The Reflexes of *qǝḏǝr̥ḏ(-) Holophrasis in Old Turkic and Modern Turkic Dialects
*qǝḏǝr̥ḏ(-) Dağıtıcı Yapısının Eski Türkçe ve Modern Türk Lehçelerindeki Türevleri

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Abstract

*This study examines the phonetic, phonological, morphological, and semantic evolution of the reconstructed Proto-Altaic holophrasis *qǝḏǝr̥ḏ(-), semantically contextualized as "to dry, to scorch; the state of being dry." The research primarily focuses on the development of this structure within Turkic varieties, tracing its derivatives across historical and contemporary dialects. Utilizing phoneme theory and historical-comparative methodology, the study integrates Altaic and Nostratic perspectives to uncover deeper etymological links. Through phonemic splitting tables and structural analyses, the relationships between variations in surface structure and their shared roots are clarified. While Turkic dialects remain the central focus, comparative examples from other Nostratic languages provide additional insights into the shared linguistic heritage. Despite the inherent challenges of reconstruction-based linguistics, this study underscores the value of systematic analysis in elucidating complex linguistic patterns. It seeks to contribute to the understanding and development of the linguistic phylogeny of the Altaic language family, which includes Turkic dialects.*

Keywords: *Proto-Altaic holophrasis, phonemic evolution, historical-comparative linguistics, Turkic phylogeny, Nostratic linguistic connections*

Özet

*Bu çalışma, *qǝḏǝr̥ḏ(-) olarak yeniden yapılandırılan ve Nostratik Dönem'de "kurumak, kavurmak; kuru olma durumu" semantik bağlamında tasarlanan dağıtıcı yapının (holofrasis); ses bilgisel, ses bilimsel, yapısal ve anlamsal gelişimini incelemektedir. Araştırma, *qǝḏǝr̥ḏ(-) yapısının Türk lehçelerindeki gelişimine odaklanarak bu dağıtıcı yapının tarihî ve çağdaş lehçelerdeki türevlerini takip etmektedir. Böylelikle fonem teorisi ve tümevarımsal karşılaştırmalı yeniden yapılandırma tekniğinden yararlanılarak yapılan analizlerde, Altayistik ve Nostratik bakış açıları birleştirilerek derin yapıdaki etimolojik ilişkilere dayanan bağların ortaya çıkarılması hedeflenmektedir. Fonemik yarılma*

tabloları ve yapısal analizler ise yüzey yapıdaki türevler ile derin etimolojik kökler arasındaki evrensel fonetik yasalara dayalı ilişkilerin açıklığa kavuşturulması amacıyla oluşturulmuştur. Türk lehçeleri ve Eski Türkçe araştırmanın ana odağını teşkil ederken Nostratik dillerden alınan karşılaştırmalı örnekler, ortak dilsel mirasa dair ek içgörüler sunmaktadır. Ayrıca yeniden yapılandırmaya dayalı dil bilimi alanının zorluklarına rağmen bu çalışma, sistematik analizlerin karmaşık örüntüleri açıklamadaki değerini göstermekte ve Türkçenin de mensup olduğu Altay dil ailesinin dilsel filogenisi hakkındaki bilimsel gelişim ve keşif alanına katkıda bulunmayı amaçlamaktadır.

Anahtar Kelimeler: *Ana Altaycadaki dağıtıcı yapılar, fonemik evrim, tarihsel-karşılaştırmalı dil bilimi, Türkçenin filogenisi, Nostratik dilsel bağlantılar*

Many words in Altaic languages and Turkic dialects, meaning "to dry, dry, or the state of being dry," often begin with the phonemic clusters /qu/ ~ /kʰu/ ~ /qa/ ~ /ka/. This pattern indicates that these words originate from an ancient holophrastic structure (see Method).

The earliest forms of this root are found in Old Turkic written sources. Some Old Turkic words directly derived from or structurally related to this root include the following (von Gabain, 2003, pp. 284–285; DLT, pp. 748-749; Wilkens, 2021, p. 425; Erdal, 2003, p. 131):

Word	Meaning
qudır-[1]	to dry something
qurıt-	to dry something
qurı- ~ quru-	to dry up
qurınç	dryness
qurġaq	arid
quru ~ qurıġ ~ quruġ ~ kʰuruġ ~ qurı	dry, empty
qut- ~ qud-[2]	to weaken from dehydration

Table 1: Related structures in Old Turkic

An examination of these structures reveals that the /qu/ ~ /kʰu/ ~ /qa/ ~ /ka/ phoneme cluster is consistently followed by the consonants /d, r, t/. The occurrence of varying consonants succeeding the /qu/ ~ /kʰu/ ~ /qa/ ~ /ka/ cluster gives rise to three plausible interpretations. The first posits the existence of an archaic root in the form of *qɵ-*, belonging to the Early Nostratic stage. The second interpretation suggests the presence of an archaic structure organised as a

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[1] The form "qudır-" appears in a medical text written in Old Uyghur Turkic: "täwäniŋ öwkäsin qudırıp, soqup, älgäp, tın busġakqa içürsär, ädgü bolur" (see von Gabain, 2003, p. 238).

[2] von Gabain considered the root of the form *qudır-* "to dry something" to be *qud-* "to weaken from dehydration" and included this word in the glossary section of her *Alttürkische Grammatik* (see 2003, pp. 284–285).

consonant (C1)-vowel (V1)-consonant (C2) sequence. In this scenario, the final consonant (C2) may have undergone a process of phonemic splitting, which could explain the emergence of the /d, r, t/ sounds. The third possibility assumes a structure organised as a *consonant (C1)-vowel (V1)-consonant (C2)-vowel (V2)-consonant cluster (C3)* sequence.

This study's morphological, phonetic, phonological, and semantic analyses of Nostratic languages and Turkic dialects suggest that, during the Nostratic Period, there existed a holophrastic structure following the consonant-vowel-consonant-vowel-consonant pair (C1-V1-C2-V2-C3) sequence.[3]

1. Methodological Framework and Limitations

In this study, the holophrasis *qođerd(-)*, meaning "to dry, to scorch; the state of being dry," has been reconstructed for the Nostratic Period using phonemic split tables based on the holophrastic view.[4] The fundamental method adopted for the reconstruction of phonemic and phonetic processes is the inductive comparative reconstruction technique (see Baldi, 1990, pp. 1–13; Bomhard, 2018, pp. 14–21). In this context, allophonic diversity was utilized as a tool to

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[3] The mentioned structure may have originated in the Nostratic Period through the combination of two or more morphological components. However, this study focuses specifically on the holophrasis from the Proto-Altaic Period, which directly contributed to the distribution of derivatives.

[4] Phonemes, primarily studied in phonetics and phonology, are abstract sound units that individuals aim to produce. Baudouin de Courtenay, one of the key figures shaping the modern understanding of the phoneme concept, described them as the idealised sounds intended by speakers (Jones, 1944, p. 11). These sounds can be understood as the psychological equivalent of a speech sound (Kazanina et al., 2018, p. 560). While individuals strive to articulate these sounds as encoded in their mental schemas, it is phonologically challenging for everyone to produce identical sounds during speech (Jones, 1944, p. 11). This leads to the emergence of numerous close variants, or allophones, of the same sound. In other words, phonemes often split into multiple distinct allophones, influenced particularly by their interactions with neighbouring sounds. Some of these allophones disappear before achieving widespread social acceptance, while others contribute to the emergence of new phonemes. The primary distinction between phonemes and allophones lies in surface contrasts; phonemes are characterised by their ability to distinguish meaning (Schane, 1971, p. 503). The dynamic process in which phonemes become allophones, allophones become phonemes, or certain variants fall out of use has transformed into a valuable morphophonemic reconstruction technique through the use of phonemic splitting tables. Tracing sound evolution patterns from the present to the past simultaneously provides strong predictions regarding the earlier forms of morphological structures (Hoenigswald, 1964, pp. 25–30). As seen in this article, reconstruction-based studies often reveal that allophones arising from the splitting of a phoneme are later used as independent phonemes within different structures. Although this may seem contradictory at first glance, it actually reflects the focus on how newly emerged sounds, once they complete the process of phonemicization, contribute to the formation of new structures throughout the historical development. The emphasis, therefore, is not merely on the emergence of new allophones, but on their eventual integration as distinct phonemes shaping new linguistic forms. The concepts of allophone and phoneme discussed in this article should thus be interpreted with this consideration in mind.

identify underlying structures through phonological cause-effect relationships, and the data sets were interpreted diachronically (see Baldi, 1990, pp. 7–9; Bomhard, 2018, pp. 8–13). The use of phonemic split tables specifically served this purpose.

During the reconstruction, structures found in contemporary languages and dialects were analysed as derivatives of the archaic form and organized into meaningful patterns through inductive reasoning. Furthermore, semantic and distributional theories within phoneme theory were applied throughout the patterning process.[5] This approach facilitated the development of reconstructions using phonemic split tables while incorporating perspectives from both Nostratic and Altaic frameworks.[6] In particular, the derivatives of this holophrasis in Turkic languages were examined in detail using phonemic splitting tables, whereas this method was not applied to other branches of the Altaic family. Instead, diachronic etymological networks were constructed for other Altaic languages within the framework of macro-family theories, drawing on resources from Nostratic theory. These networks were substantiated through sound change tables conforming to segmental phonology, wherein each sound was analysed individually.

Studies focusing on prehistoric macro-language families have long been at the center of methodological debates. Such studies are frequently criticized for explaining phonetic changes without attributing them to specific phonetic, phonological, or external causes (see Salmons & Joseph, 1998, pp. 4–5; Bomhard, 2018, pp. 14–21; Rankin, 2017, pp. 205–208).[7] Some scholars even reject the methodological validity of constructing macro-language families altogether (Rozov, 2023, p. 241). Traditional approaches tend to rely on tangible linguistic strata and family-level reconstructions, whereas diachronic interpretations focus on common archetypes (Kapranov et al., 2024, p. 15). However, establishing sound laws requires a sufficient number of documented phonetic change examples across concrete lexical items or working with well-analysed language families such as Indo-European, which have well-defined

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[5] The distributional theory argues that phonemes should be considered independently of their meanings. In other words, according to this theory, phonemes should be evaluated based on their contextual environments. In contrast, the semantic theory emphasises the meaning-distinctive features of sounds and examines the semantic differences caused by phonemes (see Batóg, 1971, pp. 27–31).

[6] Russell's 2006 morphophonemic analysis of Proto-Japonic is one of the most significant studies applying phoneme theory to an Altaic language through reconstructions.

[7] One of the researchers who has most extensively addressed these criticisms directed at the comparative method is Bomhard, who provided a detailed response to them (see Bomhard, 2018, pp. 14–21).

connections to the Nostratic period (see Rankin, 2017, p. 207).[8] Therefore, instead of positing definitive sound laws specific to a single language family to explain the transition from the Nostratic Period to Proto-Altaic, this study adopts a methodology grounded in universal principles of phonetic interaction, emphasizing the pivotal role of phoneme theory in understanding the systemic relationships and transformations across different stages.

The holophrastic view, which posits that in early stages of human language a limited number of roots gave rise to various structures through morphophonetic developments, supports this approach (see Arbib, 2008, pp. 154–155). Like other macro-protolanguages, the Nostratic period likely reflects a holophrastic linguistic environment characterized by oral tradition, absence of writing, high degrees of allophonic variation, and minimal phonological stability (McMahon & McMahon, 2012, pp. 224–232). For this reason, instead of attempting to define strict phonetic laws for such a prehistoric linguistic ecosystem, this study prioritizes universal phonetic tendencies and uses phonetic inventories as clues to reach underlying structures.[9] While phonetic inventories serve as primary indicators for reconstructing underlying structures in prehistoric contexts lacking written evidence, the availability of written documentation and systematically analysed phonetic data in more recent periods allows for the direct application of established sound laws, thereby providing a clearer and more precise explanation of phonological change.[10]

The concept of holophrasis, central to this study, refers to diachronic lexical units with broad semantic networks but underdeveloped grammatical structures (see González, 2007, p. 139).[11] The introduction of this concept into linguistic studies is largely attributed to the views of Mithen and Arbib (see Mithen, 2020, pp. 3–4; González, 2007, pp. 139–140). Arbib suggests that the earliest words in languages may have been grammatically unstable, with categories such as verbs and nouns not yet clearly defined (2008, pp. 154–156). The holophrastic protolanguage approach, supported by Mithen and Arbib, remains a subject of

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[8] The early studies on the Indo-European language family—which has largely been clarified in many respects today—were initially based on phono-semantic sets rather than clearly defined sound laws (Dennis, 2002, p. 2).

[9] In order to establish clear sound laws regarding the connection between the Nostratic period and the Altaic languages, a large number of comparative studies, similar to those conducted for the Indo-European language family, are required.

[10] Only when a sufficiently comprehensive body of data analyzing the relationship between the Nostratic period and the Altaic language family is available can laws grounded in systematic phonetic correspondences between the two be meaningfully formulated.

[11] Ungrammatical single-word utterances in language development are often described as "morphemes." For example, most one-year-old children, despite knowing only a handful of words, are able to communicate effectively through them (Kol, 2011, p. 15). From a technical perspective, holophrases and morphemes exhibit significant conceptual similarities.

contemporary debate on the origins of language. The most significant objections to the validity of this approach have been raised by Tallerman (see 2008, pp. 84–85).

Ultimately, the study examines the potential derivatives of the Proto-Altaic *qǝdǝr̂d(-)* holophrasis, tracing their development from the Nostratic period to the present, with particular emphasis on their connections to Turkic structures.

2. Semantic Context

Semantic analysis is a crucial tool for approaching the original meaning of holophrases, which construct extensive networks of relationships over time in any language. Therefore, it is essential to accurately identify the most fundamental word thought to be a derivative of the holophrase in question. During this process, it is necessary to trace the commonalities among all words believed to originate from the holophrase. This fundamental word must be connected to all other words considered within the context.
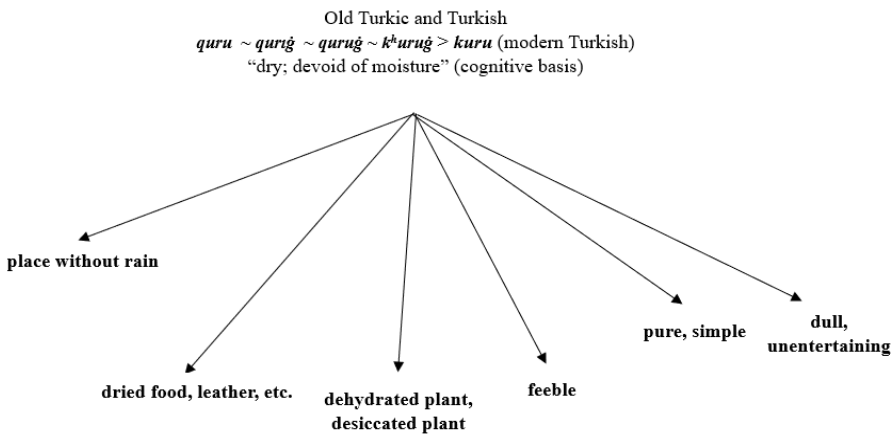
Old Turkic and Turkish
quru ~ qurıǵ ~ quruǵ ~ kʰuruǵ > kuru (modern Turkish)
"dry; devoid of moisture" (cognitive basis)

place without rain

dried food, leather, etc.

dehydrated plant, desiccated plant

feeble

pure, simple

dull, unentertaining

Figure 1: Semantic Network of Relationships Associated with the Holophrasis

In this study, the semantic anchor of the morpheme *qǝdǝr̂d(-)* reconstructed in Proto-Altaic has been identified as the word "kuru(-)" in modern Turkish, meaning "(to) dry." The reason for selecting this word lies in its ability to establish connections with all derivatives within the schematised network of relationships presented below:[12]

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[12] One of the most misleading aspects when analysing the semantic network of a word within the context of macro-family theories is the reconstruction of its emotional components. In other words, while a word may have a positive emotional connotation in one language, it may take on an entirely opposite connotation in another. This is precisely the case with the development of the *dhereugh-*structure, reconstructed for Proto-Indo-European languages. For example, in this study, the word *kuru* "dry" (modern Turkish), which is considered to be semantically linked to the *dhereugh-*

The validation of the semantic network and the identification of its prototypical meaning are fundamentally supported by the frameworks of macro-family theories. From the perspective of Turkic dialects, this semantic network can be systematically examined and corroborated through the principles of Nostratic theory.

3. The Nostratic *qǝd̠ǝr̠d̂(-)* Holophrasis and Its Derivatives in Proto-Altaic

From a Nostratic perspective, the verb root *dreug- (*dhereugh-),* reconstructed in Proto-Indo-European languages with the meaning "to solidify, to harden" can be associated with various structures in Turkic conveying the meaning of "dry" (see Bomhard, 1981, p. 412).

In Indo-European languages, evidence suggests that this archaic root begins with the phoneme /dʰ-/, as can be observed in various derivatives formed through phonemic splitting (see Mann, 1984, p. 159). Indeed, traces of phonemic splitting leading to fricativisation of this sound indicate the emergence of /h-/ and /∅-/ phonetic evolutions in Indo-European languages (see Section 3.2). Furthermore, the desonorisation of /h-/ likely resulted in the emergence of /k-/ in sound change processes (see Section 3.2). Due to the nature of phonemic splitting, it is also possible that a derivative retaining features close to the original phoneme, such as the /d/ phoneme, has been preserved in contemporary languages.

Beyond Indo-European languages, structures derived from a holophrasis with the aforementioned characteristics are also observed in the Dravidian and Altaic language families. Below, sound tendencies based on the initial phoneme of this holophrasis have been analysed alongside examples:

3.1. Dental-Articulated and Conserved Tendencies in the Initial Consonant

In Mann's dictionary of Proto-Indo-European languages, the words *drēks-* "to wear out, tear; to dry" and *dreutos* "brave; strong" are identified as potentially related to the archaic structure *dreug- (*dhereugh-)* (see Mann, 1984, p. 159). According to Mann, the Old English *drūgian ~ drūgan* "dry, withered" and the Lithuanian *drūžú* "to blacken; loose" also derive from the archaic verb *dhrūĝhō* "to crumble, deplete, fade, to dry (out)" (see Mann, 1984, p. 209). At least within the surface structure, the Dutch word *droog* "dry" also appears to be connected to these forms (Mann, 1984, p. 207).

In conclusion, Indo-European languages exhibit traces of an archaic structure semantically tied to the concept of "dry; to dry." This structure typically begins

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structure based on its Nostratic background, shifts towards negative connotations in Turkic dialects, evoking meanings such as "cruel, devoid of mercy." In contrast, the *dhereugh-* root in Indo-European languages can evolve into a positive context, carrying meanings such as "reliable, friendly" (Sorokina, 2020, p. 1323).

with the phoneme /dh-/, which tends to undergo fricativisation (see Mann, 1984, p. 159). It is often followed by a voiced consonant, such as /-r-/, reflecting a fluid phonological pattern.

3.2. /ḍ-/(…)>/kʰ-/ > / ˁ-/ > (/∅-/) Tendency

In the Indo-European language family, structures such as Lat. *āreō* "to be dry," *āridus* "dry"; Czech *ozditi* "dry malt," Greek *ázomai* "to be dry," and Tocharian AB *ās-* "to be dry" are thought to be derivatives of the root *$h_a es$-* "to be dry." These examples represent cases where phonemic splitting in the initial phoneme of the archaic Nostratic structure resulted in the elision or transformation of the initial sound (see Mallory & Adams, 2006, p. 346). The same phonetic tendency is also observed outside the Indo-European language family, as noted in Dolgopolsky's *Nostratic Dictionary*. Dolgopolsky proposed a Nostratic root *ˁAr∇ meaning "dry, arid" based on words such as Tamil *arru* "dry (hair)," Malayalam *aruka* "to dry (soil, etc.)," Toda *o'r* "to dry due to heat," and Mehri Arabic *'ārēb* "people living in arid lands, Arabs" (2012, p. 234).

3.3. /ḍ-/(…) > /kʰ- ~ qʰ-/ > (…) > [(/q- ~ ġ-/) > /g-/] Tendency

This tendency is generally observed across the Altaic languages. In this paper, the structure designed as *qǝḏǝȓ̑ḏ(-)* in the Nostratic Period has been reconstructed in Proto-Altaic as *k'i̯óbarV* "to dry" by Starostin and colleagues (see 2003, p. 230). These researchers proposed the derivatives of this holophrasis for the Altaic languages as *kūri-* for Proto-Turkic, *kawra-* for Proto-Mongolic, and *káwá(ra)-k-* for Proto-Japonic (2003, p. 230).

Below, the /kʰ- ~ qʰ-/ > (…) > [(/q- ~ ġ-/) > /g-/] tendency is analysed separately for each of the Altaic languages:

3.3.1. Japanese and Korean

According to Starostin and colleagues, the verbs *kara-* in Old Japanese and **kárá-* in Middle Japanese are derived from the Proto-Japonic verb "kárá-" meaning "to dry; to ripen" (2003, p. 834). Similarly, the Proto-Korean verb "korh-" meaning "to become stale" can be reconstructed as related to this structure (2003, p. 834). In modern Korean, the verb "kolh-" is used not only in the sense of "to deteriorate, to rot" but also to mean "to become stale." The word is also attested in Middle Korean as "kwolq-" meaning "to become inflamed" (see Robbeets, 2015, p. 251).

In modern Japanese, the structure connected to this discussion is the verb *kare-rú* [ka̠ɾe̞ɾɯᵝ], meaning "to dry, to wither." This verb also caught the attention of Menges, who examined the Proto-Altaic verb "qyr-" meaning "to scrape, to cut, etc." (see Menges, 1982, p. 381). The researcher, however, could not reach a definitive conclusion regarding the relationship between "kare-rú" and "qyr-" (1982, p. 381).

Considering the related forms in both Japanese and Korean, it becomes evident that the initial /kʰ- ~ qʰ-/ phoneme reconstructed for Proto-Altaic is largely preserved in these languages, and that no significant voicing or elision process affecting this sound occurred in the post-Proto-Altaic period.

3.3.2. Mongolic

From the perspective of Mongolic, there appears to be significant allophonic variation in the phonemes constituting the structure. When tracing the development of this morpheme, it can be inferred that the consonant /qʰ-/ in Proto-Mongolic underwent phonemic splitting, potentially resulting in the emergence of the allophones /ġ-/, /h-/, and /∅-/.

i. **/ġ-/ Reflex:** Evidence for the /ġ-/ reflex in modern Mongolian includes words such as *ġorcuy-* "to dry, to harden, to solidify," *ġorcuġur* "completely dried, extremely weak" and *ġoruy-* "to dry out (of the throat); to choke" (Lessing, 2003, p. 576).

ii. **/∅-/ Reflex:** The phonological evolution of the /qʰ-/ phoneme in Proto-Mongolic frequently culminated in its elision. This process is evidenced by forms such as *ag-* "to dry, to dry completely," *agi-* "to dry; to solidify," *arga-* "to dry," and *agira- ~ akira-* "to dry; to yellow." These lexemes illustrate a systematic reduction of the initial consonant, consistent with phonemic simplification processes observed across Mongolic languages (see Lessing, 2003, pp. 19–83).

The /∅-/ reflex was influenced by the pressure economy triggered by the /-r-/ consonant, which exerted a centralisation effect on the vowels within the structure. At later stages, this centralisation led to the elision of the /-r-/ sound in some reflexes as the influence of pressure economy increased (for discussions on "fluency harmony" and "pressure economy," see Kılıç, 2020, pp. 83–84). Furthermore, the influence of pressure economy induced metathesis in certain Mongolic forms, causing the /r/ and /g/ consonants to shift positions across various reflexes, as seen in *arga-* "to dry" ~ *agira-* "to dry; to yellow" (see Table 2).[13]

iii. **/q-/ Reflex:** Alongside the aforementioned reflexes, Mongolic also exhibits /q-/-initial reflexes, which point to a process of lenition affecting the initial segment in the diachronic evolution of these forms. A notable example of this phenomenon is the term *qaɣurai* "dry, dried" (see Lessing, 2003, p. 1403).

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[13] Phonologically, one of the primary drivers of metathesis is the tendency of liquid consonants to achieve articulatory harmony. In other words, the grammatical mechanisms that regulate the most efficient release of accumulated air pressure underpin the concept of pressure economy. Consequently, as in the examples from Mongolic, metathesis in Turkish frequently involves the liquids /r/ and /l/ as central agents: *toprak>torpak* "soil", *kirpik>kiprik* "eyelash", *çömlek>çölmek* "a type of bowl," etc.

Word	Meaning
ġorcuy-	to dry, to solidify, to harden
ġorcuġur	completely dried, extremely weakened
ġoruy-	to dry out (of the throat); to choke
ag-	to dry, to dry completely
agi-	to dry; to solidify
arga-	to dry
agira- ~ akira-	to dry; to yellow
qaɣurai[14] (haguray)	dry, dried

Table 2: Reflexes in Mongolic (see Lessing, 2003; Ligeti, 2012, p. 218)

Based on the evaluation of the data presented in the table, the following inferences can be made regarding this archaic structure in Mongolic:

i) Phonemic splitting in the initial sound has resulted in the emergence of the sounds /ġ-/, /q-/, and /∅-/. Among these, /q-/ is phonetically similar to the initial sound of the possibly archaic structure in Proto-Altaic.

ii) In Mongolic, forms that have undergone metathesis and those preserving the original phonemic arrangement continue to coexist within the lexicon.

iii) The liquid /-r-/ sound has triggered sound changes, such as metathesis, due to its articulatory incompatibility with voiced stops like /ġ/. In forms where these metatheses have not occurred, the principle of pressure economy has often resulted in the elision of the initial sound, as seen in *ag-* "to dry" and *agi-* "to dry; to solidify."

iv) One of the forms in which this archaic structure has been preserved with minimal phonemic loss is qaɣurai "dry."[15]

C1	V1	C2		V2	C3		V3	
/q-, g-, ∅-/	/-o-, -a-/	/-g-, -r-, -r͡c-, -∅-/		/-u-, -∅-/[16]	/-r(-), -g-, -y(-)/		/-a(-), -u(-)/	Current allophones

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[14] The transcription of this word follows Ligeti's transcription (see 2012, p. 218). Because the initial sound of this structure has been analysed, and it is necessary to represent the sounds precisely during this analysis.

[15] The detailed diachronic development process of this structure will be thoroughly presented in the phonemic splitting table prepared for Turkic.

[16] The vowels following consonants that have undergone metathesis have not been taken into consideration.

/q/ > [kʰ-][17]	[-ɵ-]	[-ɢ-]		[-ʊ-]	[-ɹ-][18]		The potential holophrasis derived from the Proto-Mongolic structure *qaqr̥r̥d̂(-).
			■			■	

Table 3: The possible allophonic network of the Altaic *qaqr̥r̥d̂(-)* holophrasis in Proto-Mongolic[19]

3.3.3. Manchu-Tungusic

The living reflexes of the Nostratic *qǝd̥ǝr̥d̂(-)* structure can be observed in Evenki and Negidal dialects as *olgo- ~ olgi-* "to dry," in the Nanai dialect as *holgo- ~ holgi-* "to dry," in the Udehe dialect as *ogo- ~ wagi-* "to dry," and in Manchu as *olho-bu* "to dry" (Hölzl & Payne, 2022, p. 39).

The noteworthy features of these forms are as follows:

i) In the Nanai and Udehe dialects, the sounds /h-/ and /w-/ appear as potential remnants of the archaic initial consonant. However, the /w-/ sound in the Udehe form *wagi-* "to dry" might also be a secondary development resulting from vowel centralisation within the word.

ii) When compared to the corresponding structures in Mongolic, in the derivatives of the holophrasis within Manchu-Tungusic languages, the initial sound typically transitions into a glide following fricativisation and ultimately undergoes elision. Despite this development, the liquid sound itself and its position within the phonotactic sequence are often preserved. By contrast, as

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[17] The voicing or fricativization of the /k/ sound is a phonetic phenomenon that is also observed in modern Mongolic today (Janhunen, 2012, p. 28-29).

[18] The fact that this sound is apicoalveolar in Modern Mongolic makes it possible to reconstruct it as /ẓ/ in Proto-Mongolic, as it is already quite close to /ẓ/ in Modern Mongolic (Stuard & Haltod, 1958, p. 80).

[19] This table reveals the network of allophonic relationships. In other words, it aims to document, in phonetic sequence, the different allophones derived from the same phoneme within the attested forms. By examining the phonetic variation presented in the table, it seeks to identify the underlying phoneme responsible for this diversity. As noted in earlier footnotes, the proposed reconstructions in the table are largely consistent with the primary sound laws observed in Mongolic. However, since the reconstruction pertains to Proto-Mongolic, it is not expected that the phonetic processes posited here will fully align with the sound laws documented in the historically attested stages of Mongolic. This is due to the natural increase in phonological uncertainty at the proto-language level (Campbell 2013: 256-258; Fox 1995: 47-50). Phonetic development proceeds in successive layers, and in cases where these layers cannot be clearly identified, the applicability of conventional phonological laws diminishes (Hock & Joseph 1996: 91-94). At this point, the phonemic variation provides inductive clues regarding the nature of the underlying sound.

previously noted, in Mongolic, the liquid sound /-r-/ is frequently elided under similar conditions.[20]

Manchu-Tungusic languages seem to address this phonological challenge by adjusting the articulation of /-r-/ toward the dental region, reducing its trill. This reduction in trilling likely facilitates pressure economy. As a result, the /-r-/ sound shifts into an allophone closer to the liquid /-l-/ phoneme, thereby avoiding elision. However, this phonological ecosystem also triggers an archaic metathesis between the liquid consonant and /-g-/. Consequently, it is reasonable to reconstruct the holophrasis for Manchu-Tungusic as *k^hɵлʊɢ, reflecting a metathesised structure.[21]

C1	V1	C2		Elided Vowel	C3		V2	
/h-, w-, Ø-/	/-o-/	/-l-, -Ø-/		-	/-g-/		/-o(-), -i(-)/	Current allophones
[k^h-]	[-ɵ-]	[-ɹ-]		[-ɐ-]	[-ɢ-]			The potential holophrasis derived from the Proto-Manchu-Tungusic structure *qaqɤṛḍ(-).

Table 4: The possible allophonic network of the Altaic *$qaqɤṛḍ(-)$ holophrasis in Proto-Manchu-Tungusic[22]

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[20] The sound changes outlined in this section characterize the phonetic phenomena observed as a result of the phonetic comparison of the corresponding forms in Mongolic and Manchu-Tungusic.

[21] Throughout the article, /ɵ/ or [ɵ] represents phonemes or allophones whose phonetic properties cannot be fully determined.

[22] Since a phonotactic and morphophonological reconstruction is proposed here for Proto-Manchu-Tungusic, it is possible that this reconstruction differs from the phonological laws attested in the historically documented stages of Manchu-Tungusic. However, the phonemic variation observed in the initial sound of the forms attested as Negidal dialect *olgo-* ~ *olgi-* "to dry," Nanai dialect *holgo-* ~ *holgi-* "to dry," and Udehe dialect *ogo-* ~ *wagi-* "to dry" allows for the reconstruction of an initial /k-/ sound for Proto-Manchu-Tungusic, in line with Starostin's reconstruction of Proto-Altaic *$k'i̯óbarV$ "to dry." Furthermore, the presence of the liquid sound /-l-/ in the medial position of these forms, corresponding to /-r-/ in Mongolic examples, reinforces the hypothesis that this sound is phonetically based on [-ɹ-].

3.3.4. The /ḍ-/(…) > /kʰ- ~ qʰ/ > (…)[> (/q- ~ ġ-/) > /g-/] Tendency Beyond Altaic Languages

While a significant portion of related structures in Altaic languages have persisted through the /ḍ-/(…) > /kʰ- ~ qʰ/ > (…)[> (/q- ~ ġ-/) > /g-/] tendency, traces of this pattern can also be observed outside the Altaic languages.

An example of this tendency outside Altaic is the word *kırg* "dry" in Chukchi, a Yeniseian language (see Martin, 1996, p. 139).

This tendency is not widely productive in the Indo-European language family. However, Mann proposed the hypothetical Proto-Indo-European form *kaprįō* "to dry." Based on Mann's reconstruction, it can be inferred that the phonemic splitting observed during the Nostratic period may have extended its influence to Indo-European languages. This includes the /kʰ-/ > /k̓-/(…) sound shift, which appears to align with patterns in Mann's proposed forms. A reflex of this structure, as identified by Mann, is found in Late Latin as *capriō* "to weaken" (1984, p. 472).

In this example, the initial sound underwent devoicing. As a result, the liquid /-r-/ likely experienced metathesis as a phonotactic adaptation, similar to processes seen in Manchu-Tungusic. Furthermore, the archaic /-g-/, situated between the vowel and the liquid consonant, may have been labialised, ultimately transforming into /-p-/.

Another language in which the /ḍ-/(…) > /kʰ- ~ qʰ/ > (…) > [(/q- ~ ġ-/) > /g-/] tendency is observed is Nivkh. The Proto-Nivkh word *qaw-* "to dry" aligns with the Nostratic root (Fortescue, 2016, p. 140).

4. The Status of the Proto-Altaic Holophrasis in Turkic

The splitting of the initial /dh-/ sound in the Nostratic period resulted in the formation of numerous allophones. In languages that retained the allophones /q-/ and /k-/, metathesis triggered by the liquid /-r-/ led to the creation of many new words. Despite being derived from this structure and exhibiting close phonetic similarity in surface forms as well as semantic proximity, numerous examples cannot be linked through a root-suffix relationship. These mismatched examples reflect the sound elisions and metatheses observed in the reflexes of this holophrasis.

The archaic structure *qǝd̥ǝr̂d̂(-)* "to dry, to scorch; the state of being dry" in Proto-Altaic exhibited two consonant-based tendencies when it emerged as a product of metathesis influenced by the liquid /-r-/ sound during the period when the Nostratic unity began to diverge into the Altaic languages.[23]

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[23] The vowels, influenced by the consonants, remained in a state of phonemic instability, leading to the preference for different vowels in many reflexes.

In this study, a phonemic splitting table has been employed to analyse the reflexes and development of the structure in greater detail. This table specifically focuses on Common Turkic and examines the structure *qoḏoṛd(-) "to dry, to scorch; the state of being dry," which emerged alongside the aforementioned archaic metathesis. The Common Turkic-based phonemic splitting table is presented below:[24]

Table 5: The phonemic splitting table of the archaic holophrasis in Common Turkic[25]

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[24] The (-) notation used at the end of the structures in the table indicates that the given word is holophrastic. This means it has not yet fully undergone grammaticalisation and may exhibit transitional features belonging to different categories, such as nouns and verbs.

[25] This phonetic map is designed with a focus on General Turkic, starting from the Nostratic period. In other words, rather than tracing the development of the Nostratic proto-structure across all

According to the phonetic scenario reconstructed in the table above, the evolutions can be traced not only in contemporary Turkic dialects but also in many other languages today. However, this table is based solely on contemporary and historical Turkic dialects.

4.1. *qǝdǫȓd͡(-) > *qǝdwǫȓd͡(-) > *qebeȓd͡(-) ~ *qǝbǫȓ(-) Phonetic Pathway

One of the proto-forms inherited from the archaic holophrasis by Turkic dialects is reconstructed as *qǝdwǫȓd͡(-). Based on the reconstruction presented in this study, the medial /-ḍ-/ sound within this structure exhibited a tendency toward labialisation due to the articulatory influence of the surrounding rounded vowels. Additionally, the phonemic splitting within this structure likely produced two primary descendant holophrases: *qebeȓd͡(-) and *qǝbǫȓ(-). The development of *qebeȓd͡(-) is highly productive in modern Turkic dialects and has generated numerous reflexes.

The Kazakh words *kebir* "dry," *kep-* "to dry," and *keptir-* "to dry (something)" are likely reflexes related to this structure (Shnitnikov, 1966, pp. 121–124). Additionally, there are structures in Anatolian dialects that may have been derived from these holophrases. For example, in the Gaziantep dialect, the phrase "gebert ol-" means "to begin drying out" (DS, 1956, p. 1956). In the Kayseri Akçakaya dialect, apricots that have begun to dry are referred to as "gebetleme" (DS, 1956, p. 1956). The same word appears in the Kayseri Zincirdere dialect as "gebertleme" (DS, 1956, p. 1956). In the Bilecik Söğüt dialect, the word "gebez," meaning "the drying of crops due to drought," reflects the influence of zetacism (DS, 1956, p. 1956).

The derivatives of the intermediate form "qeber-," one of the reflexes of this structure, have been attested in many dialects since Old Turkic with the meaning "to die, to perish." Similar to how the verb *yaşa-* "to live" is semantically connected to the state of being fresh ("yaş"), the verb "to die" is semantically linked to the concept of "drying out." However, certain researchers have erroneously traced terms such as *gebe* "pregnant, a woman about to give birth" and *kabar-* "to swell, to expand," both of which are found in Turkish, to the same root as *geber-* "to die." This is a conceptual error resulting from phonetic and semantic resemblance rather than etymological evidence (see Türkmen, 2004, p. 133).

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descendant languages, the map primarily centers on Turkic. Accordingly, it allows for the tracking of phonetic processes in which Turkic is involved. The asterisk (*) symbol has not been used for forms belonging to stages where sound development has largely stabilized and where the structures can, for the most part, be attested in written records (in phonemic terms). In order to avoid increasing the complexity of the map, details regarding the periods and forms in which these structures are attested are provided in the explanations below.

A comparative analysis within Altaic linguistics reveals that these terms are unrelated to "geber-." Instead, they align with Mongolic forms such as *gedesü(n)* "belly, stomach," *gedesüle-* "to become pregnant," *gedel* "earlobe," *gedeng* "crooked, uneven," and *gede* "the rounded area at the nape, neck hump" (see Lessing, 2003, pp. 593–595). These forms belong to a semantic field centred around "being round or uneven." The word *göbek* "belly" in Turkish is a prominent example within this semantic network.

Both the Turkic and Mongolic terms appear to be derived from a holophrasis belonging to the Turkic-Mongolic Divergence Period, which can be reconstructed as *ǩəɗe(-)* meaning "uneven; to be uneven; metaphorically, round." The coexistence of the words "yuvarlak" and "yumru" in Turkish, along with similar words in other Turkic dialects—such as "domalaq ~ döŋgelek" in Kazakh, "cumuru" and "toğoloq" in Kyrgyz, "dumaloq" in Uzbek, and "toğalak" in Turkmen—indicates a connection to the Proto-Altaic structure **ǩəɗe(-),* which likely traces back to Nostratic roots (see Ercilasun et al., 1991, pp. 998–999). It is therefore plausible to hypothesise the existence of a much earlier Nostratic holophrasis, likely beginning with a retroflexive /ḍ-/, which underwent phonemic splitting to produce reflexes such as /d, k, c, y, Ø/. In other words, while the verb *geber-* "to die" and words like *gebe* "pregnant" and *kabar-* "to swell" exhibit similarities in surface structure, they do not share a common etymological origin.

The other descendant structure, **qɵbɵr(-)*, is likely the source of the word *qum ~ kum* "sand", attested in Turkic dialects since Old Turkic. In fact, the archaic morphemic meaning of **qɵbɵr(-)* is "solid and dry granule."[26] The medial consonant /-b-/ in the morpheme underwent a /-b-/ > /-m-/ development, in line with general tendencies observed in Altaic languages.[27] The Mongolic form *qumaγ*[28] (*humag*) "sand" reflects this transformation and aligns with related words within the Altaic linguistic sphere. The Hungarian word *humok* "sand," which is likely a borrowing from the European Huns, confirms the presence of phonemic elisions in the final phonemes of the archaic holophrastic form **qɵbɵr(-)* (see Tóth, 2007, pp. 36, 84). These findings also point to the addition of derivational suffixes in subsequent stages (see Starostin, 2003, p. 705; Lessing, 2003, p. 1520). Thus, the Common Turkic word "qum ~ kum" likely emerged as a result of the elision of the retrospective /r/ at the end of the structure **qɵbɵr(-)*. Following the elision of /-r/, the narrow final vowel also became unsustainable

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[26] This is because in Turkish and other Turkic dialects, *kum* "sand" does not solely refer to the solid soil found on the seashore. It also denotes small, hard granules that accumulate inside fruits or the human body. These nuances in usage offer significant insights into the semantic history of the word.

[27] For instance, the comparative particle "kibi" meaning "like" in Old Turkic appears as "kimi" in Azerbaijani Turkic, "kimin" in Turkmen Turkic, and "yimik" in Kumyk Turkic (Dinar, 2015: 104-108).

[28] The transcription of this structure is based on Ligeti's transcription (see 2012, p. 218).

and was subsequently lost. However, the tendency of Chuvash toward rhotacism preserved this final /-r/. The retention of the liquid /-r/ further caused the medial consonant to undergo a liquid transformation, resulting in its semi-vocalisation. Today, in Chuvash, the word appears as *hĭyĭr ~ hır* "sand" (see Durmuş, 2020, p. 260).

From a Nostratic perspective, the *qɵbɵr(-)* holophrasis reflects a structure where grammatical boundaries and word categories are highly fluid and ambiguous, in line with its holophrastic character. Evidence supporting this analysis is particularly observable in the Kartvelian languages. For example, the Megrelian forms *xom- ~ xum-* "to dry" and the Laz form *xom(h)-* "to dry" appear to have undergone this path of sound evolution (see Klimov, 1998, p. 334). As can be seen, the counterparts of these forms, which appear as nouns in the other languages discussed here, occur as verbs in the Kartvelian languages.

4.2. *qɵd̪ɵr̪d̂(-) > *qad̪ʰɤr̂d̂(-) [> *qaʷr̂d̂(-)] > *qaqɤr̥t̪(-) ~ *qaqɤr̥d̪(-) Phonetic Pathway

The development of this sound pathway is rooted in the increasing aspiration (breathiness) affecting the medial /-d̪-/. This aspiration triggered phonemic splitting, resulting in the emergence of allophones resembling /-q-/. Concurrently, devoicing caused the retroflexive /-d̪-/ to shift toward the uvular place of articulation, producing allophones similar to /-q-/ and centralising the surrounding vowels. During this centralisation, the second vowel likely narrowed, possibly due to pressure economy.

In modern Altaic languages, numerous words can be traced as potential derivatives of *qad̪ʰɤr̂d̂(-)*. However, no form directly preserving the phonetic structure of this archaic shape has been identified in contemporary Altaic languages.[29] Nonetheless, a structure resembling this form is found in Anatolian dialects. Whether the word *gakırdak* "dried meaty bone," found today in the Isparta dialect (DS, p. 1896), reflects the phonetic characteristics of *qaqɪrd̂-,* is related to *kıkırdak* "cartilage" (a term in Turkish referring to connective tissue without blood vessels), or whether "kıkırdak" itself may have connections to this archaic structure is unclear (see DS, p. 1896).[30]

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[29] Although a structure directly corresponding to this form is not explicitly attested, the patterning observed in structures from other layers of the phonetic development process points to the existence of such a transitional form (see Table 5).

[30] The verb *kıkırda-* in Turkish, which means "to laugh softly" as well as "to freeze from cold, to feel cold; to die," strengthens the plausibility of this connection. The root *kık-*, although it resembles an onomatopoeic origin, metaphorically aligns with the notions of "inward contraction" and "drying."

4.3. Evolutions Triggered by the Splitting of /r͡d/

The structure *qo͜do͡rd̞(-)*, meaning "to dry, to scorch; the state of being dry," evolved into *qad̞ʰɤɽd̞(-)* through the splitting of the consonant cluster /r͡d/, leading to two distinct pathways of lexical evolution. One result was the emergence of the unstable structure *qaqɤɽt̞(-)*. The phonemic splitting of this structure likely produced *qaqɤt* and *qaqɤɽ(-)[>*qagʷur(-) ~ *qaq(ɤ)]*.

Words in Kyrgyz such as *kagıra-* "to dry completely," *kakıra* "dry, waterless," *kagırama ~ kakırama* "dried" (see Arıkoğlu et al., 2018), and in Uyghur such as *qaqrang* "dried" (Necip, 2016, p. 263), are reflexes that largely preserve the archaic form *qaqɤɽ(-)*.

Additionally, related forms can still be found in Turkish. In the Afyon and Sivas Divriği dialects, a derivative where the retroflexive /-ɽ/ has not eroded but instead shifted to an alveolar articulation can still be observed. In these dialects, the word "kakır" means "thin, dry, weak" (see DS, p. 2603). Another example is the Ayancık dialect's *gağırşak* "dried chestnut," which also reflects these developments (see DS, p. 1893).

4.3.1. *qaq(ɤ) Intermediate Form

Numerous derivatives emerged from the structure *qaqɤɽ(-)* as a result of the elision of the final [-ɽ]. The elision of /-ɽ/ also led to the gradual reduction of the preceding narrow vowel. As evidenced in the examples below, traces of this process can be found in contemporary Turkic dialects and in Turkish. In the Bozdoğan dialect of Turkish, the form "kakı", which exhibits characteristics of an intermediate stage and retains the narrow vowel, is attested in the word *kakı* "dried eggplant" (DS, p. 2602). This form represents an earlier stage prior to the phonological evolution stabilising into the more consistent structure "qaq". Additionally, in Anatolian dialects, derivatives of this structure appear in forms such as "gaga ~ gaɣa ~ gagı" meaning "dried fruit" (DS, pp. 1892–1893).

The most stabilised form of *qaqɤɽ(-)* that has reached Turkic dialects is *qaq*. After the elision of [-ɽ], the narrow final vowel generally failed to remain stable and was lost. Some derivatives related to "qaq" in contemporary Turkic dialects include the following: Turkish *kak* "dried fruit," *kağşa-* "to become worn out"; Kazakh *qaq* "a type of fruit confection"; Uyghur *qaq* "dry," *qaxlan-* "to warm in the sun," *qaxlat-* "to dry in the sun"; Uzbek *qoq* "dry; thin," *qoqla-* "to dry," *qaqsha-* "to dry," *qoqshol* "thin, emaciated"; and Kyrgyz *qaq* "dried up," *qaqsı-* "to dry completely" (see Shnitnikov, 1966, p. 263; Necip, 2016, pp. 263–276; Arıkoğlu et al., 2018; Begmatov et al., 2006).

This structure also has numerous derivatives in Anatolian dialects, such as *gaḥ* "dried apple or pear" in dialects of Reşadiye and surrounding areas (DS, p. 1894), *gaḥaç* "sun-dried meat" in dialects of Bayburt and nearby regions (DS, p. 1894), and *gak* "dried fruit" (DS, p. 1894-1895) in many Anatolian dialects.

Additionally, the Mongolic word *ġanġ* "drought" may also be related to this structure (see Lessing, 2013, p. 554).

4.3.2.   *qag^w uɾ(-)* Intermediate Form

Another derivative that emerged following the phonemic splitting of the structure *qaqɤɾ(-)* is *qag^w uɾ(-)*.

The holophrastic structure *qagwuɾ(-)*, a shared root exhibiting both verbal and nominal characteristics, displays a tendency toward rounded vowels and labial articulation in its medial position. Variants of this structure are typically found as verbs in contemporary Turkic dialects. This development has given rise to verbs such as *kavur-* "to dry or burn with heat" in Turkish, "qovur-" in Azerbaijan dialect, and "qovur-" in Uzbek (see Ercilasun, 1991, pp. 455–456).[31]

During the derivation of these forms, it is evident that the uvular consonant /-q-/ in the medial syllable resolved its phonological challenges between two vowels by becoming labialised. This is because /-q-/ remains a sound that struggles to maintain its phonemic properties between vowels in Turkic dialects even today.[32] This study hypothesises that some variants resulting from labialisation followed the pathway *qaqɤɾ(-)* > *qagwuɾ(-)* > *qagwur(-)* > *qawur-*, leading to the emergence of the modern forms.

In addition to the derivatives triggered by labialisation in Turkish, traces of derivatives formed through the elision of the /ɾ/ sound can also be observed. In this case, the development of the structure is likely to follow the path *qaqıɾ(-)* > *qagwuɾ(-)* > *qawu-*.

Today, the products of the *qawu-* development can be found in contemporary Turkic dialects. For instance, the verb stem *qag^w (ı)-* survives in a fossilised form in some structures in Turkish.[33] In many Anatolian dialects, such as those of Afyon and Samsun, *kağıl* refers to "dry mud" (DS, pp. 2594–2595, 2790). Moreover, a more labialised variant close to the form *qawu-* is likely preserved in the Reşadiye dialect in the word *kuvut*, meaning "a dish made by frying cornmeal in oil" (DS, p. 3019).

Another sound pathway resulting from the derivation of the *qag^w uɾ(-)* intermediate form is the derivative in which the labialised sound underwent significant erosion due to its contact with the liquid consonant /r/. In Turkic dialects, labial consonants and liquids tend to erode one another. When erosion

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[31] Doerfer has documented numerous phonetic variants of the word qavurma meaning "smoked meat; roasted meat," which he considers to be derived from the root "qavur-" meaning "to roast" (see Doerfer, 1975, p. 294).

[32] For instance, in such cases, the descendant sounds of /-q-/ in Turkish, /-k-/ and /-kʰ-/, often transform into [ɣ] and [ɰ].

[33] In the Anatolian linguistic area, it is known that the uvular /q/ has been eliminated and replaced by the velar /k/ or the aspirated /kh/ in many contexts (Göksel & Kerslake, 2004, p. 5).

is not possible, shifts such as metathesis may occur to resolve this incompatibility. For instance, two examples from Turkish dialects summarise this phenomenon: *kibrit > kirbit*, *toprak > torpak*, and so on.

The labial consonant and the liquid /r/ within the structure **qabʷur(-)* exhibited phonological incompatibility, which appears to have played a significant role in shaping the form commonly observed in Common Turkic and attested in Old Turkic as *quru- ~ qurı* "to dry" (von Gabain, 2003, pp. 284–285). This incompatibility seems to have triggered metathesis, even though the two consonants were not directly adjacent. The presence of a narrow vowel between them likely facilitated this process. These phonological interactions likely contributed to the development of the structure **qaˠʷr(ı)-* during the early stages of Turkic.[34]

The gradual erosion of the labial consonant in this structure appears to have led to the lengthening of the first vowel in the word. This is reflected in the Turkmen word *gūrı* "dry," which seems to have largely preserved the archaic vowel length found in Turkic and still retains this long vowel (see Ercilasun, 1991, p. 519).

The narrow vowel at the end of **qaˠʷr-* likely developed due to the fluidity of the /r/ consonant. This is because word-final /-r/ in monosyllabic structures often causes increased air pressure due to its vowel-like articulation. Languages and dialects employ various strategies to mitigate this pressure. For instance, in Turkish, a similar situation in the Old Turkic word *ur* "to strike" was resolved by introducing a /v-/ prosthetic sound at the beginning of the word. In the case of **qaˠʷr-*, the pressure was balanced by appending a narrow vowel to break the syllable.

4.3.3. **qaqˠt* Intermediate Form

One of the derivatives resulting from the phonemic splitting of the holophrastic structure **qaqˠɽʈ(-)* is the variant with /-t/, which can be reconstructed as **qaqˠt > (*qaghıt > qāt) ~ *qaw-(ı)t*. This variant is attested in both contemporary Turkic dialects and Anatolian dialects. For instance, the word "kakıt", meaning "dry, weak," is found in the Afyon, Isparta, and Burdur dialects (DS, p. 2603). Additionally, forms such as Kyrgyz *qaqta-* "to dry,"[35] Uyghur *qatqan* "dried," *qatur-* "to dry; to freeze, to harden," *qat-* "to freeze, to harden,"

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[34] The words *kuru* "dry", *kurak* "arid", *kuraklık* "aridity", and *kuru-* "to dry" in modern Turkish are likely derivatives of this holophrastic distributor. The phonological derivatives of these structures are attested in many contemporary and historical Turkic dialects.

[35] The structure "qaq" (meaning "dry") might have been formed by adding the suffix *+ta* to the root "qaq". However, in this article, it is evaluated that the structure "qaqıt" was formed by adding the suffix *+a* to it.

and Yakut *xat-* "to become dry" appear to be linked to this developmental pathway (see Necip, 2016; Arıkoğlu, 2018; Vasiliev, 1995, p. 172).

The process of drying involves the removal of moisture or water, often resulting in hardening. As such, there exists a semantic link between "dryness" and "hardness, rigidity, or solidity." The examples above support this semantic relationship morphologically. This is further evidenced by Old Turkic words such as *qatı* "harshly, intensely," *katıġ* "hard, solid," and *qatqı (kişi)* "strict (person)," along with their modern derivatives, which are understood to have evolved from the **qaqɤt > (*qaghıt > qāt ~ qat) ~ *qaw-(ı)t* developmental trajectory (see Tekin, 2003, p. 246; DLT, p. 185). Similarly, the Old Turkic verb *qut- ~ qud-* "to weaken due to thirst" and the Mongolic words *ġorcuy-* "to dry" and *ġorcuġur-* "completely dried" are largely isolated derivatives of the archaic structure *qaḍhɤʃ͡d(-)*. These forms likely resulted from an early syllabic reduction yielding the variant **qawʃ͡d(-)* (see DLT, p. 156; Gabain, 2003, pp. 284–285; Lessing, 2003, p. 576).[36] The phonological similarity between /-dʰ-/ and /-ʃ͡d/, combined with the presence of narrow phonemes between them, likely led to phonemic merging and simplification in this variant.

Labialised derivatives of **qaqɤt* can also be found in Anatolian dialects today, particularly in terms used for roasted food products. For example, the word "kavıt" in the Isparta dialect refers to "roasted cornmeal," while in the Afyon dialect, it denotes "a type of halvah made from roasted flour" (DS, p. 2694).

4.3.4. **qaqḍır(-)* Intermediate Form

Another sound evolution to which this morpheme's derivatives in Turkish can be attributed is the progression **qθdθr͡d(-) > *qaḍhɤʃ͡d(-) > *qaqɤʃ͡d(-) > *qaqḍır(-)*. This evolution gave rise to two primary branches.

The branch derived from *qaqḍır(-)* and following the *qaqwʤır-* sound pathway is particularly observed in the Karluk group today. Examples include Uzbek *qovjira-* "to wither, to fade" and *qovjiroq* "withered, faded" (see Begmatov et al., 2006, p. 318). Similarly, in the other Karluk dialect, Uyghur, the forms *qaɣʤirat-* "to dry and crack" and *qaɣʤiraq* "dried out, parched" are attested (see Necip, 2016, p. 276). Additionally, the Chuvash form *kθjərga-* "to dry" may also be a product of this derivative (see Paasonen, 1950, p. 79).

The **qawḍır > qadır ~ qaḍır* sound pathway seems to have left its mark in Old Turkic as the structure "qadır", meaning "hard; rugged" (see DLT, p. 675).

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[36] It remains unclear whether the Old Turkic roots *qut- ~ qud-* "to weaken due to thirst" result from a scribal error. Nevertheless, the form "qutır-" is recorded as equivalent to "qurit-" in Drevnetjurkskij slovar' (Nadelyaev et al., 1969, p. 473). Clauson, however, has suggested that the form "qutır-" is a result of metathesis (1972, p. 649).

4.3.5.   *$q^h\bar{a}q\imath r$- Intermediate Form

The *$q^h\bar{a}q\imath r$- intermediate form is another closely related derivative that appears to have contributed significantly to the development of numerous forms in Mongolic. Words such as *qaɣurai* "dry, dried," *agira ~ akira* "to dry; to wither," *agi-* "to dry; to harden," and *ag-* "to dry" reflect traces of this evolution (see Lessing, 2003). As indicated by the sound evolution map, the initial consonant in the structure *$q^h\bar{a}q\imath r$- underwent splitting and exhibited a tendency toward elision. In the example *qaɣurai* "dry, dried," the initial consonant /q-/ was preserved, likely due to the presence of the low-frequency vowel /-u-/ following /-g-/. Conversely, in cases where the high-frequency vowel /-i-/ followed, the retention of /q-/ as an initial consonant became challenging, resulting in complete elision. Furthermore, the liquid /-r/, which demonstrates a tendency to erode after high-frequency vowels like /-i-/, was elided in examples such as *ag(i)-* "to dry; to harden," where it remained in a final position.

5. Discussion

This study emphasizes the dynamic interplay of phonetic, morphological, and semantic evolutions within the Nostratic and Altaic language families.

Traditional phonetic and morphological methodologies often prove inadequate when examining relationships among Altaic languages. This inadequacy has played a significant role in shaping anti-Altaicist perspectives. Comparative Altaic studies frequently face challenges in scientifically explaining morphosemantically related structures due to disrupted affix-root connections at the surface structure level. As a result, many anti-Altaicist researchers do not outright reject the existence of the Altaic language family but argue that its existence cannot be conclusively proven. However, such complex relationships, which are also frequently observed within Altaic languages, often remain intact at the level of deep structure. This study employs phoneme theory to analyze deeply embedded linguistic relationships. The findings underscore the significant role of the original holophrasis and its phonetic pathways in explaining intricate etymological connections between languages.

While this research provides valuable insights into the historical development of the structures examined, it also acknowledges certain inherent limitations. The reconstructed forms presented in this study are hypothetical in nature, and it may be impossible to fully ascertain the precise and authentic forms of these structures. This uncertainty highlights the challenges of linguistic reconstruction while affirming the need for ongoing exploration and refinement in this field.

In conclusion, this study illustrates how tabulating linguistic data and analyzing morphophonetic depth can uncover coherent patterns and integrate linguistic forms that may initially appear unrelated into a unified framework.

Conclusion

This study examined the phonemic, morphological, and semantic evolution of a holophrasis hypothesized to exist in Proto-Altaic. This structure, associated with meanings such as "to dry, to be dry; the state of being dry," was analysed through a combination of surface and deep structural approaches, supported by evidence from the Nostratic and Altaic language families. Using phonemic splitting tables and historical comparative methods, the research demonstrated how processes like labialisation, vowel erosion, and metathesis contributed to the transformation of this holophrasis into various linguistic forms.

The key outcomes of the study are as follows:

i. The occurrence of words beginning with /qu/ ~ /kʰu/ ~ /qa/ ~ /ka/ phoneme clusters in Altaic languages and Turkic dialects with meanings such as "to dry, dry; the state of being dry" is not coincidental. Many of these words are etymologically related.

ii. ii. Despite beginning with /qu/ ~ /kʰu/ ~ /qa/ ~ /ka/ phoneme clusters, certain structures feature divergent consonants in subsequent segments, which disrupt the affix-root relationships at the surface structure level. However, these disruptions are limited to surface structure; at the deep structure level, these forms share a common etymological origin. Morphological and semantic divergences in these structures are the result of processes such as metathesis and phonemic erosion.

iii. The emergence of these structures involved numerous morphosemantic transformations, which necessitated the application of phoneme theory to reconstruct the primary holophrasis. By organizing complex evolutionary processes into tabular forms, this study identified evidence of a Nostratic-era holophrasis featuring a *C1-V1-C2-V2-consonant pair (C3)* sequence.

Words such as Old English *drūgian ~ drūgan* "dry, withered," Lithuanian *drūžú* "to darken; loose," Latin *āreō* "to be dry," Tamil *arru* "dry (hair)," Malayalam *aruka* "to dry (soil, etc.)," Middle Japanese *kárá-* "to dry," Mongolic *ġorcuy-* "to dry, harden," *agira- ~ akira-* "to dry; to wither," Evenki and Negidal *olgo- ~ olgi-* "to dry," Chukchi *kırg* "dry," Late Latin *capriō* "to weaken," and North Sakhalin *q'auɣur-t* "dry" were used as examples in the inductive reasoning process. These words collectively point to the reconstructed Nostratic form likely beginning with a retroflexive /ḍ-/.

iv. Following the sound changes and, in particular, the metathesis processes during the Nostratic period, the primary holophrasis in Proto-Altaic is reconstructed as **qǝḍǝrd(-)*, conveying meanings such as "to dry, to scorch; the state of being dry." This holophrasis subsequently underwent various evolutionary phonological pathways and tendencies. Consequently, numerous

forms within the semantic domain of "dry, solid; to dry" in Turkic and Mongolic languages appear to have emerged from this development.

v. The phonetic pathway *qǝḏǝɽd̂(-) > *qǝḏwǝɽd̂(-) > *qebeɽd̂(-) ~ *qǝbǝɽ(-) has produced words denoting "solid and small particles" in Turkic and Mongolic. Among the most notable examples are Old Turkic *qum* "sand" and Mongolic *qumaɣ* "sand." Given the holophrastic nature of this structure, related forms are also observed in certain Nostratic Caucasian languages, particularly in verbal forms. For instance, the Laz verb "xom(h)-" meaning "to dry" serves as an example.

Additionally, the Turkish verb *geber-* "to die; to kick the bucket" is linked to this structure. However, contrary to common assumptions, "geber-" is not etymologically related to the Turkish words *gebe* "pregnant" or *kabarmak* "to swell."

vi. The evolutionary sound pathway *qǝḏǝɽd̂(-) > *qaḏhɽɽd̂(-) [> *qawɽd̂(-)] > *qaqɽɽt(-) ~ *qaqɽɽd̂(-) (…) and its intermediate forms have contributed to the development of numerous words in Turkish and other Turkic dialects. Examples include Old Turkic *quru* ~ *qurıġ* ~ *quruġ* ~ *kʰuruġ* "dry; devoid of moisture," *qurqaq* "arid," *qadır* "hard, rugged"; Turkish *kak* "dried fruit," *kavur-* "to scorch with heat," *kağşa-* "to become worn out"; Kazakh *qaq* "a type of fruit confection"; Uyghur *qaq* "dry," *qaxlan-* "to heat in the sun," *qaxlat-* "to sun-dry"; Uzbek *qoq* "dry; gaunt," *qoqla-* "to dry," *qaqsha-* "to dry," *qoqshol* "gaunt, thin"; Kyrgyz *qaq* "dried out," *qaqsı-* "to dry out completely"; and Turkmen *gūrı* "dry," among others.

vii. A phonemic splitting table was constructed in this study to extensively explain the derivatives of the discussed holophrasis in Turkish. This approach simplified the seemingly complex surface-level patterns of the holophrasis' modern derivatives by presenting them within a morphophonological, semantic, and etymological framework.

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