotoχto (Pekarskij 1907–30) ◊ soyo-
toχto ~ *čyotoχto 'once, one time'
See soččoyotoχ above.

sotčoyotoχto see soččoyotoχto above
sotčoyotoyun see čuocčoyotoyun above
suocččoyotoχto see soččoyotoχto above
suocččoyotoyun see čuocčvoyotoyun above
tastastyŋ see čepčepčeki above
totčoyotoyun see čuocčvoyotoyun above

üppürüŋ (Pekarskij 1907–30) ◊ ürüŋ ‘white’
C-type reduplications closed by a double pp almost never occur with bases other than ak ‘white’. The only exceptions known to me are Kar.SW ap-
 pacyk ‘wide open, completely open’ and Yak. üppürüŋ ‘pure white’. The se-
matic connection is clear, especially that the stem ak is actually missing altogether from Yakut, and ačyk is very often used in the meaning ‘light of colours’. However, the similarity is probably incidental. See also 3.1.8 on the use of double pp, and 3.1.24 on reduplications of ‘white’.

űnutary (Pekarskij 1907–30, Korkina/Ubrijatova et al. 1982: 159) ◊ utary ‘across, opposite’
This form is unusual in two ways. Firstly, it is the only base beginning with a vowel that has its reduplication closed by a consonant other than p; see 3.1.23.

Secondly, its reduplicated vowel is not only long in itself, but it is in fact long while its corresponding vowel in the base is short. This is also a very rare situation, but parallel examples exist; see 3.1.20.

ypyččary ‘very full’ (Pekarskij 1907–30)
The base *yččary does not seem to be attested. The word is unclear.
2.21.4. Structure

As many as ten closing consonants of C-type are attested in a total of 106 examples derived from 97 unique bases, in a quite uneven distribution:

č: 1 example: soyotoχ,
j: 1 example: soňū,
k: 1 example: manan,
n: 3 examples: kyžy, sikej, and utary,
y: 1 example: kyžy,
p: 88 examples: abỳ, arayas, čačarχaj, čarás, čegejikên, čepčeki, čugas, čuoyur, čyčas, čyχ|ka atyn, čyylâs, delej, den, diriŋ, doyoŋ, eder, erien, ӻara, ӻobu, ӻoju, ӻozoyor, iti, ketit, kien, kilekij, kiligir, köňö, köňüluń, kugas, kuňayan, kûöχ, kütür, kyrya, kyžy, naryn, negiyej, ničeyej, nỳsik, nûjun, n|ʒenykîr, oččuguij, sabaryaj, salan, seber, sibetiej, sibilgin, sikej, simigir, siniges, siỳes, sotoru, suon, sûr, sygyniχ, symnayas, symyja, syrdyk, sytŷ, sytygan, talarχaj, tararaj, tehêyes, tenigir, tereger, tetekej, tiere, tîgüırük, toku, toleru, tolâs, tîökuń, tûrgennik, tûstâχ, tynmû, uśun, ӯllâys, ürĎiik, ürũγ, ürũŋỳük, yaraχan, yksary, yrâs, ytyk, ẕadâny, ẕikti, ẕollöχ, and ẕûlej.

pp: 1 example: ürũγ,
r: 1 example: bosχo,
s: 8 examples: bosχo, budân, bütün (twice: büs- and bûs-), byrtaχ, soyotoχ (twice: sos- and suos-), tassyγ, and

t: 1 example: manan.

In fact, only six of these consonants can be regarded as independent: ĕ is surely a pre-ķ variant of n, double pp appears to be, as in all the other languages, a variant of p, and s alternates with t as a part of a Siberia-wide phenomenon which in Yakut extends also over č, and whose exact mechanism unfortunately remains unclear (see sočχoχoχ in 2.21.3).

Interestingly, m as a closing consonant, despite being quite common in the other Turkic languages, is missing from Yakut.

Six words have more that one closing consonant possible: bosχo (r and s; see 2.21.3), kyžy (n, ĕ, and p), manan (k and t), sikej (n and p), soyotoχ (č and s), and ürũγ (p and pp). If we assume that n and ĕ are derivatives of m, and č and t are derivatives of s (through the č ~ s ~ t alternation), then all these alternatives can be reduced to the basic set of general Turkic closing consonants, p and s. Note kyžy which is one of just two examples in this work, which have more than two closing consonants possible; see 3.1.1.
In twelve cases, the first vowel of the base is long or a diphthong. The four long vowels have all been shortened in the reduplication (sinsikej ~ sipsikej ‘completely raw, …’, sipsines ‘very thin’, tuptüstax ‘oversalted’, and upüllàyas ‘completely thawed’). In five of the seven cases with diphthongs, only the initial, high vowel of the diphthong has been reduplicated (kipkieŋ ‘very wide, …’, küküöχ ‘very: 1. blue; 2. green’, supsuon ‘very thick, …’, tiptiere ‘completely the other way round’, and ypyraχan ‘very heavy’). In the remaining two, the entire diphthong has been copied (çuopčuoyur ‘very motley’ and tüöptüökün ‘big cheater’). Interestingly, in further three or more cases, the original short vowel of the base has been lengthened in the reduplication (büösbütün ‘absolutely all’, suočsooχetoχ ‘very lone(ly)’ (see 2.21.3 above), and ēnutary ‘completely opposite, …’).

Shortening of the originally long vowel is the standard Turkic practice. Neither retaining length, nor the more actually adding it, seems to occur anywhere else than in these six cases in Yakut. No ready explanation presents itself. The similarity to the exclamative intonation, which is expressed by lengthening of the last vowel of the word, must be considered coincidental as with it, high vowels would have been expected to diphthongize (*büösbütün rather than the attested būsbütün). Yet, it is both structurally and semantically the closest regular phenomenon in Yakut. See 3.1.12 for an alternative explanation, and 3.1.20 on shortening in general.

Structural peculiarities of Yakut C-type reduplications include also three words which could possibly be reclassified as a separate type of reduplications (bosbosxo ‘absolutely straight, …’, ěpčepčeki ‘very cheap’, and tastaştny ‘completely outer, …’), and a reduplication of a word other than ak, which is nevertheless closed by pp (üppürün ‘snow-white’). See 2.21.3 above.

2.21.5. Semantics

In almost all cases, the reduplicated meaning is a simple intensification or apparently the same as the base meaning. The only slightly less trivial evolution is to be observed in bysbyrtaχ, where ‘unclean, icky, foul, vile’ → ‘lousy, crappy’.

A simple, as it seems, but nonetheless noteworthy case is sotoru, where ‘now, immediately’ → ‘very soon’ (сейчасъ, тотчасъ, немедленно, въ скорости, скоро, очень скоро, вскорѣ, поспѣшно; въ тотъ же мигъ […]’ → ‘скоренько’) which, on the face, appears to be in fact a deintensification. Most probably, both words have in reality a very similar scope of use, and it is only the brevity of the definition that creates the false impression.
The great majority of words are adjectives and adverbs, as far as the build of the Turkic languages allows.

3. Analysis

This chapter analyses the data presented in chapter 2. First, more than twenty recurring peculiarities and phenomena are discussed, and preliminary conclusions drawn (3.1). Next, the structure and semantics of reduplications are examined (3.2 and 3.3), and finally, suppositions are made about the origins and evolution of the phenomenon (3.4).

The many conclusions that are scattered across this chapter can be found collected and summarized in chapter 4.

3.1. Recurring peculiarities

This section summarizes more than twenty peculiarities and phenomena occurring in different languages. The focus is primarily on summarizing but several conclusions are also drawn. For easier guidance, a mini table of contents is given below, together with characteristic examples where applicable.

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3.1.1. Alternative closing consonants

One base can have alternative reduplications with different closing consonants.

This is in fact the typical situation for almost all the thirteen languages which allow closers other than p and pp. See tab. 3.1 and the “Structure” subsections in the respective sections in chapter 2.

Two languages are exceptional. One is Southwestern Karaim where there are ten reduplications in p(p) and one in m (ješīl ‘green’), and the other is Kumyk where, against 24 reduplications closed by p(p), there is one closed by s (bütün ‘whole’). Both are in all probability loanwords; however, structural uniqueness being the only argument to support this supposition at my disposal at the moment, they must be counted as valid exceptions to the general Turkic tendency. See 2.6.4 for Karaim and 2.11.4 for Kumyk, and also Kklp., Kmk. beter ‘worse, …’ (2.7.3 and 2.11.3, respectively), both of which were discarded as loanwords because additional arguments were available in favour of such interpretation.

A genealogical-geographical pattern emerges from tab. 3.1: apart from Ottoman, for which the data are probably severely incomplete, the variety is the greatest at the Oghuz/westernmost end, it then disappears towards the Kipchak/central area, and increases again in the Yakut/easternmost corner. This is consistent with the general geographical picture, and the distinction between “p-languages” and “mprs-languages”, which was made primarily for the purpose of subsections 3.1.4 and 3.1.5 below.

A mention must be made here about two words, Kar.E sylak &c. ‘wet’, and Yak. kyï̯y ‘passion to act contrary to the usual way’, which are the only ones in the present collection, whose reduplications can be closed with more than
two different consonants. In the case of *sylak*, it is *m*, *p* and *r*, and in the case of *kyży* it is *n*, *ŋ* and *p*. The Karaim forms result probably from external influence (see 2.6.2), and the Yakut ones should perhaps be attributed to phonetic assimilation. Thus both are in a certain way characteristic of their respective languages in general.

See also 3.1.2 for cases of reduplications with alternative closing consonants having different meanings.

### 3.1.2. Alternative closing consonants with different meanings

One base can have alternative reduplications with different closing consonants, each intensifying a different component of the base meaning.

The examples fall essentially into two groups. One collects reduplications of *ak* in a literal and figurative meaning, and the other a single exceptional case.

The primary meaning of *ak* is ‘white’ but in many languages it has developed additional, figurative and generally positive ones, e.g. ‘good, kind’ in Bashkir,
‘clean, pure; happy, cheerful’ in Tatar, ‘innocent, spotless, unblemished’ in Uighur &c.\textsuperscript{39} In general, the word has proven to be unusually intensifiable (see 3.1.24), and in particular by what appears to be emphatic lengthening of the closing consonant (see 3.1.8). Thirteen such formation can be found in the present collection, but three or more are also special from the point of view of semantics.

In Bashkir, Tatar and Uzbek, \textit{ak} reduplicates to both \textit{apak} and \textit{appak}. The form with a single \textit{p} intensifies the literal meaning (→ ‘snow-white; very white; all white’ &c.), and the one with a double \textit{pp}, which seems to only be attested with a px1sg, intensifies the figurative component (→ ‘my dear, my darling; my little white one’). See the “Special cases” subsections in the respective sections in chapter 2.

A more complicated case is that of Uigh. \textit{aq, apaq, āpāq} and \textit{appiyim} \textit{~ appyyyym}, as it seems that native words have there mixed with Mo. \textit{abahaj} ‘wife of a prince; lady’. Probably the native state was rather like that in Bashkir, Tatar and Uzbek, but the Mongolic admixture has made it difficult to state so with certainty. See 2.19.3.

Further, in Kirghiz as many as five intensifications of \textit{ak} make use of reduplication: \textit{apak}, \textit{apakaj}, \textit{apapakaj}, \textit{appak}, and \textit{apappak}. Of these only \textit{apapakaj} seems to carry the figurative meaning (‘very nice, very good’); see 2.10.2 and 2.10.3.

And lastly, the second group is in fact just one unusual case: Gag. \textit{düz} ‘smooth, even, straight’ with its two reduplications: \textit{dümdüz} ‘1. very smooth, very even; 2. openly, frankly’, and \textit{düpdüz} ‘openly, frankly’. It seems as if it almost copied the division of Bashkir &c. \textit{apak} : \textit{appak}, but it must not be forgotten that the documentation of Gagauz is rather incomplete, and the similarity might prove illusory. See 2.5.5.

### 3.1.3. Apparent Reduplications

Different methods can produce forms very similar to reduplications.

\textit{C}-type reduplications have essentially two distinctive features in common: semantics suggestive of intensification and, simultaneously, a phonetic shape such that the initial consonant, if present, is the same as the third one, and the first two vowels are the same. However, exceptions occur; see e.g. 3.1.19 for when the vowels do not match. The closing consonant is typically expected to be one of \textit{m, p, r} or \textit{s} but here, too, other sounds may occur. As a result, some forms which probably are not reduplications by origin appear nevertheless very

\textsuperscript{39} Perversely, Tuv. \textit{kara} ‘black’ also reduplicates to \textit{kapkara} ‘1. pitch-black; 2. dear’; see 2.18.4.
much alike. They are generally omitted from the present work, but a few will be mentioned here in the way of illustration of the phenomenon.

Some cases are easier to recognize. For example, Az. dördölü (AzRS) becomes transparent as soon as the meaning is revealed: ‘four volume adj.’, Bshk. fosfor (BškRS8) is difficult to mistake even if it were defined as ‘brilliantly burning material’, and Tksh. ebewejn ‘parents’ is obviously a loanword from Arabic (الاباء ‘abawajn (Nişanyan ÇTES)). Examples can be multiplied: Az. apatiya ‘apathy’ (AzRS), Tat. komkor ‘corps commander’ (Russ. командир корпуса) or pampaslar ‘pampas’ (both TatRS), Uigh. tez telegram ‘urgent telegram’ (UjgRS; tez ‘fast, quick’), &c.

Some are less transparent. For example, Az. tez-täläsik ‘hurriedly, hastily’ (AzRS; a binomial), Gag. jat-jaban ‘alien, foreign’ (see 2.2.3 and 2.5.3, respectively), Kar.E *sav-saglam ‘1. healthy; 2. whole’ (see Stachowski K. 2010: 153f), Uzb. badbaχt ‘ill-starred’ (UzbRS; < Pers. بد بخت badbaχt id.), or Tksh. sersem ‘stunned, bewildered; scatter-brained, foolish’ (see 2.16.3) can all be relatively easily misinterpreted as their meanings are no less intensive than is very often the case with actual reduplications, and their structure is absolutely conceivable since all $d \sim t$, $s \sim z$, $r$, and $v$ are used to close the reduplicated anlaut.

Finally, some cases are unclear, e.g. Kar.E komkos ‘very stupid’, tentek ‘very stupid, very sloven’, Kklp. kumkuwyt ‘excitation, commotion, agitation’, Tuv. šypšyk ‘most’, and also Čigil symsymrak ‘dish of meat cut up small’. They might be reduplications of obsolete bases (see 3.1.15 for more examples), or perhaps anything else. See the “Special cases” subsections in the respective sections in chapter 2.

### 3.1.4. Closing consonant homolocal with $C_1$

**Note 1:** This subsection only deals with words with a consonantal anlaut, hence the notation $\langle C \rangle$ ‘the first consonant in a word’ is here equal to $\langle C_1 \rangle$ ‘the initial consonant of a word’.

**Note 2:** It is assumed in this subsection that $p$ was the original closing consonant; see 3.4.4.

The closing consonant can be homolocal with the first consonant of the base.⁴⁰


---

⁴⁰ The term *homolocal* has been introduced here in the meaning ‘pronounced at the same place of articulation’ to escape the ambiguity of the term *homorganic*; see 1.1.1.
pekistirilmelerinin sakincalari ortadadir”. This restriction has been upheld by Muller 2004: 150 in his Regel D: “p ist als Uberleitungsleaut dann nicht (mehr) moglich, wenn das Adjektiv selber mit einem labialen Laut (b, p, m) beginnt. […]”.

Neither of these statements says so explicitly but it might be guessed that the logic motivating them is this: it is against the Turkish phonaesthetics to close a reduplication with p if its base begins with a homolocal sound. It can be expected that a phonaesthetic rule such as this will have a broader scope of application than just one sound in one language.

Let us now consider all the possible closing consonants, first the four common ones (the labials m and p, then the dentals r and s), and later the seven exceptional ones, č, j, k, n, ŋ, š, and t.

Two abbreviations are used in this subsection: “mprs-languages” (Azeri, Eastern Karaim, Gagauz, Ottoman, Turkish, Turkmen, Uzbek and Yakut), and “p-languages” (Bashkir, Dolgan, Khakas, Kirghiz, Karakalpak, Kumyk, Kazakh, Oirot, Shor, Tatar, Tuvinian, Uighur and Western Karaim). See 3.2.1 for the rationale.

Labials

Two labial consonants can act as closers: p and m. Consonants which occur in Turkic anlaut and are homolocal with them are: b, f, m, p and v. The last one is not represented in the current collection. The numbers are given in tab. 3.2, and remarks in the footnotes.

Conclusions for p as a closing consonant emerge with relative clarity: the mprs-languages tend to avoid it for bases which begin with a sound homolocal with it, while the p-languages use it indiscriminately for all bases. It is, however, surprising how few reduplications of bases beginning with p- there are; see the end of this subsection.

As for m, no such tendency can be observed. It is used freely to close reduplications of bases beginning with b- and p-. The conclusion, however, that escaping excessive phonetic similarity was precisely the reason for the introduction of m as an alternative to p, would be premature. Words beginning with b- and p- constitute less than 28% of all reduplications closed by m, which hardly suggests that their status is in any way special. In fact, the alliterative quality of such forms as Ott. bembejaz or bomboš might have even helped establish m as their closing consonant (see Römer [in print] for examples of b-m alliteration in poetry).
Dentals

Three dental consonants act as closers: \( r \), \( s \) and \( t \). Homolocal with them and appearing in Turkic anlaut are: \( d \), \( l \), \( n \), \( r \), \( s \), \( t \), and \( z \). The data are given in tab. 3.3, and remarks in the footnotes.

Again, the \( p \)-languages must be put aside because, with just one exception, they simply always use \( p \) and, as was seen above, it is not in order to avoid homolocality.

In the \( mprs \)-languages, \( s \) is relatively often used to close reduplications of bases beginning with \( d\)- and \( r\)-. It is not attested with bases beginning with \( l\)-, \( n\)-, \( r\)- and \( z\)-, but seeing how rare these are, no conclusions should be drawn from

<table>
<thead>
<tr>
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<th>( p )-languages</th>
<th>( mprs )-languages</th>
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<tbody>
<tr>
<td></td>
<td>Total</td>
<td>( p )</td>
</tr>
<tr>
<td>( b)-</td>
<td>33</td>
<td>31*</td>
</tr>
<tr>
<td>( f)-</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>( m)-</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>( p)-</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3.2. Usage of closing consonants with different labial consonants in the anlaut. The table is read as follows: in the \( p \)-languages, there are 33 reduplications of bases beginning with \( b\); 31 of them are closed by \( p \), and the two exceptions are listed in the footnote; in the \( mprs \)-languages there are 59 words beginning with \( b\)-; and so on.

\* Kar.NW \textit{bomboş} ‘completely empty’ (along \textit{bopboş} id.) and Kmk. \textit{büsbütün} ‘absolutely all’. Neither can be deemed representative for its respective language.

\( ^{\dagger} \) Az. \textit{bapbala} ‘small, tiny’, and Uzb. \textit{babbaravar} ‘absolutely the same, absolutely equal’ and \textit{bopboş} ‘completely empty’. The first and the last also have alternative reduplications closed by \( m \).

\( ^{\dagger} \) Gag. \textit{bezbelli} ‘absolutely clear, absolutely obvious’, and Uzb. \textit{bütbütün} (along \textit{büsbütün}) ‘quite complete’.

\( ^{\dagger} \) All eight are reduplications of \textit{māvi} ‘blue’ and \textit{mor} ‘purple’ in Eastern Karaim, Gagauz, Ottoman and Turkish. It is possible that they all go back to just two forms.

\( ^{\dagger} \) Yak. \textit{mayan} ‘white’, closed by \( k \) and \( t \).

\( ^{\dagger} \) Words in \( p\)- are surprisingly rare. See 3.1.4 below.
this fact. It is also practically unattested with bases beginning with \(s\); there is only one exception, and it is in Yakut. To conclude, \(s\) as a closing consonant is immune to homolocality with the initial consonant of the base, but it is not used when that consonant is also \(s\).

Finally, \(r\) is used as a closing consonant for bases beginning with \(d\) (merely one example), \(s\) (rarely), and \(t\) (much more commonly, almost on par with \(m\) and \(s\)). Similarly to \(s\) above, no conclusions can be drawn from its absence with other anlauts. To sum up, \(r\) can be, but relatively rarely is, used as a closing consonant for reduplications of bases beginning with a homolocal consonant, and it is unknown whether it could occur with a word which, too, begins with \(r\)-.

**Exceptions**

The remaining closing consonants are: \(t\) (used in two words, Az. *garyšyg* ‘mixed’ &c. (see 2.2.3) and Yak. *maγan* ‘white’), \(č\) (only in Yak. *soyotoχ* ‘lone(ly)’, see 2.21.3), \(j\) (only in Yak. *soŋu* ‘a cry, weep’), \(k\) (only in Yak. *maγan* ‘white’), and \(ŋ\) (only in Yak. *kyžży* ‘passion to act contrary to the usual way’, where it is surely a result of a trivial phonetic assimilation).
All of them are so rare that suspicion must arise whether they are really reduplications. However, I know of no alternative explanations and am therefore forced to accept them at face value and conclude that conclusions are for the moment impossible.

Summary

The clear and relatively certain (supported by what seems to be sufficient data) tendencies are as follows:

1. *p*-languages use *p* as the closing consonant indiscriminately for all bases;
2. *mprs*-languages tend to replace *p* with *s*, *m* and rarely other consonants for bases beginning with *b*–;
3. *mprs*-languages use *s* and, less often, *r* as the closing consonant for bases beginning with *d* and *t*;
4. *mprs*-languages almost never use *s* for bases beginning with *s*–.

It seems then, that what is really being avoided in the *mprs*-languages is not so much homolocality as closing the reduplicated anlaut with the initial consonant of the base. (The combination *-pb-* also belongs here because in normal speech it must be expected to assimilate to [*-bb-]* or at least [*-bb-]*.)

The observations of Hatiboğlu’s and Müller’s (see the beginning of this subsection) are technically correct because they are limited to Turkish. However, broadening the perspective shows that what appears to be the logic behind them was imprecise. This is only understandable given the small probe they had at their disposal.

Further, these phonaesthetic tendencies prove indeed to have a wider scope than just one sound in one language. At varying degrees of strictness, they apply to effectively all the eight *mprs*-languages: Azeri, Eastern Karaim, Gagauz, Ottoman, Turkish, Turkmen, Uzbek and Yakut.

See also 3.1.5 for a similar summary on homolocality of the closing consonant with *C*₂ as the conclusions from the two support each other, and for an attempt at generalization which is made there. The considerations started here are continued in 3.2.1, and concluded in 4.1.3.

Excursus: *p*-

One more remark remains to be made. Overall, the phonologies of the majority of the Turkic languages are roughly compatible. In particular, this applies to
which consonants are permitted in anlaut. While it is not possible to precisely quantify the frequencies of specific sounds in the spoken language throughout the history, a crude opinion can be formed based on the knowledge of historical phonology and modern languages. Which words can be reduplicated is primarily defined by their semantics, but here 1198 forms have been collected, and I believe that this is enough for the frequencies of occurrence of different consonants in anlaut to correspond in an imperfect, roughly approximate way to the general values.

And indeed, this seems to be the case – except for $p$-. See tab. 3.4. The fact that most Turkic words in $p$- are Persian and later Russian loanwords should not be relevant as apparently the great majority of reduplications have been formed after the first contact with Iranian languages, see 3.4.

It seems almost as if bases beginning with $p$- were purposefully avoided, at least until the emergence of alternative closing consonants. The available data are certainly not sufficient to support such hypothesis. In fact, they do not even point unanimously to $p$ as the original closer (see 3.4.4). The disproportion, nonetheless, ought to be made note of.

### 3.1.5. Closing consonant homolocal with $C_2$

**Note 1:** This subsection continues the considerations on the homolocality of the closing consonant with $C_1$. See 3.1.4.

**Note 2:** Likewise, it only deals with words with a consonantal anlaut, and assumes that $p$ was the original closing consonant.
The closing consonant can be homolocal with the second consonant of the base.

Both Hatiboğlu 1974 and Müller 2004 focus more on homolocality with $C_1$ than with $C_2$, but they do also take into account other kinds of consonants further in the word: “[…] ya da sürekli ünsüzlerden biriyle kapanan sözcükler, “p” ünsüzüyle pekiştirilir” (Hatiboğlu 1973: 34, “Birinci Kural”), and “[…] und als weitere Konsonanten den Laut k […] oder Zischlaute, aber nicht m enthalten. […]” (Müller 2004: 151, “Regel E”, also elsewhere).

Despite their efforts, both Hatiboğlu and Müller’s could only formulate tendencies, but not rules (see 1.1.3). Müller took more factors into account

<table>
<thead>
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<th>$C_2$</th>
<th>$p$-languages</th>
<th>$mprs$-languages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
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</tr>
<tr>
<td>$b$</td>
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</tr>
<tr>
<td>$f$</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>$m$</td>
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</tr>
<tr>
<td>$p$</td>
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</tr>
<tr>
<td>$v$</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>$d$</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>$δ$</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>$l$</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>$n$</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>$r$</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>$s$</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>$t$</td>
<td>16</td>
<td>15†</td>
</tr>
<tr>
<td>$θ$</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>$z$</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

Table 3.5. Use of closing consonants with different consonants as $C_2$. See tab. 3.2 for an explanation how to read this table.

* For this and other cases where the closing consonant is the same as $C_2$, see 3.1.6.
† Az. $gətgəryłə$ ‘1. mixed, complicated, entangled; 2. scattered, disordered; 3. un-combed’, see 2.2.3.
‡ Kmk. $bụbụtụn$ ‘the absolute whole’. This reduplication is not at all representative for Kumyk; see 2.11.3.
§ Uzb. $bụbụtụn$ ‘quite complete’. For the last one, see 3.1.6.
than Hatiboğlu and managed to slightly improve the accuracy. His rules cover ca. 79% of the examples but they definitely make an impression of being over-fitted, see the appendix.

Here, I will limit myself to discussing homolocality with $C_2$, similarly to how it was done in 3.1.4 above. The numbers are given in tab. 3.5, and remarks in the footnotes. The following tendencies can be extracted from it with an acceptable degree of confidence:

1. $p$-languages use $p$ as the closing consonant indiscriminately for all bases;
2. $mprs$-languages do not avoid homolocality of the closing consonant with $C_2$;
3. $mprs$-languages tend to avoid using $C_2$ as the closing consonant;
4. The tendencies referring to $C_2$ are weaker than those which refer to $C_1$.

The relation of the closing consonant with $C_2$ is then quite the same as with $C_1$ (see 3.1.4), only weaker. The general tendency in the $mprs$-languages, therefore, appears to be rather simple: the closing consonant should not be the same as $C_1$, and it is better if it is not the same as $C_2$. Homolocality, it seems, does not really play a role here.

But in theory, another explanation is also possible. See 3.1.6 for a discussion of special cases where the closing consonant is the same as $C_2$. The considerations started here are continued in 3.2.1, and concluded in 4.1.3.

### 3.1.6. Closing consonant identical to $C_2$

**Note:** This subsection continues the considerations on the homolocality of the closing consonant with $C_2$. See 3.1.5.

The closing consonant can be the same as the second consonant of the base.

There is a relatively numerous group of words with an intensive meaning where the first three sounds are the same as the triple following them. Three groups can be distinguished:

1. The reduplication is in a $p$-language, and the closing consonant and the second consonant of the base are both $p$: Bshk. täptäpäs(äk) and Kzk. tap-tapal, all ‘very low’ (note that these two words might actually be common Bashkir and Kazakh heritage rather than independent innovations);
2. The reduplication is in an $mprs$-language, and the closing consonant and the second consonant of the base are the same and one of $m$, $p$, $r$, $s$ (unlike in
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3. The reduplication is in an mprs-language, and the closing consonant is not one of m, p, r, s: Uzb. bütbütün ‘quite complete’ and pakpakana ‘very shot of a person’; maybe also Ott. daydayan ‘scattered, cluttered, all over the place’.

As for the first group, there seems to be actually no reason to treat it in a special way. The p-languages simply close all of their reduplications with p (see 3.1.4 and 3.1.5), and apparently also allow words with p as C₂ to be reduplicated.

The second group is more difficult to interpret. The data presented in 3.1.5 suggest that using C₂ for the closing consonant is avoided. Objective arguments seem to be missing with which to determine whether the words in this group are simply exceptions to this general tendency or perhaps examples of some separate type of reduplication where the first three sounds would be reduplicated.

The third group contains two or maybe three words which are not clear. Of these, Ott. daydayan can be now set aside because it is most probably not a reduplication at all, see 2.13.3. Uzb. bütbütün might be suspected of resulting from a trivial phonetic assimilation, but there seem to be no parallel examples to support this explanation. The last word is pakpakana for which I am presently unable to offer a solution other than the hypothetical separate type of reduplication.

Lastly, the unclear word symsymrak ‘dish of meat cut up small’ (see 2.1.3) should be mentioned. It is not certain that it is a reduplication at all but if it is, it also belongs here.

Such a separate type of reduplication would have to involve the repetition of the first three sounds of the base and prepending them to the base with no intervening element in between. Perhaps the most likely candidate is the otherwise unclear Uzb. pakpakana ‘very short of a person’, but in theory, all the examples mentioned in this subsection need to be reconsidered.

Furthermore, a number of words which are not typically considered reduplications but which do nevertheless begin with two identical triples of sounds could potentially be reinterpreted as representatives of such a hypothetical new type. Examples: Bšk. baš-baštak ‘willful, headstrong’ (BškRS58, BškRS96), min-minläk ‘conceit; selfishness’ (BškRS58), Kar.E bok-baklavat ~ bok-bokla-
Analysis

vat\(^4\) (KRPS, RKarS-Haf), boš-bošyna ‘in vain’ (KRPS), kün-kündüz ‘in the middle of the day’ (RKarS-Haf), and potentially more.

The origin of our hypothetical new type of reduplication is a problem. The formations included in the three groups above rarely appear in more than one language. Also, their stems are essentially not among the most commonly reduplicated ones (see 3.2.4). This suggests that they are not remnants of an ancient method but rather innovations, and most likely independent of each other. It would probably have to be assumed that this new type evolved more or less spontaneously in five or six different languages.

Postulating a new type of reduplication for the formations presented here is riddled with difficulties. Considering that its motivation is effectively the fact that one word, Uzb. pakpakana, is unclear, the idea is perhaps better abandoned.

See 3.2.1 for further observations on the choice of the closing consonant, and 4.1.3 for a conclusions of these considerations.

3.1.7. Diminutive

Reduplication can be combined with diminutivization.

The present work collects 28 such formations in nine languages: Az. jup-jumruža, tätäzäžä, Khak. appagas, kőpęgeš, Kirg. apapakaj, kipkičinekej, tap-tatynakaj, Kklp. and Kzk. kipkiškentaj, Oir. apagaš and five related words, kőpő-gőš and four related words, OTkc. oposalkyja, Shor apagaš, apapagaš, appagaš, kőpegeš and kőppegeš, and Tksh. dądparažyj and dasdaražyj. See the “Standard cases” and “Special cases” subsections in the respective sections in chapter 2.

Amounting to \(\frac{2}{3}\) of all the examples, the South Siberian words belong effectively to one family of similar reduplications of just two bases, ak ‘white’ and kők ‘blue’ (see 3.1.11 on families of reduplications). Note also that Tuvinian is the only South Siberian language included in the present work which has apparently no parallel forms. Moreover, Karakalpak and Kazakh share their only representative, and the same word is also present in Kirghiz. In effect, it is only Azeri, Old Turkic, Turkish and partly Kirghiz, comprising just a quarter of the words, that seem to have evolved this kind of multiple intensification independently.

In the majority of cases, it seems impossible to decide whether it was the reduplication that was enhanced with a diminutive suffix or the other way

\[^{4}\] The base *ba|oklavat does not seem to be attested. Possibly, the whole was formed in the image of Tksh. takym-taklavat ‘all together’ which, in turn, was probably shaped by analogy to Arabic loanwords in -(av.)at, from takim ‘set, group’ (Nişan-yan ÇTES).
round. Only with regard to the South Siberian examples some suppositions can be made; see 2.12.3.

See 3.1.13 for other methods of strengthening intensification.

3.1.8. **Double pp**

The closing consonant $p$ can be doubled to $pp$.

With at least fifteen examples from thirteen languages to its name, the phenomenon seems to be relatively common. However, thirteen of these examples are reduplications of $ak$ ‘white’ (see 3.1.2.4 on the unusual productivity of the word, and 3.1.2 on the meaning of $apak$ vs. $appak$), and the other two are unrelated singular innovations: Kar.E $appačyk$ ‘wide open’, possibly also ‘very bright’, and Yak. $üppırũŋ$ ‘snow-white’.

The distribution of $pp$ follows a pattern, see map 3.1. Out of the languages included in the present work, it is present in all the Karakhanid and Kipchak ones (Uighur and Uzbek; Bashkir, Karaim, Karakalpak, Kazakh, Kirghiz, Kumyk and Tatar), and only sporadically in other groups: Oirot, Ottoman, dialectal Turkish (TTAS), and also among the oldest attestations. What probably are its traces can also be found in Azeri ($aγappag$), Khakas ($appagas$, $köppeges$), Oirot ($appāš$, $köppōš$), and Shor ($appagaš$, $köppegeš$). See the “Standard cases” and “Special cases” subsections in the respective sections in chapter 2.

Figure 3.1. Geographical distribution of double $pp$ as the closer. A geographical and genealogical pattern can be observed, see the main text.

Further, four members of the South Siberian $apagaš$ family might also belong to this group: Khak. $appagas$, Oir. $appāš$, $appagaš$ and Shor $appagaš$, but other interpretations of these forms do not seem to be less likely; see 2.12.3, and also 3.1.11.
Double *pp* must have then arisen as a closing consonant at least thrice: probably in Old Turkic from which it was inherited to modern languages, and also later independently in Karaim, and Yakut.

The Kar.Eng *appačyk* ‘wide open’ might have been shaped after Kar.Eng *appak* ‘snow-white’, or independently. The Yak. *üppürün* ‘snow-white’ and OTkc. *apak* id. are most probably the latter. At least five explanations seem conceivable:

1. contraction of a double reduplication (*apapak*),
2. contraction of a phrase with the *ma* particle, (*ak ma ak*),
3. simplification of *ak pak* lit. ‘white clean’,
4. compensatory lengthening after a shortened vowel (*āpāk*), or
5. emphatic lengthening.

A **double reduplication**, *ap.ap.āk* (see 3.1.9), can be easily believed to have contracted to *appāk*, the middle syllable being unstressed. However, such formations are very rare, and unlikely to occur until the reduplication had had been in use for so long as to see its emphatic load rather weakened. Knowing that *appak* had already existed in Old Turkic, this option can probably be dismissed here.

Roos 2000: 79 suggests that WYug. *appaq* ‘very white’ < *aq pa aq < aq ma aq*, where *ma* is a **particle** which, among other things, expresses emphasis or another meaning also imaginable here, ‘moreover, too, also’ (Roos 2000: 153). But our forms should require a solution that is not limited to Yughur, and it can be found in OTkc. *ma* ‘and’ (Erdal 2004: 347f).

A similar particle, *mi*, can be used in Turkish to intensify the meanings of adjectives, e.g. *güzel mi güzel* ‘how nice, very nice’. G. Imart equals it with an analogous shape in Kirghiz and proposes as the source of *appak*, see 2.10.1. It is not clear whether this *mi* is etymologically identical either to the *ma* mentioned above, or to the interrogative particle *mi* ‘if, whether’ ⇐ OTkc. *mu*, the latter being discussed in Erdal 2004: 411f and on other pages.

In any case, the second option (a phrase with a particle) appears to be too general. Such mechanism could be applied to virtually any intensifiable adjective, and it seems unlikely that its traces should only survive in those three, where the closer is double *pp* (Kar.Eng. See also 3.4.4 on the application of this idea to the very origins of reduplication.

Next, *appak* may be derived from a **binomial** *ak* + Pers. *پاك pāk* ‘1. clean; pure; 2. innocent; …’, lit. ‘white clean’ → ‘snow-white’. This idea can be expanded in more than one way: *pak* might have been an ancient borrowing (see the oldest attestations in 2.1.2), which created *appak* that survived in thirteen languages even where *pak* itself did not (e.g. in Kirghiz, see KirgRS), it might have been
borrowed to one language at some later stage, from which it spread only as a part of *appak, it might have been borrowed to several languages, and from them transmitted to the other ones either in the form of *ak pak, or appak. In either case, this solution cannot be applied to Kar.E appačyk and to Yak. üppürüŋ for which different explanations would need to be found. Overall, this scenario is considerably more complex than the last option below, not any more provable, and with no obvious advantage over it.

Further, Tekin 1971: 227 lists appak among examples of compensatory lengthening after a long vowel. He bases his interpretation on the attestation of אֶפֶק in Ibn Muhannā’s dictionary (see Gül 2010), which he derives from *āp āk. This is a fragile assumption, and in the light of the data collected here, it must be deemed unlikely. It is more probable that the maddah is merely orthographical and perhaps related to the initial stress; see āpq in 2.1.3 for details. Also, Tekin’s proposition offers no way of explaining Kar.E appačyk and Yak. üppürüŋ where there is no reason to reconstruct long vowels in the anlaut.

Finally, it is known that lengthening can be employed in the Turkic languages as a means of adding emphasis. It is not a particularly frequent phenomenon but at least of the five options offered here, this seems to be the most plausible one. It is by far the simplest, and the only one that can easily account not only for appak, but also for Kar.E appačyk and Yak. üppürüŋ, and probably also for the Azeri and South Siberian forms mentioned at the beginning of this subsection. Double pp would then be a special case of lengthening, see 3.1.12 below.

Despite this, however, pp must be treated as a separate closer to a certain degree because there exist languages (Karakalpak and Kazakh) where the reduplication of ak can only be closed with it, and no other closing consonant. In this sense, double pp is not “just a phonetic variant” of p in as much as the spirantized versions (see 3.1.21).

3.1.9. Double reduplication

Words can be reduplicated more than once.

In the current collection, there are only three or four examples of this phenomenon: Kirg. apapakaj, apappak and Shor apapagaš, all ‘very white’ (see 2.10.3, 2.14.3 and also 3.1.7), and possibly also Bshk. šypšym (see 2.3.3). More can be found in dialectal Turkish and perhaps other non-literary idioms, which however lie outside of the scope of the present work, e.g. abapačyk or apappažyk. Interestingly, all are reduplications of ak ‘white’; see 3.1.24 for the extraordinary productivity of the word.
Note that doubly closed reduplications, such as Yak. čybysčylās ‘very warm’ or tarystaraγaj ‘completely bald’ (Pekarskij 1907–30) are here considered a separate, CVC-type rather than double reduplications.

Double reduplication might have also given rise to the forms with a double pp for a closer (see 3.1.8), although alternative explanations seem more plausible.

See 3.1.13 for other methods of strengthening intensification.

3.1.10. EMANCIPATED REDUPIED ANLAUT

The reduplicated anlaut, together with the closer, can be promoted to an independent intensifier.

In six languages, lying suspiciously in one belt from Kumyk through Uzbek to Yakut, peculiar forms exist which are typically one syllable-long and serve as intensifiers for a strictly limited number of words. At least one of them is in all probability a severed reduplicated anlaut by origin. Let us begin with this one, and then proceed eastward from Kumyk listing the mostly uncertain examples, and finally recall an interesting parallel from al-Kāšgarī’s dictionary and modern interpretations of reduplication.

It is Kirg. kyp, which KirgRS85 (s.v. кып ii) defines as “усиление к словам, начинающимся на кы” before proceeding to give just one example, кyp(a) żyłanyač ‘stark naked’. To be sure, *kylaŋač is not only impossible as a phonetic variant of żyłanyač, but also not attested as a separate and just accidentally similar root. However, żyłanyač ‘naked’ is, and, more importantly, it is attested in the phrase kypkyzyl żyłanyač ‘stark naked’, lit. ‘red-naked’ (KirgRS85 s.v. кыпкызыл). The shape kyp itself is also attested as a “подражательное слово” (s.v. кып i) in two phrases: kyp edip and kyp dep, both ‘immediately’. It is not certain whether or how kyp ı and ıı compare. The origin of Kirg. kyp żyłanyač, nevertheless, seems to be clear.

The phrase is also present in Kumyk: kyp jalangač id. (KmkRS), and a similar one can be found in Turkmen: ğyp jalanač id. The latter is more mysterious; maybe related to the similary unclear ğypčynym ‘absolute truth, sheer truth’ (see 2.17.3)?

In Kumyk, there exist at least three more such compositions: kap ortasy ‘the exact middle’, kap jartysy ‘precisely a half’ (both KmkRS, see also Khakas below), and šam jalangač ‘stark naked of a person’. Two reduplications are attested in the present collection that begin with kap-: kapkara ‘pitch-black’ and kapkarangy ‘complete dark(ness)’, and none with šam-, or even closed with m at all.

For Turkmen, Clark 1998: 511 lists four intensifiers: čým (+ ăk ‘snow-white’ and gyzyl ‘bright red’, see also below), duv (+ ăk ‘pale white, ghost-white’),

dym (+ garanjy ‘very dark’, see fn. 51 on p. 248 for parallels), šar (+ gara ‘jet-black, raven-black’), and saŋ (+ gaty ‘rock-hard’). With the last one, Pers. سنگ sang
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Two examples from TrkmRS can be added: *dym gar很高k* ‘very dark’ (see fn. 51 on p. 248 for parallels), and *gap bi很高* ‘the exact middle’. Of the above, only *gap* has reduplications beginning with it in the current collection: *gapgadyrly* ‘dear, cordial’, *gapgara* ‘pitch-black’, and *gapgar很高ngk* ‘complete dark(ness)*.

For Uzbek, Kononov 1960: 162 mentions four words: *γirt* (+ *χām* ‘completely unripe’), *jālgån* ‘a blatant lie’ (UzbRS41), and *savādsiz* ‘completely illiterate’), *lik* (+ *tola* ‘absolutely full’), *tim* (+ *qāra* ‘completely black’, see fn. 51 on p. 248 for parallels), and *žiŋga* (+ *hol* ‘completely wet’). Only *tim* also appears in a standard reduplication, with *tin* → ‘absolutely still, steady’.

For Kirghiz, I do not know of examples other than *kyp žylなač* discussed above.

For Uighur, too, I am only aware of one example. It is *ǯim*, which UjgRS classifies as an independent word with the meaning ‘quietly, calmly; silently, tacitly’, and exemplifies with the phrases *ǯim (ǯim)!* ’be quiet, shut up!’, *ǯim turмаq* ‘to keep quiet’ and *ǯim bolмаq* ‘to quiet down, to grow silent’. However, it is fairly possible that the word was originally the reduplicated anlaut of *ǯymčyrt* or a similar shape, see 2.19.3.

For Khakas am I aware of one example in two phonetic variants: *haborta* and *hap ortа* (see also Kumyk above). HakRS and Subrakova 1999 differ on the exact meanings but their general semantics is ‘right, exactly, precisely: half, on target, on time’. Possibly, also the shape *hap-sort* ‘кстати, как раз’ belongs here (attested in HakRS, where it is suggested to be a dialectal variant of *haborta*, and Subrakova 1999). The voiced variant is not used in standard reduplications, and *hap* is attested in *haphara* ‘jet-black’ and *hapharashy* ‘completely dark’.

For Yakut, I can mention two intensifiers: *op* (+ *sollon* ‘excessive greed’), and *suот* (+ *çygyinaç* ‘naked’, *çatý ~ satý* on foot’, and *symyja* ‘deceitful’). In standard examples, the first one can also be found with *oččuguj* ‘small, tiny’. The other one not as such, but see Dolg. *suотçogоток* ‘completely alone’ and a variety of similar forms in Yak. in 2.21.3, and also the reduplications of *soon* ‘a cry, weep’ and *sotoru* i.a. ‘now, immediately’ in 2.21.2.

Possibly, one more form should be added here. It is *ǯim* which al-Kāšγarī defines as ‘an exaggerative particle of dampness or rawness’ and attests in two phrases: *ǯim jиg àt* ‘very raw meat’, and *ǯim öl тиң* ‘a very damp garment’ (Dankoff/43

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43 Also with *dagyn* ‘scattered, diffused’ (TrkmRS). This combination is most probably related to Ott. *дардаян* ‘scattered, cluttered, all over the place’, and unclear. See 2.13.3.

This intensifier is more likely unrelated to reduplication. *CV*-type reduplications are particularly numerous in Uzbek (not discussed in the present work), and they do typically have their closing consonant doubled (e.g. *duppadurust* ‘very good, decent’, *jапpaиャиз* ‘completely alone’ (both UzbRS) &c.), but it is always *p*.
Kelly 1982: 267). However, Clauson 1972 mentions similar shapes: čym ~ šym with ak and kara, ‘plain white’, ‘pure black’, and ěyy with tolu ‘full’. The word might be related to Trkm. čym above, and maybe also to Uigh. žim(žit) (above) and Bshk. šym ‘quiet’. See čimjūg in 2.1.3.

It is not possible at present to determine with certitude which of all of these forms originate from reduplicated anlauts. The most likely candidates, it seems, are only Kirg. and Kmk. kyp; al-Kāšarī’s čim and Trkm. čym are also interesting. The phonetic similarity between the last two, Bshk. šym, and Uigh. žim is difficult to oversee, but the issue deserves a dedicated study beyond our present scope.

Note that the existence of a phrase similar to kypkyzyl žylač, while fortunate, is not a sine qua non. Morphemes can become independent words regardless of phrases &c. they are used in, if only their semantics is sufficiently clear, see e.g. Engl. ish. This is in line with al-Kāšarī’s understanding of čim which, incidentally, is not at all only characteristic of the 11th century as dictionaries have treated reduplicated anlauts as separate entries and defined them as ‘intensifying particles for words beginning with …’ well into the 20th century (see 1.1.3).

In theory, the reverse process is also possible, whereby an adjective becomes so tightly bound to a specific noun that it never or almost never appears with any other, as e.g. Pol. wierutny ‘arrant’ with bzduра ‘nonsense’ and kłamstwo ‘lie’. Nevertheless, this is quite a rare phenomenon, and cases where the eventual combination possesses the appropriate phonetic shape of a reduplication must be most infrequent, rendering such explanation rather ill-suited to the Turkic examples above.

See also 3.4.4 for a possible use of the above to explain the origins of reduplication.

### 3.1.11. Families

Reduplications can grow out into entire families of related forms.

Naturally, very many reduplications in different languages can be eventually reduced to one (proto-)root and thus considered siblings in one big family (eg. Az. gara ‘black’, Tksh. kara id., Trkm. gara id., &c.). Two subgroups, however, are special because they have a reduplication for a parent. They are the south Siberian derivatives of ak ‘white’ and kök ‘blue’, seventeen or eighteen forms in total (see 2.12.3, and also 3.1.24 for the unusual productivity of ak).

Also other sizeable subgroups can be distinguished where, however, the specific relations between their members are yet to be resolved. In particular, it is not clear in most cases whether the declensional and derivational suffix have been added to a reduplication, or the other way round, i.e. which of these forms are actual reduplications. The most prospective candidates are listed below.
The exact etymologies remaining presently unknown, the numbers must be considered provisional. For details see the “Standard cases” and “Special cases” subsections in the respective sections in chapter 2.

The largest of these groups, with approximately fourteen members in six languages is the one centred around *tin or a similar shape with the meaning ‘silent, quiet, calm, peaceful’. It comprises: Bshk. tymyk, tyn, tynys, Kklp. tynyk, Kzk. tynyk, tyniš, Tat. tynyzyk, tyn, tynyc, Uigh. teč, tin, tinč, tiniq, and possibly also Ott. dipdinsüz. See also 3.2.4.

It is followed by the North Siberian family of soyotoχ ‘lone(ly)’ which comprises thirteen forms in Dolgan and Yakut (see 2.21.3).

Later is the family of čymčyr ‘complete silence’ which has up to eight members in seven languages. The parent čyr exists still in different languages but apparently only with the meanings related to ‘tearing’, and not any more to ‘silence’. See also 3.1.15 on obsolete bases.

After it, comes the group of four reduplications of garyš(yg) ‘mixed’ in Azeri, another one of three reduplications of dar(aʒyk) ‘narrow’ in Turkish, and a number of pairs such as Az. gőj(lük) ‘1. blue; 2. green’, Az. jalnyz(ża) ‘lone(ly)’, and others.

Perhaps more interesting are also two pairs of phonetic variants: Az. jalgyz : jalnyz ‘lone(ly)’, and Tksh. jašyl : ješil ‘green’. The Azeri reduplications are both closed by p, but the Kipchak-like Tksh. jašyl is closed by p, while its Oghuz-like counterpart ješil can be closed by both m and p. This is consistent with the general characteristics of the two branches; see 3.2.2.

3.1.12. LENGTHENING

Single phonemes can be lengthened (doubled) to add emphasis.

The phenomenon is a cross-linguistic one, see Blevins 2004: 174. Turkic examples, however, are relatively few and, particularly among reduplications, uncertain.

They fall into five groups. The clearest one only contains a single example, Oir. čike ‘straight, right, accurate’ which, besides the regular čipčike ‘exactly, precisely’, also reduplicates to čipčikke id. The second, less clear, comprises North Siberian reduplications with long vowels (see below). The third, also uncertain, reduplications with a double pp (see 3.1.8), the fourth, if it belongs here, four members of the South Siberian apagaš family (see 3.1.8 and also 3.1.11), and finally the fifth, if it belongs here, four Ottoman shapes (see below).

The North Siberian words (Dolg. suotčogotok ‘completely alone’, Yak. bâsbütün ‘absolutely all’, čuopčuoγur ‘very motley’, suočsoγotoχ ‘very lone(ly)’ &c., tuöptüökün ‘big cheater’, and ūnutary ‘completely opposite, …’; see 2.4.4
and 2.21.4) display a conspicuously irregular long vowel in the reduplicated anlaut, including even cases where the one in the base was short. Since a regular explanation falls short (exclamative intonation, see 3.1.20), an irregular one can be proposed. Noteworthy here might be the unclear Yakut shape büttün ‘without exception’ (Pekarskij 1907–30), no doubt related to the regular büttün ‘all, whole’, and the variety of forms derived from Dolg. sogotok ‘alone, lone(ly)’ ~ Yak. soyotɔŋ. Possibly the unclear Yakut forms ɔn xofojon and mõn mötɔj (see 2.21.3) also belong here.

The Ottoman words with a long vowel in the reduplicated anlaut are: māsmāvi ‘very blue’, sāmsāfī ‘absolutely pure’, sāpsāry ‘very yellow’, and tāstamām ‘absolutely right, …’. In the first three, the length is probably just an orthographic device, but in the last one emphatic lengthening is a more likely explanation; see 2.13.3.

Maḥmūd al-Kāšyarī adduces two shapes that are relevant here: essiz ‘impudent, treacherous, shameless, wicked’ and arrī ‘very clean’, explaining in both that “the doubling is for exaggeration” (Dankoff/Kelly 1982: 162). In addition, the Dagur alternative reduplications xuubxulaang ~ xuubxulaang ‘deep red’ can be mentioned, as Tsumagari 2003: 135 considers the latter to be a case of emphatic lengthening.

Even if irregular and unpredictable, emphatic lengthening appears to be a satisfactory explanation for reduplications with a double pp and for the North Siberian forms, and to be acceptable as at least a working interpretation for the four members of the apagaš family (see 3.1.11).

3.1.13. Multiple intensification

Reduplication can be combined with different means of intensification, including itself.

It seems only natural that the emphatic load wears away after time and what used to be an intensive form becomes trite and potential candidate for intensification.

In the present collection, five types of multiple intensification can be distinguished, where reduplication is used together with: a diminutive (see 3.1.7), another reduplication (3.1.9), emphatic lengthening (3.1.12, including a special case where it is the closing consonant that is doubled), a doubled, prepended base (3.1.16), and with a binominal (3.1.18).

Only the first method, combination with a diminutive suffix, is relatively numerous attested; the remaining four are at best sporadic. In general, it appears that the highest proportion of multiple intensifications can be found in Kirghiz.
In most cases the order of composition cannot be reconstructed based on the data collected here. In some words, particularly those from the SSib. apagaš family (3.1.11), conjectures can be made that diminutive must have been applied after reduplication, but they are merely based on the apparent lack of attestations of *agaš &c.

A mention has to be made here about those words which hoard more than two intensifying elements: Az. ayappag, Khak. appagas id., Kirg. apapakaj, apappak, Oir. appāš, appagaš, and Shor apapagaš and appagaš. All stem eventually from ak ‘white’, and all mean primarily ‘snow-white’. In some of them it is not certain exactly which intensifiers have been used to create them, e.g. the double pp in Oir. appāš could result from contraction (≪ *apapagaš), emphatic lengthening (*apagaš), or simplification (*akapagaš), see 2.12.3, but it seems to always be the case that three intensifying elements have been used. See 3.1.24 on the unusual productivity of ‘white’, and of ak ‘white’ in particular.

Possibly, also Kar.E tüztümüz and Oir. akpāš accumulate three intensifying elements, see 3.1.16.

Although essentially not discussed in the current work, dialectal forms need to be mentioned because they do sometimes hoard even more than three intensifiers, e.g. in Tksh. dial. ap.ap.p.aǯyk ‘snow-white’ (DS) one finds two reduplications, an emphatic lengthening, and a diminutive.

3.1.14. Nouns

Nouns can be reduplicated.

Examples of reduplicated nouns seem to be quite numerous and appearing in an array of languages, but an exact specification is not possible. The boundary between adjectives and nouns is rather leaky in the Turkic languages and the classical Graeco-Roman distinction of parts of speech too often simply does not hold water.

Certain peculiar cases, such as e.g. Kirg. ynak ‘1. clean; 2. close friend’ → yypnak ‘very close friend’, or Yak. tüökün i.a. ‘swindler, rogue, thief’ → tüöptüökün ‘big cheater’, are enumerated in the “Semantics” subsections in the respective sections in chapter 2. Three cases, however, need to be mentioned here. Firstly, Az. bāzāk ‘decoration, decorative’ and söküntü ‘chip, splinter’ both have a relatively clear substantival character which also unusually manifests itself in reduplication, and thus effectively changes its function from the intensifying to the pluralizing; see 2.2.5. Secondly, al-Kāši attests the pair jazi ‘steppe, …’ : japjazi ‘wide open space’ which, although recored also with an adjectival meaning in other sources, is the earliest example of a reduplicated noun that I am aware of.

See also 3.1.17 and 3.1.22 for reduplications of pronouns and verbs, respectively.
3.1.15. **Obsolete base**

Reduplications can outlive their bases.

Two examples of this phenomenon can be found in the present collection, illustrating two different ways for a base to become obsolete.

One is modern Tksh. *epeji* &c. ‘quite, fairly’ ≪ Ott. *eji* ‘good’ > Tksh. *iji* id., for which see 2.16.3. Here, the base did not go out of use as such, but its phonetics has changed and the reduplicated anlaut did not follow suit, yielding in effect a form that from the current synchronic perspective can no longer be considered a reduplication.

The other one is a family of cognate words scattered across several languages (see also 3.1.11 for other families), which pivots around *čymčyrt* ‘complete silence’. Its members are: Kar.E *čymčyrt* ‘complete silence’, Kklp. *žymžyrt* ‘quiet(ly), silence’, Kzk. *žymžyrt* ‘complete silence’, Uigh. *žimžit* ‘sudden silence; completely silent, completely mute’ (see also 3.1.10) and *žimžitliq* ‘complete silence’, Uzb. *žimžit* ‘completely silent, completely mute’, and possibly also Khak. *symsyryh* ‘silence, quiet(ly)’, Kirg. *tyntyrs* ‘complete silence’, and Kzk. *tyntyrys* ‘(in) complete silence, completely silent, completely mute’. See the “Special cases” subsections in the respective sections in chapter 2.

The base *čyrt* or similar does not seem to be attested in any of these languages with a meaning closely resembling ‘silence’. However, there exists in different languages a verbal root *čyrt* &c. with the meanings ‘to tear, to rip, to cleave &c.’ (see VEWT s.v. *jyrt*), and also Tksh. *žyrt* ‘the sound of tearing paper, cloth &c.’.

This last word allows a semantic bridge to be imagined: ‘tearing’ → ‘the sound of tearing paper’ → ‘a quiet sound’ → ‘silence’. Should it prove true, it would also allow to connect the seemingly unrelated meanings of Khak. *syryh*: ‘fine snow; drizzle’, ‘arrow with a tetrahedral head’, and ‘bone plate used for whistling arrows; whistling arrow’ (‘shred to pieces’: ‘cutting arrow’: ‘the sound of ripping through the air’).

Overall, the family seems to deserve a separate study beyond the scope of the present work. Here, it must only be noted that if the first syllables of *čymčyrt* &c. are really reduplicated anlauts, then they are closed by *m*, which suggests an Oghuz origin (see 3.2.2) and thus further complicates the issue.

See also 3.1.3 for more possible cases of obsolete bases.

3.1.16. **Prepended base**

The base word might be prepended again to the reduplication.

In the core data analysed in the present work, there seem to only be three examples of this phenomenon, and neither is absolutely certain. The least
questionable is Az. ayappag ‘very white’, then Kar.E tüztümüz ‘very straight’, and finally the most uncertain Oir. akpāş ‘very white’. It is always phonetics that raises suspicions, regarding the base in the Azeri and Karaim forms, and the reduplicated anlaut in the Oirot word. See the “Special cases” subsections in the respective sections in chapter 2.

Clearer cases, it seems, can be found in Turkish dialects, but as they lie outside of the primary scope of the present work (see 1.2.1), I will only limit myself here to listing a few forms in the way of parallel examples.

All words that I am aware of are eventually reduplications of ak ‘white’, but in Turkish dialects, they are aplenty. DS s.v. ağabbak and akabbak lists no less than 33 shapes, including some relatively clear ones such as ‘ağappağ’, ‘ahampak’, ‘akabbacık’ or simply ‘akappak’, and a few more exotic and possibly uncertain ones such as ‘akbacak’, ‘akcacık’ or ‘akpacık’ (? < ak ‘white’ + pak ‘clean, pure’ + -ǯyk ūDMIN.).

As far as the origin of this method is concerned, the influence of Russian can be suspected since compositions such as белый-пребелый lit. ‘white – very white’ &c. are fairly common in it. But Russian would only be a likely source of the Azeri, Karaim and Oirot forms, and much less so of the dialectal Turkish ones. Native innovation can be offered as an unprovable, yet plausible alternative explanation.

See 3.1.13 for other methods of strengthening intensification.

3.1.17. Pronouns

It seems that pronouns can be reduplicated.

There is, however, only one example to support this claim, Kirg. kačan ‘when?’ which reduplicates to kapkačan ‘(very) long ago’; see 2.10.3. It is noteworthy that the only two depronominial adjectives in the present collection, kačanky ‘1. related to what time? 2. old, past, earlier’ and kajdagy ‘located at any place’ are both Kirghiz words, too.

See also 3.1.14 and 3.1.22 for reduplications of nouns and verbs, respectively.

3.1.18. Reduplicated binomial

It seems that compositions (hendiadyses) can be reduplicated.

There is only one example of this phenomenon in the present collection. It is Bshk. ör-jangy and it is not, in fact, entirely clear. Probably, it stems from the composition of *ör (:: Yak. &c. ür- in ürūŋ ‘white’) with jangy ‘new’, yielding *‘white-new’ = ‘brand-new’. The whole is reduplicated to öpörjangy ‘brand-new’. See 2.3.3.

See 3.1.13 for other methods of strengthening intensification.
3.1.19. Reduplicated anlaut not matching the base

Note: Vowel shortening is discussed in 3.1.20 and omitted here.

The reduplicated anlaut does not always match the anlaut of the base.

In the majority of cases, the mismatch is caused by a change, purely phonetic in nature, which only occurred in the base, or only in the reduplicated anlaut, and did not propagate to the other element. Sometimes also contamination with a foreign pronunciation might need to be taken into consideration. Examples include: Kar.E čalyrebik 'very quick(ly)', čopčevirtin 'from all around', čopčëvre 'all around', jymješly 'very green' and sypslah 'completely wet' (usually along regular forms; see 2.6.3), Ott. öpzun 'very long', topdolu 'absolutely full' (see 2.13.3), Tksh. epej &c. 'quite, fairly' (see 2.16.3), Karakalpak bases in ża-, Uighur umlauted bases, and several special cases (see below for the last three).

Karakalpak bases beginning in ża- regularly have their anlaut reduplicated as żä-, and only in a half of the cases also, as an alternative, without modification (e.g. żasyl 'green' → żapšasyl ~ żäpšasyl, see 2.7.4). In Uighur, reduplications reportedly regularly reflect the pre-umlaut shape, as in seriq 'yellow' → sapseriq.

Two examples are especially instructive: ješil 'green' → javjäšel ~ japješil, and taqir 'smooth, bare' → tapteqir ~ taptaqir; see 2.19.4.

Three cases are less clear: Tat. čepči '1. utterly raw; 2. round, complete, true; 3. inveterate, double-dyed, genuine', Uigh. tipteč 'complete peace' and Uigh. tüptekis 'very smooth, very even'. In all some type of contamination or other irregular phenomenon might be suspected; see 2.15.3 and 2.19.4, respectively. Lastly, Ott. aphāzyr 'absolutely ready, …' arose probably from a combination of poor audibility of h and lack of deeper understanding of the mechanism of reduplication, see 2.13.3.

In general, then, it is the stem that is more progressive. A particularly well documented example of this is Ott. dopdolu 'completely full' < topdolu < topolu (see 2.13.3). Uigh. javjäsél and taptaqir ~ tapteqir (above) are also convincing pieces of evidence. The only two exceptions, it seems, where it is clearly the reduplicated anlaut that undergoes a change while the base does not, are Karakalpak bases in ża- and Ott. aphāzyr 'absolutely ready, …'.

See also 3.1.10 for cases of reduplicated anlauts being used to intensify entirely different words, and 3.2.6 for conclusions that can be drawn from the examples collected here.
3.1.20. **Shortened vowel**

In the great majority of cases, the reduplicated vowel is short where the first vowel of the base is long. The traditional interpretation of *shortening*, however, is not necessarily correct, see 3.2.6.


Five further examples are not entirely clear: *āpaq*, Ott. *māvi* ‘blue’, *sāfī* ‘pure’ and *sāry* ‘yellow’, and Trkm. *āk* ‘white’ and *cāl* ‘grey’. In the first four cases, the spelling suggesting a long vowel in the reduplicated anlaut is probably just a matter of orthography; in the third one of a misprint, and in the last one of a deficient notation; see 2.13.3 and 2.17.3, respectively.

Seven words go against the tendency. Six of them are Yakut and Dolgan, and all fall into two groups. One contains two examples where the original diphthong has been preserved (Yak. *čuopčuoyur* ‘very motley’ and *tūşītūokün* ‘big cheater’), and the other one five cases where the originally short vowel has been lengthened (Ott. *tāstamām* ‘absolutely proper, …’, Yak. *būsbūtūn* ‘absolutely all’, Yak. *sūočtōtoχ ~ Dolg. sōtōgōtoχ* ‘very lone(ly)’ and Yak. *ūnutary* ‘perversity, …’). Apparently the only regular phenomenon that can be used to explain the North Siberian cases is the exclamative intonation, whereby the last vowel of the word is lengthened. However, high vowels are diphthongized with it, so a *būosbūtūn* would have to be expected instead of the attested *būsbūtūn*. See 3.1.12 where an irregular phenomenon is proposed, and also 2.4.4 and 2.21.4 for wider commentary on these forms. The Ottoman form is unclear, see 2.13.3.

There seems to be no correlation between the shortening of the first vowel and the closing consonant used. All the words listed here have their reduplications closed with *m*, *p* and *s*, some even allowing more than one; that other consonants are not represented is most probably due to their general rarity.

The fact that long vowels are generally not reduplicated in full has consequences for the understanding and description of how Turkic reduplication operates, see 3.2.6.

See also 3.1.19 where other cases of reduplicated anlauts not matching the base are discussed.
3.1.21. Spirantized closing consonant

Dialectally, \( p \) functioning as a closing consonant can be spirantized to \( f, v \) and \( w \).

The present work is basically only limited to selected literary languages (see 1.2.1), but four dialectal cases of a spirantized \( p \) can be mentioned: Az. dial. \( \text{gafgara} \), \( \text{gufguru} \) and \( \text{safsary} \) ‘completely: black, dry and yellow, respectively’ (Ščerbak 1977: 120), Kar.E \( \text{afəŋṣyz} \) ‘sudden(ly), unawares’ (see 2.6.3), Uigh. dial. \( \text{javjəšel} \) ‘very green’ (Malov 1954), and WYug. \( \text{sawsary} \) and \( \text{jawja}syl \) ‘completely: yellow and green, respectively’ (Tenišev 1976b: 70). Note that in each case the same stem is also reduplicated in the literary variant and closed with a stop, which makes this phenomenon different from using double \( pp \) in the way of a closer (see 3.1.8).

Nothing seems to point to such spirantized reduplications possessing a greater degree of intensification than the standard occlusive variants. Phonetics, too, do not form a pattern or offer a ready explanation as it is only in Kar.E \( \text{afəŋṣyz} \) that the \( *p \) is intervocalic.

Essentially, three explanations present themselves: 1. ancient legacy, 2. independent evolution, and 3. Mongolic influence.

In the light of the data collected here, the first option seems to be the least likely because it would have to rely on three examples in Azeri and one slightly uncertain in Karaim as the only ones that have indisputably preserved what would then be the original spirant closing consonant, against the great wealth and variety of reduplications closed by occlusives.

For Azeri and Karaim then, it is perhaps the second explanation that is the most plausible.

In Mongolic, \( C \)-type reduplications are very often closed by \( w \) (see 3.4.3). This opens the possibility for the Uighur and Western Yugur forms to be explained differently than the Azeri and Karaim ones. While no final conclusions can be drawn at present, the option seems to be at least equally likely as that of independent evolution.

3.1.22. Verbs

Verbs can be reduplicated.

Examples are very few. Three cases are certain: Kar.E \( \text{apačmak} \) ‘to break open, to throw open’, Uzb. \( \text{qâpqârajmâq} \) ‘to turn completely black’ and also Uzb. \( \text{qip-qizarmâq} \) ‘to redden intensively, to turn completely red, to flush strongly’. See 2.6.5 and 2.20.5, respectively. In both languages, the corresponding adjectives, Kar.E \( \text{ačyk} \) ‘open’, and Uzb. \( \text{qâra} \) ‘black’ and \( \text{qizil} \) ‘red’, also have reduplications.

Additionally, K.D. Harrison claims that in Tuvinian reduplication not only can be applied to verbs, but also that it is fully productive. This is a rather
startling statement because it goes strictly against the picture of reduplication in the Turkic languages as a whole, and in the South Siberian branch in particular since it is there in fact that it is the least developed. No one seems to confirm Harrison’s opinion, and he himself appears to be only reiterating the same three examples in his works. See 2.18.2.

3.1.23. Vocalic anlaut

With one exception, reduplications of bases beginning with a vowel are closed by p. This is apparently the only phonetic rule for the choice of the closing consonant.

This restriction is included in Hatiboğlu’s first rule (1973: 34) and repeated in Müller’s “Regel C” (2004: 150). Of 186 words beginning with a vowel in the present collection, the rule holds for 185. The sole exception is Yak. utary ‘across, opposite’ which reduplicates rather extraordinarily to ānutary. Neither the n nor the length of the reduplicated vowel are clear. It cannot be excluded that the word is not in fact a reduplication at all; see 2.21.3.

3.1.24. ‘White’

Bases meaning ‘white’ have been pronouncedly more productive than any other. In the North Siberian languages, this refers to ārüñ, and in all the others to ak.

Tkc. ak is the only word whose reduplications have been reduplicated (see 3.1.9), the only clear example of a base being prepended to a reduplication (see 3.1.16), and the only base to accumulate, and do so repeatedly, more than two intensifying elements (see 3.1.13).

It is also one of the three reduplications that can have their closing consonant lengthened (3.1.8, sometimes with an additional change in the meaning, see 3.1.2) and one of the seven roots in which reduplication combines with diminutive (3.1.7).

The only method of intensification that can combine with reduplication, and has not been applied to ak, is nominal composition (3.1.18) of which, in fact, there is but one example.

Moreover, ak has given rise to probably the largest family of related reduplications in the present collection, which comprises thirteen forms in total in Khakas, Oirot and Shor (3.1.11).

The achievements of NSib. ārüñ appear amateurish in comparison, but it should be mentioned here that it is the only Yakut base whose reduplication can be closed by a double pp. This is slightly more telling in a language that appears to employ lengthening for intensification, see 3.1.12. In Dolgan, ārüñ does not seem to be special in any way, but its collection is probably incomplete (see 2.4.1).
3.2. Structure

This section explores some interwoven aspects of the structure of Turkic reduplications. First, it gives an overview of the patterns of use of closing consonants in different languages (3.2.1), and then of the general state of reduplication in them (3.2.2). Next, it tests whether synchronic phonetic rules can accurately describe the choice of closing consonants with specific stems (3.2.3), and this failing, it proceeds to identify stems shared by different languages (3.2.4), and to inspect the use of closing consonants in those stems (3.2.5), and to conclude with remarks about the process of formation of reduplications (3.2.6). The whole closes with a summary of the most important findings and conclusions (3.2.7).

3.2.1. Closer

Overall, twelve different closers are attested (this includes pp as a separate one but does not include the spirantized versions; see 3.1.8 and 3.1.21). Their use patterns differ considerably, see tab. 3.6.

The domination of p is undisputable in the majority of languages, but the distribution of alternative closers varies considerably. Two groupings are presented here, both serving as convenient abbreviations in the description of the alleged phonetic relation between the closer and the stem in the following subsections: a more subjective bipartite distinction between the mprs- and the p-languages, and a more objective one based on entropy.

See 4.1.3 for a summary of the problem of the choice of the closing consonant.

**MPRS- vs. P-languages**

When discussing the phonetic relation between the closing consonant and the first and second consonant of the stem (3.1.4–3.1.6), it has proven convenient to introduce two abbreviations: “mprs-”, and “p-languages”. The principle of division is this: a language in which at least three of m, p, r and s are attested as a closing consonant, is an mprs-language; a language which is not an mprs-language, is a p-language. The first employ different closing consonants more evenly, the other use p almost exclusively (see tab. 3.6, ignoring entropy for the moment).

This division is secondary. It does not implement any general theoretical distinction; rather, it simply captures the difference between two groups which have apparently developed different strategies for dealing with homolocality between the closing consonant and the first consonants of the stem.
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Table 3.6. Number of examples for different closing consonants in different languages. Entropy stands for ‘normalized Shannon entropy’ (calculated for p and pp treated as the same closer), see the main text.
The two groups are not homogeneous. Yakut is clearly different than the other mprs-languages; Bashkir, Tatar and Western Karaim are visibly more of borderline cases than clear p-languages, and so are Uzbek and, in a way, Turkmen in the mprs group. It appears that, if anything, this grouping better reflects geography and zones of influence than genealogy, because it hardly coincides with the classical classification.

It is not a trivial outcome, that a geographical-cultural classification is more convenient in the description of the phonetic relation between two elements of reduplications, than a genealogical one. But far-fetched conclusions should not be drawn from this fact. The mprs-languages comprise basically the entire Oghuz group, Eastern Karaim (under heavy influence of Ottoman), Uzbek (genetically mixed, primarily Oghuz-Karakhanid), and Yakut (broke contact very early on).

It seems then that the initial stock of reduplications should have contained seeds of both types of evolution; the Oghuz and the Yakuts have developed one, the other languages the other. Except for the isolated Yakut, all were exposed to the influence of the neighbouring languages which reinforced their chosen path or, less often, drew them away towards the opposing group. This is a more moderate and appears to be a more plausible conjecture than convergent evolution from varied starting points. Nevertheless, it must be approached with reserve as yet because the similarities between Yakut and the remaining mprs-languages are not particularly striking. See 3.2.7 for additional support for this inference, and 3.4 for a continuation of these considerations.

**Entropy**

A more objective way to describe how different closing consonants are employed in a language, is entropy. Here, normalized Shannon entropy is always used.\(^{44}\) Fig. 3.2 shows the geographical distribution; the exact values are given in tab. 3.6.

Apparently, entropy divides the Turkic languages into four groups: 1. zero ($H_n = 0$), 2. mid-low ($0 < H_n \leq 0.2$), 3. mid-high ($0.2 < H_n \leq 0.4$), and 4. high

\(^{44}\) The term entropy may refer to a number of related concepts. In the present work, it is employed in its classical information theoretical interpretation, which is a measure of uncertainty in a random variable. That is to say, if a word is chosen at random, and a guess ventured what closing consonant its reduplication will have, then entropy quantifies the uncertainty of this guess. Here, normalized entropy is used, so that 0 denotes a complete lack of uncertainty (the only possible closing consonant is $p(p)$, and the guess must be correct), and 1 denotes maximal uncertainty (different closing consonants are possible, and all are used with equal frequencies, i.e. equally probable).
(H_n > 0.4); see fig. 3.3. This corresponds quite well to a more intuitive distinction between the mprs- and p-languages (see above). Therefore, it also corresponds reasonably well to geography, and not very well to genealogy. This fact provides additional support for the supposition made above about the history of evolution of reduplication. Entropy-based grouping will also prove convenient in the discussion of phonetic rules for choosing the closing consonant below (3.2.3).

Another point of interest in fig. 3.2 is Turkish. In general, entropy appears to be rising as one advances westwards from the Altai Mountains, but Turkish
is an exception. Not much can be concluded based on entropy alone but it should be noted that in this regard, Turkish lies almost precisely in the middle between Azeri and Turkmen, and that the entropy for Ottoman – although these data span a very long period and are surely incomplete (see 2.13) – is higher, and closer to Azeri.

### 3.2.2. General characteristics

It seems that the defining parameters of the stage of evolution of reduplication in different languages are the number of reduplications and the entropy of closing consonants. They are visualized in fig. 3.4; see also 3.4.3 on how the Mongolic and Tungusic languages relate.

![Figure 3.4](image-url)

**Figure 3.4.** Number of reduplications in different languages against normalized Shannon entropy of closing consonants. The miniature plot is a mirror reflection. See the main text, where it is also explained why Turkish is grouped together with the other Oghuz languages rather than as a separate group like Yakut.

Viewed through the lens of the number of reduplications and entropy of closing consonants, all languages appear to fall into four groups (greyed in fig. 3.4; see also fig. 3.6):

- “Karakhanid” / “South Siberian”, where reduplications are few, and all or almost all are closed by \( p \) (Dolgan, Khakas, Kumyk, Oirot, Shor, Tuvinian, and Uighur);
• “Kipchak”, where reduplications are many, and all or almost all are closed by $p(p)$ (Bashkir, Karakalpak, Kazakh, Kirghiz, and Tatar);
• “Oghuz”, where reduplications are usually many, and $p$ is the dominating consonant but $m, r,$ and $s$ are also relatively common (Azeri, Gagauz, Karaim, Ottoman, Turkish, Turkmen, and Uzbek), and
• “Yakut”, where reduplications are many, and $p$ is the dominating consonant, but many other consonants are also used as closers (Yakut).

First, a remark about the location of Turkish should be made. It is a very distant outlier in the “Oghuz” group, due to the unusually high number of reduplications that are attested in it. Next in order, Kazakh and Yakut, have less numerous collections by about a third, and this is the only such big difference across all the languages (see also fig. 3.10). In reality, however, probably just about a half of those reduplications are in common use throughout its territory (see 2.16.4). This would place Turkish far to the left and probably a little higher in the figure, and rather close to Azeri.

Now, the four groups distinguished here to correspond quite well to the genealogical classification of the Turkic languages, and it appears that they can be interpreted as different paths of evolution of reduplication.

If so, fig. 3.4 can also be seen as a diachronic-like scheme. It begins foreseeably at $(0, 0)$, from whence along the diagonal extends an (imaginary) axis representing the stage of development of reduplication. Only two directions are available: horizontal, where new reduplications are added, and diagonal, where new reduplications but also new closing consonants arise. (A strictly vertical advance is not possible as new closers cannot be added when no reduplications exist.) The “Karakanid” / “South Siberian” and “Kipchak” groups went essentially the first way. The “Oghuz” and Yakut went diagonally, but at different angles.

Another interesting property of fig. 3.4 is its relation with geography, as can be seen in the miniature plot in the corner. It is a mirror reflection of the main plot; this little legerdemain breaks the arbitrary Cartesian convention and locates the point $(0, 0)$ in the upper right corner, in order to bring the plot closer to the arbitrary Ptolemy-inspired mediaeval convention of orienting maps with north at the top.

Thus, the “Karakanid” / “South Siberian” group is in the northwest, the “Kipchak” group west from it, the “Oghuz” group southwest from it, and it is only at Yakut, the only Turkic language that advanced north or west from the Altai homeland, that this metaphor must stumble.

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45 See fig. 3.9 for a similar scheme of semantics.
The general outline is preserved, but the placement of specific languages is incorrect where the diachronic-like interpretation interferes, e.g. the fact that Kumyk appears to be east from Tatar results from that having almost the same entropy. Kumyk has a considerably smaller number of reduplications attested in it, which locates it at an earlier stage of development, i.e. in this case at almost the same latitude, but at a lower longitude.

What makes this property interesting, however, is why it actually generally holds. A simple plot of the number of reduplications against entropy of closing consonants can only be expected to show similarity to geographic distribution if both the evolution of reduplication, and territorial advance were generally linear, and coincided.

Yakut aside, the Turkic peoples mainly advanced on a broad front straight west. The languages in the vanguard, it appears, must have developed reduplication more vigorously than those in the centre, and did so along two main paths. Both involved adding new reduplications (hence the advance “westwards” in fig. 3.4), but only the “Oghuz” group also added new closing consonants (advance “southwards”).

Also signs of secondary, contact-induced developments can be found in fig. 3.4. Uighur and Uzbek, for example, are far apart despite close genealogical affinity. But both are closer to languages that they are in reality neighbouring with. Uighur does not have closing consonants other than \( p(p) \), and this locates it far “north”, and close to the other \( p \)-languages, while for Uzbek the opposite is true. Likewise, Eastern and Western Karaim are very far from one another, because one was under heavy Ottoman influence, while the other was surrounded by a non-Turkic element, and did not greatly develop reduplication.

See 3.4 for a more detailed discussion of the history of Turkic reduplication.

3.2.3. Synchronic phonetic rules

A greater part of the effort invested in the study of Turkic reduplications so far has concentrated on formulating synchronic phonetic rules for choosing the closing consonant (see 1.1.3). This attitude is quite frail from the point of view of methodology (see 3.4.1). Nonetheless, let us now inspect the examples from different languages to find what degree of accuracy can be expected from such phonetic tendencies. See 3.2.5 for an attempt at identifying patterns across languages.

Only bases beginning with a consonant are considered here. Those with a vocalic anlaut have their reduplications closed with \( p \) in all but one case (see 3.1.23). This is truly a phonetic tendency, a very strong one, and the only one so strong. Yet, the actual phonetic motivation behind it remains mysterious to me.
Languages are discussed in groups based on their entropy. The concept has been introduced in more detail in 3.2.1; the general idea is that the lower the entropy, the more the reduplications are dominated by one closing consonant (that consonant is always $p$). The Turkic languages fall into four distinct groups, presented here in the order of increasing entropy.

Languages with entropy of 0 (group one) can be put aside immediately because $p$ and $pp$ are the only sounds that they employ to close the reduplicated anlauts. Here, the rule accounts for all the available examples and it is always true. It is only rather questionable whether it can be considered phonetic in nature.

Group two ($H_n \leq 0.2$) contains four languages: Bashkir and Tatar, Kumyk, and Western Karaim.

In Bashkir (see 2.3.4), there are only two reduplications closed by $m$ against 90 closed by $p(p)$. They are $jäšel$ ‘green’ and $kük$ ‘blue’, but the first can alternately be closed by $p$. One possible formulation of a phonetic tendency is this: all Bashkir reduplications are closed by $p$ except for those where the base is two-syllable long and begins with $jäš$, when it can also be closed by $m$, and those where the base is front and has $k$ for both $C_1$ and $C_2$, when only $m$ is possible. The additional restrictions, such as being two-syllable long or frontness, were forced by the words $jäš$ ‘young’ (plus 15 other beginning in $j$-) and $kak$ ‘1. naked, bare; 2. very slim, skinny’ (plus 10 other in $k$-), whose reduplications are all only closed by $p$. Such a rule is technically correct but it lacks an actual phonetic motivation, is clearly overfitted and without general value, or in short, absurd. It is simply pointless to attempt to describe Bashkir reduplications in terms of the phonetic shape of the stem.

In Tatar (2.15.4), the situation is very similar. One more word can have a reduplication closed by $m$ ($tügäräk$ ‘round’) – or, alternately, by $p$. The rule: $m$ is limited to reduplications of bases which are two syllable-long and begin with $jäš$, monosyllabic bases with $k$ for both $C_1$ and $C_2$ and, as an alternative closing consonant, for front labial bases beginning with $t$-. The formulation for $k$ must have been changed compared to Bashkir because in Tatar, the front word $käkre$ exists and has a reduplication closed by $p$. This fact can serve very well to demonstrate the nonsense and extreme overfitting of such a description.

In Kumyk (2.11.4), there is one reduplication in $s$ ($büttün$ ‘whole’) against 24 in $p(p)$. The rule might be such: all reduplications are closed by $p$, except for when the base begins with $b$- and has $t$ for $C_2$. Again, an actual phonetic motivation for the distribution is completely missing.

In Western Karaim (see 2.6.4), there are few examples in general and any formulation of phonetic tendencies could only be fragile at best.
To sum up, it is technically possible to formulate phonetic rules which describe the choice of the closing consonant in the languages in group two, but they are clearly overfitted, not in fact phonetically motivated, and overall quite useless.

Group three ($0.2 < H_n \leq 0.4$) contains three languages: Turkmen, Uzbek and Yakut. Unlike in the previous two groups, here phonetics does seem to have a limited degree of influence on the choice of the closing consonant.

As far as closers other than $p$ go, Turkmen (see 2.17.4) clearly prefers $s$ over $m$. It is used for all the three bases beginning with $b$-, almost a half of those in $d$-, and approximately a third of those in $g$- and $t$-. At the same time, $m$ is only attested in two examples, $dik$ ‘steep’ and $gök$ ‘1. blue; 2. green’.

The case of Uzbek (2.20.4) is more complicated, possibly due to its genealogically mixed history. Formulation of rules is possible but, apart from being lengthy and complex, they will even surpass those offered for Bashkir and Tatar above in lack of actual phonetic justification.

Finally, Yakut (2.21.4) has closing consonants galore. Eight are attested beside $p(p)$, but six of them seem to only have one example each – which hardly suffices for phonetic conclusions. The other two are $n$ and $s$. For $n$ no pattern emerges but $s$ is used mainly for bases beginning with $b$-, and no such base has a reduplication closed by $p$-. Bases beginning with $p$- do not seem to be attested at all. Moreover, the only example closed by $r$ is $bosχo$ i.a. ‘straight, upright’ – a word which begins with $b$- and has $s$ for $C_2$, like no other Yakut stem in $b$-.

Concluding, phonetics is not without importance for the choice of the closing consonant in the languages in group three, but the relation is neither direct nor exception-free. The significant part of the base seems to be effectively limited to its initial consonant, and only once in Yakut does also $C_2$ appear to play a role.

Lastly, the five languages from group four ($H_n > 0.4$): Azeri, Eastern Karaim, Gagauz, Ottoman, and Turkish.

For Azeri (see 2.2.4), as many as 20 and 12 examples are available for $m$ and $r$, respectively, but rather than remove uncertainty, this fact actually only increases it. I could identify just one tendency, that reduplications of words beginning with $b$ are not closed by $p$, but even this is not without exception ($balaža$ ‘small, tiny’, can be closed with both $m$ and $p$). Apart from that, different consonants for $C_1$ and $C_2$, different vowels, different number of syllables, all seem to be distributed approximately evenly between $m$, $p$, $r$ and $s$.

In Eastern Karaim (2.6.4), the number of examples is lower than in Azeri, but they are very similar and allow for the same, somewhat uncertain conclusion.
The case of Gagauz (2.5.4) is not clear. It seems as if hints of patterns were visible but the number of examples in each category is too low to allow conclusions. In particular, $p$ is probably avoided if the base begins with $b$- or $p$- (based on three examples).

As for Ottoman (2.13.4), conclusions are also uncertain because the available data is most probably not representative for the language as a whole (2.13.4). But even despite this, it is clear that there is generally no obvious phonetic motivation behind the choice of different consonants. Similarly to the languages above, $p$ is undesirable for bases beginning with $b$-.

Finally, Turkish has already been extensively discussed in the previous literature (see 1.1.3, 2.16.1, and the appendix). Even a relatively complex, overfitted, and not quite phonetically motivated set (Müller 2004) did not account for more than 79% of examples.

To sum up, phonetic tendencies in group four, instead of emerging with greater clarity due to the larger number of examples, are in fact being obscured by it. The role of phonetics of the base appears to be limited to the avoidance of $p$ when the base begins with $b$-. Just as the distribution of different closing consonants is here the most even, so apparently is the distribution of phonetic features of the bases across the different closing consonants.

The overall picture is thus very simple and hardly novel: in the mprs-languages $p$ is avoided for bases beginning with $b$-, while in the $p$-languages it is used indiscriminately. One slightly more revealing observation is that phonetic tendencies, if any can be really talked about, seem to emerge slightly more clearly in the middle of the field, in group three, than in the more uniform groups one and two, or in the quite evenly distributing group four.

See 3.2.5 for a continuation of these considerations, which remains synchronic but operates on a hypothetical set of stems from the times when the mprs-languages were part of one community.

3.2.4. Common stems

Reduplication has existed in the Turkic languages since at least the 11th century (see 2.1). It is to be expected, then, that a proportion of modern examples has been inherited from the earlier stages, and therefore, that the collections of reduplications in languages which belong to one genealogical group will show a degree of similarity.

It is not assumed here that if a stem is common to two languages, then its reduplications in these two languages must necessarily be a common inheritance
Analysis

(see 3.4.2 for an overview of arguments behind this approach). Nevertheless, a synchronic identification of common stems will be able to shed some light on the beginnings and diachrony of reduplication.

Only inflectional stems are compared here, so that e.g. Az. širin ‘sweet’ and širinlik ‘sweetness’ are considered two separate units. This is to help minimize the number of false positives, even if probably at the expense of false negatives.

Note that the term inflectional stem is used etymologically here, which makes it slightly different from the term base as used in chapter 2 and elsewhere. Doublets such as Az. jalgyz : jalnyz ‘lone(ly)’ are considered two bases but one (etymological) stem. These are sporadic cases.

Taking into account the limitations of the sources, and to prevent an excessive reduction of the results, the identification will only rely on languages with the largest dictionaries. The final sets will be checked against the omitted languages, but without consequences.

Where applicable, closing consonants are also taken into consideration to help separate those stems whose reduplications in different languages are more likely to be independent innovations.

Stems are referred to by the literary or dialectal Turkish shape where available, and by some other where not. Meanings, however, are given according to the currently discussed languages, not always Turkish.

The numbers of common reduplicated stems between specific languages are given in tab. 3.7. The analogous collective comparison between the five groups is in tab. 3.10.

Karakhanid

Only two Karakhanid languages are discussed in the present work, Uighur and Uzbek (see 2.19 and 2.20). Their largest sources contain ca. 33 000 and 40 000 entries, respectively, allowing them to be compared without fear of extensive and unrealistic reduction of the number of results.


Their closing consonants are not entirely clear, especially in the case of tyn. In Uighur, it seems that only p and pp are used as closers. In Uzbek, also m, s, and t are attested, and in particular, of the seventeen stems listed here, boš, jašil, and kök have in Uzbek reduplications closed by both m and p, but tyn apparently only reduplicates to timtin, and not to *tiptin.
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Table 3.7. Number of common reduplicated stems between all modern languages discussed in the present work, taken pairwise. The numbers on the diagonal are effectively the number of stems in the given language.
The first three can perhaps be blamed on the Oghuz part of Uzbek’s past, but *tin* is more ambiguous. As far as reduplications go, the word seems to have no relatives in Uzbek. The Uighur side of the family is larger as it contains *tin* i.a. ‘silence, peace’, *tinč* ‘quiet, still peaceful’, *tiniq* ‘clear, transparent’, and possibly also *teč* ‘quiet, peaceful’. Apart from these, related forms also appear in Bashkir (*tyn*, *tynys*, and *tymyk*), Karakalpak (*tynyk*), Kazakh (*tynyk*, and *tynyš*), and Tatar (*tyn*, *tynyč*, and *tymyzyk*), and possibly also Ottoman (*dinsüz*, see 2.13.3). All of them have reduplications closed by *p*. Uzbek, just barely an *mprs*-language, has the only representative of this relatively large family, that has a reduplication not closed by *p*.

Leaving Uzb. *tin* aside, the reduplications of all the sixteen words are closed by *p*. This is not very telling since, apart from Ottoman, closers other than *p* are in general very rare in these languages (see 3.2.1 for details). Nonetheless, they are also quite uncommon in Uzbek, and yet *tin* has a reduplication closed by *m* without any obvious reason.

Thus, sixteen of the seventeen stems can be considered common to Uighur and Uzbek with relative confidence. The unusual closing consonant in Uzb. *timtin* ‘completely still, …’ requires further study.

**Kipchak**

The Kipchak group is the largest, and it is also well documented (see the “Sources” subsections in the respective sections in chapter 2). Bashkir, Kirghiz, Karakalpak, and Tatar all have dictionaries with 30 000 or more entries. The largest Kazakh dictionary used here is smaller (ca. 21 000 entries) but since the Kazakh collection of reduplications is still one of the richest in the present work, it will also be included in the comparison. Omitted will only be Kumyk (ca. 13 000 entries), and the three Karaim languages (ca. 17 400 entries).


This is surprisingly little. Taken pairwise, the average number of common stems between these languages is as high as 28.9, with the standard deviation of 7.14, and no obvious outliers.

It can be seen from tab. 3.8, that the number of stems common to any two languages does not correlate with how many reduplications are attested in them. It is not Karakalpak and Kirghiz, the two languages with visibly less numerous collections, that limit the final set.
Overall, 37 stems are shared by exactly two languages, 25 by three, 13 by four, and 10 by all five. The descent is gradual, without any sudden drops. From among stems common to four languages, four are missing from Kirghiz and Kazakh each, three from Tatar, and two from Bashkir. Clearly, there is not one culprit language that decimates the set of common stems. Rather, a small continuum can be observed, where neighbouring languages share many stems with one another, but less with the geographically more distant ones. This suggests that secondary contacts might have had a greater impact on the formation of reduplications than inheritance. See 3.4.5 for a continuation of this thought.

In all the five languages, $p$ visibly dominates as the closing consonant (see 3.2.1), but two reduplications closed by $m$ can still be found: Bshk. ğämjāšel ~ ğāpjāšel ‘very (light) green’, and Tat. ğāmjāšel ‘very green’. It seems quite possible, that the change of the closing consonant in the reduplications of this stem is an areal feature that these two languages have in common with Western Karaim and maybe Chuvash (see 3.2.5). Unlike the unusual $m$ in Uzb. timtin (above), this deviation will not be considered so serious as to exclude ješil from the set of common stems.

Three languages have been omitted because of the modesty of their sources: Kumyk, and North- and South-Western Karaim. Out of the ten common stems, two are missing from the Kumyk data (jaš ‘young’ and jumuşak ‘soft’), and as many as five from both Karaim languages (açyk ‘open’, jaš ‘young’, jenil ‘light’, jumuşak ‘soft’, and karanly ‘dark’). It is not possible at the moment to determine

<table>
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<tr>
<th></th>
<th>Bashkir</th>
<th>Karakalpak</th>
<th>Kazakh</th>
<th>Kirghiz</th>
<th>Tatar</th>
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<td>22</td>
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<td>56</td>
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</table>

Table 3.8. Number of common reduplicated stems between the Kipchak languages with large sources, taken pairwise. The numbers on the diagonal are effectively the number of stems in the given language. See tab. 3.7 for all the modern languages discussed in the present work.
the cause of this absence. The sources might be incomplete, Karaim might have
lost some of its reduplications being surrounded by a non-Turkic element (merely
24 examples are attested in both North- and South-Western Karaim together),
but also the five words could possibly be a common Central Asian innovation,
whence both Karaim and Kumyk are detached to various degrees (note that the
two words missing from Kumyk are included in the five missing from Karaim).

Overall, the set of ten stems common to Bashkir, Karakalpak, Kazakh,
Kirghiz, and Tatar will be considered sufficiently certain and representative for
the entire Kipchak group.

**North Siberian**

The approach adopted in this subsection fails to produce any results for the North
Siberian group, as it only consists of two languages, Dolgan with the sources
containing ca. 8900 entries, and Yakut with a dictionary of ca. 40 000.

Just eight reduplications are attested in Dolgan, and six of them have
their Yakut equivalents: gök ‘blue’, kara ‘black’, kyra ‘small’, kyzyl ‘red’, tekerlek
‘round’, and ürüğ ‘white’. The two Dolgan stems which apparently do not have
counterpart reduplications in Yakut are karaja ‘dark’, and kytarkaj ‘red’.

It is not clear what this implies. The Dolgan data might be, and in fact
probably are, incomplete, but it is anyone’s guess how many reduplications
are not attested. Dolgan separated from Yakut not later than in the beginning of
the 17th century (Stachowski M. 1996). In theory, the current richness of Yakut
reduplications could have arisen through a more or less explosive evolution
which occurred after that point, but it is also possible that the evolution was in
fact fairly gradual, and only its fruits were abandoned by Dolgans due to the
Tungusic substrate (see 2.4).

Overall, no certain conclusions can be drawn from the North Siberian
group. It will be included in further considerations on special rights.

**Oghuz**

Identification of common stems in the Oghuz languages is made more difficult
by their use of different closing consonants. The two question are entangled,
and dealt with separately in 3.2.5. Here only the results are presented.

It is not certain how the differences in the closing consonants should be
interpreted. A somewhat arbitrary solution will have to be adopted for our
purposes. The clear group of stems which are common to the three languages
with large sources (Azeri, Turkish, and Turkmen), and have the same closing
consonant in all three, contains eight examples: ajdyn ‘bright’ (closed by p), ak ‘white’ (p), bütün ‘all’ (s), dik ‘steep’ (m), gök ‘blue’ (m), kara ‘black’ (p), kyrmyzy ‘red’ (p), and sary ‘yellow’ (p).

Further four stems have one closer in Azeri, a different one in Turkmen, and both as alternatives in Turkish: dolu ‘full’ (p, s), düz ‘smooth’ (m, p), ješil ‘green’ (m, p), and temiz ‘clean’ (r, p). They will be considered common Oghuz stems.

Six more stems are common to the three languages, but the closing consonants in their reduplications are not uniform: dōru ‘straight’, diri ‘alive’, duru ‘clear’, jeni ‘new’, kuru ‘dry’, and tāze ‘fresh’ (see tab. 3.12 for the closing consonants). These will not be considered common Oghuz stems. It might be noted, however, that a half of them (dōru, jeni, and tāze) can be also found among stems common to the Karakhanid languages, see tab. 3.9.

The only Oghuz language discussed in the present work and omitted from this comparison, is Gagauz. From the first group, reduplications of ajdyn (albeit apajdynnyk is attested), bütün, dik, and gök appear to be missing from it; from the second – of temiz. This is almost a half of the thirteen stems which are here considered common. All are rather basic and quite commonly reduplicated words. It seems more likely than not, that this absence results merely the from lack of a larger source.

**South Siberian**

The South Siberian group is represented by four languages in the present work: Khakas, the largest source for which contains ca. 14 000 entries, Oirot (ca. 13 000), Shor (ca. 4 000), and Tuvinian (ca. 22 000). In other words, neither is in fact very well suited for a comparison.


Only the three colour names are also attested for Shor. The lack of ak ‘white’ among the common stems is surprising. It was eliminated by Khakas, which is the only non-North-Siberian language discussed in the present work that does not have a simple reduplication of it. It has the form appagas, but its history is not clear, although it is clear that it belongs to a larger family of similar shapes in Khakas, Oirot, and Shor, and is not necessarily a Khakas own innovation.

**General**

Stems common to the entire Turkic family can be viewed from at least three angles. First, the above considerations will be continued to identify the specific
stems that are common to all groups. Then, all stems will be inspected to find how many are shared by different pairs of groups, i.e. how strong the connections between the different genealogical groups are. Finally, the two points of view will be combined to yield a kind of a map of distances between the various languages.

Tab. 3.9 collects and contrasts the sets of common stems that have been identified above. Only one stem appears in all five, kara ‘black’. In fact, it can be observed that two subsets are almost identical: that of stems present in three or more groups, and that of names of colours. The only element differentiating them is kyrmyzy ‘red’, which is only common to Oghuz, and opposed to kyzyl id., common to all the other groups but not to all the Oghuz languages. This induces another observation, that there are visibly less meanings in the table than there are stems. Semantics have clearly played an important role in the evolution of Turkic reduplications; see 3.3.4 for a more detailed discussion.

One conclusion that it is certainly too early to draw from tab. 3.9, is that the entire phenomenon of reduplication was initiated by kara. This table is based as much on which reduplications are attested as on which ones are not, and neither of these can actually prove or disprove common descent. Rather, it should be understood to be a general picture and a suggestion where a more detailed research might want to begin.

That said, the reduplications of six colour names, ak ‘white’, gök ‘blue’, ješil ‘green’, kara ‘black’, kyzyl ‘red’, and sary ‘yellow’ can, in all probability, be assumed to have existed at the very earliest stages of reduplication, and considered part of the common inheritance in all those Turkic languages in which they are still used. It is only less clear whether the relation between them is of an areal or genealogical nature. Since, however, this question probably cannot be answered before the entire Altaic debate is settled, it will not be given much attention in the present work.

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Table 3.9. Common stems across genealogical groups. For North Siberian, Yakut has been used in place of the set of common stems due to the scarcity of Dolgan data, see subsubsection “North Siberian” above.

A different kind of observations can be made by looking at the number of common stems between pairs of genealogical groups. The exact numbers are given in tab. 3.10, and visualized in fig. 3.5.

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</tr>
<tr>
<td>uzun</td>
<td>long</td>
<td></td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
The most visible property in fig. 3.5 is perhaps the proportion between the total number of stems with attested reduplications, and the number of stems shared with other groups. Common stems constitute visibly the smallest part in the North Siberian. There are more in the Kipchak, slightly more in the Oghuz, and then much more in the Karakhanid and in the South Siberian. In the last
two, in fact, the sum of all sets shared with other groups amounts two about one and a quarter, and one and a half of the total number of unique stems attested in them. (This is possible because many stems are shared with more than one group, and therefore are counted more than once.)

Further, in the South Siberian, the number of stems shared with the other groups decreases in a relatively gradual manner. In the Karakhanid, a sudden drop can be observed between the link with the Oghuz and that with the South Siberian. In the Kipchak and the Oghuz, similar drops are to be seen after their mutual links, and finally in the North Siberian own stems stand in a marked opposition to all the other ones.

This corresponds well to geography and history. Yakut has been isolated; the South Siberian languages have been closer to the Kipchak group, the Karakhanid to the Kipchak and the Oghuz, and finally the Oghuz and the Kipchak have been close to one another. Again, it seems that reduplications have formed a kind of continuum, where contact with the neighbouring languages has had a greater impact than genealogical affinity. See 3.4.5 for a continuation of this thought.

46 Effectively, the data refer to Yakut alone as the Dolgan input to North Siberian reduplications is negligible.
Moreover, it implies that the South Siberian have been relatively the most conservative, the Karakhanid slightly more innovative, then the Oghuz and the Kipchak, propelling each other, and lastly Yakut that has shaped its rich set of reduplications almost all by itself. Similar conclusions flow from the general characterization of reduplications in specific languages (see 3.2.2).

Finally, focus on specific common stems, and focus on the number of correspondences between different languages can be combined to create a kind of a map of similarities, as in fig. 3.6. (See 3.9 for an analogous visualization of semantics.)

Figure 3.6. Multidimensional scaling\(^\text{47}\) of common reduplicated stems (Euclidean distance; see fn. 77 on p. 284). For each stem (i.e. in each dimension), the distance between two languages is 0 if both have, or both do not have a reduplication of this stem, and 1 if only one of the languages has such a reduplication. Closing consonants are not taken into account, and as a consequence, neither is existence of alternative reduplications of one stem (as e.g. Tksh. \textit{jepjeni} \textasciitilde \textit{jesjeni} ‘brand-new’). See fig. 3.9 for an analogous plot of common semantic units.

In general, data described by two features can be conveniently presented in a two-dimensional plot, as in fig. 3.4, and the distances between them measured easily with a ruler. Addition of a third feature would require the visualization to extend into the third dimension. Beyond this number, graphical representation in print becomes difficult, but theoretical \(n\)-dimensional distances between specific items can still be calculated. In essence, multidimensional scaling serves to so arrange items in a \(y\)-dimensional space, that the distances between them possibly correspond to the original \(n\)-dimensional ones. Superficially, this can be likened to an equidistant projection in geography, where a three-dimensional object (Earth)
Perhaps the most interesting conclusions are to be drawn from a comparison with fig. 3.4 which depicted the structural similarity between reduplications in different languages: the size of the collections, and the entropy of closing consonants, while fig. 3.6 visualizes what can be to a certain degree considered genealogical similarities: which languages reduplicate the same stems.

The most visible similarity, it seems, is that in both figures several languages are clustered in one point, from which all the other appear to be departing along three paths. This agreement suggests not only that the simplistic picture in fig. 3.4 is essentially true, but also that, despite all the difficulties involved in their identification, common reduplicated stems do to a certain degree reflect history and genealogy, and thus may be used as an argument while determining the details of the evolution of reduplication in 3.4. Note that this model does not directly correspond to the semantic evolution (see 3.3.4).

There is also a difference between the two figures. Structurally, the Karakhanid languages were divided: Uighur was more like the South Siberian, and Uzbek like the Oghuz. But when specific stems are analysed, the two can be seen to stand much closer to one another, and slightly apart from all the other groups. Somewhat surprisingly, however, Kumyk appears even closer to both than it did in the “structural” figure. It is more probably a result of all three having small collections which barely extend beyond just the basic words, than a sign of actual close genealogical affinity.

From fig. 3.5, it was clear that there is a strong link connecting the Kipchak and the Oghuz languages. Fig. 3.6 seems to identify this link as Turkmen, and to a lesser degree, Uzbek. This is in perfect accordance with geography, suggesting once again the importance of secondary contacts in the evolution of reduplication.

is so represented in two dimensions (a map), that the distances between specific points on it are preserved.

Here, items are languages, and features that describe them (i.e. that define their location in successive dimensions) are reduplicated stems. The distance between two languages is 1 in a given dimension if one of them reduplicates the given stem, and the other does not. If they both do or both do not reduplicate the stem, they are considered to be located in the same point in this dimension.

In effect then, the data analysed here are simply presence/absence binary data, and therefore the Euclidean distance between two items is equal to $\sqrt{|A\backslash B| + |B\backslash A|}$. This measure is rather sensitive to the cardinalities of the compared sets, which helps highlight outliers like e.g. Turkish, and through them define the paths of evolution of reduplication. See fn. 77 on p. 284 on other distances.
It can be also seen that the second strongest link, the one between Karakhanid and Kipchak, is not due to mainly one language, but that it is both Uighur and Uzbek, that went the same path as the Kipchak, and only did not travel it as far.

Lastly, a note on the position of Turkish. It is a clear outlier because of the large, and unrealistically so (see 2.16.4), size of its collection. But unlike with regard to entropy, here it does not occupy a position intermediate between Azeri and Turkmen. It seems that the Kipchak influence on Turkish consolidated in it the domination of $p$ as a closing consonant, but did not strongly affect the choice of specific stems for reduplication.

### 3.2.5. Common stems and closers

Common stems identified in 3.2.4 above are not necessarily related with one another in the genealogical sense. If, however, an assumption to the contrary were made, the original phonetic motivation behind the choice of the closing consonant could potentially emerge. Let us test this hypothesis.

All the general remarks from 3.2.4 apply. In particular, only inflectional stems are compared, and only those from languages with large sources.

**The mprs-languages**

The mprs-group contains eight languages: Azeri, Gagauz, Ottoman, Turkish and Turkmen (Oghuz), Uzbek (Karakhanid/mixed), Eastern Karaim (Kipchak), and Yakut (North Siberian). The genealogical differences manifest themselves in the number of common stems in the case of Yakut, but not any more in the cases of Uzbek and Eastern Karaim; see tab. 3.11.

The general picture is this: there are 340 unique stems, 70 ($\approx 20\%$) of which are attested in at least two languages. Out of the total of 494 reduplications in the mprs-languages, these recurring stems are the base of 224 ($\approx 45\%$). The more certain part of them is listed in tab. 3.12.

Not all mprs-languages are equally well suited for comparison. From history, genealogy, and also from tab. 3.11, it is clear that Yakut took its own, isolated path of evolution (which, incidentally, Dolgan did not quite follow; see 2.4). On the other hand, Ottoman data are probably incomplete; they will be essentially omitted here and contrasted with Turkish in more detail in 3.4.6. Further, the largest sources for Gagauz and Eastern Karaim have both less than 20 000 entries, while those for Azeri, Turkish, Turkmen and Uzbek all have 40 000 or more (see the “Sources” subsections in the respective sections in chap. 2). The main comparison will be limited to these four languages in order to avoid excessive
reduction of the results, and only the final finds will be checked against Gagauz, Eastern Karaim and Ottoman at the end of this subsubsection.

But first, a note on Eastern Karaim and Uzbek. The first is not genealogically related to the Oghuz languages in a direct way (although its exact place in the classification is discussed, see e.g. Jankowski 2003) while the latter is essentially a mixture with a substantial Oghuz share. Almost the same number of reduplications is attested for both (43 in Eastern Karaim and 45 in Uzbek), and the data for the latter are in fact probably more complete because the source used was considerably larger. Yet, Eastern Karaim has more stems in common with the Oghuz languages than Uzbek (see tab. 3.11). Most likely, a greater part of the Karaim forms are actually loanwords from Ottoman – the two Western Karaim languages only have twelve reduplications each – but this is impossible to prove without prior detailed and extensive research.

To facilitate identification of patterns, all stems have been assigned to groups describing their distribution across Azeri, Turkish, Turkmen and Uzbek, see tab. 3.13. Always only the largest groups have been used, so that e.g. ajdyn ‘bright’ was labelled “P123” rather than “P123, P12, P13, P23”. This is to reduce

<table>
<thead>
<tr>
<th></th>
<th>Azeri</th>
<th>Gagauz</th>
<th>Ottoman</th>
<th>Turkish</th>
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<td>11</td>
<td>7</td>
<td>4</td>
<td>5</td>
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</table>

Table 3.11. Number of common reduplicated stems between the mprs-languages, taken pairwise. The numbers on the diagonal are effectively the number of stems in the given language. See tab. 3.7 for all languages discussed in the present work.
<table>
<thead>
<tr>
<th>Stem</th>
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<td>p</td>
<td>–</td>
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<td>s</td>
<td>–</td>
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<td>s</td>
<td>s</td>
<td>–</td>
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<td>m</td>
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<td>p, s</td>
<td>p</td>
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<td>–</td>
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<td>p</td>
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<td>p</td>
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</table>
the number of linguistically irrelevant combinations, and highlight patterns rather than singular exceptions.

It can be seen from tab. 3.13, that the more frequent patterns are simply those that tie successive pairs and triples together. Two points need to be noted. Firstly, it seems that for any pair of languages, stems which occur in both of them also typically have the same closing consonant in them both (the $P$- and $S$- groups refer to the same languages).

Secondly, the pairs with the highest number of common stems and closing consonants are Azeri-Turkish, Turkish-Turkmen, and Turkmen-Uzbek, which would only be consistent with geography if Turkey and Azerbaijan were swapped. The same observation, that Turkish occupies a place intermediate between Azeri

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<table>
<thead>
<tr>
<th>Stem</th>
<th>Meaning</th>
<th>Azeri</th>
<th>Turkish</th>
<th>Turkmen</th>
<th>Uzbek</th>
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<td>−</td>
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<td>healthy</td>
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<td>−</td>
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<td>$s$</td>
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<td>−</td>
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<td>uzun</td>
<td>long</td>
<td>−</td>
<td>$p$</td>
<td>$p$</td>
<td>−</td>
</tr>
</tbody>
</table>

Table 3.12. Common stems in Azeri, Turkish, Turkmen, and Uzbek. The main entry is literary or dialectal Turkish where available, and some other where not. Here, only the main meaning is given; see 3.3.4 for more discussion.
Analysis

and Turkmen, follows from the entropy of closing consonants, see 3.2.1 above. Particularly interesting in this context are dolu ‘full’, düz ‘smooth’, ješil ‘green’, temiz ‘clean’, and partly jeni ‘new’, where Turkish has two alternative closing consonants: one as in Azeri (often m), and one as in Turkmen (often s).

The least frequent combinations are caused by just four words with four different and atypical distributions of closing consonants: dolu ‘full’, dōru ‘straight’, jeni ‘new’, and ješil ‘green’. With the exception of jeni, they form a rather peculiar pattern: all are present in all four languages, and in all there is one closing consonant that is common to all languages but one. This outlier is twice Turkmen (in dolu and ješil), and once Turkish (in dōru). It seems unlikely that this pattern should be anything more than a coincidence in isolated, more or less random aberrations from the general picture.
Finally, it ought to be noted that the combinations P134 and P14 are missing entirely, and P13 is attested once, but not together with S13. Only six words are not attested in Turkish; five of them (jenil ‘light’, karantly ‘dark’, tajjar ‘ready’, takyr ‘bare’ and tekiz ‘smooth’) are unique to Turkmen and Uzbek, and the last one (turš ‘sour’) has always a different closing consonant. It seems that this state might be reflecting more than just the fact that Turkish has the biggest stock of reduplications.

Eleven stems are common to all four, Azeri, Turkish, Turkmen, and Uzbek, and they can be divided into two groups: 1. dolu ‘full’, dōru ‘straight’, ješil ‘green’, and 2. ak ‘white’, bütün ‘all’, gök ‘blue’, jeni ‘new’, kara ‘black’, kuru ‘dry’, sary ‘yellow’ and tāze ‘fresh’.

The first group was discussed above. The closing consonants are not uniform in it, and therefore too uncertain for phonetic conclusions.

In the second group, there is one closing consonant for every stem that is present in all four languages. In the cases of gök, kara, and kuru, no language has any additional alternative closer. In the cases of ak and bütün, Uzbek has variants apparently not attested anywhere else. In jeni, Turkish and Turkmen share s as an addition to the common p. In kuru, alternative s is only found in Turkmen. In tāze, Azeri has p in addition to the general p, and Turkish has r.

It seems, then, that all these additional alternative closing consonants are isolated cases which can be safely ignored here. The core set of common stems for the four languages contains eight words (the second group). Reduplications of six are closed by p, one by m (gök), and one by s (bütün). Given this (relative) uniformity, this set will be assumed to be at least a subset of the common heritage, rather than a mixture of later independent innovations.

As such, it is suitable for an attempt at discovering the alleged original phonetic rules for the choice of the closing consonant. Unfortunately, the results are rather modest because in such a small collection, phonetic particularities rarely recur. The stem bütün is the only one that begins with b-, has a front high rounded vowel in the first syllable, or t for C₁; gök is not the only one that (historically) begins with k-, but all the other ones have their reduplications closed by p. As for the vowel, or k for C₂, it is the only one. Let us then broaden the set and include stems which are not common to all four languages.

Tab. 3.12 contains seven words in b- in 21 forms and languages in total. The closer p only appears once, and it is in Uzbek. Apart from that, s, š and t are used in four words, three of which are more than one syllable long, and m in another four, three of which are monosyllables. The tendency is quite clear:
in bases beginning with $b$-, $p$ is avoided as the closing consonant, and replaced with $s$ (typically in polysyllables), $m$ (typically in monosyllables), or sporadically some other consonant.

As for $gök$, it is one of seven words originally beginning with $k$-, the only one of them that ever has a reduplication closed by $m$, the only one with an original long vowel or $k$ for $C_2$, and the only monosyllable. This last feature is consistent with the tendency visible in words beginning with $b$-.

In fact, there are eight monosyllabic words in tab. 3.12 ($ak$ ‘white’, $boš$ ‘empty’, $boz$ ‘grey’, $buz$ ‘cold’, $dik$ ‘steep’, $düz$ ‘smooth’, $gök$ ‘blue’, and $sā$ ‘healthy’), and six of them have reduplications closed by $m$. The nonconforming two are $ak$, which begins with a vowel, and $sā$, for which there is no ready excuse. The tendency seems to be quite strong, but it is one-way. There are seven more stems, i.e. almost as many, which have reduplications closed by $m$, and which are not monosyllabic: $baška$ ‘different’, $duru$ ‘clear’, $jassy$ ‘flat’, $ješil$ ‘green’, $sijāh$ ‘black’, $tāze$ ‘fresh’, and $tuř$ ‘sour’. An observation can be made that the bases of all reduplications closed by $m$ begin with an occlusive consonant, $j$-, and only once $s$-, but it will be deceptive: there is actually only one consonant that is attested in anlaut in tab. 3.12, and does not have a reduplication closed by $m$ ($ś$- in just one word, $śirin$ ‘sweet’).

Overall, stems common to all or some of Azeri, Turkish, Turkmen, and Uzbek, allow for four observations to be made about the phonetic relation between the closing consonant and the base. Their actual phonetic motivation, however, is questionable, as is most clear from tendency number four below. It seems more likely that they either describe the continued use of the original, very simple mechanism (tendency one), or a state created in fact by analogy to a random (?) mutation (i.e. they capture the effect, not the cause; tendency two). Only in one case a phonetic motivation is visible (tendency three), but even then only partially so, because why $m$ should be preferred for mono-, and $s$ for polysyllables, is not clear at all.

The tendencies, in ranking order:

1. Bases beginning with a vowel have their reduplications closed by $p$;
2. Monosyllabic bases typically have their reduplications closed by $m$;
3. Bases beginning with $b$- typically have their reduplications closed by $m$ or $s$, or rarely other consonant, but almost never $p$;
4. Closing consonants other than $p$ are used almost as often in reduplications of bases that meet the previous restrictions, as in those that do not.

As for stems, it appears that the following set of eight words can be assumed common for the whole of the $mprs$-languages, with satisfactory certainty: $ak$ ‘white’,
<table>
<thead>
<tr>
<th>Stem</th>
<th>Common</th>
<th>Gagauz</th>
<th>Eastern Karaim</th>
<th>Ottoman</th>
<th>Yakut</th>
</tr>
</thead>
<tbody>
<tr>
<td>ak</td>
<td>p</td>
<td>p</td>
<td>p, pp</td>
<td>p, pp</td>
<td>–</td>
</tr>
<tr>
<td>bütün</td>
<td>s</td>
<td>–</td>
<td>s</td>
<td>s</td>
<td>–</td>
</tr>
<tr>
<td>gök</td>
<td>m</td>
<td>–</td>
<td>m</td>
<td>m</td>
<td>p</td>
</tr>
<tr>
<td>jeni</td>
<td>p</td>
<td>p</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>kara</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>kuru</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>–</td>
</tr>
<tr>
<td>sary</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>–</td>
</tr>
<tr>
<td>tāze</td>
<td>p</td>
<td>–</td>
<td>–</td>
<td>m</td>
<td>–</td>
</tr>
<tr>
<td>dolu</td>
<td>p, s</td>
<td>p</td>
<td>p</td>
<td>p</td>
<td>–</td>
</tr>
<tr>
<td>dōru</td>
<td>p, s</td>
<td>p, s</td>
<td>–</td>
<td>s</td>
<td>–</td>
</tr>
<tr>
<td>ješil</td>
<td>m, p</td>
<td>m</td>
<td>m</td>
<td>m</td>
<td>–</td>
</tr>
<tr>
<td>ajdyn</td>
<td>p</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>dik</td>
<td>m</td>
<td>–</td>
<td>m</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>diri</td>
<td>m, p, s</td>
<td>p</td>
<td>–</td>
<td>p</td>
<td>–</td>
</tr>
<tr>
<td>duru</td>
<td>m, p</td>
<td>–</td>
<td>–</td>
<td>p</td>
<td>–</td>
</tr>
<tr>
<td>düz</td>
<td>m, p</td>
<td>m, p</td>
<td>m, p</td>
<td>m, p</td>
<td>–</td>
</tr>
<tr>
<td>temiz</td>
<td>p, r</td>
<td>–</td>
<td>p, r</td>
<td>r</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 3.14. Counterparts of the common stems and closers in languages with incomplete sources, and in Yakut. The stems are divided into four groups:
1. stem and closer common to 1234 (‘Azeri, Turkish, Turkmen, and Uzbek’, see tab. 3.13); 2. stem common to 1234; 3. stem and closer common to 123; 4. stem common to 123.


For pure Oghuz languages, i.e. without Uzbek, this set may be further extended with ajdyn ‘bright’, dik ‘steep’ and kyrmyzy ‘red’, and possibly also diri ‘alive’, duru ‘clear’, düz ‘smooth’, and temiz ‘clean’, i.e. up to 19 stems in total.

It remains to be seen how these conclusions compare to the languages which were previously put aside for insufficiency of their sources or for complete historical and genealogical detachment, i.e. Gagauz, Eastern Karaim, Ottoman,
and Yakut. In tab. 3.14, they are contrasted with what was found above to be the common set of stems and closing consonants.

Overall, the correspondence is quite good. The closer does not match in just one case, Ott. tāze ‘fresh’. Since, however, in modern Turkish both m and p are attested for this word, it will be justified to suspect that this is merely a case of a missing attestation for Ottoman.

As for the stems, Yakut is unsurprisingly very different. The other three languages generally attest the common stems, although not without gaps. If the main comparison took all seven into account (Azeri, Turkish, Turkmen, Uzbek + Gagauz, Eastern Karaim, and Ottoman), what can be considered common inheritance of the Oghuz languages would be reduced to nine stems at most: ak ‘white’, diri ‘alive’, dolu ‘full’, dōru ‘straight’, düz ‘smooth’, ješil ‘green’, kara ‘black’, kuru ‘dry’, and sary ‘yellow’. It seems more probable than not, that this would have been an exaggeratedly cautious conclusion.

The p-languages

Closing consonants other than p do not only occur in the mprs-languages. There are nine examples in total in the four languages with mid-low entropy (see 3.2.1), i.e. in Bashkir, Kumyk, Tatar, and Western Karaim; see tab. 3.15. Interestingly, only m and s are attested in them, i.e. the second and third most common closers in the mprs-languages.

It can be seen from tab. 3.15, that where the p-languages deviate from p, they do so in accord with the mprs-languages. What makes the two groups different is really only the proportion of p to other closing consonants: low in the mprs, and high in the p-languages. This suggests that the few non-p examples in otherwise purely p-languages are in fact just later loanwords.

A closer inspection, however, seems to open another possibility. Except for Tat. tügäräk ‘round’, all these stems belong to the core set of the mprs-, and the Oghuz languages in particular; gök ‘blue’ and ješil ‘green’ are also two of the three earliest attestations of m as a closing consonant, and the earliest attestation of s is with tāgirmä ‘round’ (see 2.1.4). Except for Kmk. büsbütün, all are closed by m, and attested in northern and north-western Kipchak languages.

Kmk. büsbütün ‘absolutely all’ is an outlier, both geographically, and as the only example with s for the closing consonant. Perhaps it is indeed a later Azeri or Ottoman loanword (see 2.11.3) and unrelated to the other examples, but see similar shapes from the Crimea below.

The unusual geographic distribution of closing consonants in the reduplications of boš ‘empty’ in Karaim has already been mentioned in 2.6.3, and the
conclusion reached that m in this function is probably a common Karaim feature. In tekerlek ‘round’, three closing consonants are attested in the mprs-languages: m in the Crimea, and p and s elsewhere.

Apart from Kmk. büsbütün, all the examples are from Bashkir, Tatar, and Western Karaim, i.e. from a both geographically and genealogically relatively consistent area. Attempting to dismiss them all as late, independent loanwords might be an overlooking. Let us widen the picture to see if an explanation based on geography or inheritance would be more promising.

Some supplementary data can be found in languages essentially not analysed in the present work (meanings are not given where they are typical): CTat. (AiM) bomboš, büsbütün ‘absolutely, fully, completely’, jemješil, kömkök, tömtögerek ~ töstögerek,48 Krm. (Rebi 2004) bomboš, busbutun, jemješillik, Urum (Garkavets 2000) bomboš ~ bonboš, büsbütün, gömgök ‘completely grey’,49 jemješil, tömtögerek. Reduplications closed by p do not seem to be attested for any of those words. Unfortunately, the usefulness of these examples is limited because it is not clear what the general picture of reduplication in these lan-

48 Also tostomalak ‘very round’.
49 Appears to be an Oghuz loanword. The Kipchak shape kök is also attested, with more meanings, but apparently without a reduplication.

Table 3.15. Closing consonants other than p in the p-languages. The consonant in the “Oghuz &c.” column is the typical closer in the mprs-languages without Yakut. Even where it is attested, p is omitted from this column.

* The stem appears five or six times in the mprs-languages: Kar.E tömtögerek, Tksh. testekerlek, Trkm. testegelek, tostogalak, maybe also *teptegelek (see 2.17.2), and Yak. töptögürük, all meaning ‘completely round’. The geographical distribution of closing consonants is clear: m in the Crimea, s and possibly p in the Greater Middle East, and p in the Far East.

<table>
<thead>
<tr>
<th>Stem</th>
<th>Meaning</th>
<th>Oghuz &amp;c.</th>
<th>Bashkir</th>
<th>Kar.NW</th>
<th>Kar.SW</th>
<th>Kumyk</th>
<th>Tatar</th>
</tr>
</thead>
<tbody>
<tr>
<td>boš</td>
<td>empty</td>
<td>m</td>
<td>p</td>
<td>m</td>
<td>p</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>büütün</td>
<td>whole</td>
<td>s</td>
<td>p</td>
<td>–</td>
<td>–</td>
<td>s</td>
<td>–</td>
</tr>
<tr>
<td>gök</td>
<td>blue</td>
<td>m</td>
<td>m</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>m</td>
</tr>
<tr>
<td>ješil</td>
<td>green</td>
<td>m</td>
<td>m, p</td>
<td>m</td>
<td>m</td>
<td>p</td>
<td>m</td>
</tr>
<tr>
<td>tekerlek</td>
<td>round</td>
<td>m, s*</td>
<td>p</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>p, m</td>
</tr>
</tbody>
</table>
guages is, and how these forms relate to it. It can be only guessed that given the languages’ genealogy, history and geography, they might be similar in this regard to Eastern Karaim.

To this, two Chuvash examples can be added (see 3.4.3 for an overview of Chuvash reduplications): *jemješal* ‘very green’,50 and *kenkevek ~ kenkevek* ‘very blue’ (Ašmarin 1928–50, Krueger 1961: 128). For *patəm* ‘all, whole’, *puš* ‘empty’, and *tükerek* ‘round’ no reduplications seem to be attested. It is not clear what can be made of this. According to Krueger 1961: 128, Chuvash reduplications are closed by *p*, “but sometimes -m or even other consonants”. Among fourteen or fifteen examples I know of, ten are closed by *p*, three or four by *m* (~ *n* (*jemješal*, *kem|kevek*, *təmtatton* ‘dark’,51 and possibly *təmtəkər* ‘downtrodden’52), and one by *k* (*taktakər* ‘flat’, Krueger 1961: 128).

The final solution for non-*p*-reduplications in otherwise *p*-languages will require an attitude to be assumed to Chuvash data, which are not clear. If anything, *jemješal* points towards a geographical convergence, *kenkevek* towards genealogical affinity, and the other stems apparently do not reduplicate in Chuvash at all.

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50 Probably a loanword because the regular Chuvash shape is *šeš-* (Egorov 1964), for which no reduplications seem to be attested. Perhaps from Tatar (see Fedotov 1996)?

51 Chuv. *təmtatton* ‘completely dark’ (Ramstedt 1952: 250, Räsänen 1949: 239) is not completely clear. It is attested as a separate word with the meaning ‘all black, very black, completely black’, and also in such phrases as *təm karek* ‘a pitch-black capercaillie’, *təm tupelba* ‘a very black filipendula (таволга)’, *təm hura* ‘pitch-black’ (Ašmarin 1928–50). The phrase *təm təkər* ‘downtrodden’ is probably not related, see fn. 52 below. Quite probably, therefore, Chuv. *təm* is the same stem as Tat. *döm* in *döm karangy* ‘very dark’ (Räsänen 1955: 206), Trkm. *dym* in *dym garaŋky* ‘very dark’ (TrkmRS), and Uzb. *tim* in *tim qara* ‘completely black’ (see 3.1.10). Possibly, also Ott. *düm ~ tüm* ‘thick, rounded, humped’ (VEWT) might belong here together with Tkc. *tümän* ‘very many &c.’, which is sometimes suspected of semantic interplay with PSlav. *toma* ‘darkness’ (Boryś 2005 s.v. *ćma*, VEWT). Rybatzki 1994: 241 derives Chuv. *təm* < *√təm* > Tkc. *tən* ‘night’ and *temir* ‘iron’, and connects it not only with *təm kara*, but also with Ott. *düm düz sijah* ‘completely black, pitch-black’. This is perhaps too optimistic. Overall, whether the structural resemblance to reduplications is accidental in these words, or not, must be at present considered debatable. See also Levitskaja 1976: 187 on *təm*, and 3.1.10 on, at least superficially, similar intensifiers.

52 Ašmarin 1928–50 lists this phrase inside the entry for *təm* ‘all black, very black, completely black’, but in light of the semantics, it seems more probable that the phonetic similarity is here accidental (see fn. 51 above). This might be the only Chuvash example that I am aware of, that is a reduplication closed by *m*, and does not correspond to the exceptional forms in the *p*-languages.
Taken together, all these loose pieces of information seem to point to the conclusion that the relation between the deviation from \( p \) in the five stems in the mprs- on one hand, and the westernmost \( p \)-languages on the other, is deeper than merely a series of relatively modern, independent borrowings. The existence of \( b\dddot{u}b\dddot{u}\dddot{t}"u\dddot{t}in \text{‘absolutely all’} \) in various languages suggests it might be genealogical in nature, but the general scarcity and diffusion of examples across different languages is perhaps more reminiscent of an areal feature. Nothing certain can be concluded before the many loose ends are attended to but, especially in light of Chuvash data, this is a task beyond the scope of the present work.

See also 3.4.5 on inheritance vs. influence in Turkic reduplications, and see in particular the close link between the Kipchak and Oghuz languages in both Baskakov’s and Tekin’s classifications.

## Conclusions

Aware of the limitations of the method, the above subsection tried to husk out a possibly certain rather than numerous set of common reduplicated stems.

In the mprs-languages (see 3.2.5), the closing consonants proved to be employed quite uniformly in this common set. However, few phonetic regularities could be discerned. Stems beginning with \( b \) and monosyllables typically have their reduplications closed by \( s \) or \( m \), but both are used almost as frequently for stems which do not share any particular phonetic feature. Turkish was shown again to occupy an intermediate place between Azeri and Turkmen with regard to the choice of the closing consonant.

The relatively few non-\( p \)-reduplications in the \( p \)-languages were found to follow something of a pattern, and to deserve a more minute and more extensive analysis than can be carried out in the present work, because their structure and geographical distribution might suggest the existence of a deeper relationship between them on one hand, and the reduplications in the mprs-languages on the other.

As an intermediate result, a set of common stems in the Oghuz languages was identified. In the more conservative version, it contains eight stems (\( ak \text{‘white’}, \ b\dddot{u}t"u\dddot{n} \text{‘all’}, \ g\ddot{o}k \text{‘blue’}, \ jen\ddot{i} \text{‘new’}, \ kara \text{‘black’}, \ kuru \text{‘dry’}, \ sary \text{‘yellow’}, \text{ and t\ddot{a}ze \text{‘fresh’}} \), but in more optimistic variants it can be extended to up to eighteen (first with \( d\ddot{o}lu \text{‘full’}, \ d\ddot{o}ru \text{‘straight’}, \text{ and je\ddot{\i}\ddot{s}il \text{‘green’}, then with aj\ddot{d}yn \text{‘bright’} and dik \text{‘steep’}, and finally with d\ddot{i}r\ddot{i} \text{‘alive’}, d\ddot{u}ru \text{‘clear’}, d\ddot{u}z \text{‘smooth’}, \text{ and temiz \text{‘clean’}} \) \). See 3.2.4.

See 4.1.3 for a continuation of considerations on the choice of the closing consonant.
3.2.6. Formation

Most commonly, the formation of Turkic C-type reduplications is described as copying of the first syllable of an adjective, appending of a consonant to it if it was open, or replacing its final consonant with a different one if it was not, and prepending of the whole to the unmodified base. This is an imprecise and biased depiction.

It is imprecise because it does not account for the shortening or any other alteration of the reduplicated vowel, and does not allow for a modification of the base, or for classes other than adjectives. All of these might occur. Admittedly, most are rare phenomena, but incorporating them into the description can in fact result in a more concise formulation (see below).

The customary description is also biased because it implies that the mechanics of the phenomenon is actually known, and this is not the case. I am also not aware of attempts to establish whether it is the case that the mechanics are the same now, when reduplication is essentially no longer productive, as they were when it was still thriving, or when it was only beginning.

For modern Turkish, Sofu 2005 and Sofu/Altan 2009 have shown that “[w]ords beginning with vowels are rule-governed” while “of the words beginning with consonants, frequently used ones seem to be stored individually in the lexicon”, and the infrequent ones are not, and “pose problems in production and [are] more prone to errors” (Sofu/Altan 2009: 72). I believe that this diagnosis can be (provisionally) extended to all the modern Turkic languages which allow more than one closing consonant.

In 3.2.3, it was shown that synchronic phonetic rules cannot accurately explain the use of different closing consonants in modern languages, and in 3.2.5 that correspondences in their distribution are very few even across the most tightly related languages. Combined, these two conclusions suggest that the process of formation of reduplications might have been in fact the same when the phenomenon was still productive, as it is now. Together with multiple closing consonants to choose from, ‘errors’ – i.e., variation – in their usage appeared. Bases with a vocalic anlaut are reduplicated uniformly (with just one exception in Yakut, see 3.1.23) and seven bases with a consonantal anlaut have the same closing consonant across Azeri, Turkish, Turkmen, and Uzbek, but the majority appear to be closed somewhat randomly.

Partial corroboration for this diagnosis can be found in those examples where the reduplicated anlaut no longer matches the head of the base (e.g. ǯäp-ǯaman ‘very bad’, see 3.1.19 for a list). In the case of Karakalpak bases in ǯa-, it is the reduplicated anlaut that underwent a change that the head did not undergo,
but in almost all the other ones, it is the base that evolved phonetically, and the reduplicated anlaut that remained petrified. It must have been, it seems, perceived as a fixed intensifier linked with a specific word, rather than with this word’s current phonetic shape, that is to say one that is “stored individually in the lexicon”.

As for the earliest period of reduplication, nothing really can be said with certainty. It is not clear how the phenomenon began, and it cannot be determined at present, whether it started with one closing consonant, or more. See 3.4.4 for propositions. Nonetheless, it seems more likely than not that it began from very few, perhaps just one, examples, based on which new ones were formed by analogy. Being emphatic constructions, it might be expected that new reduplications were sometimes slightly modified for greater phonaesthetic effect. This is a very similar picture to the one that emerges for later periods.

Summing up, Sofu and Altan’s discovery does not fully explain the mechanics of reduplication, but it does indirectly suggest that, apart from bases with a vocalic anlaut, the two driving forces of the phenomenon are memory and analogy. Naturally, the memorized examples must have been coined at some point as well, and it can be guessed that in the majority of cases, analogy played a significant role in the process.

However, a linguistic description must be more precise than one based on analogy alone (“method for creating forms similar to …”), which means that it must depart from what appears to be the psychologically most probable explanation. The following formulation could be proposed:

C-type reduplication is the doubling of the initial mora of a word and inserting a single or double consonant in between.\(^\text{53}\) Secondary phonetic modification can be applied independently to any part of the resulting form,

but it should be borne in mind that although simpler, it is not, in fact, less biased than the traditional description mentioned at the beginning of this subsection.

In 1.1.1, the term reduplication was defined in terms of the form it produces (“method yielding a form composed of …”). Of course, this was just evasion, but perhaps such machination is necessary, if the description that is probably the closest to the truth happens to be unsatisfactorily imprecise.

\(^{53}\) Here, a word is considered to have as many morae, as many of the following features are present in it: any vowel, a long vowel or a diphthong, consonantal auslaut. For example, Tksh. \(\text{gö}k\) ‘blue’ is two morae long, Trkm. \(\text{gö}k\) and Yak. \(\text{küö}x\) id. are both three morae long. Thus, the initial mora is always a short vowel with or without a consonant before it.
A remark must be made about the theoretical implications. Regardless of whether the description refers to syllables or to morae, the base can be divided into two parts: one that is repeated (the “head”), and one that is not (the “tail”). The C-type is a partial reduplication, therefore neither of these parts can be null (\(\emptyset\)). It follows that the two must be also disjoint because no non-null part of a word can be claimed to be simultaneously repeated and not repeated. The border between them falls by definition between the first and the second mora. Now, in the case of bases with a long vowel in the first syllable, this means precisely in the middle of that vowel.

At least two solutions can be proposed: 1. to reinterpret long vowels as sequences of two short vowels (Trkm. /gö.ök/ \(\rightarrow\) /gö.m.gö.ök/), or 2. to assume vowel quality and length are separable features (in the IPA notation: /göːk/, where the head is the first mora, i.e. /gö/, and the tail the remaining two, i.e. /k/).\(^{54}\)

This issue lies beyond the scope of the present work, and will not be discussed further.

### 3.2.7. Conclusions

This section attempted to investigate some of the main aspects of the structure of Turkic reduplications, and prepare ground for a more diachronic analysis in 3.4.

Several observations were made more than once, independently, and based on different kinds of data. In particular, the conclusion that the evolution of reduplication was influenced by secondary geographical proximity as much or more as by genealogical inheritance, was arrived at in 3.2.1, 3.2.2, 3.2.4, and 3.2.5 (see 3.4.5 for a continuation of these considerations). Linked with it is the observation that the number of reduplicated stems common to two languages tends to be relatively high, but it drops very rapidly as new languages are added to the comparison (3.2.4 and 3.2.5). The Karakhanid and South Siberian languages were found to be the most conservative in the area of reduplication, followed by Oghuz and Kipchak which probably mutually propelled the development of reduplication in each other, and finally by Yakut which, it appears, arrived at a comparable level of advancement all on its own (3.2.2 and 3.2.4). The general tendency (poorly attested languages excluded) for the stage of development of reduplication to be proportional to the distance from the homeland in the

\(^{54}\) Such dissection might seem bizarre, but it is not unique; see e.g. Pol. /vźeli/ ‘they took’, where \(vz\)- is a word-formative prefixi, -\(el\) is a personal suffix, and what is left, the palatalization of \(z\), is the root. It was originally \(j\) (see \(j.qe\) ‘take-inf’), but note that the sequence [\(zj\)] is perfectly valid, e.g. \(źjem\) ‘I will eat’: \(źem\) ‘lands-gen’.
Altai Mountains was shown to not hold for Turkish, which instead occupies a place intermediate between Turkmen and Azeri (3.2.1 and 3.2.5, but see also the “General” subsection in 3.2.4). Finally, the tendency for stems beginning with \(b\)- to not have their reduplications closed with \(p\)- in the \(mprs\)-languages was confirmed in 3.2.3 and 3.2.5.

In addition, in 3.2.1 it was suggested that the seeds of multiple closing consonants might have been already present in the initial stock of Turkic reduplications. In 3.2.2, it was shown that there were essentially four paths that the evolution of reduplication took in different languages, and that the peoples in the vanguard of the march west from the Altai Mountains developed this method with greater energy than those closer to the centre. It was also suggested in the same subsection, that the collection of Turkish reduplications is unrealistically numerous. Further, in 3.2.4 it was shown that semantics must have been an important factor in the evolution or reduplication, that all stems which are common to many languages in different genealogical groups, are names of colours – including the only stem common to all groups, \(kara\) ‘black’, and that common reduplicated stems can, to a limited degree, be used to draw conclusions about the history of reduplication. Lastly, in 3.2.5 it was observed that among the stems common to the \(mprs\)-languages, \(p\) is avoided as the closing consonant for stems beginning with \(b\)-, and typically replaced by \(m\) in mono-, and \(s\) in polysyllables, but both \(m\) and \(s\) also frequently occur with other, seemingly random stems, further undermining the conjecture about the phonetic nature of this distinction. It was also suggested that the reduplications in the westernmost Kipchak languages, and maybe also Chuvash, might be related to Oghuz at a deeper level than a series of late borrowings would be. Finally, in 3.2.6 it was proposed that Turkic reduplication be described in terms of morae rather than syllables.

### 3.3. Semantics

This section gives an outline of the semantics of Turkic reduplications. Unlike stems, meanings can rarely serve as a base for genealogical conclusions, and so extensive comparisons as in 3.2 are generally not made here. First, the grouping underlying all further reasoning is explained (3.3.1), and then the overview proceeds from the most general observations (3.3.2), through broad semantic ranges (3.3.3), down to the more detailed units (3.3.4). The whole closes with a summary and conclusions (3.3.5).
3.3.1. GROUPING

The meanings of reduplications that are given in the present work were mostly taken from general purpose dictionaries of various sizes (several thousand to more than seventy thousand entries), and written in various languages (most often Russian, but also Belorussian, English, French, German, Italian, Latin, Polish, Spanish, Turkish, Ukrainian, and others). There is a great variability in the extensiveness of definitions, and in the choice of specific synonyms in translation (e.g. 'беленький' : 'белый-пребелый' : ‘completely white’ : ‘Schneeweiss’). In this collection, unification of the depth and breadth of definitions is only achievable towards the general.

As it stands, a more detailed collection of equal scope cannot be assembled without prior extensive field research. This is beyond the scope of the present work, and beyond its primary goal which is to give a general overview of Turkic reduplications as a whole, and of the main patterns in their evolution.

Because of this, all reduplications have been assigned to semantic groups at two levels, the more general ranges (3.3.3) and the more detailed units (3.3.4), and all the reasoning in the current section will be based on them rather than on the exact definitions provided by the sources. The exact assignment is detailed in the index on p. 319.

3.3.2. GENERAL

The primary meaning of Turkic reduplication is intensification of adjectives and adverbs.

Given the generally weak distinction between parts of speech within nomina, it is not surprising that also bases with a stronger or even strong nominal character occur quite frequently, but their reduplications are almost always adjectival. There are only three clear exceptions: Kirg. ynak ‘1. clean; 2. close friend’ → ypynak ‘very close friend’, and two words in Azeri where reduplication apparently has the meaning of plural, bāzāk ‘decoration’, and sōkūntū ‘chip, splinter’; see 2.10.5 and 2.2.5, respectively.

Other parts of speech, pronouns and verbs, are very rare. Also in these cases, reduplication serves primarily to intensify (see 3.1.17 and 3.1.22).

Semantic shifts during reduplication are not particularly common, mostly trivial, and the majority are independent, singular cases. If any pattern can be observed, it is that typically the first, and often only the first, meaning is reduplicated. This tends to be concrete, but figurative meanings are sometimes
added to the reduplication, which were apparently missing from the base, as in Dolg. *kytarkaj* ‘red’ → ‘pretty as a picture’, Kklp. *kojyw* ‘thick, dense’ → i.a. ‘Okay! Good!’, Kmk. *tegiš* ‘smooth, even’ → i.a. ‘dog-poor’, and Oir. *tünej* ‘same, similar’ → i.a. ‘all right, okay’ (see the “Semantics” subsections in the respective sections in chapter 2).

In particular, reduplications of *ak* ‘white’ function in many languages with such meanings as ‘good’, ‘nice’, &c., which are often not explicitly present in the semantics of the base. A similar evolution, interestingly, can be observed in Tuv. *kara* ‘black’. These figurative reduplications of *ak* are usually closed with a double *pp*, and stand in opposition to alternative forms closed with a single *p* which only intensify the original, concrete meaning. See 3.1.2 for examples of different closing consonants carrying different meanings.

As far as meanings can be considered positive or negative, the former seem to outnumber the latter. This is also reflected in the fact that the privative suffix -*syz* is apparently only attested in three bases: Tkc. *ansyz* ‘sudden(ly), unawares’, Tksh. *išiz* ‘unemployed, jobless’, and Tksh. *ysyz* ‘desert(ed), isolated’, while its inverses, -*ly* and others, are fairly common, e.g. Az. *bäzküli* ‘decorated, fancy, chic’, Gag. *kirli* ‘dirty’, *tūlū* ‘hairy, feathery’, Khak. *tadylyg* ‘sweet’, Kirg. *tyrmaktaj* ‘with nails, with claws’, Tksh. *renkli* ‘coloured, colourful’, Yak. *tuśtāχ* ‘salted’ &c.

Incidentally, a similar observation can be made about Polish diminutives. This analogy might be flawed by that they very often have an additional either hypocoristic or contemptive side to them (e.g. *słončko* i.a. ‘[my] sunshine of a person’, or *cwaniaczek* ‘small-time crook’), but a general, vague similarity in the choice of meanings for intensification can nevertheless be seen. Most probably, it should be explained by simply common sense which suggests that only selected meanings have the capability to be meaningfully intensified.

### 3.3.3. **Ranges**

The units of the more general level of grouping will be here called *ranges*. Perhaps the term *domain* would also be applicable as what they attempt to capture is essentially “a coherent knowledge structure […] against which other conceptual units such as concepts are characterised” (Evans 2007 s.v. *domain*), but the term *range* will be preferred because the specific choice of levels of organization differs from that most often found in cognitive linguistics. This is because adjectives expressing the middle values on a scale can only rarely be intensified in a meaningful way (‘fiercely mild’), and many traditionally discerned domains,
e.g. temperature, would be reduced to just two polar antonyms. Instead, wider and more vague ranges were used, e.g. comprising the whole of experiences coming from one sense, such as touch which includes temperature, but also roughness, wetness, &c. The small caps notation, however, will be employed. Polysematic words were assigned to multiple ranges.

A completely objective, impartial and unbiased grouping does not seem to be attainable, and the one employed here is certainly not the only one possible. For this reason, its role will be limited to providing a general overview of the semantics of Turkic reduplication, and conclusions flowing from it will only serve as auxiliary for the ones drawn from the analysis of semantic units in 3.3.4 below.

Overall, the reduplications collected here fell into 14 ranges so chosen as to minimize the unavoidable overlap and mixture of levels of generalization:

- physical:
  - external: colour (e.g. ‘black’, ‘motley’, ‘redhead’), size (e.g. ‘big’, ‘low’, ‘shallow’), and shape (e.g. ‘bulge’, ‘sloping’, ‘squat’),
  - internal: nature (e.g. ‘elastic’, ‘liquid’, ‘sturdy’), and
  - other: state (e.g. ‘ripe’, ‘still’, ‘young’),
- psychic: character (e.g. ‘agile’, ‘angry’, ‘friendly’), perception (emotional, qualitative, e.g. ‘awkward’, ‘obvious’, ‘unpleasant’), and quality (subjective evaluation, e.g. ‘bad’, ‘master’, ‘wrong’),
- senses: appearance (e.g. ‘blurry’, ‘clean’, ‘shiny’), taste (including smell; e.g. ‘juicy’, ‘sweet’, ‘unpalatable’), and touch (e.g. ‘cold’, ‘dry’, ‘rough’), and
- other: location (in time and space, e.g. ‘around’, ‘noon’, ‘moment’), quantity (e.g. ‘all’, ‘few’, ‘sparse’), and other (e.g. ‘deletion’, ‘itch’, ‘together’).

As can be seen from the enumeration, the semantic scope of Turkic reduplications reaches far beyond colour names, which is what it is most commonly associated with. Almost all the most important aspects of everyday life are included in one language or other. I could only find one range that seems to be essentially omitted, namely hearing. Only such meanings as ‘silence’, ‘silent’, and ‘quiet’ are attested, but these tend to be entangled with ‘calm(ness), peace(ful(ness))’. Meanings more readily associated with hearing, ‘roar’, ‘squeek’, ‘whisper’, &c., apparently do not undergo reduplication, even though their intensification is certainly conceivable. Possibly, Tuv. sapsajtyk ‘1. imitation of a gopher’s scream, …’ is an exception – if it is indeed a reduplication (see 2.18.4).

There are considerable differences in the cardinality between the attested ranges. The exact numbers, however, are purposefully not given at the moment because they would be misleading for two reasons. One is the vague and arbitrary
nature of the grouping, and the other is that each range has a different, and
not quite definable, natural limit of semantic units that can belong to it, and
be meaningfully intensified. No range is composed of fewer than eight units;
the least numerous are (in the alphabetical order) TASTE, TOUCH and QUANTITY,
and the most numerous SHAPE, STATE, and PERCEPTION. (If necessary, the exact
assignments are detailed in the index on p. 319.)

Also the number of bases representing the given range in different lan-
guages varies significantly, see fig. 3.7. Again, the exact numbers will not be
given, and no conclusions should be drawn from the details, but the general
picture is quite clear.

For all ranges, the number of representatives grows together with the total
number of reduplicated bases in the given language, and for all ranges except
COLOUR, there are very few or just no representatives at all in the languages
with the lowest total number of reduplicated bases. Taking into account the
vagueness and arbitrariness of ranges, together with their natural limitations,
the growth rate is approximately similar for most.

This suggests that COLOUR is a privileged range, which is consistent with
the results of the comparison of common stems (see 3.2.4). It seems that all
languages inherited the basic stock of reduplications of colour names and not
much more, and developed it without any particular semantic or structural
preference, in approximately the same directions.

![Figure 3.7. Number of representatives of semantic ranges in different languages. Languages are not labeled, but are ordered in each plot by the total number of reduplicated bases, same as in fig. 3.10.](image-url)
3.3.4. Units

The units of the more detailed level of grouping will be called simply *semantic units* (see the index on p. 319). To better reflect the Turkic specificity, the division was based not only on semantics but also on etymology. The highly fragmented and diversified dictionary definitions (see 3.3.1) were first grouped by meaning, and then a series of rearrangements has been made, joining into one unit those meanings that are typically carried by historically one stem across various Turkic languages (e.g. Tkc. *ačyk* ‘1. bright; 2. open;’), and separating those that seem very close from the English perspective, but are typically carried by historically different stems across the Turkic languages (e.g. Tksh. *berrak, duru* ‘lucid, clear, transparent’ : *ačyk, ajdyn(lyk)* ‘bright, clear, light, open’ : *ašikär, belli* ‘obvious, certain, clear, explicit, well-known’). Turkic polysemantic words were assigned to more than one unit. A particular effort was made to find the golden mean of the level of detail, but a significant proportion of arbitrariness and subjectivity could not be avoided in the final result.

Overall, the present collection fell into 214 semantic units. However, the oldest attestations will be ignored here because their dialectal affiliation is unclear. In particular, three bases not attested in later sources were the only representatives of their respective units: *alčak* ‘friendly, mild’, *kötgi* ‘protruding’, and *tutčy* ‘1. contiguous, osculant; 2. permanent, continuous’ (see 2.1.2).

The great majority of units are represented by very few examples. In fact, 93 (= 44%) units are only attested in one language, and further 35 (= 16.6%) in just two, more often than not, unrelated languages. The top of the list is appropriated by basic colour names: ‘black’, ‘blue’, ‘green’, ‘red’, ‘white’, and ‘yellow’, all attested in sixteen or more languages out of twenty-one. The only non-colour unit with so many attestations is ‘round’ (sixteen languages). Following them are some basic adjectives that do not belong to a single semantic range: ‘accurate’, ‘all’, ‘bright’, ‘clean’, ‘direct’, ‘dry’, ‘empty’, ‘even, smooth’, ‘full’, ‘long’, ‘naked’, ‘new’, and ‘obvious’. All the remaining units are represented in ten or fewer languages.

Several colour names can also be found among the less numerously represented units: ‘brown’, ‘grey, pale’, ‘orange’, ‘pink’ and ‘purple’, together with bases only indirectly referring to colour: ‘bright’, ‘dark’, ‘motley’ and ‘redhead’ (all attested in no more than nine languages).

**Common units**

Let us now inspect how many semantic units are shared between the five genealogical groups the Turkic languages are divided into, and whether their distribution in the specific languages forms a pattern of some kind.
The number of common units are given in tab. 3.16, and visualized in fig. 3.8. It can be seen that the width of links decreases gradually in each group; a larger drop can only be observed between the North Siberian – Oghuz, and the North Siberian – South Siberian links, but it seems to have only been caused by that the South Siberian languages have a significantly less numerous collection than the North Siberian. Most importantly, semantic units shared with other groups constitute a very high percentage of the total number of units attested in each group, which appears to imply that each group’s own contribution to its collection was relatively small.

This is in stark contrast to the analogous visualization of common stems in fig. 3.5, where stems unique to a given group typically dominated the picture. There, I interpreted this situation as a sign that the inherited stock must have been relatively small, and the large Kipchak, Oghuz and North Siberian collections arose independently from one another.

Coming back to semantic units, the picture that they create is to be expected only if each group has inherited a considerable portion of its units from an earlier stage of development, or if all groups expanded their respective collections as if according to a common plan. Clearly, the first possibility cannot be the case here, and therefore the second explanation must be true. It is in accord with what could be deduced based on semantic ranges in 3.3.3.

<table>
<thead>
<tr>
<th></th>
<th>Karakhanid</th>
<th>Kipchak</th>
<th>North Siberian</th>
<th>Oghuz</th>
<th>South Siberian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karakhanid</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kipchak</td>
<td>39</td>
<td>138</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Siberian</td>
<td>18</td>
<td>54</td>
<td>79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oghuz</td>
<td>37</td>
<td>85</td>
<td>49</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>South Siberian</td>
<td>23</td>
<td>37</td>
<td>20</td>
<td>30</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 3.16. Number of common semantic units in genealogical groups, taken pairwise. The numbers on the diagonal are effectively the number of semantic units in the given group. Note that this comparison is not limited to units common to the entire group; all matches between specific languages are included, so that e.g. a unit that is present in Turkish and Kazakh is counted as an Oghuz – Kipchak match regardless of whether it is also there in Azeri, Tatar or elsewhere. See fig. 3.8 for a visualization, and 3.10 for an analogous table for stems.
A similar, albeit not identical, picture emerges from a comparison of specific units shared by specific languages, as illustrated in fig. 3.9. Yakut is an outlier in it, but all the remaining languages are located approximately along a single line. This suggests, again, that as far as semantics is concerned, reduplication evolved according to a quite similar plan in all languages, but it also shows that one language deviated from it, and that this language is unsurprisingly Yakut. This observation was lost earlier because fig. 3.8 only gave a general picture of the number of common units between groups, whereas fig. 3.9 offers a more detailed view of specific units in specific languages.

It can be also seen in this figure that the spread of languages from right to left corresponds to the total number of reduplications in them (see fig. 3.10), which is understandable. Reduplication began with colour names, and then new semantic units were added. The process stopped at various points in various languages, and those that obtained a similar set in the result, are closer to one another in fig. 3.9.
In this sense, this figure might be also regarded as a diachronic scheme of semantic evolution of reduplication, not unlike fig. 3.4 and 3.6 could be for stems. Overall, the evolution of reduplication appears to have taken two paths when viewed through the lens of semantics, which is two less than when viewed through the lens of common stems (see 3.2.4). This is only seemingly contradictory. There must have been four paths, but each of them has independently involved similar, perhaps the most frequent of the intensifiable semantic units, and these were expressed by different stems in each group. The paths were separate but semantically almost parallel – with, of course, the exception of Yakut which has deviated quite far from its kin in both regards.

This observation has serious repercussions for the reconstruction of the detailed history of Turkic reduplication; see 3.4.2.

**Relation to bases**

The numbers given above might suggest that the semantic units discerned here are in fact tied to bases in a nearly one to one relationship, but it is not quite so.
Fig. 3.9 shows that the independence of semantics has been preserved sufficiently to allow purely semantic conclusions. Nevertheless, a close correlation with the number of bases is observed, and illustrated in fig. 3.10 and 3.11.

![Figure 3.10](attachment:figure310.png)  
**Figure 3.10.** Number of reduplicated bases (●) and semantic units (▲) that they represent, in different languages.

![Figure 3.11](attachment:figure311.png)  
**Figure 3.11.** Number of reduplicated bases against the number of semantic units that they represent, in different languages. The parameters of the two regressions lines are given in the main text.
Although far-reaching conclusions cannot as yet be drawn from this fact, it might be interesting to note that this relation can be quite well approximated using linear regression. Let us abbreviate the number of bases to $n_b$, and the number of semantic units to $n_u$. The formula is: $n_b = 1.413 \cdot n_u - 3.924$, which results in $R^2 = 0.9826$, i.e. a very good fit. However, the fact that it is linear implies that both $n_b$ and $n_u$ can in theory continue to grow at a constant pace until one of the resources is exhausted in the language, and their mutual relation will always remain the same. In other words, it suggests that this relation might not be so much a property of Turkic reduplications, but actually of the Turkic languages themselves – or, of how semantic units have been established here.

It seems impossible to determine which is the case without an investigation reaching beyond the scope of the present work. Nevertheless, a mention can be made that, unsurprisingly, non-linear regression can also be used to approximate our relation. The formula is: $n_b = 0.8839 \cdot n_u^{1.0982} + 0.6671$, which results in $R^2 = 0.9838$, i.e. a marginally better fit. This slight improvement might be a sign of overfitting, but from fig. 3.11 it can be seen, that the difference lies primarily in the languages with the lowest, and the highest $n_u$. Extrapolated, this implies that after a certain point, the growth of $n_b$ should begin to decelerate in relation to the growth rate of $n_u$, i.e. that after that point new bases can still be reduplicated, but they will mostly belong to the already represented semantic units. If this is the case, then apparently the Turkic languages have not yet reached that point.

The above considerations operate on the silent assumption that the semantic evolution of reduplication proceeded according the same plan in all the languages, and therefore that they can all be regarded as successive snapshots of just one history. This appears to be true in general, as can be inferred from fig. 3.9, but Yakut is clearly an exception. In fig. 3.11, however, it is only slightly more of an outlier than Azeri or Turkmen. It is not clear to me what should be made of this fact.

Overall, the relation might be interesting. Research that would reach out to other languages, however, is necessary to determine whether it is a singular coincidence, or a more general tendency. It should also help assign a linguistic meaning to the coefficients, because without it the value of this observation is negligible.

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Regression is a technique of estimating relationship between variables. Various indices are employed to evaluate the goodness of fit of the resulting model to the observed data. Here, only the $R^2$ coefficient of determination will be used, which essentially represents the proportion of variability in the dependent variable that the model accounts for.
Maḥmūd al-Kāšyārī mentions eight or nine reduplications. The unclear one is čimjīg ‘very raw’ (see 2.1.3). In most cases, his definitions do not suggest a connection between the “particle”, as he interprets the reduplicated anlauts, and the meaning of the stem. On one or two occasions, the wording may be seen as slightly misleading (e.g. “When the Oyuz wish to exaggerate the description of anything round they say: TAS· TAKIR·MA’ tās tāgirmā.” (Dankoff/Kelly 1982: 261)), but in two cases the existence of such link is declared quite clearly: “ūp A particle of emphasis for colors.”, and “čim An exaggerative particle of dampness or rawness.” (Dankoff/Kelly 1982: 87, 267).

If al-Kāšyārī’s definitions are adequate, then what is interpreted here as emancipated reduplicated anlauts (e.g. Kirg. kyp in kyp žylañač ‘completely naked’ < kypkyzyl žylañač lit. ‘red-naked’), might be in fact ancient intensifiers with a strictly limited scope. A number of such formations is listed in 3.1.10. However, semantic links between them are very few. Effectively the only one that could perhaps be interpreted in a way similar to al-Kāšyārī’s čim, is Uzb. žīm ‘quietly, calmly; silently, tacitly’, but the etymology of this form is not clear. It might have once been an independent word, but it is also possible that it was extracted from the reduplication čymčyrt or similar; see 2.19.3.

Full reduplicated anlauts are not, in fact, likely to have ever been strongly connected to semantics on a regular basis, but before abandoning this idea entirely, let us see whether a connection can be observed with just the closing consonant.

Three or four of the reduplications mentioned by al-Kāšyārī are closed with consonants other than p. Apart from čimjīg ‘very raw’, it is kömkök ‘very blue’, sūmsüčig ‘very sweet’, and tāstāgirmā ‘very round’. In 3.2.5, a set of stems common to the Oghuz languages was established; of them, the following have their reduplications not closed by p: bütün ‘all, whole’ (s) and gök ‘blue’ (m), and, with a lower probability, dik ‘steep’ (m), diri ‘alive’ (m, s), duru ‘clear’ (m), dolu ‘full’ (s), dōru ‘direct, straight’ (s), düz ‘smooth’ (m), and ješil ‘green’ (m).

Very little, it seems, can be deduced from this collection. Three words with reduplications closed by m form a pattern: jīg ‘raw’ – ješil ‘green’ – kök ‘blue’ (note that the two colours were often not distinguished in the Turkic languages). The latter two, surprisingly, also have reduplications closed by m in Bashkir and Tatar, where closing consonants other than p are almost never used. Another triple can be found in dolu ‘full’, tāgirmā ‘round’, and bütün ‘all, whole’, all with reduplications closed by s. However, five words with reduplications closed by m (dik, diri, duru, düz, and süčig), and two with reduplications closed by s (diri and dōru) are thus left with no company at all.
An inspection of the stock of modern languages brings no conclusions, either. Semantically, words with reduplications closed by consonants other than $p$ are equally diverse in the Oghuz languages, in Yakut, and in the few Kipchak languages where such forms are attested.

Overall, what could be considered a hint in al-Kāšyārī’s dictionary proves to be a cul-de-sac. There does not seem to exist any systematic correlation between the meaning and the phonetic shape of the intensifying elements.

### 3.3.5. Conclusions

This section attempted to give an overview of the semantics of Turkic reduplications, but generally abstained from drawing definite conclusions on genealogy because meanings do not, in and of themselves, provide sound support for such considerations.

To minimize the inequalities and irregularities in the original definitions, which have been extracted from a number of dictionaries in various languages, the meanings have been grouped into more general *ranges* and more detailed *units* (3.3.1). Following some more or less loose general remarks (3.3.2), semantic ranges were presented showing that the semantic diversity of reduplications grows together with the total number of reduplicated bases but without preference for any particular range, and that *colour* is the only range that is well represented in all languages (3.3.3). Next, semantic units were presented (3.3.4), and it was concluded that all languages except Yakut developed reduplication as if following essentially the same semantic plan. This constitutes a serious impediment to the study of the history of reduplication by undermining the feasibility of the historical-comparative method. Also, a correlation was observed between the number of semantic stems in a language, and the number of reduplicated bases in it, but despite what might appear to be a hint in al-Kāšyārī’s dictionary, no link was found between the phonetic shape of the reduplication and its meaning.

### 3.4. History

This section attempts to draw the general outline of the history of reduplication in the Turkic languages. It begins with methodological considerations (3.4.1 and 3.4.2), and later proceeds to sketch the evolution of reduplication from its possibly Altaic beginnings (3.4.3 and 3.4.4) through a period of development which, it appears, was more due to influence than inheritance (3.4.5), up to the changes in the only language with a considerable written history, which is Turkish (3.4.6). The whole is concluded and summarized in 3.4.7.
A greater part of the study of Turkic reduplications so far has concentrated on establishing synchronic, phonetic rules for choosing the closing consonant in Turkish (see 1.1.3). This attitude is methodologically fragile because it hinges on two unprovable assumptions: 1. that reduplications are systematic, and 2. that they were created observing some tangible set of rules.

It is known that there are doublets in Turkish, two reduplications of the same stem, each closed with a different consonant (e.g. ješil ‘green’ → jemješil and jepješil, see 2.16.4), as well as etymological doublets where each variant continues a different path of phonetic evolution (e.g. jašyl : ješil ‘green’). The material collected in the present work shows that this situation is no way a specificity of Turkish (see 3.1.1).

Inconsistencies are also apparent between languages. Very different sets of stems can be reduplicated, and the reduplications of etymologically one stem can be closed with different consonants (see 3.2.4 and 3.2.5).

Thus, the first assumption does not hold. As for the second one, it is debatable whether it can be disproved; so far, it has not been proven. However, since the primary meaning of reduplication is intensification, and there is no particular reason to believe that reduplication is somehow special, it seems more likely that it was applied in the same way that intensification would typically be expected to, which is to say irregularly. For these two reasons – failure of the first assumption and probable incorrectness of the second one – the search for synchronic rules must be considered futile. Tendencies are the best that can be hoped for.

In light of the presently observed diversity, it seems rather probable that these tendencies varied between periods and places. The synchronic stock in any given language is most likely a mixture of forms, some of them inherited and others borrowed or calqued, which resulted from different sets of tendencies. Not one set is to be sought but many, even to explain the state in just one language.

Therefore, the correct approach is the historical one.

Internal reconstruction, however, seems impossible. To separate groups of reduplications in one language which follow a given set of phonetic or other tendencies, is a trivial and useless exercise. It is trivial because, not being limited by external data, one may create up to as many groups as there are reduplications and claim a different set of tendencies for each. Evaluation of the result cannot be based but on impression and personal taste, which is what also makes the exercise useless.

Thus, the methodological choice is narrowed to effectively one method, the historical-comparative one. Unfortunately, its implementation proves rather difficult in practice. See 3.4.2 below.
3.4.2. The historical-comparative method

At the current stage of research, the classical historical-comparative method cannot be safely applied to Turkic reduplications. This is for a number of reasons.

Perhaps the most important of them is our insufficient knowledge of the etymology and history of specific words, and of the detailed phonetic history of specific languages. This raises two problems.

Firstly, identification of bases reducible to a common root is severely impeded, and even more difficult it is to determine which ones can be brought down to a common stem. For this task to be completed properly, a comprehensive comparative dictionary is necessary, but this does not exist, and compiling one considerably exceeds the scope of the present work.

Secondly, forms borrowed between the Turkic languages are too often impossible to tell from inherited ones. In the case of reduplication this problem is made worse by the very real possibility of calquing.

Further, many reduplications are derivatives, e.g. Az. jorjoχul ‘poor, destitute’ : jorjoχsullug ‘poverty, destitution’. The latter might be a derivative of the former, but it might also be a reduplication of joχsullug. This is probably not possible to determine.

The same applies to related words in different languages, e.g. Tksh. geniš ‘wide’ : Kirg. keŋ id. : Trkm. giŋ id. : Yak. kieŋ id. Here, conjectures are made possible by the existence of Kirg. keŋiš and Trkm. giŋiš id. which do not seem to have reduplications, and Kirg. kenen i.a. ‘spacious’ which does have one. However, conclusions drawn from what appears to be a lack of attestations, are at best problematic. This difficulty is particularly visible with the Turkic, where the politically less prominent languages sometimes even lack middle-sized dictionaries.

Next, in the case of a widely applicable but not very frequent derivational suffix, the existence of analogous forms in different languages may sometimes suffice to posit a common origin because it might not be very likely that of all words, these languages should all choose this particular one independently. Reduplication is perhaps sufficiently rare for such reasoning but the number of bases it can be used with is significantly lower. The existence in different languages of reduplications of etymologically the same base does not in any way prove a common descent.

Moreover, word formation is in itself not a regular process. The fact that reduplications carry in them an additional emotional load only intensifies this, as is attested by various non-standard formations; see in particular 3.1.13.

This helps understand the results of H.-G. Müller’s questionnaire, where only 84.2% of the 125 interviewed native speakers knew the actual literary
reduplications in Turkish; see the appendix (A.2). Being emotional formations, their temporal and spatial reach may often be limited. Our knowledge of reduplications cannot be full without dialectal data, but unfortunately, comprehensive dialectal dictionaries are a scarcity in the Turkic world.

Furthermore, the exact relations between specific languages are not thoroughly understood. The traditional grouping into Karakhanid, Kipchak, North Siberian, Oghuz, and South Siberian is usually interpreted as genealogical in nature, but this is a simplified view. It is not certain that e.g. a single Proto-Oghuz language can really be postulated. This is a serious impediment to the reconstruction of the history of reduplication.

Finally, a confrontation of the results of the structural and semantic analyses conducted here (see 3.2.7 and 3.3.5) brings another difficulty to light. It appears that the great majority of languages expanded their stock of reduplications as if following almost the same semantic plan (see 3.3.4). This means that quite different sets of stems were reduplicated in different genealogical groups, but inside one such group, this means that a quite similar set of reduplicated stems must be expected in most languages in it, regardless of whether they had inherited their respective stocks or developed them independently. A detailed reconstruction of the genealogy of reduplication seems to not be possible at the present stage of research.

But all is not lost. Some of these limitations can in fact be used to our advantage. The semantic limitation of reduplication suggests that the phenomenon should have began with the most basic words, and these rarely are derivatives. In fact, this is perfectly consistent with the results of the comparisons of stems made in 3.2.4. Thus, the chicken and egg problems of the jorjoṣullug kind are effectively eliminated. Gaps in lexicography are also becoming less vexing as the common origin of these basic words is typically well established. Complete understanding of the mutual relations between the Turkic languages in the remote past is not a sine qua non here, too, as it is of secondary importance whether a reduplication which is today shared by two languages was formed in a single proto-language, or simultaneously in both proto-languages tied in a geographical league. In fact, it is not even clear that the two cases are universally distinguishable.

The groups resulting from such comparisons are small, possibly smaller than the actual proto-stock of reduplications, but they are more certain. A full genealogical tree cannot be reconstructed at present, but certain conclusions on the history of reduplication can still be drawn.
3.4.3. Altaic Background

The present work focuses on Standard Turkic. This subsection will give a brief overview of reduplications in Chuvash, Mongolic, and Tungusic to prepare the ground for considerations on the origins of the phenomenon in 3.4.4 below. The Koreanic and Japonic languages will not be discussed. As for the three groups, all have reduplications in their lexicons but, to the best of my knowledge, they have not been subject to extensive and collective examination. The readily available data are rather unsystematic, which prevents a detailed comparison. Nevertheless, the overall similarity seems sufficient to assume that the phenomenon dates back to the Altaic community. Below, only very brief overviews will be sketched. On the general (extra-Altaic) background, see 1.1.2.


Chuvash Whether or not one subscribes to N. Poppe’s 1924–25 and 1925 view, that Chuvash is a fourth branch of the Altaic family, intermediary between the Turkic and the Mongolic, it remains beyond doubt that it had left the community before the Standard Turkic peoples dispersed and their languages diverged, and continued to evolve in relative isolation from them. As such, it is more a philology of its own, which is why it is only mentioned in this work as a part of the background, rather than given full attention like the Standard Turkic languages.

The process of formation is in Chuvash basically the same as in the Standard Turkic examples; the closing consonant can be \( p \), \( m \), also \( n \) and even \( k \) – although the latter might be in fact \( C_2 \) which just happens to be \( k \) in

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56 For Korean, see Kim 2003 and 2009. He attests examples that are reasonably similar to the ones found in the Turkic languages, but for a proper comparison to be possible, a more comprehensive study is necessary. Examples: kol-kolu ‘evenly divided’, tek-tekul ‘rolling’, tu-tunul ‘floating’. For Japanese, I could not find mentions of partial interfixed reduplications in Kaiser et al. 2013, Martin 2004, and Shirane 2005.
Analysis

the only example, tak-takār ‘absolutely flat’. There are also examples of at least one other type, the CV-type: śappa-śaramas ‘stark-naked’, tappa-tan ‘completely even, equal’. Interestingly, it is not a given in Chuvash that the reduplicated vowel matches its counterpart in the base: xura ‘black’ and šurā ‘white’ have no less that three reduplicated anlauts each, with a, u, and o. Reduplicated anlauts have apparently gained a certain degree of independence in Chuvash, or at least are now difficult to tell apart from other kinds of intensifying particles with severely limited connectivity, e.g. jām can intensify xarā ‘completely red’, xura ‘black’, ujar ‘bright’ and others, while vēr is only be used with jān ‘new’ and tīpā ‘dry’. These words might prove to be quite numerous; Levitskaja 1976: 187 lists fourteen candidates, but their origins are not clear (see there for a discussion).

Apparently, very little research was devoted to Chuvash reduplications. It remains to be seen how numerous and how diversified its collection is, and how it interplays with the Standard Turkic and the Mongolic ones. See also 3.2.5 for a more detailed note on Chuvash.

Mongolic  C-type reduplication is a Common Mongolic method (Janhunen 2003: 12). The formation is essentially the same as in Turkic, i.e. the initial mora is duplicated and prepended to the base with a closing consonant in between. Typically, the closing consonant is b, rarer p or w, but occasionally other consonants are also possible, or indeed no consonant at all in Monguor and Santa.

58 I only know of one example, yem-yešēl ‘green as green can be’.
59 Again, only one case is known to me, kōn kōvāk ‘completely blue’.
61 Dag. cimciggaang ‘snow-white’, Klmk. bim ~ biŋ ~ bis bitū ‘completely closed’, bas batu ‘very firmly’, Mgh. ufulān ‘very red’, and see fn. 64 on p. 271 for d.
62 Mng. mu mula ‘very small’, taic ticecan ‘very white’, San. qa galun ‘very hot’, dzo dzolic ‘very soft’. From a synchronic typological perspective, this is in fact a separate type of reduplication. It is not clear, however, whether these forms arose from
Sometimes, an emphatic lengthening of the reduplicated vowel can be observed, and according to Mönöggönerel [after Svanetson et al. 2008: 59], the reduplicated vowel is not shortened in Naiman (\textit{xiip xiir\textsuperscript{b}n ‘very cold’}). In some cases, the transparency of the formation has been lost, e.g. \textit{*sira ‘yellow’} → \textit{*sibrirakan} has yielded in Bonan the pair \textit{shera : shewrexang}, while \textit{*xubxulaxan} ≫ Bon.dial. \textit{howlang ‘very red’}. Reduplication can be combined with the comparative degree, e.g. Xlx. \textit{a$\text{w}$.x.m ‘very near’}. I understand that the phenomenon is generally no longer productive in the Mongolic languages; Svanetson et al. 2005: 58 estimate the number of examples in Khaklha at about twenty or thirty.

But Mongolic reduplications do not end on the C-type. Bese 1960 and Khabtagaeva 2001 quote examples in \textit{d}, \textit{ra, r$\text{e}$, r$\text{o}$, r$\text{i}$}, and \textit{la, l$\text{e}$}, and also the entire initial syllable can be reduplicated without any modification or insertion at all. In addition, at least three types of full reduplication are used to form plural-like and collective derivatives, and also for intensification.

The overall picture is not only interesting in itself, but also because of how it harmonizes with the Turkic. In 3.2.2, it was mentioned that two parameters, the number of reduplications and the entropy of closing consonants, suffice to a simplification of the C-type, or whether it is perhaps the C-type that emerged from a modification of this \(\emptyset\)-type. See 3.4.4 on the origins of reduplication.

63 Dag. \textit{xubxulaang} ≈ \textit{xuubxulaang ‘deep red’}, maybe also Klmk. \textit{câo caxu ‘very good’} (Kotvič 1929: 97).

64 Bur. \textit{bad bala$j$ ‘pitch dark’, bod boro ‘completely grey’, mad mal$\text{\textau}$n ‘completely bald’, mad may$\text{\textau}$ ‘very bandy of legs’). It is not clear to me why both Bese 1960 and Khabtagaeva 2001 treat this closer as an alternative version of \textit{do} below rather than of the standard \textit{b}.

65 Bur. \textit{godo godogor ‘strictly upright’, şodo şodogor ‘very thin’}.

66 Bur. \textit{bоро borxigor ‘очень невзрачный (старый дом)’, tere tesxeger ‘very fat’}. Interestingly, this closer is apparently only used with words with the \textit{-GAr} suffix. Also, although non-C-type reduplications are essentially not discussed in the present work, it should be mentioned that a considerable number of similar forms can also be found in Yakut, e.g. \textit{beri beriñex ‘bountiful’, čuru čulbugur ‘very spiky’, doru dostoj ‘completely in vain’} (Pekarskij 1907–30, Korkina/Ubrjatova et al. 1982).


68 Bur. \textit{ar arbagar ‘stark, gesträubt’, têr têrchêgêr ‘very thick’, Ord. on ondôn ‘completely different’}.

distinguish the different types of collections observed in the Turkic languages. One more, however, will be necessary to do justice to the Mongolic, and preferably, it should be the diversification of types. The South Siberian languages have typically very few reduplications, and all are of the C-type, and closed by p. Yakut, on the other hand, has large collections of several types, and as many as ten closing consonants. The Mongolic languages, it seems, have relatively small collections, but of many types, and closed by several consonants. Typologically, this locates them precisely between the two Turkic groups, which is just where they are on the map, and thus adds another string to the bow of the dialect continuum interpretation of the Altaic (see 3.4.5).

**Tungusic** The Tungusic languages could be expected to be similar to the Turkic and Mongolic with regard to reduplications, but they prove to be anything but. Although several examples are attested for Kilen, Orochen, Sibe, and Solon, grammars typically do not mention reduplications at all. An indirect explanation of this incompatibility is provided by Tsumagari 1997 and Li/Whaley 2000 who believe that the phenomenon has “obviously originated in Mongolian (and further in Turkic)” (Tsumagari 1997: 180), and, I understand, never truly flourished being a foreign element in Tungusic. Tsumagari 1997 does not explain the reasons behind his conviction, but Li/Whaley 2000 offer an entire series of arguments, which can be summarized as follows: *ia*. reduplication is found in “an extremely suspicious geographical distribution” in Kilen, Orochen, Sibe, and Solon, which “are associated by the fact that they have been in contact with one another and in contact with the same non-Tungusic languages, especially Mandarin Chinese, Khalkha Mongolian, and Dagur”, while at the same time, *ib*. they represent the

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70 Kilen *tob tondo* ‘very straight’, *ub ujan* ‘quite watery’; Orochen in *b*: *kab kara* ‘very black’, *kab kɔɳɔrin* ‘very dark’, *fib fiŋarin* ‘very yellow’, other: *bag bagdarin* ‘snow-white’; Sibe in *b*: *tab tarxun* ‘very fat’, *xab xalxun* ‘very hot’, in *v*: *gov-gọxun* ‘extremely spicy’, *gov golmin* ‘very long’, *nav narxun* ‘very thin’, and other: *faq farxun* ‘very dark’; Solon in *b*: *ab aya* ‘very good’, *xob xonnorin* ‘coal-black’, and other: *nem nemikkün* ‘very thin’, see also below. Apart from the above, several more examples of a rather different build are attested in Solon: *siŋarin* ‘yellow’ → *siŋa siŋa iljxun* ‘very yellow’, *ularin* ‘red’ → *ula ulariljxun* ‘quite red’.

Southern, Central and Northern branches of the Tungusic, and thus “do not form anything close to a genetic unity” (Li/Whaley 2000: 363); further on, reduplication is structurally incompatible with the Tungusic languages because Orochen – which Li and Whaley consider to be representative – is 2. exclusively suffixing, 3. has “a strong propensity for syllables to be CV, CV, or CVS (where S is a sonorant)”, and 4. does not have the sequences [gb] or [bs] / [ps] other than in bagbagdarin and fibfiynarin (Li/Whaley 2000: 363); and lastly, 5. Orochen has fewer closing consonants than “one finds, say, in Turkish”, and since “it is generally agreed upon that the choice of consonant found in C2 must be lexically determined”, and “irregularities in a morphological system are generally taken to represent historical residue rather than innovations, we should expect greater irregularity to more closely approximate the original system” (Li/Whaley 2000: 364).

This reasoning is not immediately convincing. As for the first two arguments, it seems that Li and Whaley see their power in the conjunction of 1a. (geography) and 1b. (genealogy), rather than in either of them alone. As for 1a., also Tsumagari (1997: 181 and elsewhere) mentions that reduplication is limited to the Tungusic languages spoken in China. However, proximity to the Mongolic is in no way unique to the four languages that have reduplication, as can be seen in map 3.12. Should reduplication be indeed an areal feature, at least Evenki and Manchu would have to be expected to bear traits of it as well and, in fact, Sibe would have to be expected not to, since it is spoken about 3000 km away from the other three.72 The conjunction of 1a. and 1b., therefore, does not quite hold. And on its own, 1b. (genealogical diversity) points in fact to inheritance rather than influence, and especially so, that Li and Whaley’s assertion (p. 370, fn. 1) that reduplication does not exist in Korean is in fact inaccurate, see e.g. kol-kolu ‘evenly divided’, t’ek-t’ekul ‘rolling’, tu-tunsi ‘floating’ (Kim 2003, 2009). Argument number 2. (suffixing) is also not in any way characteristic of Tungusic; the Turkic are not any more prefixing than the Tungusic, and yet the nativeness of their reduplications seems never to be challenged. As for 3. and 4. (syllables and sequences), I do not feel competent to comment on them, and will limit myself to rejecting one auxiliary subargument for 3. In order to emphasize the phonological difference between the Tungusic, where

72 Tsumagari 1997: 180 adduces Ma. tob tondo ‘honest, fair’, but immediately explains it away as an accidental combination of otherwise independent tob ‘straight’ + tondo ‘straight, fair’. He also notes that lack of reduplication in Written Manchu cannot be simply extrapolated onto Spoken Manchu, as “this kind of emphatic expression might be so colloquial that it is not attested in Written Manchu” (p. 180). Without actual proof, however, this remark cannot be treated as an argument.
reduplications are scarce, and Turkic, where they are abundant, Li and Whaley adduce an observation after Dobrovolsky 1987, that unlike the Tungusic ones, "Turkish monosyllables are always CVC" (p. 363). This is obviously nonsense, see e.g. Tksh. o ‘he/she/it’, ak ‘white’, da ‘also’. This says nothing of the Tungusic but, again, undermines the uniqueness of the unfavourable conditions that they supposedly offer for reduplication. Finally, Li and Whaley themselves acknowledge that argument number 5. (diversity of closing consonants) is not a strong one. The present work does not make it possible to determine whether the many closing consonants found in certain Turkic languages are secondary, but it does suggest that at least a part of them are, which is against Li and Whaley’s reasoning. In any case, their observation cannot be used as a serious argument, especially if based on just a rather shallow comparison of modern Orochen and modern Turkish alone, and at the same time supposed to produce a judgement about the Altaic stage.

Overall, the Tungusic collections of reduplications appear to be vestigial at best, which correlates well with the large gap between the Dolgan and Yakut collections (see 2.4). Whether the few Tungusic examples have been inherited or borrowed cannot be considered finally settled; out of Li and Whaley’s six arguments in favour of influence, at best two remain valid under closer scrutiny, and not even their conjunction can be seen as decisive.

Figure 3.12. Geographical distribution of reduplications in the Tungusic languages. Kilen, Orochen, Sibe, and Solon are the four Tungusic languages with attested reduplications. All locations are after Атлас народов мира (Bruk/Apenčenko 1964), except for Kilen and Solon which are after the map in Doerfer/Weiers 1985; the large territories of Even and Evenki are also confirmed by Sablin/Savelyeva 2011.
Given the relative commonness of reduplications in the Altaic world, and their absence from almost all of the neighbouring languages (see 1.1.2), it appears to be safe to declare them an Altaic innovation. Based on the brief summary here, it is of course not possible to determine whether they arose when the Altaic peoples still formed one community, as for this a detailed comparison of all the specific collections in all the branches is necessary. Nevertheless, the picture seems to be sufficiently clear to at least provisionally allow for considerations about the origins of the phenomenon at the Turco-(Chuvasho-)Mongolic level, see 3.4.4. Levitskaja 1976: 187 mentions that a suggestion had been made that the Turkic reduplications derive from Mongolic, but unfortunately she neither references the source nor elaborates on this idea herself, so it will be neglected here.

### 3.4.4. Origins

The Turkic languages are in general quite decisively suffixing, and reduplication is effectively the only process in them that occurs to the front of the stem (if one does not count nominal compounds such as başbakan ‘prime minister’, see Deny 1938 for more examples). This invites suppositions about the very origins of the phenomenon. At present, however, very little can be said with certitude. More likely than not, reduplication did not start after the disintegration of the Altaic community (see 3.4.3), the first closing consonant was *p*, and the first reduplicated stems were colour names (3.2.4). It seems that only two scenarios have been proposed so far. They are presented below, briefly discussed, and supplemented with a third possibility and some additional musings.

Perhaps the most obvious supposition would be that partial reduplication evolved from contracted full reduplication, i.e. *kara kara* lit. ‘black black’ → *karekara* → *karkara* → *kapkara*.\(^{73}\) Whether one believes that this change would have happened to one or to more phrases, the development of the phenomenon past its initial phase would still be more likely attributed to analogy, i.e. by assuming that *kapkara*, or whichever the first reduplicated stem or stems was, had been misinterpreted, and thus gave impulse for the creation of new formations like it. This scenario assumes that full reduplications were rather common, sufficiently so to undergo this kind of contraction. This is possible but unprovable. Also the dissimilation can be seen as a weak link, and it should be noted that this scheme cannot account for the shortening of the reduplicated vowel (see 3.1.20).\(^{74}\)

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\(^{73}\) In particular, Kim 2009 supports this option. His, however, is an account that concentrates primarily on the theoratical aspect of the issue.
Another scenario derives reduplications from formations of the *kara mu kara type, where *mu is “the emphatic enclitic” (Menges 1959: 467, 1995: 116). Interestingly, Menges’s wording suggests that this transmutation occurred separately for each reduplication. Müller 2004: 316–319 analyses this proposition quite thoroughly, and is right to eventually refute it.

A more plausible version of Menges’s idea can be imagined, where the phonetic change happens once, e.g. for *kara mu kara > *karamkara > *kamkara > kapkara, and based on this one form other reduplications are shaped through analogy, and differentiation of the closing consonants only occurs much later. This frees the scenario from the inconvenient obligation to explain why “occlusive assimilation” should happen in one stems and not in others, without a clear phonetic reason. Still, a chain of transformations needs to be assumed, which contains one particularly non-trivial link (*karamkara > *kamkara), and has in addition no way to explain the shortening of the reduplicated vowel. The overall plausibility of this scheme seems quite low.

If this scenario can be saved in any way, it is perhaps only by limiting it to reduplications closed by the double pp. Roos 2000: 79 suggests this solution for WYug. appaq ‘very white’. However, it seems more probable that the Yugur word is related to the general Tkc. appak id., than an independent innovation, and that is more likely to have resulted from emphatic lengthening than anything else (see 3.1.8).

One more scheme can be proposed. In 3.3.4, it was mentioned that al-Kāšyārī understood reduplicated anlauts to be independent particles with limited semantics or connectivity, and in 1.1.3 we saw that this interpretation has survived well into the 20th century. One particular combination of a particle and an adjective is special because of its phonetics. OTkc. kōp i.a. ‘many, much, very’ + kök i.a. ‘blue’

74 Perhaps, the only way to incorporate shortening into it would be to assume that all the long vowels in the initial syllables of the earliest reduplicated stems are secondary and arose through compensatory lengthening, so that *sagryg sagryg lit. ‘yellow yellow’ → *sagrásagryg → *sapsagryg → *sapsāryg. It seems that this postulate only makes the scenario even less plausible.

75 According to Imart 1981: §1110, a similar proposition has been put forward by M.L. Bazin. Unfortunately, the exact source is not specified. See 2.10.1.

76 The adnominal nouns have an augmentative, […] by which the word is originally doubled, […] and connected by the emphatic enclitic -mul- mù or -mal- mà to the first noun. The first noun is generally reduced by the effect of accentuation […] In many cases, -mu undergoes occlusive assimilation so that qap-qara […]sapsaryy […] arose from *qa-m’-qara < qara-mu-qara, *sa-m’-saryy < saryy-mu-saryy etc. (Menges 1995: 116)
(Clauson 1972: 686, 708, DTS) is equally or more likely to have existed than *kara kara or *kara mu kara, and for this scheme to hold, it need not have been particularly common. Given its particular sounding, it may be assumed that it was mis- or reinterpreted, and new analogous forms based on it. Such a scenario does not involve any phonetic changes at all, and accounts for the shortening of the reduplicated vowel, which is unlike the propositions above.

Also unlike the propositions above, it is explicitly limited to one stem, from which the entire phenomenon would have to have evolved. Unfortunately, this stem is not kara, which is the only one common to all the Turkic languages with large sources, and not even kyzyl or sary which are the second most common ones (see tab. 3.9). In genealogical classifications, kök does not appear near the root of the tree (3.4.5). However, of the languages compared there, it is only missing from Karakalpak and Kazakh, and only partially from from Khakas (*köpkök does not seem to be attested, but köppeges is, and was only excluded from the comparison because its exact etymology is not clear, see 2.9.3). The picture would be quite different if one were to assume that this particular reduplication had gone out of use in the Kazakh-Karakalpak territory at some later period, or that it has been simply overlooked by lexicographers. Neither of these seems to be exceptionally plausible.

Note that this scenario effectively assigns the creation of reduplication to the Turkic languages, and excludes the Mongolic. As far as Tkc. *kök is well known to correspond to Mo. köke (see e.g. Stachowski K. 2012a: 295 (W. Kotwicz’s material)), köp appears to only have existed in the former (see TMEN III: 616, No. 1654, where Mongolic is never mentioned, and Doerfer 1982: 105, where Tkc. köp ‘excessive, much’ is considered to have originally been equal to köp- ‘to swell, to froth over’, and Mo. köge-sün ‘froth’ is mentioned without drawing conclusions, but it can be seen that they could only refer to a period prior to that of *köp). Interestingly, the passing of the first seed of reduplication from the Turkic to the Mongolic, and maybe also to the Tungusic, will be interpreted differently depending on whether the two or three groups were separate at the time, or formed a close community or a continuum. In the first case, it would have to be declared a borrowing, and in the second, common inheritance within the wave model. The scheme is thus independent of which perspective on the Altaic group is adopted.

Be that as it may, one must also mention the possibility that the relation between köp and köpkök is in fact the reverse. In 3.1.10, several examples of particles were listed, that might have arisen from severed and emancipated reduplicated anlauts. At least in the case of Kirg. kyp žylańač ‘stark naked’ < kypkyzyl žylańač, this is a rather likely explanation. In theory, the same could be true of köp.
One common problem of the three schemes above is accent. In general, the Turkic languages have dynamic stress on the final syllable; reduplications with their initial accent are one of the few exceptions. As for the Mongolic languages, the opinions are divided on the place of accentuation (Svantesson et al. 2005: 94f). The issue has not been finally resolved for the Proto-Altaic stage. N. Poppe proposed a coexistence of an initial dynamic stress and a hypothetical mobile pitch accent (VGAS: 146), but his idea is unprovable for the time being. However, a steadfast reconstruction of Proto-Altaic stress is perhaps not necessary for our purpose. It is only natural that words and morphemes which are meant to be emphasized will be pronounced in a slightly overacted way. In a language with fixed accent, such as Polish, this can lead to a shift of stress to the first syllable (e.g. *absolutńe* ‘absolutely’ → *absolutńe*). Regardless of where the Proto-Altaic accent fell in non-emphatic pronunciation – if indeed it was just one place throughout the entire territory the Proto-Altaic community occupied – it well might have shifted towards the first syllable due to emphasis alone. Naturally, this supposition cannot be proved, but I believe it sufficiently plausible as a working hypothesis to allow the research not to stall over the issue.

A remark should be also made about the different closing consonants. It seems to be universally agreed upon that *p* is the primary one, and all the other ones appear to be implicitly assumed to derive from it. This might be true for *f, v, w*, and perhaps *m*, but will be more difficult to demonstrate for *r, s*, and the rarer *š, t*, &c. Müller’s 2004 “Kontrast-These” cannot account for the general Turkic differentiation.

Perhaps, then, reduplication began with more than one closing consonant, and the uniformity we observe today in the majority of Turkic languages is a result of later working of analogy? This would be in line with the use of *m, s*, and other consonants as closers in the Mongolic and Tungusic languages (see 3.4.3). If true, this supposition could undermine all the three scenarios discussed here, but as a matter of fact, it could also lead to the conclusion that perhaps even all three are partly true as they combined to create several forms which were then reinterpreted to give rise to the phenomenon of reduplication.

One particularly intriguing argument for early diversification of reduplications is the existence of *CVC*-type reduplications in Dolgan and Yakut (e.g. *to.bus. toloru* ‘absolutely full’) and, it appears, nowhere else save for one single example in Gagauz, *je.piz.jeni* ‘brand-new’. The question probably cannot be answered without a comprehensive analysis of the Mongolic collections, and that is yet to be carried out. See also 3.4.6.
With little data to harness the imagination, scenarios can be multiplied much like Russell’s teapots. The scheme proposed here (*köp kök) has some advantages over the two put forward before (*kara kara, *kara mu kara), but it is not free of weaknesses, either, and for the time being all three remain merely unprovable ideas. Directly linked to this issue is the question of whether the differentiation of closing consonants is a primary or secondary phenomenon, and this also cannot be settled, it seems, at the present stage of research.

3.4.5. INHERITANCE vs. INFLUENCE

It was already mentioned on several occasions that secondary areal influence might have played a greater role in the evolution of reduplication than genealogical inheritance (see 3.2.7). It is not entirely clear how this supposition might be tested. Identification of common reduplicated stems shared by various languages does not in itself prove their common descent in the genealogical sense (see 3.4.2). However, given the absence of continuous, long-standing and exhaustive historical records, it appears to be the best method at our disposal. Fortunately, clarity of the overall picture seems sufficient to compensate for the shortcomings of the method.

Many classifications have been proposed for the Turkic languages. Here, only two will be used, Baskakov 1960 and Tekin 1990, because it will quickly become evident that the eventual conclusions regarding the evolution of reduplication must be essentially the same regardless of which particular one would have been chosen.

Below, reduplicated stems will be fitted onto genealogical trees. The fitting will be from the leaves to the root, i.e. first e.g. the stems common to Azeri, Turkish and Turkmen will be identified, and assigned to the Oghuz level, then the same will be done for the Kipchak languages, and the intersection of the two resulting collections will be considered to be the stock at the Kipchak-Oghuz level. In order to avoid excessive reduction of the results, only the languages with relatively large sources will be taken into account, just as was done and explained in 3.2.4. Nodes which only contain idiolects not covered in the present work, will be omitted. If they were included, the final picture would either remain the same, or contain even less examples in the intermediate nodes.
The classification composed by N.A. Baskakov is quite different, but also more detailed and more explicitly genealogical than most of the others. Its full complexity, however, will not need to be exploited here; the fragment relevant for us is presented in fig. 3.13.

Perhaps the most striking observation to be made, is that the great majority of groups (nodes) have very few reduplications. When only pairs of languages are compared, as in tab. 3.7, the intersections tend to be much more numerous. This phenomenon was already made note of apropos the Kipchak languages in 3.2.4, where the number of common stems decreased very rapidly with the addition of new languages to the comparison, but no single culprit for the ultimately very small collection could be identified. Apparently, the number of common stems in each group here correlates not only with the size of the collections in the languages that eventually descend from it, but also with the number of languages compared. This is most visible in the Kipchak and Oghuz groups, which generally boast sizeable stocks, but only have a handful of stems in common.

At this point, the accuracy of identification of stems in the present work might be questioned. The procedure was quite conservative, and in case of doubt false negatives were preferred to false positives. Note also that what is taken into account are stems rather than roots, and this further reduces the possible number of matches, even if, it appears, not by much. Nonetheless, the Kipchak-Oghuz group has merely five reduplications, while the seven languages with large sources that descend from it, have an average of about 88.5.

Overall, it would seem that the languages in the Kipchak group inherited, on average, merely about 6.7% of their reduplication, those in the Oghuz group 6.5%, and those in the Karluk group 12.7%. The remaining groups only contain one language each, and it is clear from fig. 3.13 that the numbers are higher for the South Siberian languages, but even lower for Yakut. Naturally, these calculations must be taken with a grain of salt; see below.

One more observations needs to be made, namely that the few stems common to higher genealogical units are not all colour names. This is somewhat against the supposition that could be made based on our previous considerations. One possible explanation is that the process of semantic diversification had started rather early on. Another is that these few stems are not shared by several languages because each has inherited them, but rather because they all have developed their respective collections of reduplications following a quite similar semantic plan (see 3.3.5). Presently, there does not seem to exist a way to determine what the real cause of this situation is.
Figure 3.13. Reduplications against a fragment of N.A. Baskakov’s 1960 classification of the Turkic languages. Dashed lines denote removed intermediate nodes (e.g. Kipchak-Polovets, Oghuz-Seljuk). Completely omitted branches are not marked (e.g. Chuvash, Khazar). In the leaves, only the languages used in the comparison are listed. The division into chronological epochs has not been preserved. The plus symbol always refers to the immediately preceding node; nodes without comment simply inherit the state from their predecessors. The Khakas group is marked as descending from two groups simultaneously in Baskakov 1960; here, 29 is with regard to the Uighur-Oghuz group, and 22 to the Kirghiz-Kipchak group. The Oghuz group is based on a set of 19 stems, i.e. including the six with not uniform closing consonants (see 3.2.4). This is to maximize the number of matches with the other groups.
**Tekin 1990**

The classification composed by T. Tekin is closer to the line started by A.N. Samojlovič in 1922, and later continued by the majority of propositions. Like them, it is not explicitly genealogical in nature. The principle of division is phonetics, which suggests that genealogy is indeed what is meant, but intermediate proto-languages are not discussed. The fragment relevant for us is presented in fig. 3.14.

Despite the many differences between Baskakov’s and Tekin’s classifications, the effects of fitting of reduplications to them are rather similar. Again, the collections at intermediate nodes are strikingly humble and entirely out of proportion with the collections of the languages ultimately descending from them. The numbers in the leaves are quite alike, which is of course due to the fact that the groups themselves aggregate almost the same languages in both models. Thus, the same extends to the calculations of the inherited-to-“influenced” ratio.

Perhaps the only more significant difference between how reduplications fit into the two classifications, is semantics. The first stem that is not a colour name appears at the same stage in both, Oghuz-Karluh-Kipchak in Baskakov’s terms, but in Tekin’s model it is much further down. Possibly, however, no conclusions can be made based on this occurrence. The genealogical nature of Tekin’s classification is alleged by me but not, in fact, professed by the author. It is also not at all clear to what degree the commonness of a reduplicated stem implies inheritance. Finally, the very feasibility of the genealogical model to the Turkic languages is disputable (see below). For the moment, this observation will be dropped.

In 3.2.4, reduplicated stems in the five traditionally distinguished genealogical groups were compared, and the conclusion drawn that the number of stems common to more than a handful of languages is quite low indeed. It was shown that even rich collections shrink very rapidly as new languages are added to the comparison. But aggregating multiple languages into a single unit is precisely what genealogical classifications do. It appears that reduplications simply cannot fit into the clear-cut, hierarchical picture painted by genealogical classifications, and the two experiments above attest to this. Before making conclusions, however, let us conduct another one, this time not taking genealogy into account at all.

**Clustering**

Baskakov’s classification is essentially based on all available kinds of material, Tekin’s only on phonetics, and neither makes particular use of reduplications.
Figure 3.14. Reduplications against a fragment of T. Tekin’s 1990 classification of the Turkic languages. Dashed lines denote removed intermediate nodes (e.g. the \textit{taylyq} group (several South Siberian dialects), or the \textit{tayly} group (Salar)). Completely omitted branches are not marked (the \textit{r-} and \textit{l-} group (literary Chuvash), and the \textit{hadaq} group (Khalaj)). In the leaves, only the languages used in the comparison are listed. The plus symbol always refers to the immediately preceding node; nodes without comment simply inherit the state from their predecessors. The Oghuz group is based on a set of 19 stems, i.e. including the six with not uniform closing consonants (see 3.2.4). This is to maximize the number of matches with the other groups.
Fig. 3.15 shows one possible classification that is only based on reduplicated stems, and takes neither phonetics, nor morphology into account, nor any other part of prior linguistic research that is not directly related to reduplications.

Figure 3.15. Hierarchical clustering of Turkic reduplicated stems (Jaccard distance, Ward method).  

The resulting scenario is quite interesting. Foreseeably, the collections at intermediate nodes hold many more reduplications than was the case in the two classifications above. It might be also noticed that stems not related to

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Hierarchical clustering, like multidimensional scaling, is derived from a distance matrix. Here, however, Jaccard distance is used \(1 - \frac{|A \cap B|}{|A \cup B|}\) instead of Euclidean distance \(\sqrt{|A \setminus B| + |B \setminus A|}\) employed in fig. 3.6 and 3.9. Let us note that the former ranges between 0 and 1, and represents the relative dissimilarity between two sets, while the latter has no upper limit and yields the absolute distance between them. As a result, Jaccard distance is not particularly sensitive to the cardinalities of the analysed sets, but Euclidean distance is very much so. The point of MDS as used before, was to expose the different paths that evolution of reduplication has taken in
colours appear quite early here, but again, the significance of this fact is dubious. The most striking feature of this classification, however, is perhaps how well it correlates with genealogy. But it also corresponds to geography, and in light of what is known about the history of the Turkic peoples, it seems impossible at the moment to differentiate between the two.

Finally, a warning must be made not to treat this scheme too literally. Finer and more robust methods could be used to minimize the effect of imperfect sources (see in particular Nerbonne/Kleiweg/Manni/Heeringa 2008), but underlying any eventual classification is the shaky assumption that existence of reduplications of a stem in two languages implies a genealogical relation between them (see 3.4.2).

**Conclusions**

The material collected in the present work clearly does not fit very well into the traditional genealogical classifications of the Turkic languages. The match can be improved if genealogy is slightly bent, but the resulting scheme still does not do justice to the richness of connections between many languages, as seen in tab. 3.7.

Instead, reduplications apparently might constitute one of the many arguments that are necessary in order to shift the understanding of the evolution of the Turkic languages from the genealogical model to one that is based on dialect continua; see Gadžieva 1975 for a collection of many more. The idea that the Altaic languages are related by contact rather than inheritance was first put forward by W. Kotwicz (see Stachowski M. 2001: fn. 10). Later, the same idea was applied to newer stages of development inside the Turkic family, perhaps most explicitly and recently in Schönig 1997–98. Also the oldest Turkic written sources do not paint the picture of a single language, and from later history we know that at least in Central Asia in a broad sense, the Turkic peoples remained in contact that was sufficiently close to spawn and uphold various languages, and Euclidean distance served this purpose well because it highlights the outliers. Used in hierarchical clustering, however, it returns what is effectively the ordering of languages by the number of reduplications. On the other hand, Jaccard distance always compares sets in their own weight class, so to say, and therefore yields a clustering based on actual relative similarity, and not just on cardinality. But it needs to be noted that there are actually tens of indices with similar properties. Here, Jaccard’s was chosen for its simplicity, which I believe to be an important quality when analyzing data whose accuracy hinges entirely on imperfect sources.
Chaghatai. Genealogical inheritance cannot be realistically hoped to account for the dominant part of the characters of specific languages, and reduplications only confirm this. A more detailed quantitative estimation of this relation, nevertheless, cannot be performed based only on common reduplicated stems; what else needs to be investigated, and how, remains not quite clear for now.

See 3.4.3 for an overview of how the Mongolic and Tungusic languages fit into this interpretation, and 3.4.7 for a summary and continuation of these considerations. See also 4.1.3, where it is shown that also the distribution of closing consonants might be viewed as resulting more from secondary areal influence than from genealogical inheritance.

### 3.4.6. Evolution

The great majority of the Turkic languages lack long-standing, continuous historical records that could be definitely attributed to their direct genealogical ancestors. The possibilities of tracking the evolution of reduplications are thus severely limited.

The present work collects two sets of historical data, Ottoman (see 2.13), and the generally oldest attestations (2.1). Few conclusions can be drawn based on the first, and from the second hardly anything can be deduced at all, because most examples cannot be clearly attributed to an earlier stage of any specific modern language. (This is also the main reason why Chaghatai material has been altogether excluded from this work, see 1.2.1.) It would be also quite futile to hypothesize about history based on groups of those modern languages which are known to have developed from a single proto-language, as effectively the only such pair are Dolgan with Yakut, and their collections have almost nothing in common (see 3.2.4).

Let us attempt to gather what little can be inferred about the evolution of Turkic reduplications from a comparison of modern and historical material.

#### Turkish – Ottoman

The Ottoman data presented in this work are almost certainly incomplete (see 2.13.4). From gaps in Ottoman, therefore, nothing can be deduced. There are, however, reduplications attested in it that are apparently no more in modern Turkish, and also those where the closing consonant has changed.

The first group contains nine examples (see 2.13.2 for details): *apary* ‘very clean’ (attested in the 16th c.), *aphāzyr* ‘absolutely ready’ (17–18th c.), *būbūjük* ‘very big’ (17th c.), *dosdolajinže* ‘all around’ (17th c.), *epelj* (19th c., but conserved
as an independent word *epeji* &c. ‘quite, fairly’, see 3.1.15), *kapkaršy* ‘completely opposite’ (14th c.), *kypkyryk* ‘completely broken’ (18th c.), *sāmsāfī* ‘absolutely pure’ (18th c.), and *sypsyrlak* ‘completely smooth’ (15th c.).

Only one of them can be found in the Turkish dialects, *bösböj(j)ük* (DS; see 3.1.12 on emphatic lengthening), and except for the now-dialectal *syrlak*, all the bases remain in everyday use in the literary language. The nine reduplications do not share any particular structural or semantic features, and there generally seems to be no obvious reason why they would have ceased to be used.

In twelve examples, the closing consonant has changed between Ottoman and modern Turkish: *ak* ‘white’ (*p, pp → p*), *čürük* ‘rotten’ (*p → m*), *čyplak* ‘naked’ (*m, r → r, s*), *dolu* ‘full’ (*p → p, s*), *jassy* ‘flat’ (*p → m, p*), *jaš* ‘wet’ (*m → m, p*), *ješil* ‘green’ (*m → m, p*), *katy* ‘hard, solid’, (*s → p, s*), *sijāh* ‘black’ (*m → m, p*), *tatly* ‘sweet, tasty’ (*m → p*), *tāze* ‘fresh’ (*m → m, p*), *temiz* ‘clean’ (*r → p, r*).

A tendency to standardize can be seen relatively clearly here. In six cases, *p* was added as an alternative closing consonant, in one the old closing consonant was replaced with *p*, and in one the irregular *pp* was discarded leaving only *p* from the earlier pair of alternatives. Only four words had their reduplications changed not towards the dominating *p*, but it must be noted that one of them (*čyplak*) has *p* for *C₂*, which is a strong indication against *p* as the closer (see 3.1.6), and two of them had already had *p* before, and only new closing consonants were made available for them, while the original *p* has been preserved as an alternative. Thus, the only word that has clearly gone away from standardization is Ott. *čüpčürük* ‘completely rotten’ (18th c.) > Tksh. *čümčürük* id.

In light of the incompleteness of Ottoman data, entropy of its closing consonants (3.2.1) can only be considered in approximation. Still, it is found to be higher than that of modern Turkish (0.546 : 0.472), which is in line with the standardization seen above.

Overall, the only radical difference between Ottoman and modern Turkish, is the number of attested examples. But this, as we saw in 2.16.4 and 2.13.4, has been largely inflated by insufficient sources on one side, and somewhat zealous research on the other. In the area of closing consonants, a limited amount of standardization can be seen.

One more observation needs to be made about the relation between Ottoman and modern Turkish. According to the so-called Piotrovskij-Altmann law, change in language can be modelled with an equation which in our particular case would assume the shape

\[ p(t) = \frac{c}{1+e^{-b(t-A)}} \]
where $p$ is the number of forms, $t$ is time, and $A$, $b$, and $C$ are coefficients (this is a slightly modified version proposed in Stachowski K. 2013 as a linguistically more meaningful formulation; see Altmann 1983 for the original). The plot of this function is a sigmoid, i.e. has the shape of a horizontally stretched letter $s$, which is entirely consistent with linguistic intuition.

![Graph of cumulative reduplications per century](image)

**Figure 3.16.** Cumulative sum of the number of new reduplications per century in Ottoman and Turkish. The coefficients for the fitted line (see the main text) are as follows: $A = 16.8561$, $b = 0.8285$, $C = 66.1431$. Beyond the 19th century, the line is dashed because it was only fitted for the Ottoman data. The hollow triangle marks the (very) approximate number of reduplications in common use across the Turkish territory, which is 84 (see 2.16.4). The dot at the 20th c., marks the 176 reduplications attested for modern Turkish.

The formula accounts for the Ottoman data quite well ($R^2 = 0.9897$; see fn. 55 on p. 263 for the meaning of this index), but it would be futile to attempt to fit it to both the Ottoman and Turkish data simultaneously (to connect all the dots in fig. 3.16 while maintaining the type of shape of the black line). It seems that the only way in which this could be done, would predict nothing short of an explosion in the 21st and perhaps the following centuries.

Apparently, only three basic explanations of this situation are possible: 1. the Piotrovskij-Altmann law is incorrect; 2. the Ottoman data are severely incomplete; 3. the Turkish data are inflated. Or, some combination of the three. In light of the vast supporting material collected for the Piotrovskij-Altmann law, the first option will be disregarded. The second possibility has already been supposed in 2.13.4. Fig. 3.16 visualizes the scale of omissions that would have to be assumed if the gap were to be explained by the second option alone. This seems rather unlikely. The third possibility has also been supposed before,
in 2.16.4. It was estimated that perhaps only about 84 reduplications are in actual widespread use across the entire Turkish territory, and this number is represented by a triangle in fig. 3.16.

Thus, it appears that both the second explanation (insufficient Ottoman) and the third one (excessive Turkish) are true. The latter might be responsible for a larger part of the gap, but the former is also definitely not insignificant.

**The oldest attestations**

It was mentioned in 2.1 that the oldest attested C-type reduplications belong to a number of just generally characterized dialects, but are representative of none. In sporadic cases, even such general attribution is missing. The majority of stems can be found together with their reduplications in modern languages, but it is certainly not possible to draw conclusions about those modern reduplications which do not seem to be attested in the oldest sources. In this situation, hardly anything may be deduced apart from termini ante quos of two phenomena.

All attestations are post-runic. It must be remembered, however, that being probably colloquial formations, reduplications were likely deemed unsuitable for the typically ceremonious inscriptions. In the 11th century, most notably in al-Kāšyārī’s dictionary, more than ten reduplications appear. They are attributed to various Turkic tribes, not limited to colour names, and can be closed with three different closing consonants which show a genealogical and geographical differentiation (m in the Oghuz versus p elsewhere; s in tāstāgirmā ‘very round’ is puzzling for al-Kāšyārī). Combining these two pieces of information, it might be supposed that the 11th century is no more than the terminus ante quem of both, Turkic reduplication, and the diversification of closing consonants, and the phenomena had in reality begun earlier.

Just how much earlier, however, cannot be settled at the current stage of research. Reduplication is present in the Mongolic languages, several examples can be found in the Tungusic (see 3.4.3), and both show a certain degree of differentiation of closing consonants. A comprehensive analysis, however, is necessary to see whether the similarities go any deeper. A hypothetical scenario is presented in 3.4.7.

**3.4.7. Conclusions**

The goal of this section was to reconstruct what little can be deduced with acceptable certitude about the evolution of reduplication. It was shown that the correct approach is the historical-comparative one (see 3.4.1), but its application
runs into serious obstacles (3.4.2). Later the Altaic background was briefly presented (3.4.3), suggesting that reduplication is most highly developed in the Turkic languages, limited but certainly present in the Mongolic, and vestigial in the Tungusic. This is consistent with the most plausible scenario that led to the emergence of reduplication (3.4.4), and with the fact that its later expansion was mainly due to areal influence rather than genealogical inheritance (3.4.5), which likely was also the case at the Altaic stage. Finally, the oldest attestations were used (3.4.6) to show that the evolution from Ottoman to Turkish was headed towards unification, and that the 11th century is the terminus ante quem for both reduplication itself, and the diversification of closing consonants. It is not clear whether the diversification was an inherent part of the process of emergence of reduplication, or a later development. The uniformity in the Central Asiatic Turkic might have been caused by the working of analogy, but it might also be that the Oghuz and Mongolic/Tungusic diversity is a coincidence caused by the drive to strengthen the emphatic quality of reduplications. A comprehensive, pan-Altaic study is probably necessary to answer this question.

Perhaps the most important of these is the shift of weight from inheritance to influence. The areal model not only accounts much better than the genealogical one for the number of common reduplicated stems between the various Turkic languages, but it can also better explain the diversification of closing consonants. Moreover, it quite well accommodates the Mongolic languages, and, when extrapolated onto the Altaic stage, complements the genealogical understanding to produce a believable explanation for the Tungusic languages.

Especially the fragments not directly related to Turkic are purely hypothetical at the present stage of research, but the provisional scenario can be summarized as such: reduplication begun in the times of Altaic community as an areal feature. Its centre was located in the Turkic territory, and the phenomenon spread onto the Mongolic languages which passed it further to the Tungusic. The beginnings were most likely very modest. It is possible that different closing consonants were used. Later development was caused, again, primarily by areal influence. The vanguard of the Turkic migration to the west (mainly the Oghuz) added both new stems, and new closing consonants. In Central Asia (the Karakhanid, Kipchak, and South Siberian), new stems were also added but all reduplications were closed by p, and if any other had been inherited, they have been ironed out in all languages except for the few remaining examples in westernmost Karaim, Kumyk, Bashkir and Tatar, and the half Oghuz Uzbek. Note that the Kipchak collections are typically much larger than the Karakhanid and South Siberian ones. The Mongolic collections, too, are apparently relatively small. They show a degree of diversification of
closing consonants, but more characteristically, they also fall into several types other than the C-type, which is the only one discussed in the present work. This is quite like Yakut, except that the Yakut collections of different types of reduplications are rather sizeable. This is also unlike Dolgan, the Turkic-Tungusic mix, whose collection is very small, but typologically diversified, perhaps comparably to the little that there is of reduplication in the Tungusic. With their small and hardly diverse collections, the Tungusic languages do not fit very well between the Mongolic and Yakut. In their case, perhaps, the strength of areal influence decreased after the disintegration of the Altaic community, at least as far as reduplication is concerned.
4. Summary

The present book can be viewed as a patchwork of topics relating more or less directly to Turkic reduplications. Many are interconnected and interdependent, which renders it impossible to organize the presentation in a linear way. The thematic division adopted here is only one of the possible groupings, and not necessarily optimal for all tasks.

To alleviate this inconvenience, the current chapter first summarizes the whole following a different thematic division (4.1), and then very briefly recapitulates what I consider to be the most important conclusions (4.2). Some thoughts are expressed more clearly here than in the previous chapters, where they were lost between auxiliary observations.

4.1. Summary

This subsection summarizes the entire book following a different thematic organization than was adopted for the main flow of the discussion. Several topics which had to be fragmented before are merged here. First, the present state of Turkic C-type reduplications is sketched (4.1.1), followed by what can be deduced about their past (4.1.2). Then, the process of formation of reduplications is discussed, including the question of the choice of the closing consonant (4.1.3), and finally special cases are shortly presented together with the recurring peculiarities (4.1.4).

4.1.1. Present

The present work gathers about 1200 C-type reduplications from twenty modern Turkic languages. Despite my efforts, these collections are surely incomplete, but it can be quite confidently assumed that they cover a substantial majority of the examples in actual widespread use (1.2.1). Partial interfixed reduplication
is essentially unproductive in all the languages discussed here, albeit there is a claim to the contrary about Tuvinian (2.18.2), and some Turkish examples can be found in digital corpora even though they are apparently missing from the traditional sources (2.16.1). Sporadic, possibly ad hoc and one-time, new reduplications might be also appearing in other languages.

Within the Turkic family, the defining parameters are the size of the collection and the diversification of closing consonants (3.2.2). Within the Altaic, typological differentiation would also need to be taken into account (3.4.3). The collections vary significantly, and genealogical and geographical patterns can be observed. A synopsis is given in tab. 4.1.

The typological classification that emerges from tab. 4.1 is similar but not identical to the traditional genealogical one. For convenience, the slightly more detailed summaries below are ordered according to the latter.

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of reduplications</th>
<th>Diversification of closing consonants</th>
<th>Proportion of non-C-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karakhanid / South Siberian*</td>
<td>low</td>
<td>none (p)</td>
<td>low</td>
</tr>
<tr>
<td>Kipchak</td>
<td>high</td>
<td>low (p, also m, r, s)</td>
<td>low</td>
</tr>
<tr>
<td>Oghuz</td>
<td>high</td>
<td>high (m, p, r, s)</td>
<td>low</td>
</tr>
<tr>
<td>Yakut</td>
<td>high</td>
<td>low (p, also nine others†)</td>
<td>high</td>
</tr>
</tbody>
</table>

Table 4.1. Overview of the diversification of reduplications across the Turkic languages. Singular exceptions (e.g. the high proportion of non-C-type reduplications in Dolgan) have been omitted for clarity.

* Also includes Dolgan.
† The total of ten different closing consonants results in a relatively high entropy (see fig. 3.3), but reduplications closed by consonants other than p constitute only 16% of the Yakut collection, and hence their diversification has been classified as “low” here, as opposed to the Oghuz group where only four consonants are used, but in a much more even distribution.
Karakhanid

Two Karakhanid languages are discussed: Uighur and Uzbek. Sizewise, their collections are both in the second quartile, but they differ with regard to the use of various closing consonants: in Uighur, \( p \) and \( pp \) are the only ones attested in the literary language, while in Uzbek also \( m \), \( s \), and \( t \) can be found, even if in only 19.57% of the examples. This yields the entropies of closing consonants of 0, and 0.287, respectively, classifying Uighur as a \( p \)-language, and Uzbek as an \( mprs \)-language (3.2.1).

Peculiarities are relatively rare. In Uighur, the vowel in the reduplicated anlaut has typically the pre-umlaut shape, while the one in the head undergoes umlauting normally, i.e. \( seriq \) ‘yellow’ \( \rightarrow \) \( sapseriq \) ‘very yellow’. In Uzbek, two reduplicated verbs exist, \( qipqizarmaq \) ‘to turn very red; to blush strongly’, and \( qapqarajmaq \) ‘to turn completely black’. Apart from these, the great majority of examples are standard. Special cases are more numerous in Uighur, and just three in Uzbek.

Sixteen or seventeen reduplicated stems are common to both Uighur and Uzbek (3.2.4), i.e. less than a third of the union of their collections. This is unusually many, but one must not forget that only two languages are being compared here, and the number of common stems tends to drop very quickly as new languages are added to the comparison.

Kipchak

Essentially, seven Kipchak languages are discussed: Bashkir, Kirghiz, Karakalpak, Kazakh, Kumyk, Tatar, and Karaim which is usually treated as two languages here: Eastern Karaim (= Crimean), and Western Karaim. In opposition to the Karakhanid ones, Kipchak collections are quite uniform with respect to closing consonants, but rather varied in terms of their size.

As regards the number of examples, Western Karaim and Kumyk fall in the first, and barely in the second quantiles, respectively. All the other languages are in the third and the fourth. With 108 reduplications, the Kazakh collection in particular, is the second largest in the present work.

With reference to the entropy of closing consonants, on the other hand, all but Eastern Karaim are \( p \)-languages (3.2.1). The exceptional state of that language is no doubt due to the influence of Ottoman and Turkish. The eastern of the Kipchak languages discussed here (Karakalpak, Kazakh, and Kirghiz) use \( p \) and \( pp \) exclusively; the western ones (Bashkir, Karaim, Kumyk, and Tatar) have examples closed by \( m \) (all except Kumyk), \( s \) (Eastern Karaim and Kumyk), or \( r \) (Eastern Karaim). These exceptional reduplications are very few (3.2.5).
Peculiarities are not particularly common. In Bashkir, Karaim, and Kumyk, there are the singular reduplications closed by consonants other than $p$. In Eastern Karaim, moreover, a reduplicated verb can be found (apačmak ‘to break open, to throw open’). In Kirghiz, multiple intensifications are relatively frequent (see 3.1.13), and one pronoun is reduplicated (kačan ‘when?’ $\rightarrow$ kapkačan (‘very’ long ago’)). In Karakalpak, bases beginning with $\dagger$- reduplicate always to $\dagger$, and in a half of the cases, also to the standard $\dagger$. Apart from the above, special cases are neither very numerous nor very rare.

The Karaim and Kumyk sources are relatively small, and therefore possibly incomplete. The collections of the remaining five languages were found to have merely ten stems in common (3.2.4), which is more than 4% of the union of their collections, and surprisingly few. Taken pairwise, however, the similarities are much stronger, never less than twenty shared stems (tab. 3.8), but the number drops very rapidly with every new language added to the comparison.

**North Siberian**

Both Dolgan and Yakut are discussed, and their collections prove to be almost polar opposites. For Dolgan, merely eight examples appear to be attested (the second smallest collection), while Yakut has 106 (the third largest). All Dolgan examples are closed by $p$, whereas in Yakut ten different closing consonants are attested, which is almost twice as many as in the second richest language (Azeri with six). Both languages, however, are extraordinarily diversified from the typological point of view, and $C$-type reduplications constitute only about a half of their entire collections (not discussed in full here). The great gap between the two languages might be due to the Tungusic substrate of Dolgan, and lack thereof on Yakut (3.4.3).

In the light of the above, peculiarities are surprisingly few. The Yakut word *utary* ‘across, opposite’ should be mentioned, whose reduplication *ūnutary* is not only closed by a consonant other than $p$ (3.1.23), but also has its reduplicated vowel lengthened (3.1.12). Also the shared Dolgan and Yakut *sogotok ~ soγotɔχ* ‘alone, lone(ly)’ might be of interest as its reduplications display an unusual diversification of forms. Other than these, special cases are quite rare given the very high total number of reduplications in Yakut.

Six reduplicated stems are common to Dolgan and Yakut (3.2.4), which accounts for 75% of the Dolgan collection, and only 5.7% of the Yakut one.
Oghuz

Four modern Oghuz languages are discussed (Azeri, Gagauz, Turkish, Turkmen), and one historic, Ottoman. Apart from the relatively modest Gagauz collection (second quartile), all are in the third and fourth quartiles. In particular, the Turkish collection is not only the largest one, but by two thirds more numerous than the second biggest collection (Kazakh). In reality, however, the use of a half or more of it is limited in various ways, and not quite representative for the language as a whole (2.16.4 and 3.4.6).

As for the entropy of closing consonants, the Oghuz are the mprs-languages proper (fig. 3.3). Apart from Eastern Karaim which has always been under heavy influence of Ottoman and Turkish, the only non-Oghuz language where closing consonants other than p are fairly numerous, is Yakut in which, however, their number and distribution is quite unlike in the Oghuz (compare 2.21.4 with e.g. 2.16.4).

Peculiarities seem few, especially in light of how numerous the collections are. Two Azeri words might be mentioned whose reduplications have apparently the meaning of plural rather than intensified singular (bärbäzäk ‘decorations, …’ and sörsöküntü ‘chips, splinters’). Also in Azeri, reduplications of derivatives are unusually common (e.g. japjalnyz : japjalnyzğa ‘completely: alone, lone(ly)’). In the remaining languages, special cases are rare, with only the exception of Ottoman where, however, orthography and fidelity of the sources might have played a crucial role in rendering certain attestations unclear.

Perhaps as many as nineteen stems are common to the three languages with large sources (all the modern ones but Gagauz), but it is not clear how the differences in the closing consonants used to close their reduplications should be interpreted. The same closer has been used in eight (3.2.4). This constitutes a rather modest base for the investigation of common patterns in the distribution of closing consonants. Several tendencies can be established, but they are far from explaining the majority of all the Oghuz reduplications (3.2.3 and 3.2.5).

The nineteen stems are only less than 9% of the union of the Azeri, Turkish and Turkmen collections. Note, however, that without Turkish, the union shrinks from 216 to 94 reduplications.

Apart from the conspicuous difference in size between the Ottoman and the Turkish collections, not much can be deduced from their comparison. If anything, the evolution seems to have taken a tiny step towards standardization (3.4.6).
South Siberian

Four South Siberian languages are discussed: Khakas, Oirot, Shor, and Tuvinian. Their collections are uniform and modest. Khakas, with almost twice as many examples as the second Tuvinian, is in the second quartile; the remaining three are all in the first. Shor, in particular, has the smallest collection in the present work (six reduplications). Closing consonants other than \( p(p) \) are not attested.

Systematic peculiarities effectively do not occur. In Tuvinian, reduplication is advertised by K.D. Harrison to be fully productive, and to operate on different parts of speech, including verbs, but his claim is yet to be verified (2.18.2). Special cases are surprisingly numerous, but almost all belong to two families of derivatives of \( ak \) ‘white’ and \( kök \) ‘blue’, with seventeen or eighteen forms across Khakas, Oirot, and Shor (2.12.3).

Excluding the underrepresented Shor, only five stems are common to the South Siberian languages, i.e. a tenth of the union of their collections, which is relatively many.

4.1.2. Past

At the present stage of research, not much can be said with certainty about the history of Turkic reduplications.

The very beginnings of the phenomenon are particularly unclear. Possibly, they are as ancient as the times of the Altaic speech community, if the method is present and, it seems, doing well in the Mongolic languages. It is also present in the Tungusic languages, but on a much smaller scale. A detailed and extensive comparison is necessary for dependable conclusions to be drawn, but provisionally, it might be assumed that Mongolic and Turkic reduplications are continuations of a common heritage rather than independent innovations (3.4.3).

How partial interfixed reduplication started, is also unknown. More and less plausible scenarios can be devised but without actual data to rely on, they remain hypothetical. A new, and perhaps more likely, scheme is proposed in the present work, that derives the phenomenon from a misinterpretation of *kök körk lit. ‘very blue’, but it is not without weaknesses, too. It is possible that there were in reality several different formations which accidentally just sounded similar, that combined to create the impression of being a separate method of intensification (3.4.4).

The earliest certain attestations come from Maḥmūd al-Kāšyarī. It can be deduced from his account, that reduplication was already an established method of intensification in the 11th century, which displayed a geographical and/or
genealogical differentiation (p being the perhaps universal closer, and m limited to the Oghuz languages), and had already had exceptions (täştägirmä ‘absolutely round’) (2.1.1).

Later attestations do not reveal much, mostly because ascribing them to the predecessors of specific modern languages is more often than not uncertain. (For the same reason Chaghatai material is entirely omitted in the present work.) Ottoman data are an exception, but a comparison with the modern Turkish collection only unearthed a weak tendency to standardize in just several examples (3.4.6).

The details of evolution of reduplication are also shrouded from investigation by the relative similarity of the Turkic languages, which makes it difficult or often impossible to tell internal borrowings from calques from innovations. Also, the existence of a stem and its reduplications in several languages cannot be in itself regarded as a proof of common descent. Combined with our insufficient knowledge about the exact relations between specific languages in the past, and several smaller obstacles, this renders the classical historical-comparative method barely applicable (3.4.2).

These difficulties recede into the background, however, as it is found that only a very low proportion of reduplicated stems is common to more than just a handful of languages, and their number plunges with every new language added to the comparison. In fact, kara ‘black’ seems to be the only base common to all. This situation is not at all consistent with the relatively large sets of stems common to various pairs of neighbouring languages. One conclusion that can be drawn from this incompatibility, is that Turkic reduplications were not so much inherited by every language independently, as jointly developed in local clusters of dialects and languages.

Reduplication can be thus seen as another argument in favour of viewing the Turkic family as a “continuum of dialect continua” rather than as a genealogical tree of distinct, separate branches (3.4.5). Although more hypothetically, the same interpretation can in fact be used to explain the modern distribution of closing consonants (4.1.3 below).

If common stems are anything to go by, which they not necessarily are (see above), reduplication seems to have evolved along four separate paths in the Turkic languages: Oghuz, Kipchak, Yakut, and Karakhanid-South-Siberian-Dolgan. This is in accordance with the typological diversification of reduplications (tab. 4.1), and also quite similar to the traditional genealogical division of the family (3.2.2 and 3.2.4).

Semantically, however, only two main paths can be observed: Yakut, and the rest of the family. This suggests that reduplication encompassed almost
everewhere a set of similar, perhaps the most frequent, intensifiable adjectives
and adverbs which, simply, were expressed with different stems in various
genealogical groups (3.3.4).

To sum up, reduplication began probably during the times of the Altaic
speech community, and from this time on, it evolved in all the Turkic languages
under the influence of their neighbours rather than as a continuously expanded
inheritence. For this reason, collections in the modern languages display similarities
primarily in geographical clusters, which only happen to coincide with the
genealogical division. Semantically, nonetheless, only Yakut departs significantly.
The process of diversification of closing consonants began before the 11th century,
maybe as early as the very origins of the phenomenon.

4.1.3. FORMATION

At first glance, the formation of Turkic C-type reduplications might seem to be
well understood except for the apparently quite complex problem of the choice of
the closing consonant. In fact, the traditional account of the process appears to
be fallacious, and the mechanism of choosing the closer actually relatively simple.

MECHANISM

According to the established and most common account, partial interfixed re-
duplication proceeds by doubling the first syllable, ejecting its final consonant if
there were any, shortening its vowel if it was long, appending a closing consonant
to it, and prepending the whole to the original word. However, the same final
shape can be obtained by different procedures, e.g. by only doubling the initial
mora of a word and inserting a single (or double) consonant in between.

The exchange of syllables to morae is a particularly convenient descriptive manœuvre as it automatically entails what is typically seen as a separate
process of shortening of the reduplicated vowel, and results in effect in a more
concise formulation.

Nonetheless, it is probably impossible to determine which description better
captures the actual mental processes that have created reduplications. In fact,
one may not even confidently assume that the mechanics is the same now as it
was in the past, and that it is the same for all speakers – or indeed, that it is at
all conscious, as these descriptions imply. A psycholinguistic study conducted
on Turkish native speakers suggests that the choice of the closing consonant
is only driven by a rule with words beginning with a vowel (when the closer
is almost always \( p \), with just one exception in Yakut, 3.1.20), while with those
beginning with a consonant it is either memorized as a part of the vocabulary (in the more common reduplications), or unclear to the speakers themselves (in the less common ones). It might be suspected then, that the actual mechanics of the formation of reduplications is, simply, analogy (3.2.6).

Also, it should be noted that secondary phonetic modifications might be applied independently to any part of the resulting reduplication. These are not frequent cases, but in Karakalpak and Uighur, they appear to be regular (3.1.19).

Note also that the descriptions above only refer to what is called “C-type reduplications” in this work, i.e. reduplications with a single or doubled consonant for a closer. Other types of closers, however, are also attested (e.g. Dolg. čä.bit.čälkä ‘snow-white’ (DW), Kklp. tu.ppa.tuwa ‘completely straight, very direct’ (KklpRS), or Yak. bö.rü.böyö ‘very: strong, sturdy, powerful’ (Pekarskij 1907–30), &c.), and also other types of partial and full reduplications (e.g. Tksh. ders mers ‘classes and what not’, onlar monlar ‘they and whoever else’, kara (my) kara ‘jet-black’, &c.) (1.1.1).

**Choice of the closing consonant**

Perhaps the most investigated issue connected with the formation of Turkic C-type reduplications, is the question of the choice of the closing consonant. Previous research has primarily focused on establishing synchronic and phonetic rules for Turkish, and achieved some success, but failed to ultimately resolve the puzzle. Various sets of rules account for about 70–80% of the examples. The more precise ones, however, seem so intricate that a suspicion might arise about whether linguistically naïve speakers really could have been following them while coining reduplications, or in other words, whether these attempts are not in fact inventing a mechanism that never was (1.1.3). In other languages, the situation is either very clear (the closing consonant is always p), or equally ill-suited to a purely synchronic and phonetic investigation (3.2.3).

In the present work, a comparative and diachronic attitude has been adopted instead. The Oghuz group and Yakut, are those languages where closing consonants other than p are not just singular exceptions. The latter has been discarded for lack of close relatives with which to conduct a comparison.

As for the Oghuz group, I identified a set of nineteen common reduplicated stems in them, and compared which closing consonants have been used in their reduplications. The variance proved to be relatively low, but despite that not many phonetic regularities could be established. Stems beginning with b and monosyllables were found to typically have their reduplications closed by s or m, but both these closers proved to be used almost as frequently with reduplications
of stems that do not share any particular phonetic feature. Thus, both the validity and the phonetic motivation of these findings is questionable (3.2.5).

A comparison of all reduplications in all the modern languages discussed here, yielded results that are more credible but neither very novel nor very accurate. Bases with a vocalic anlaut have their reduplications closed by p in 185 out of 186 cases, and this is the only actual phonetic rule for the choice of the closing consonant (3.1.23). For bases beginning with a consonant, the following set of tendencies has been established (3.1.4 and 3.1.5):

- Regarding the initial consonant of the base ($C_1$):
  1. $p$-languages use $p$ as the closing consonant indiscriminately for all bases.
  2. $mprs$-languages tend to replace $p$ with $s$, $m$ and rarely other consonants for bases beginning with $b$-.
  3. $mprs$-languages use $s$ and, less often, $r$ as the closing consonant for bases beginning with $d$ and $t$.
  4. $mprs$-languages almost never use $s$ for bases beginning with $s$-.

- Regarding the second consonant of the base ($C_2$):
  1. $p$-languages use $p$ as the closing consonant indiscriminately for all bases.
  2. $mprs$-languages do not avoid homolocality of the closing consonant with $C_2$.
  3. $mprs$-languages tend to avoid using $C_2$ as the closing consonant.

- Tendencies referring to $C_2$ are weaker than those referring to $C_1$.

From these, the primary driving force behind the use of different closing consonants appears to have been the will to avoid repetitions with both $C_1$ and $C_2$ (as in Kmk. papparahat ‘absolutely calm’ or in Uzb. bütbütün ‘quite complete’). This conclusion is consistent with the findings of Hatiboğlu, Demircan, and Müller (see 1.1.3). Unlike theirs, however, the current analysis does not suggest that this tendency was so strong as to impel speakers actively to maximize the phonetic difference between the closing consonant and the first consonants of the base.

Rather, it appears that once the tendency to avoid repetitions was satisfied, the choice between the remaining possibilities was fairly random. It is not a rare occurrence for one base to have different reduplications with various closing consonants (3.1.1), and in some cases even semantic differentiation is to be seen between the alternatives (3.1.2). Nonetheless, a weak geographical pattern can be observed. In Azeri, $m$ is clearly more common than $s$, and not very much more common than $r$. In Turkmen, $m$ is exceptional, $s$ is the main non-$p$ closer, and $r$ is missing entirely. In Turkish and Gagauz, $m$ is the second most common, $s$ the first, and $r$ is very rare (tab. 3.6).
The above observations combine to create a picture fairly similar to that drawn by common reduplicated stems, namely one where the evolution of our phenomenon is primarily driven by areal influence (3.4.5). As it is not inheritance that has most actively shaped the modern collections, it seems that it is also not only phonetics that has decided about the closing consonants. The basic phonetic condition being met, various alternative reduplications might have locally arisen, and be forgotten or remembered with or without their sisters, and which it was, would be decided upon more by analogy than by phonaesthetics.

The differences in the distribution of closing consonants in various languages are better accounted for by this scenario than by phonetics and phonaesthetics alone, as these do not in fact vary so dramatically across the Turkic languages as to inspire such diversification in the choice of closers. The reason, then, why synchronous phonetic rules remain elusive, is simply because they do not quite exist, and the variation observed in the modern literary languages is the product of interactions between various dialects, each of which has its own unique collection of reduplications, and its own specific conditions for analogy. Apparently, their intersection is only the tendency to avoid repetitions, and then, to pass the decision process over to analogy (which will also ascertain that accidental similarity to independent words is avoided, &c.).

### 4.1.4. Exceptions

Almost all of the observations above referred to what might be considered standard cases, i.e. reduplications built according to the same model, with their bases attested as independent words, with the usual closing consonants, and no extraordinary phonetic or semantic changes. But the sources contain also a considerable number of atypical examples. A part of them are singular cases not included in the main stream of considerations due to various problems in their interpretation (“special cases”), others are generally clearer, not isolated, and analysed together with the standard cases, but still irregular in one way or another (“peculiarities”).

#### Special cases

Altogether, more than eighty words have been classified as special cases, discussed in the “Special cases” subsections in chapter 2, and essentially not considered any further.

By far the most frequent reason for such treatment was that the alleged base did not seem to be attested as an independent word. Quite often, the whole was
found to be a loanword (e.g. Kar.E *sim-sijah ‘completely black’ < Ott. simsijāh id.), or just accidentally similar in shape (e.g. Tksh. sersem i.a. ‘stunned, bewildered’ < MPers. sarsām lit. ‘head inflammation’). Also not rarely, the word proved difficult to dissect, and I could not even be sure that it is indeed a reduplication (e.g. Uigh. žimžit ‘sudden silence’ (see 3.1.15 for possible cognates), or Kar.E komkos and tentek, both ‘very stupid’). In a few cases, the exact phonetic shape appeared to be missing from the sources, either because it was probably just a slovenly pronunciation (e.g. Kar.E *slah, while sylak ‘wet’ is attested), or because the simplified version had already ousted the original one (e.g. Kar.E *jumrlak, while jumalak ‘round’ still exists), or because a secondary simplification had been applied to the reduplication but not to the base itself (e.g. Yak. soččoyotoχ &c. ‘lone(ly)’ ← soyotoχ id.), or finally because the attestation was in all likelihood erroneous (e.g. Tksh. *sirin ‘cute’ instead of širin ‘sweet, …’). Lastly, in one or two cases, exclusion from the main considerations has been only applied for consistency, and to avoid creating vague and subjective precedents (e.g. Az. *bäzäklik, while bäzäk ‘decoration, decorative’ is attested together with bäzäkli, bäzäk-lilik, bäzäksizlik, &c.).

The second most frequent reason for exclusion was lack of structural transparency. In the majority of cases, this entailed the inability to identify the base, and as a consequence, to find an attestation for it as an independent word (e.g. Oir. appäš ‘snow-white’ or kökpögöš ‘very blue’). Less often, my doubts were raised by the reduplicated anlaut (e.g. Kirg. kyp žylanäč ‘stark-naked’, Oir. berbek ‘fat’, Uzb. pakpakana ‘very short of a person’).

Finally, several words are exceptional among exceptions. Tksh. žusžybyldak ‘stark-naked’, for example, was excluded as a dialectal shape (see 1.2.1 on the choice of sources), Tuv. šipšimēn for semantic doubts, Uigh. āpāq as a probable loanword, and Uigh. kim kiček ‘garment, clothes’ and žuyžemi ‘stock and block’ as more likely to be nominal compositions than reduplications.

**Peculiarities**

Various kinds of peculiarities are discussed in twenty-four subsections in 3.1.

Most often, the anomaly lies in the structure. The base might be a different class than a simple adjective or adverb (3.1.14, 3.1.17, 3.1.18, 3.1.22), a secondary phonetic or other modification might have been applied to a part of the reduplication (the closer: 3.1.8, 3.1.21, the reduplicated anlaut: 3.1.20, any: 3.1.12, 3.1.19), or the whole might be going beyond the standard build of C-type reduplications (3.1.9, 3.1.16). Frequently, the crux is the closing consonant: its shape
(3.1.8, 3.1.21), the rules behind its choice (3.1.4, 3.1.5, 3.1.6, 3.1.23), and the results of their ambiguity (3.1.1, 3.1.2).

Etymology is also relatively often the point of interest. Reduplications might belong to families spanning across several languages (3.1.11, see also the unusually productive bases meaning ‘white’ in 3.1.24), might be formed from now-obsolete bases (3.1.15), or despite appearances, they might not in fact be reduplications at all (3.1.3). There is also a suspicion that reduplicated anlauts might be severed and promoted to independent or semi-independent intensifiers (3.1.10).

Finally, several subsections are devoted to multiple intensification, which can be realized in different ways. A collective discussion is given in 3.1.13.

4.2. Conclusions

Below is gathered what I consider to be the most important findings in the material collected in the present work, and in its analysis. The thematic organization is similar, but not identical, to the one used in 4.1.

• Research
  – The quest for all-embracing, synchronic, phonetic rules for the choice of the closing consonant is futile (3.2.3, 3.4.1, 3.4.2);
  – The correct approach is the historical-comparative one, but it is in practice quite limited (3.4.2);
  – Here, well above 566 000 dictionary entries have been checked to collect more than 1200 C-type reduplications from twenty modern, and some historical languages (1.2.1).

• Structure
  – Turkic partial interfixed reduplication can be more conveniently described as operating on morae than on syllables (3.2.6);
  – The actual mechanism behind it is probably analogy now, and unknown at the very beginnings of the phenomenon (3.2.6, 3.4.4);
  – Outside of the Oghuz languages, Eastern Karaim, and Yakut, $p$ is almost the only closing consonant in use (3.2.1);
  – The distribution of closing consonants is only partly due to phonetics and inheritance, and partly due to areal influence (4.1.3). Semantics does not seem to play a role in the process (3.3.4);
  – A definitive set of phonetic rules for the choice of the closing consonant probably does not exist (4.1.3).
Summary

• Semantics
  – Turkic partial interfixed reduplications are not in any way limited to colour names, and are more or less equally diversified in all languages (3.3.3);
  – The semantic scope is quite similar in all languages except Yakut (3.3.4);
  – There is no correlation between semantics and the closing consonant (3.3.4).

• Geography
  – The territorial scope and diversification of Turkic partial interfixed reduplication is more due to areal influence than genealogical inheritance (3.4.5);
  – Structural and material similarities correlate with the genealogical classification, except that the Karakhanid, the South Siberian, and Dolgan seem to all fall into one group (3.2.2);
  – Roughly, reduplication is the more developed, the larger the geographical distance from the Altai homeland (3.2.2);
  – The languages with the largest collection are scattered across entire Asia: Turkish, Kazakh with Bashkir and Kirghiz, Yakut (3.3.4);
  – Closing consonants are diversified in the peripheries (Oghuz, Eastern Karaim, Yakut, and singular examples in Bashkir, Kumyk, Tatar, and Western Karaim), and effectively always in the centre (the remaining Kipchak, Karakhanid, and South Siberian, also Dolgan) (3.2.1);
  – Semantics are approximately equally diversified in all languages (3.3.3).

• Evolution
  – Partial interfixed reduplication probably began during the Altaic speech community (3.4.3), maybe with more than one closing consonant (3.4.4);
  – It was already developed and diversified in the 11th century (3.4.6);
  – The evolution of reduplication is more due to areal influence than genealogical inheritance (3.4.5);
  – The Ottoman and Turkish collections are quite similar, except in size. A weak tendency towards standardization to is noticeable (3.4.6);
  – Structural and material evolution occurred in four directions, whereas semantics evolved according to approximately the same plan in all languages but Yakut (3.2.4, 3.3.4).
This section has been moved to an appendix to improve the consistency and readability of the main part of the work. In it, Müller’s 2004 rules for choosing the closing consonant in Turkish reduplications are examined in more detail (A.1), and his test on 125 Turkish students is analysed (A.2), and simulated with the use of artificial neural networks (A.3) to better understand Müller’s results (A.4).

A.1. Rules

Müller 2004: 149f gives a set of seven rules governing the formation of reduplications in Turkish. Rules B through F refer to the choice of the closing consonant and will be discussed below; rules A and G are only adduced for completeness. Footnotes with references to other parts of Müller 2004 have been left out.

Regel A
Ein Adjektiv mit erster Silbe \((C_1)V_1(C_{2/3})\) wird intensiviert durch Voranstellung der Silbe \((C_1)V_1X\) (hier \(I\text{[tensiv-]}A\text{[djektiv-]}R\text{[eduplikation]}\)-Silbe oder IAR-Morphem genannt […]\), wobei \(X\) einer der Überleitungslauten \(m, p, r\) oder \(s\) ist, d.h. es fällt die Koda \((C_{2/3})\), so vorhanden, aus, und es wird dem Adjektiv als IAR-Silbe \([\text{bei } C_1 = \emptyset] \text{ Nukleus } V_1 + m, p, r \text{ oder } s\) bzw. \([\text{bei } C_1 \neq \emptyset] \text{ Anlaut } C_1 + \text{ Nukleus } V_1 + m, p, r \text{ oder } s\) vorangestellt. („IAR-Strukturregel“)

Regel B
Normaler Überleitungslaut ist der stimmlose labiale Plosiv \(p\). Er wird immer eingesetzt, wenn nicht bestimmte Gründe, die in den folgenden Regeln angegeben sind, dagegen sprechen. Spricht etwas (mangelnder Kontrast) dagegen, wird zwischen \(m, r\) und \(s\) als Ersatz-Überleitungs-lauten gewählt. („\(p\)-Grundregel“)
Regel C
Beginnt das Wort mit einem Vokal, wird p und nur p als Überleitungslaut verwendet. („Vokal-p-Regel“)

Regel D
p ist als Überleitungslaut dann nicht (mehr) möglich, wenn das Adjektiv selber mit einem labialen Laut (b, p, m) beginnt. Als Ersatz-Überleitungslaute kommen m, r und s und nur diese in Betracht (s. obige Konsonanten-Tabelle, Reihenfolge wie in der IAR-Matrix). („p-Alternativregel“)

Regel E
m (und kein anderer Laut) kommt als Überleitungslaut bei Wörtern dann in Betracht, wenn diese mit b, p, d, t, s, c, ç oder y beginnen und als weitere Konsonanten den Laut k (bei einsilbigen Wörtern in jedem Falle) oder Zischlaute, aber nicht m enthalten. Für Wörter, die mit gl/k beginnen, gibt es nur die Zwei Fälle [13] gök und [143] kör. Aber gök ist einsilbig […] und auslautend auf -k und passt somit auch wieder in den Rahmen. Und kör nimmt wie die meisten einsilbigen Adjektive ebenfalls m.

s kommt als Überleitungslaut dann in Frage, wenn die Adjektive mit b, p, d, t, g, k, c, m oder y beginnen und keine Zischlaute (von den Affrikaten c in koca (man) und ç in topaç und von ş in yumuşak abgesehen) als Binnenlaute vorkommen und sie nicht einsilbig auf k enden. („m-/s-Regel“)

Regel F
Für die 8 Adjektive perişan, temiz, top, çabuk, çiplak, sebil, sefil und sıklam (also ohne sem) wird als Überleitungslaut r verwendet. Für diese sind andere Überleitungslaute mangels Kontrastmöglichkeit wenigstens teilweise ausgeschlossen. („r-Regel“)

Regel G
Die (mit einem einsilbigen Morphem gebildeten) Intensiv-Adjektive tragen ihren Hauptton auf der ersten Silbe. („IAR-Betonungsregel“)

Some comments on these rules were given in 2.16.1. Let us briefly recapitulate here the points dealing with the choice of the closing consonant:

- The rules are synchronic and phonetic. Hence they can never achieve absolute accuracy, as is demonstrated by the pair jepjeni : jesjeni ‘brand-new’ and 15 more like it (see 2.16.4). In fact, they only cover about 79% of the reduplications that were used as the base for their formulation;
- They are sometimes mutually exclusive: e.g. berrak ‘limpid, clear’ or dâynyk ‘scattered, dispersed’ would have to have p or s on one hand, and m “und kein anderer Laut” on the other, at the same time;
• The rules contain exceptions. The rule for \( r \) is just a list of specific base words and nothing more;
• The rule for \( s \) is optional. Only the distinction between \( p \) and \( m \) is categorical, but because of this, it is incorrect in 59% of cases.

**A.2. Test**

Despite their serious shortcomings (see above), Müller 2004 decided to put his rules to two similar tests. The first was a small scale try-on, and will be ignored here. The second was large scale, and I will focus on this one.

Müller prepared three corpora (p. 251f): one that contained 100 words which actually have reduplications in Turkish (corpus A), one with 94 words which do not (corpus B) and one with 24 nonsense words (corpus C), and asked 125 Turkish students at the Başkent and Hacettepe universities to reduplicate them.

The idea is a fragile one. Not being certain that phonetics is the only or even the main factor in the choice of the closing consonant, this test somewhat resembles asking present-day English speakers to build irregular past participles for a set of regular and a set of made up verbs. It seems that Müller’s goal was to test whether his rules are correct, but it is not at all clear to me how he intended to husk this information from the results. In theory, a test so designed could be just as well aiming to answer several other questions, e.g. Do Turkish speakers follow any specific set of rules when asked to reduplicate non-existent words?, Are modern rules compatible with the ones that had created Turkish reduplications?, How similar to the literary language is the linguistic intuition of students in Ankara?, and perhaps many others. Whatever the results, their interpretation will always leave room for doubt if not conducted expertly.

(This is to say that not every experiment of this kind must necessarily be pointless as a rule. A similar test can be designed in a way that may yield usefully interpretable results, and in fact has been by Sofu 2005 and Sofu/Altan 2009. See 1.1.3 for a short summary.)

Next, Müller compared the results to a prediction based on his rules. Rather amusingly, his prediction actually breaks his own rules in 31% of cases in corpus B and 29% of cases in corpus C – or 46% and 41%, respectively, if a lack of possibility is counted as breaking the rules. Examples in tab. A.1.

The answers of the interviewed students correspond with Müller’s prediction in 84.2% for corpus A, in 57.7% for corpus B, and in 36.1% for corpus C. Müller did not publish all the questionnaires, and so it is not possible to compare them to the corrected predictions. Only the exact scores of 51 students are available.
There is no correlation between the results for either pair of corpora, which may be found slightly surprising knowing that they were clearly separated in the questionnaires (Müller 2004: 252).

Given that the students were allowed to pick for each word one of the five answers (m, p, r, s and ?), the results are significantly higher than pure chance. Yet, they are far too low to prove Müller’s rules linguistically significant.

The facts that Müller presented the three corpora separately to his interviewees, and that he prompted their choices by so narrowly limiting the available answers, are probably sufficient from a psychological point of view to discard his results completely, which I choose here to refrain from because analyzing them leads to conclusions that might prove interesting for the linguistic methodology.

The rules cannot be simply ignored as entirely ‘wrong’ because they do actually match a greater part of the fixed set or Turkish reduplications. Clearly, however, their predictive power is far below what would be expected from rules in linguistics. At least three explanations are possible:

1. The rules capture the wrong factors. They are sufficiently accurate to explain the majority of the relatively small set of actually existing reduplications (Müller used 165 to formulate his rules), but not to make predictions;

<table>
<thead>
<tr>
<th>Corpus</th>
<th>Word</th>
<th>Müller’s prediction</th>
<th>Correction</th>
<th>Justification (Rule)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>dilber</td>
<td>m or s</td>
<td>p or s</td>
<td>m not in words without sibilants or k (E)</td>
</tr>
<tr>
<td>B</td>
<td>miskin</td>
<td>p</td>
<td>impossible</td>
<td>m and p not in words beginning with m- (D, E), r only in a fixed set of exceptions (F), s not in words containing sibilants (E)</td>
</tr>
<tr>
<td>B</td>
<td>rekik</td>
<td>m or s</td>
<td>p</td>
<td>m and s not in words beginning with r- (E), m and s mutually exclusive (m “und kein anderer Laut”) (E)</td>
</tr>
<tr>
<td>C</td>
<td>čobal</td>
<td>s</td>
<td>p</td>
<td>s not in words beginning with č- (E)</td>
</tr>
<tr>
<td>C</td>
<td>darylyk</td>
<td>s</td>
<td>m</td>
<td>m “und kein anderer Laut” (E)</td>
</tr>
<tr>
<td>C</td>
<td>sejil</td>
<td>r</td>
<td>p</td>
<td>r only in a fixed set of exceptions (F)</td>
</tr>
</tbody>
</table>

Table A.1. Müller’s prediction of the closing consonant for words which do not have reduplications in Turkish (p. 246f; 249f), and my corrections based on his own rules.
2. The choice of the closing consonant is not entirely based on the phonetic shape of the base. Analogy to the most frequent reduplications might also play a role, and other factors, too;

3. There might simply not exist one, synchronic set of rules which all speakers of Turkish strictly follow to form new reduplications. (Especially that the method is no longer productive.)

At least partially, explanations 2 and 3 are certainly true, as demonstrated by some words which can be reduplicated with different closing consonants, e.g. čimčij ~ čipčij ‘completely raw’ or jepjeni ~ jesjeni ‘brand-new’.

In the following subsections, I will try to find a more definite answer with the help of artificial neural networks.

**A.3. Simulation**

Artificial neural networks (ANN) are known for their particular pattern extraction capabilities and the ability quite adequately to mimic or approximate human behaviour. Since their accuracy is to a certain degree random, but at the same time easier to control than that of human interviewees, I could use networks to simulate Müller’s 2004 test on 125 Turkish students, and to better understand his results.

I prepared three corpora.

Müller 2004: 252 mentions that his corpus A was composed of a hundred words which really have reduplications in Turkish. Unfortunately, he does not precise what these words exactly were. One can only guess it is the hundred he had initially extracted from Steuerwald 1972 or 1974 (p. 84f). He does also state that he used 165 words to formulate his rules (p. 120). However, the list – scattered on p. 86f, 109 and 119f and mixing different types of reduplications and sometimes multiple words inside one entry – contains in fact 166 usable examples. I settled with the latter corpus as the training data.

Corpora B and C are listed on p. 246f and 249f.

I tested several architectures and training algorithms and, found that I can achieve the best results with a multi-layer perceptron as implemented in the *neuralnet* package for R (Fritsch/Günther 2012, see also Günther/Fritsch 2010) trained with the resilient backpropagation algorithm without backtracking (*rprop-*).

In this model, the input data is required to be of constant length, but the words in Müller’s corpora, naturally, are not. I tried both artificially extending
the shorter words (see A.3) and clipping the longer ones. I achieved a higher accuracy on the training data with the former approach, but it needs to be noted that the results with the corpora shortened to just the first three phonemes were only a little worse: with 1–50 hidden neurons, the average was 81.32% and 77.36%, respectively, and the maximum scores were 88% and 83.1%. (Note that 11 out of the 166 words appeared twice in the corpus with different closing consonants, e.g. čimčij ~ čipčij ‘completely raw’.)

With the shorter words extended, the top three total accuracies for all three corpora were achieved by networks with 15, 22 and 6 hidden neurons: 197.8%, 192.7% and 191.1% (out of the maximum 200%), respectively.

The accuracy of a network hinges on a number of settings. For best repeatability, I tried to keep the number of variables as low as possible. Apart from what was mentioned above, the main factors are:

- Encoding: see below;
- Error threshold: the minimal required accuracy during training; was always 0.1;
- Random seed: the state of the pseudo-random number generator used for initializing the weights before training. Unless stated otherwise, was always 1. See A.3;
- Other: I kept the default values; see Fritsch/Günther 2012 for details.

**Encoding**

Since my goal was to test Müller’s phonetic rules for choosing the closing consonant, I could not simply turn every phoneme into a random unique number, but rather had to encode them in a way that would mirror their phonetic qualities.

First, I tested a system based on Li/MacWhinney’s 2004 proposition for English. Dissatisfied with the accuracy, I prepared my own encoding, and found that it performs considerably better in a test where the network computes the phonetic shape of the Turkish past tense suffix for 170 monosyllabic verb roots, divided evenly between the training and test corpora. Details of the encoding and of the test can be found in Stachowski K. 2012b. Below, I will only outline the idea and the results.

In this encoding, each phoneme is represented by three numbers (three dimensions) which denote: place of articulation, manner of articulation, and the number of additional organs taking part in the articulation (vocal cords, nasal cavity, sides of the tongue, lips). Vowel length is not represented, as it appears that nothing depends on it in the Turkish phonology.
The entire system for Turkish is given in tab. A.2. Some insight into the distances between phonemes can also be obtained from the dendrogram in fig. A.1. Example: /p/ is represented as the ordered triple (1, 1, 1), which stands for (labial, stop, voiceless), /b/ as (1, 1, 2), /f/ as (1, 3, 1), &c.

Where shorter words needed to be extended to fit the template, they were completed with a dash represented as the triple (-5, -5, -5).

<table>
<thead>
<tr>
<th>Labial</th>
<th>Alveolar</th>
<th>Palato-alveolar</th>
<th>Palatal</th>
<th>Guttural</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>p b m</td>
<td>t d n</td>
<td>k g –</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Affricate</td>
<td>č ž –</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Fricative</td>
<td>f v –</td>
<td>s z –</td>
<td>š ž –</td>
<td>h – –</td>
<td>3</td>
</tr>
<tr>
<td>Liquid</td>
<td>– r l</td>
<td>– j –</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>High vowel</td>
<td>– i ü</td>
<td>– y u</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Low vowel</td>
<td>– e ö</td>
<td>– a o</td>
<td></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Table A.2. Phonological encoding of Turkish. The third dimension is flattened in the table and represented by the ordering of the phonemes. Thus e.g. /p/ lies at z=1, /b/ at z=2, and /m/ at z=3.

Figure A.1. Dendrogram of the distances between phonemes as defined by the numerical representation in tab. A.2. Note that a certain amount of bias is inevitable as the dendrogram reduces a three-dimensional (three-featured) representation to a two-dimensional plot.
To test the encoding, I collected 170 unique monosyllabic Turkish verb stems, ordered them alphabetically, and used the odd ones as the training corpus and the even ones as the test corpus. I also tested two CVCC templates; one filled from the left (e.g. bak- ‘to look’), and the other one from the right (e.g. ba-κ).

The network’s task was to compute the shape of the past tense suffix which, depending on the phonetic shape of the base, can take the form of one of the eight combinations of d ~ t + y ~ i ~ u ~ ü. As for the consonant, d is chosen iff the final phoneme of the stem is voiced; as for the vowel, y and u are used iff the final vowel of the stem is back, and u and ı iff it is labial. Examples: çyk.my ‘(s)he quit’, kes.ı ‘(s)he cut’, vur.ı ‘(s)he hit’, ör.ı ‘(s)he knit’.

I tested networks containing 1–100 hidden neurons. The best total accuracy without any template was 194.1% (100% on the training corpus and 94.1% on the test corpus). With a template, the best accuracy achieved was 197.6% (again, 100% on the training corpus). I consider this to be an acceptable approximation of human accuracy.

**Test**

Müller tested 125 students and compared the results with his prediction (see A.2). Naturally, each student answered differently and scored differently. The average coincidence was 84.2% for corpus A, 57.7% for corpus B and 36.1% for corpus C. Unfortunately, Müller did not publish the exact answers of all the students.

Having determined the optimal training algorithm, encoding, error threshold and the number of hidden neurons, and leaving all the remaining settings at their default values, I used the random seed to simulate Müller’s experiment.

For each of the three top scoring numbers of neurons (see A.3), I created 125 networks using every time a different random seed from the range one to one million. The average accuracies are given in tab. A.3.

<table>
<thead>
<tr>
<th>Corpus</th>
<th>Müller 2004</th>
<th>ANN, 15 neurons</th>
<th>ANN, 22 neurons</th>
<th>ANN, 6 neurons</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/Training</td>
<td>84.2%</td>
<td>76.43%</td>
<td>81.80%</td>
<td>65.86%</td>
</tr>
<tr>
<td>B</td>
<td>57.7%</td>
<td>54.21%</td>
<td>52.74%</td>
<td>57.56%</td>
</tr>
<tr>
<td>C</td>
<td>36.1%</td>
<td>32.46%</td>
<td>32.30%</td>
<td>35.00%</td>
</tr>
</tbody>
</table>

Table A.3. Comparison of the mean accuracy of the students interviewed by Müller 2004, and of different neural networks.
Note that the numbers in the first row in tab. A.3 cannot be compared directly in the same way as those in the lower ones. Müller only used a corpus of 100 words, the majority of which the majority of the students he interviewed, knew by heart. I, not knowing what words he used exactly, was forced to train and test the network on a larger corpus of 166 words, which I only believe must have been almost the same as the corpus Müller based his rules on (see A.3). Also, while neural networks can quite well recognize the recurring general patterns, they do have some difficulties remembering exceptions, and out of the 166 words in this corpus, 11 appeared twice remembering exceptions, and out of the 166 words in this corpus, 11 appeared twice with different closing consonants.

The tests on the neural networks are random to a certain degree (see the standard deviations in tab. A.4), but this randomness is largely ironed out by the high number of tests. Overall, there is a good correlation between Müller’s results and those of the networks: 0.9986 for the network with 15 hidden neurons, 0.9991 for the one with 22, and 0.9494 for the one with 6.

<table>
<thead>
<tr>
<th>Corpus</th>
<th>Müller 2004</th>
<th>ANN, 15 neurons</th>
<th>ANN, 22 neurons</th>
<th>ANN, 6 neurons</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/Training</td>
<td>0.0434*</td>
<td>0.0548</td>
<td>0.0365</td>
<td>0.0908</td>
</tr>
<tr>
<td>B</td>
<td>0.1361*</td>
<td>0.0616</td>
<td>0.0484</td>
<td>0.0860</td>
</tr>
<tr>
<td>C</td>
<td>0.2167*</td>
<td>0.0861</td>
<td>0.0961</td>
<td>0.1236</td>
</tr>
</tbody>
</table>


* Based only on the accuracies of 51 students (Müller 2004: 253f). The results of the remaining 74 were not published.

**A.4. Interpretation**

An interpretation of the simulation is not immediately obvious. The results, however, seem to be too convergent with Müller’s to be ignored. Two questions arise:

1. Why are the average accuracies of neural networks so similar to the accuracy of students?, and
2. Why are these accuracies so low?

However the evolution of reduplication proceeded in the Turkic languages, phonetics surely did play some role in it, at least at some stages. Presently, the method is no longer productive in Turkish. All that modern speakers have at
their disposal to create new forms is the unconscious knowledge about the phonetic patterns of the language as a whole and of the existing reduplications in particular, and of the frequency and recency of their use. The neural networks knew nothing about the latter two. Yet, the results are very similar.

Unfortunately, Müller 2004 chose not to publish the exact results of all the 125 students he had interviewed, and so they cannot be compared directly to the outputs of the networks. Knowing how close to one another the mean accuracies are, however, I assume that they must have been relatively similar, too.

At first, two explanations seem to be possible: either phonetic patterns were the main factor that determined the students’ answers, leaving frequency and recency of use quite irrelevant in comparison, or all these three factors just happen to coincide, and each would have produced very similar results even in isolation.

Müller 2004 only published the scores of 51, i.e. of 40.8% of the 125 interviewed students (p. 253f). If anything can be deduced from this sample, it is that the standard deviation is the lowest in corpus A and the highest in corpus C. This is just like with the neural networks, only with students, the increase is much more rapid; see tab. A.4.

Too many pieces of data are missing for the conclusions to be anything but preliminary. I should like to offer the following remarks:

• Corpus A can probably be described in purely phonetic terms in ca. 80%. (Müller’s rules cover ca. 79%, see A.1.) Humans can remember exceptions better than neural networks but most of them do not know all the existing reduplications. Hence the lower, albeit still generally high, results of the networks;

• A considerable part of corpus B can be reduplicated using the phonetic patterns extracted from the existing reduplications – hence the relative consistency of the networks’ answers (see tab. A.4). People are more hesitant because they had never before heard the majority of the reduplications they created during the test and neither version really “sounded good” to them – hence the visibly higher standard deviation in humans. Müller’s predictions not only often went against his own rules (see A.2), but also against the students’ intuition and the networks’ training – hence the generally somewhat low – but still significant – accuracy;

• Corpus C seems essentially to be an intensified version of B, both as far as the students’ reactions and the networks’ answers are concerned;

• It seems that the role played by frequency and recency of use is not, after all, marginal. In each interviewee, however, the two factors suggest slightly different answers and on the whole, they effectively almost balance and annul themselves.
Overall, the simulation appears to indirectly confirm that it is not possible to formulate synchronic and phonetic rules (as opposed to tendencies) describing the reduplications found in modern Turkish. This is because their evolution was not linear; be it as relics or loanwords, the contemporary stock contains products of parallel evolutionary paths which did not conform to the same set of rules.

At the same time, the simulation suggests the potential of neural networks in linguistic research and their capability to approximate the results of questionnaires while being considerably easier to control.
IDX

SEMANTIC GROUPINGS

The list below details which reduplications were assigned to which semantic units and ranges in 3.3.1.

Where possible, units are ambiguous so as to match the entire scope of the unit. They are set in bold and, where necessary, followed by one or more specifying and explaining meanings. These are followed by the range, set in small caps, and by a list of reduplications. Where one or more of these auxiliary meanings are shared with other units, references to them are given at the end of the entry.

Those units that translate into entire phrases in English are sorted by the first word of the phrase, but references to them are also given under every adjective and noun in the translation. For example, Yak. čegejikēn ‘with head high on a thin neck and wide eyes’ should be looked for under “w”, but it is also referred to under “head”, “high”, “thin”, “neck”, “wide”, and “eyes”.

The classifier “oldest” refers to the oldest attestations discussed in 2.1.

Like entries, ranges are also set in bold, and additionally in small caps, and followed by a list of units they encompass.

abundant; quantity; Tksh. ġur
accurate, faithful, true, real; perception; Az. doyru, Khak. syn, Kirg. yras, Kklp. durys, yras, Kmk. gerti, tüz, Kzk. durys, Oir. čike, Tat. čyn, döres, Tksh. döru, Trkm. düz, Uigh. toyra, Uzb. toyri
across see opposite
acute see pointed
addled see rotten
affluent see plentiful
agile, brisk, clever, sprightly; character; Az. gyrag, Kzk. kuwnak, Tksh. kywrak
alert, keen, sensitive, sharp-eyed, snappy; character; Khak. sirgek, Kzk. sergek
alien see foreign
alive see live
all, everyone, everything, whole; quan-
appearances

at night
around
arranged
at night
awkward
awry
bad
bald
bare
base
basin
baulk
bearded
beautiful
big
bit
bitter
black
blue
blunt
bright
brisk
brisk
broad see wide, and with a broad edge and a narrow base
brown; colour; Bshk. horo, körän, Yak. sabarşaj
buckle see bulge
bulge, buckle, convex, full; shape; Kklp. tompak
by day see daytime
calm, peaceful, quiet; character; state, Bshk. tynys, Khak. amyr, Kirg. şaj, Kklp. tynyk, Kmk. parabat, Kzk. baj-saldy, tynyk, tynış, žuwas, Tat. tynmyzık, tyn, tynye, Trkm. arkaşın, Uigh. şuk, teč, tin, tinč; see also meek
calumny see slander
certain see obvious
CHARACTER agile, alert, angry, calm, consentient, dull, friendly, generous, happy, kind, meek, mild, quiet, rabid, right-hand, tense, vigorous, weep, well-behaved
charge see free of charge
cheap, inexpensive; perception; Kzk. arzan, Tksh. uţuz, Yak. čepče
chic see decorated
chip see splinter
claws see with nails, claws
clean, neat; appearance; oldest aryg, Az. duru, duruluk, tämiz, tämizlik, Bshk. tāda, Gag. pak, Kar.E temiz, Khak. argy, Kirg. taza, Kklp. taza, Kmk. taza, Ott. ary, temiz, Tat. ak, čista, Tksh. temiz, Trkm. arass, tämiz, Uigh. taza, taziliq, Uzb. tāza, Yak. seber, yrāş
clear see bright, limpid, and obvious
clever see agile
close see close friend, near, and respected
close friend; other; Kirg. ynak
coarse see rough
cold; touch; oldest savuk, Az. buz, Bshk. halkyn, Gag. sük, Kirg. muzdaj, sük, Kzk. muzdaj, Tat. salkyn, Tksh. buz, serin, sůuk, Trkm. sovuk, Yak. tymný colour black, blue, bright, brown, green, limpley, motley, orange, pale, pink, purple, red, redhead, white, yellow
colourful see motley
common see usual
commotion see turmoil
complete, entire, prepared, ready; state; Kirg. dąjar, tyjpyl, žymakaj, Kklp. tajjar, Kmk. gazir, Kzk. äzir, dąjar, dąjyn, Ott. hązyr, tamam, Tksh. tamam, Trkm. tajjar, Uzb. šijdam, tajjăr, tola; see also full
complexion see with (nice) skin complexion
confused see mixed
conical see pointed
consentient; character; Gag. kajyl
considerable, significant; perception; Trkm. eli
contiguous, continuous, osculant, permanent; nature; oldest tutče
continuous see contiguous
contrariwise see opposite
contrary see opposite
convenient see appropriate
convex see bulge
corpulent see fat
correct see direct
cracked, fractured; state; Kzk. synyk, Ott. kyryk, Tksh. jaryk
crappy see bad
creased see wrinkled
crippled see paralyzed
crooked, awry; shape; Tat. käkre, Tksh. ejri
crude see raw
cry see weep
curly; shape; Kzk. bufra
cute see sweet
damp see wet
dappled see motley
dark see black
day see daytime
daylight, by day, day; location; Tksh. gündüz, Uigh. kündüz
deaf; nature; Kmk. sanyrav, Yak. žülej
dear see respected
decorated, chic, fancy; appearance; Az. bäzäk, bäzäkli
deep; Bshk. tärän, Kklp. ʃukyr, Kzk. ʃunyyyl, Tksh. derin, Yak. diriŋ
deletion; other; Gag. silme
demolished see destroyed
dense see thick
depression, basin; shape; Kirg. çunkurčak
desert, lorn; location; Kirg. ēn, Tksh. yssyz
deserving see worthy
destitute see poor
destroyed, demolished, gone; state; Kirg. žylas
dexter see right-hand
different, other; perception; Az. bašga, Kar.E baška, Tksh. baška, Yak. czyça atyn
difficult see heavy
direct, correct, straight, true; location; perception, oldest köni, Az. doyru, Bshk. tüngâl, tôd, tuwa, tütä, Gag. dörü, Kar.E tüz, Khak. çike, Kklp. tuwa, Kmk. tuwa, tüz, Kzk. tuwa, Oir. çike, Trkm. göni, Uzb. tikkça, toyri
dirty, foul, icky, unclean, vile; appearance; touch, Az. bulaşyg, Bshk. byršak, Gag. kirli, Tksh. kirli, pis, Yak. byrtaş
disorder see mixed
disordered see mixed
dry; touch; Az. guru, Bshk. koro, Gag. kuru, Kar.E kuru, Kirg. kurgak, Kmk. kuru, Kzk. kuryak, kuw, Ott. kuru, Tat. kory, Tksh. kuru, Trkm. gūry, Uzb. quruq
dull, character; perception; Bshk. bojok
durable see sturdy
early; location; Kzk. erte, Tksh. erken
easy, light; nature; perception, Bshk. jeyel, Kirg. oňọj, Kklp. aňsat, şeyil, Kmk. jengil, Kzk. oňaj, Tat. şinel, Tksh. kolaj, Trkm. aňsat, şeyil, Uzb. aşan, jengil
deserve see with a broad edge and a narrow base
elastic, flexible; nature; Bshk. šyjyk
empty; state; Az. boš, Bshk. buš, Kar.E boš, Kar.W bos ~ boš, Kmk. boš, Kzk. bos, Ott. boš, Tat. buš, Tksh. boš, Trkm. takyr, Tuv. kurug, Uigh. boš, Uzb. boš, quruq, şijdam
entire see complete
equal see same
erect see vertical
even, level, smooth, straight; shape; touch, oldest tüz, Az. düz, Bshk. şyema, takyr, tigeð, Gag. düz, Khak. çylbyra, tüs, Kirg. syjda, tegiz, tüz, şylma, şylmakaj, Kklp. daňyl, tegis, tey, Kmk. tegis, Kzk. tegis, Ott. düz, Tksh. düz, düzgün, Trkm. dogry, düz, tekiz, Tuv. deski, Uigh. tekit, düz, Uzb. siliq, taqir, teks, Yak. kiligir, könö
everyone see all
everything see all
exact see just
exit see lack of exit
explicit see obvious
extraordinary see unusual
eyes see with head high on a thin neck and wide eyes, and with narrow eyes
faithful see accurate
famous, renowned, well-known; perception; Tksh. ünlü
friendly; CHARACTER; oldest alčak
frozen; state; Bshk. tuj
full, complete, satisfied; state; oldest
tolu, tolun, Az. dolu, Bshk. tuly, Gag.
dolu, Kar.E tok, tolu, Kar.W tolu,
Kirk. tok, toltura, toluk, Kzk. tolyk,
tutas, Ott. dolu, Tat. tuly, Tksh. dolu,
tok, Trkm. dölü, Uzb. tola, Yak. tolo-
ru; see also bulge
furious see angry
futile, in vain, vain; PERCEPTION; Kar.E
bošyna, Kirk. beker, Oir. temef, Shor
tegen, Uzb. guruq
fuzzy see blurry
generous; CHARACTER; Tat. jumart, Yak.
salay
gentle see soft
gingerly see redhead
glossy see shiny
gone see destroyed
good; QUALITY; oldest ädgiä, Bshk. aryw,
jašil, Kar.W jašil ~ jažil, Kirk. sa-
nun, žakiš, Kklp. žakšy, Kzk. tawir,
žaksy, Ott. eji, Trkm. geniş, govy, Tuv.
nogän
gradually see slowly
greasy see fat
great see big
green; COLOUR; oldest jašyl, Az. göj, gojlük,
jašyl, Bshk. jäsäl, Gag. ješil, Kar.E
ješil, Kar.W ješil ~ ješil, Kirg. jašyl,
Kklp. žasyl, Kmk. jašil, Kzk. žasyl,
Oir. žažyl, Ott. ješil, Tat. jäsäl, Tksh.
jašyl, ješil, Trkm. gök, jašil, Uigh. ješil,
köklük, Uzb. jašil, kök, Yak. küöx
grey see pale
hairy; APPEARANCE; Gag. tülü
happy; CHARACTER; Tat. ak, Uigh. saq,
Yak. žollöx
hard see harsh, heavy, and sturdy
harsh, hard; PERCEPTION; Gag. sert, Tksh.
sert
hasty, hurried; perception; Az. tālāsik, Kzk. ȝyldam
healthy, sound, unscathed; state; oldest āsān, Az. say, saylam.saylamyq, saylyq, Bshk. haw, Gag. să, Kar.E saglam, Kirg. söz, Kklp. saw, Kzk. saw, Tksh. să, Uigh. saq
head see with head high on a thin neck and wide eyes
heavy, difficult, hard; nature; perception; Kirg. ör, Kklp. awyr, Kzk. awyr, Tksh. ȧyr, zor, Yak. yarañan
hefty, portly, stalwart; shape; size, Kirg. dardaj, Kzk. dardaj
high see tall, and with head high on a thin neck and wide eyes
hole, holey, hollow, leaky, pit, sunk-en; shape; Kzk. šuyyyl, šunyqr, Yak. tebeys
holey see hole
hollow see hole
holy, saint; perception; Yak. sibetiej, yrās
horizontal, lying; location; shape; Kzk. žatyk
horror see fearsome
hot see bitter, and warm
huge see big
hurried see hasty
icky see dirty
identical see same
idiot see fool
immediately see now
improper see bad
in file, location; shape; Kirg. žanaša
in vain see futile
inclined see sloping
incorrect see wrong
indistinct see weak
inexpensive see cheap
insipid see savourless
itch, mange, mangy, scab; other; Tksh. ujuz
jobless, unemployed; other; Tksh. iisiz
juicy, saucy; taste; Tksh. ȝyqyq
just, exact, precise; perception; quality, Bshk. taman, teyvāl, Kirg. tak, Kzk. dāl, Tksh. tam, Trkm. dogr; see also appropriate
keen see alert
kind, nice; appearance; character, Kirg. tatynakaj
lack of exit; other; Bshk. tokon
lame, limping; nature; Yak. doyoloŋ
large see big
leaky see hole
level see even
lie; perception; Kzk. ötirik, Yak. symyja
lifeless see withered
light see bright, easy, and mild
limpid, clear, transparent; appearance; colour; nature; oldest sūzök, Gag. duruk, Khak. əryg, Kirg. moldür, Kklp. möldir, tynyk, Kzk. mouldir, tynyk, Ott. duru, Tksh. berrak, duru, Trkm. dury, Uigh. tiniq, sızük, Yak. ńeqkir
limping see lame
liquid; nature; Az. duru
little see few, and small
live, alive, lively; state; oldest tirig, Az. diri, Gag. diri, Kirg. tirū, Ott. diri, Tksh. diri, żanly, Trkm. diri
lively see live
location around, daytime, desert, direct, early, far, horizontal, in file, lone, moment, near, nighttime, noon, now, obverse, outer, protruding, vertical, when, where
log see paralyzed
lone, alone, lonely; location; perception; quantity; Az. jalgyz, jalnyz, jalnyzža, Bshk. jyqyq, Kar.E jalynyz, Kirg. žalgyz, Kklp. žallyz, Kmk. jangyz, Ott. jalynyq, Tksh. jalnyz, Uzb. jälýiz, Yak. soyotoχ
lonely see lone
long, tall; shape; size, oldest uzun, Gag. uzun, Kar.E uzun, Khak. uzun, Kirg. uzun, Kklp. uzun, Kzk. uzun, Ott. uzun, Tksh. uzun, Trkm. uzun, Tuv. uzun, Uigh. uzun, Yak. talaryaj, u bun
loose, sparse; nature; quantity, Kzk. seldir
lopped, trimmed; shape; Kklp. tokalak lorn see desert
low; size; Bshk. talašak, tápáš, tápášak, tābān, Kzk. alsa, tapal
lump-sum; other; Tksh. götürü
lying see horizontal
mange see itch
mangy see itch
master; quality; Kzk. ğeber
mature see ripe
meek, calm; character; Az. farayat, Kklp. synyk, Kzk. momyn, żuwas, Tat. juaš
mild, light; character; oldest alčak, Kirg. żenil, Kklp. żenil, Tat. żınel, Trkm. żenil, Uzb. jengil
miserable, wretched; state; perception; quality; Tksh. perişän, sēfil
misty see foggy
mixed, confused, disorder; disordered; state; Az. garyşygyg, garyşyglyg, Tksh. daŋnyk, perişän
moment; location; Az. dám
more so see particularly
morsel see bit
motley, colourful, dappled, spotted; colour; Bshk. sybar, Kzk. ala, šubar, Oir. čokur, Ott. alaža, Tat. čur, Tksh. alaža, renkli, Yak. čuoyur, erien
nails see with nails, claws
naked, bald, bare, nude; appearance; Az. lüt, Bshk. kak, šärä, Gag. čyplak, Kar.E čyplak, Kirg. takyr, takyrčak, žylańač, Kklp. takyr, Kmk. takyr, Kzk. žalańač, Ott. čyplak, Tat. jalangač, šärä, Tksh. čyplak, dazlak, kel, urjan, žavlak, žybyl, Trkm. takyr, Uigh. taqir, Uzb. jajdaq, jalanyäč, šijdam, taqir, Yak. syyynat, tarayaj
narrow see tight, with a broad edge and a narrow base, and with narrow eyes
nature blind, contiguous, deaf, easy, elastic, heavy, lame, limpid, liquid, loose, purblind, pure, sturdy, thick
neck see with head high on a thin neck and wide eyes
near, close; location; Bshk. jakyn, Khak. čagyn, Kklp. żakyń, Kzk. ta jaw, żakyn, Tat. jakyn, Tksh. jakyn, Yak. čugas
neat see clean
nervous see tense
new, fresh, recent; state; Az. jeni, tāzā, tāzāğä, Bshk. jangy, ör-jangy, Gag. jeni, Khak. nā, Kirg. żany, Kklp. żana, Kmk. jangy, Kzk. żakyń, żana, Oir. żany, Ott. tāze, Tksh. jeni, tāze, Trkm. jangy, tāze, Tuv. ğa, Uigh. jejị, Uzb. jangi
nice, beautiful; appearance; perception; quality; Bshk. matur, Kirg. şul, Kklp. şulw, Kzk. ädemi, ğem, Tat. čağär, Tksh. güzel, Trkm. ğenšilik, Uzb. čirâli; see also kind
night see nighttime
nighttime, at night, night; location; Tksh. geje
noon; location; Gag. ülen
now, immediately, quickly, soon; location; Bshk. tib, Kar.E tez, Tuv. dornän, Yak. sībilgin, sotoru, türgennik
nude see naked
obedient see well-behaved
oblique, slanted; shape; Bshk. salış, Khak. hyjyr
obverse; location; Kzk. öngi
obvious, certain, clear, explicit, well-known; perception; Gag. belli, koža, kožamiti, Kar.E belli, Kirg. ačyk, da-jyn, däna, Klklp. anyk, Kmk. belgil, Kzk. ajkyn, anyk, begili, Ott. belli, Tksh. ašikar, belli, Trkm. belli, Uigh. aškara, očug, Uzb. tajin

often see thick

old; state; Gag. koža, kožamiti, Tksh. eski, koža; see also past

only see separate

open see bright

opposed see opposite

opposite, across, contrariwise, contrary, opposed, the other way round; perception; Khak. togyr, Kirg. sük, Ott. karšy, Yak. kyžy, tiele, utary

orange; colour; Tksh. turunüz

orderly, arranged; state; Kzk. žynaky

ordinary see usual

osculant see contiguous

other see different

other close friend, deletion, free, free of charge, itch, jobless, lack of exit, lump-sum, right-hand, same, separate, slowly, splinter, stone, together, turmoil, unleavened

outer, outsider; location; Yak. tasyń

outsider see outer

pale, grey, white, yellow; colour; oldest kök, Az. boz, Khak. hü, hyr, Kirg. boz, kū, sur, Klklp. boz, kuw, sur, Kzk. kuw, sur, Oir. boro, Tat. ak, sory, Tksh. boz, Trkm. čal

paralyzed, baulk, crippled, log, tree-stump; state; Tksh. kütük, kötırim

particularly, more so; perception; Trkm. better

past, old; state; Kirg. kačanky, Kzk. bajayy

peaceful see calm

perception accurate, appropriate, awkward, cheap, considerable, different, direct, dull, easy, famous, fearsome, fool, foreign, futile, harsh, hasty, heavy, holy, just, lie, lone, miserable, nice, obvious, opposite, particularly, poor, proper, quick, respected, serious, soft, sudden, thin, unexpected, unpleasant, unusual, usual, weak, wise, worthy

permanent see contiguous

pink; colour; Tksh. pembe, Yak. teteğ

pit see hole

plain see pure

plentiful, affluent; quantity; Yak. delej

pockmarked see rough

pointed, acute,awl, conical, sharp; shape; Az. biz, Kzk. şoşak, sījir, Ott. sivri, Tksh. sivri, Yak. sýt

polite see soft

ponderous see serious

poor, destitute; perception; Az. joşul, joşullug, Yak. şadany

portly see hefty

precise see just

prepared see complete

proper; perception; quality; Khak. orta; Kirg. türə, Kzk. durya, Yak. könö

protruding, location; shape; oldest kötiği

puny see thin

purblind, with narrow eyes; nature; Yak. simigir

pure, plain, simple; nature; Ott. sāfi, Tksh. sade

purple, violet; colour; Gag. mor, Kar.E mor, Ott. mor, Tksh. mor

quality appropriate, bad, good, just, master, miserable, nice, proper, rogue, slander, thin, unusual, usual, weak, worse, wrong

quantity abundant, all, bit, few, lone, loose, plentiful, separate, sparse, thick
quick, fast; perception; Kar.E. čebik, Kklp. tez, Kzk. tez, žylđam, Ott. čabuk, Tuv. türgen
quickly see now
quiet, silent; character; state, Bshk. äkren, şym, tmyyk, tyn, Khak. sym-syr, Uigh. šük, tik; see also calm
quite see appropriate
rabid, fierce, wicked; character; Yak. kütür
rare see sparse
raw, crude; state; Bshk. sej, Kzk. şijki, Tat. či, jües, Tksh. čij, Yak. šikej
ready see complete
real see accurate
recent see new
red; colour; oldest kyrmyzy, kyzyl, Az. gyrmzy, Bshk. kyzyl, Dolg. khyyl, kytarkaj, Gag. kyrmyzy, Kar.E al, Kar.W kyzyl, Khak. kyzyl, Kır. kyzyl, Kklp. kyzyl, Kmk. kyzyl, Kzk. kyzyl, Oir. kyzyl, Ott. kyrmyzy, kyzyl, Shor kyzyl, Tat. kyzyl, Tksh. kyrmyzy, kyzyl, Trkm. garymyzy, Tuv. kyzyl, Uigh. qizil, Uzb. qizarmaq, qizil, Yak. kügas, khyyl
redhead, auburn, gingerly, sorrel; colour; Kzk. şijren, Yak. čačarxaj
regular see shapely
renowned see famous
respected, close, dear; perception; Trkm. gadyrly, Yak. ytyk
right-hand, dexter, right; character; other, Tksh. sâ
right see right-hand
rip see splinter
ripe, mature; state; Tksh. olgun
rogue, swindler, thief; quality; Yak. tüökên
rolled; shape; Tksh. dürü
rotten, addled; state; Bshk. serek, Ott. dürük, Tksh. dürük, žylk, Yak. sytygan
rough, coarse, pockmarked, uneven; appearance; touch, Az. kobud, Tat. kyrtyş, Uzb. ötir
round; shape; oldest tägirmä, Az. girdä, jumru, jumruţa, Bshk. jomro, tumalak, tüjärak, Dolg. tögürük, Kar.E jumarlaq, tomalak, tögerek, Khak. törpek, tiglekre, toglab, Kır. döngolök, tégerek, şumuru, Kklp. domalak, tomalak, şumyry, Kzk. domalak, şumyry, Ott. degirmi, top, Tat. či, jomry, tügäräk, Tksh. dejirmi, jumru, juvarlaq, tekerlekg, top, toparlak, Trkm. tegelek, togalak, Tuv. borbak, tögerek, Uigh. jumulaq, Uzb. dumatâq, Yak. tögürük
saint see holy
salty; taste; Tksh. tuzlu, Yak. tüsâx
same, equal, identical, similar; other; Bshk. tiy, Khak. tiy, tâj, Kır. bird-ej, okso, tej, Ott. tej, tüneyj, Tat. tiy, Tksh. ajny, Trkm. deñ, Tuv. deñ, Uigh. baravâr, tâñ, Uzb. baravar
satisfied see full
saucy see juicy
savourless, insipid; taste; Yak. ńulun
scab see itch
scrawny see thin
sensitive see alert
separate, only, singular; quantity; other, Kır. žekê, Tksh. ajry
serious, ponderous; perception; Kzk. salmakty
settled see still
shallow; shape; size; Bshk. haj; Yak. ąyças; see also small
SHAPE blunt, bulge, crooked, curly, depression, even, fat, flat, heft, hole, horizontal, in file, long, lopped, oblique, pointed, protruding, rolled, round, shallow, slender, sloping, slouching, squat, standing up, tall, thin, tight,
vertical, wide, with a broad edge and a narrow base / split / forked, with head high on a thin neck and wide eyes

**shapely**, regular; **appearance**; Tksh. düüzgün

**sharp-eyed** see alert

**shiny**, glossy, sparkling; **appearance**; Bshk. jaltyr, jyltyr, Gag. jalabyk, Kzk. žyltyr, Ott. syrlak, Yak. kilekij

**shitty** see bad

**short**; **size**; Bshk. kyϑka, nakyϑ, tokor, tölöϑ, Kklp. kyska, Kzk. šolak, Tat. kyska, Tksh. kysa

**significant** see considerable

**silence** see quiet

**similar** see same

**simple** see pure

**singular** see separate

**size** big, bit, deep, hefty, long, low, shallow, short, slender, small, tall, thin, tight, wide

**skin** see with (nice) skin complexion

**skinny** see thin

**slander**, calumny; **quality**; Yak. χoϑū

**slanted** see oblique

**slender**, svelte, tall; **shape**; **size**; Yak. χo-žoyor

**slim** see thin

**sloping**, inclined; **shape**; Kzk. žatyk

**sloouching**, **shape**; Bshk. bökrö

**slowly**, gradually; **other**; Khak. agrin

**small**, fine, little, shallow; **size**; Az. balaža, Bshk. bäläkäj, Dolg. kyra, Kirg. kiçiine, Kklp. kiškene, kiškentaj, Kzk. kiškentaj, majda, šayyn, usak, Tksh. küčük, ufak, Yak. naryn, oč-čuguy, kyra

**smooth** see even

**snappy** see alert

**sob** see weep

**sober**; **state**; Khak. sah

**soft**, gentle, polite, suave, subtle, tender; **perception**; **touch**, oldest jumšak, Az. jumšag, Bshk. jomšak, Kirg. sylyk, synyk, žylma, žumšak, Kklp. synyk, žumsak, Kzk. žumšak, Tat. juaš, Tksh. jumušak, Yak. symnayas

**solid** see sturdy

**soon** see now

**sorrel** see redhead

**sound** see healthy

**sour**, tart; **taste**; Az. turš, turšlug, Tksh. ekśi, Trkm. turśy, Yak. abŷ; see also bitter

**spacious** see wide

**sparkling** see shiny

**sparse**, rare; **quantity**; Bshk. birăk; see also loose

**splinter**, chip, rip; **other**; Az. söküntü, Gag. sökük

**split** see with a broad edge and a narrow base

**spotted** see motley

**sprightly** see agile

**squat**, fat, stubby; **shape**; Kirg. balpak, Tksh. gūdük

**stagnant** see still

**stale**; **state**; Tksh. bajat, Yak. niysik

**stalwart** see hefty

**standing up**; **shape**; Tuv. tura

**state** bright, calm, complete, cracked, destroyed, empty, frozen, full, healthy, live, miserable, mixed, new, old, orderly, paralyzed, past, quiet, raw, ripe, rotten, sober, stale, still, thawed, withered, young

**steep** see vertical

**still**, settled, stagnant; **state**; Bshk. tonok, Tksh. dürğün, Uzb. tin

**stone**; **other**; Kzk. tastaj

**stout** see fat

**straight** see direct, and even

**strong** see sturdy
stubby see squat

sturdy, durable, hard, solid, strong, tough; nature; touch, Bshk. katty, Gag. katty, Khak. tyŋ, Kklp. katty, Kzk. berik, katty, nyk, Ott. katty, Tat. katty, taza, Tksh. katty, sālam, topač, Trkm. dajav, Uigh. küchlük

suave see soft

sudden; perception; Gag. anzy &c., Kar.E anzy &c., kenete, Kar.W keńetă ~ kenete, Khak. kinetin, Ott. anzy &c., Tksh. anzy &c., Tuv. herten, Uzb. tosadan, tosindan

sunken see hole

surrounding see around

svelte see slender

sweet, cute; taste; oldest sücg, Az. širin. širinlik, sit, šilık, Khak. tadylyg, Kirg. širin, Kzk. tätti, Ott. tatly, Tksh. širin, tatly, Trkm. süği

swindler see rogue

tall, high; shape; size, Kirg. bijik, Kklp. bijik, Kzk. bijik, Oir. uzun, Yak. ürdük; see also long, and slender

tart see sour

taste bitter, juicy, salty, savourless, sour, sweet, tasty, unpalatable

tasty; taste; Kzk. dāmdī, Tksh. tatly
tender see soft
tense, nervous, tight; character; Tksh. gergin
tepid see warm

thawed; state; Yak. állayas

the other way round see opposite

thick, dense, frequent, often; nature; quantity, Bshk. kuy, Kirg. kojų, Kklp. kojųw, šmyr, žuwan, Kzk. tyyzy, žiįį, Tksh. gür, jō,un, kalyn, koju, syk, tykyz, Yak. xoju

thief see rogue

thin, feeble, puny, scrawny, skinny, slim, weak; shape; size; perception; quality, Bshk. joka, kak, nādék, neskā, šyjyķ, Kar.E aryk, inčke, Kar.W aryb, inčka ~ inčke, Kirg. ičke, žuka, Kklp. žuka, Kzk. aryk, seldir, žuka, Tat. aryk, Tksh. inže, syska, žylyz, Tuv. činge, Yak. čarās, ku¹hayan, nar-yn, siįs, siįges; see also with head high on a thin neck and wide eyes

tight, firm, narrow; shape; size, Bshk. tar, tyydy, Kzk. tar, tyyyz, žiniške, Ott. kyvrak, syky, Tat. tygyz, Tksh. dar, syky, Yak. yksary; see also tense
together; other; Ott. beräber, Tksh. beräber

touch cold, dirty, dry, even, rough, soft, sturdy, warm, weak, wet, wrinkled
tough see sturdy

transparent see limpid
tree-stump see paralyzed

trimmed see lopped

true see accurate, and direct
turmoil, commotion, uproar; other;

Uzb. topålán

ugly; appearance; Tksh. čirkin

unclean see dirty

unemployed see jobless

uneven see rough

unexpected; perception; Yak. den

unfit see bad

unimpeded see free

unleavened; other; Bshk. sōsō

unpalatable; taste; Bshk. tämheď

unpleasant; perception; Kirg. sūk

unrestrained see free

unscathed see healthy

unusual, extraordinary, wonderful; perception; quality, Yak. žikti

upright see vertical

uproar see turmoil

usual, common, ordinary; perception; quality, Tksh. bajäy
vain see futile
direct see obvious
distant see tiny
saw see null
very see appropriate
vicious, fresh; character: Tksh. dinč
vile see dirty
violet see purple
vivid, hot, tepid; touch: Bshk. jyly, Kzk. šyly, Tat. šyly, Tksh. syžak, ylyk, Trkm. ỹsy, Yak. čylās, iti
weak, indistinct, worn; perception; quality; touch; Tksh. silik, zajyf; see also thin
weep, cry, sob; character; Yak. sonji
well-behaved, obedient; character; Kzk. momakan, žuwas, Tksh. uslu
well-known see famous, and obvious
wet, damp; touch: Bshk. ježes, Gag. jaš, Kar.E sylak, Ott. jaš, syklam, Tat. jües, Tksh. jaš, yslak, Yak. ničeyej
when; location: Kirg. kačan, kačanky
where; location: Kirg. kajdagý
white; colour; oldest ak, jürür, Az. aγ, Bshk. ak, Dolg. uryųng, Gag. ak, bijaz, Kar.E ak, bijaz, Kar.W ab ~ ak, Kirg. ak, apakaj, appak, Kklp. ak, Kmk. ak, Kzk. ak, Oir. ak, Ott. ak, bejaz, Shor ak, apagaš, Tat. ak, Tksh. ak, bejaz, Trkm. ak, Tuv. ak, Uigh. aq, Uzb. aq, Yak. maγan, uryųng, uryųŋ jerk;
see also pale
whole see all
wicked see rabid
wide, broad, spacious, vast; shape; size; Kirg. keny, kenen, Tksh. geniš, Trkm. giŋ, Yak. ketot, kien, tenigir; see also with head high on a thin neck and wide eyes
wise; perception; Kirg. key, kenen
with (nice) skin, complexion; appearance; Kzk. ọŋdi
with a broad edge and a narrow base, split, forked; shape; Yak. tereger
with head high on a thin neck and wide eyes; shape; Yak. čegejikén
with nails, claws; appearance; Kirg. tyr-maktaj
with narrow eyes see purblind
withered, lifeless; state; Tksh. ölgün
wonderful see unusual
worn see weak
worse; quality; Kar.E beter, Tksh. beter
worthy, appropriate, deserving; perception; Uzb. lājiq
wretched see miserable
wrinkled, creased; touch; Tksh. buruš, burušuk
wrong, incorrect; quality; Tksh. jαŋlyş
yellow; colour; oldest saryg, Az. sary, sarylyg, Bshk. bery, Gag. sary, Kar.E sary, Kar.W sary, Khak. sary, Kirg. sary, Kklp. melle, sary, Kmk. sari, Kzk. sary, Oir. sary, Ott. sary, Shor saryg, Tat. sary, Tksh. sary, Trkm. sary, Tuv. saryg, Uigh. seriq, Uzb. sariq, Yak. arayas, saharryaj; see also pale
young; state; Bshk. jαş, Kirg. žaš, Kklp. žas, Kzk. žas, Tat. jαş, Tksh. genč, Uigh. jaş, Uzb. jani, Yak. eder
The following index only contains a selection of the subjects discussed in the present book. It generally omits subjects that appear so often that the list of pages would have to be of comparable length to the list of pages where they are not mentioned. These are such subjects as adjective, anlaut, closer, consonant, intensification, reduplication, semantics, Turkish, &c. Some of them, however, are included in the way of holders for subentries, so that e.g. multiple intensification does not need be looked for under “m”. Also words that appear in the translations of examples are not included. Entries for languages only contain selected pages and generally omit those where just one or two examples from the given language are mentioned. Likewise, non-Turkic languages are not listed, except for “Mongolic” and “Tungusic”.

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