

# **HERITAGE OF SCRIBES**

## **The Relation of Rovas Scripts to Eurasian Writing Systems**

Written by

**GÁBOR HOSSZÚ**

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The Relation of Rovas Scripts to Eurasian Writing Systems

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*To My Mother*



*Helen Jensen*

1927 - 2010

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## Foreword

The new theories described in the Rovas Atlas are results of a surprising intellectual puzzle game and an exciting experiment. Hopefully none of the readers will think that dealing with the ancient Rovas scripts is just science for science's sake. The authors of the inscriptions, shorter and longer texts made with Rovas always had their goals to communicate with someone, to record and convey information. A part of the relics have yet to be deciphered, as we do not know their language. Additionally, time and time again the Rovas were consciously used for secret communication, as we will see later on.

A long time ago, there was a significant need for the creation of the Rovas Atlas, and for credible presentation, explanation of the well-known relics. This complex task was finally performed by the author with a university degree in engineering. In order to complete this task, the author dealt with a huge amount of domestic and foreign scientific literature, moreover he had to evaluate works and theories of the diligent, but amateur, Hungarian Rovas researchers as well. The result of the extensive research of the author is the Rovas Atlas, which is the first comprehensive work published with scientific accuracy and precision since the monograph "*The authentic relics of the Szekely-Hungarian Rovas Writing*" (published in 1915) by the ethnographer Gyula Sebestyén, an eminent researcher of the Hungarian historical folklore and late Director General of the Hungarian Museum of Ethnography.

The research of the Hungarian and the Avar Rovas scripts is tightly related to great historical mysteries. In particular, the origin of the Avars, their ethnographical identity and language, the origin and the language of the Szekelys (their language was never Turkic) are just examples of them. However, the author of the Atlas demonstrated high awareness of the responsibility to deal with these sensitive matters.

Emil Jakubovich, another very eminent researcher of the Szekely Rovas script, published the Szekely Rovas Alphabet in 1935, and later, his works were continued by Turkologist Gyula Németh in Budapest. After World War II, further valuable relics were explored among the Avar Age findings from not only Transylvania but also from Hungary, which raised questions about the origin of the Rovas script.

Therefore, more and more attempts were made to decipher the inscriptions of the famous Golden Treasure of Nagyszentmiklós. In addition, numerous new discoveries and relics from the areas east of the Carpathian Mountains – from the Khazar Khaganate to the remote Mongolia – enhanced the number of archaeological Rovas finds.

In case of the Rovas findings dated before the Magyars entered the Carpathian Basin (ca. end of the 9<sup>th</sup> century), a specific problem arose as the whole Rovas character set was undeciphered. In addition, at this time only one inscription was known, which was relatively short.

The author of the Atlas, besides the "main goal" of the book, also undertook a very rare task in Hungary: tentatively to outline a novelty genesis theory of the Rovas scripts. Since the author's monograph is published in English, it will very probably draw the attention, opinion and criticism of scientists of foreign countries as well.

We strongly emphasize that besides the living, ancient-rooted Szekely-Hungarian Rovas script, the Avar Rovas and the Rovas inscriptions of the Golden Treasure of Nagyszentmiklós are part of our national heritage as well. However, the whole symbol set of any of those Rovas scripts were not known, luckily, they all appear in the book.

Special acknowledgement is due to the author for introducing the Szekely-Hungarian Rovas inscriptions and texts as part of a living writing system. This approach is especially important as the usage of other Rovas scripts east of the Carpathians already disappeared a long time ago.

At the same time, the Atlas does not include "Rovas relics" of uncertain origin and age, which are attempted to be deciphered from time to time by amateurs. Examples of these relics are the Viking spear with Rovas inscription in the museum in Komarno, the stone relic of Pécs forming a coat of arms on which there are posterior lesions reminding one of Rovas scripts, and the bronze Cicada-like clothing clip relic often referred as the bronze Hunnic Rovas Relic of Budapest.

**István Erdélyi**

Doctor of the Hungarian Academy of Sciences



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# 1. Introduction

The history of Rovas /rova:f/ scripts of the Hungarians and their ancestor nations has been the subject of heavy research efforts from the past until today. The word *Rovas* has several meanings in recent Hungarian, e.g. *carving* (related to the ancient writing technique) and *writing* (to record or make note of). In this book, three different known scripts belonging to the family of the Rovas scripts are presented, namely

- the **Carpathian Basin Rovas** /ka:'peɪθjən 'beɪsn rova:f/,
- the **Khazarian Rovas** /qasariən rova:f/, and
- the **Szekely-Hungarian Rovas** /se:kej hɒŋ'eəɪtən rova:f/.

A common feature of these three Rovas scripts is that none of them was created artificially but they gradually differentiated after the geographical isolation of their users. The first two scripts became extinct in the Medieval Times but the third one continued to be used throughout history until the present times. The Carpathian Basin Rovas was in use in the Carpathian Basin from the 7<sup>th</sup> to the 11<sup>th</sup>/12<sup>th</sup> centuries according to archaeological finds. The Khazarian Rovas was used by nations and tribes of the late Khazar Khaganate from the 8<sup>th</sup> to the 11<sup>th</sup>/13<sup>th</sup> centuries. A part of the Khazars called Khavars joined the Magyars in the 9<sup>th</sup> century, entered into the Carpathian Basin with the Magyars, and took part in the formation of the Hungarian nation at the turn of the 10<sup>th</sup> century.<sup>1</sup> The Szekely-Hungarian Rovas was used from the 9<sup>th</sup> century by the *Szekelys* /se:kejs/ (also called *Seklers*) – an organized border guard subgroup of the Hungarians. The Szekelys conserved this script through the centuries. The Szekely-Hungarian Rovas was continuously adapted to the evolving Hungarian language. Besides the traditional utilization areas (personal use, mailing, carving onto walls and wooden sticks) currently the Szekely-Hungarian Rovas is also used in the mass media, publishing and education in Hungary and in every country of the world where Hungarians communities exist. From 2009, the revitalized Carpathian Basin Rovas is also gaining popularity among the Rovas users.

It is important to clarify that this book mostly deals with the history of the scripts (especially the Rovas scripts) and less with the clarification of the ancient history of the Hungarians. However, some historical facts are necessary to understand the development of the scripts. All historical and linguistic statements of the book are consequently based on theories and statements of acknowledged scholars, historians, archaeologists, and linguists. However, alternative theories of other acknowledged researchers also do exist. In order to describe the evolution of the Rovas scripts, a coherent historical model was used. Moreover, the author of this book emphasizes that the transcription of each relic uses exclusively the authentic drawings of the archaeologists.

This book presents the general description of the Rovas scripts, their relationships and connections to other scripts, describes the genealogy of the Rovas characters, and the most important Rovas finds. The elaborated analysis method used in the description is based on the phonemic/phonetic values of each glyph (graphemic symbol), their topological comparisons, moreover the geographical and historical circumstances of the finds. It is noteworthy that the real pronunciation of the ancient inscription is very hard to reconstruct, therefore the consequent differentiation between phonemes and phones (actual sounds) is usually impossible. The glyphs of a script could be (i) borrowed from other scripts, (ii) created as a new one based on an existing glyph, or (iii) combined by the previous two ways. For determining the origin of the glyphs, the following method

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<sup>1</sup> Róna-Tas 1999a, p. 56

was developed. If two identical glyphs were found in different scripts, then these glyphs might be borrowed from each other. However, there are three conjunctive conditions for the assumption of borrowing:

1. The sound value (phone) of the character in the *recipient* script is identical to the sound value (phone) of the appropriate character in the *donor* script (or the difference is linguistically justified by acknowledged scholars).
2. The *historical and geographical facts* prove or at least do not rule out the relation between the donor and the recipient scripts.
3. *Topologically (structurally)* the appropriate glyphs of the donor and recipient scripts are identical or their difference is reasonable.

If all of these conditions are met, the appropriate glyph of the donor script is taken to be related to the examined glyph of the recipient script. Since this method aims to get the simplest possible relations of the involved scripts, it has been called **Minimum Entropy Method**. This method is the direct application of *Ockham's razor (law of parsimony)*, the principle stated by the scholastic philosopher *William of Ockham*.<sup>2</sup> He stated that of competing theories, the simplest explanation of an entity is to be preferred. In this case, when new relics are found the relation of scripts could be refined. The developed method for identifying the relations of the glyphs was partly automated in 2010–2011.<sup>3</sup>

Based on the discovered relations, the author of this book proposes a systematic description of the Rovas glyphs named **Rovas Atlas**. Using the Minimum Entropy Method mentioned above the genealogy of each Rovas character and a **Layered Model** of the evolution of the Rovas scripts are elaborated. Additionally, novel results about the history of other scripts were also obtained, especially in conjunction to the *Glagolitic* and *Old Turkic* scripts as their evolution is partly related to the Rovas scripts.

The Rovas Atlas – the genealogy of each Rovas character and the relations of each script – can be useful for future research. It is similar to the periodical system of the chemical elements showing their common properties. In case of the Rovas characters, the topological variations of the glyphs including the diverse and less known historical, geographical, ethnical, and cultural background of their users form a complex system. The Rovas Atlas is useful to determine the degree of relationship of the glyphs. Several relations were explored first during the elaboration of the Rovas Atlas; these are presented through this book. An important result of this research is the introduction of two proposed ancient scripts, namely the **Early Steppean** and the **Proto-Rovas**.<sup>4</sup> The Proto-Rovas script is the proposed common ancestor of the Carpathian Basin Rovas and the Khazarian Rovas. The proposed Early Steppean script, which influenced the Proto-Rovas, directly affected the Khazarian Rovas, and it is one of the ancestors of the *Old Turkic* script. The term “*Old Turkic script*” is used in this book as the name of the official script of the Second Turkic Khaganate (681–745 AD) and is independent from the linguistic term “*Old Turkic language*.”<sup>5</sup> The Old Turkic script was in use in East-Middle Asia, while the Rovas scripts were used mainly in Eastern and East-Central Europe. A further result of the analysis based on the Layered Model is the separation of the development process into clear **stages** regarding the Carpathian Basin Rovas and the Szekely-Hungarian Rovas scripts.

For better understanding, it is necessary to define a coherent naming system of Hungarian genealogy. The self-name of the **Hungarians** is **Magyar** /mɒɟɒr/.<sup>6</sup> The Hungarian nation and language have both Finno-Ugric and Turkic ancestors. A part of the Hungarians surely lived in the

<sup>2</sup> Encyclopaedia Britannica, article “Ockham's razor”

<sup>3</sup> Hosszú 2010a; Tóth et al. 2010, pp. 296–307

<sup>4</sup> Hosszú 2010a, p. 19

<sup>5</sup> Róna-Tas 1991a, p. 24; Erdal 2004

<sup>6</sup> Róna-Tas 1996b

Carpathian Basin even before the other part of the Hungarians; the people of the Grand Prince Árpád came from Eastern Europe and conquered the Carpathian Basin between 894 and 902. In order to avoid misunderstandings, the Hungarian people led by the Grand Prince Árpád are named **Magyars** throughout this book, and the Hungarian-speaking population who lived in the Carpathian Basin before is called **Hungarians**. The Magyars (the Hungarians who entered into the Carpathian Basin in the end of the 9<sup>th</sup> century) and the earlier population of the Carpathian Basin (mostly also Hungarians) mixed during the 10<sup>th</sup> century and from that time on, this population is also named **Hungarians**.

The structure of the book is the following: after the comprehensive analysis of the development of the Rovas and cognate scripts and the Rovas Atlas, the alphabets and the relics of the three Rovas scripts are presented. Recent Rovas orthographies are also demonstrated by examples.

In this book, the following abbreviations are used: **CBR** for *Carpathian Basin Rovas*, **KR** for *Khazarian Rovas*, and **SHR** for *Szekely-Hungarian Rovas* scripts. The complete list of the applied abbreviations and their meaning including the short notations of the well-known sources are listed in *Ch. 2*.

The **IPA** (International Phonetic Alphabet) symbols were applied for representing phonemes and occasionally actual sounds (*Appendix A* lists the definitions of the used IPA symbols). In the book, each cited grapheme is usually followed by its character-name and its phonetic representation for increasing the accuracy of the discussion.

More information about the topics of this book can be found in the **RovasPedia** web site at <http://wiki.rovas.info>

## 2. Abbreviations, glossary and sources

*	<i>Asterisk</i> is used before a glyph or a sound to denote that the following glyph or a phoneme is reconstructed and not attested to by a relic. It is also used before the name of a nation to denote that its orthography is reconstructed and not attested to by finds. Moreover, the <i>asterisk</i> (*) is applied to denote that a script is a reconstruction and not attested to by relics.
<i>Italic</i>	<i>Italic</i> typeface is used for denoting the orthographic transcription only in case of Latin characters.
Superscript	The superscript characters mean that their appropriate sounds were unmarked in the original inscriptions.
<u>Underlined</u>	In the transcriptions of the inscriptions, the underlined characters mean that in the original inscriptions the appropriate glyphs formed ligatures.
[ ]	<i>Square brackets</i> are used for denoting the English translation in the Bibliography and the completion of the missing characters in the transcriptions of the inscriptions.
\	<i>Backslash</i> is used in transcriptions; it denotes the line break of the original text.
//	<i>Slashes</i> either denote phonetic or phonemic representation of characters or longer texts
“ ”	<i>Single quotation marks</i> are used for marking an English interpretation of the examined word or terms.
abl.	Ablative case
acc.	Accusative case
allophone	A non-contrastive unit of sound in a language; a member of a phoneme. <sup>7</sup>
Annales Alamannici	In: <i>MGH SS</i> , vol. I, Hannover, 1826
Annales Bertiniani	In: <i>Annales de Saint-Bertin</i> , ed. F. Grat, J. Vielliard, S. Clemencet and L. Levillain, Paris, 1964
Annales Fuldenses	In: <i>MGH SRG</i> , ed. Fridericus Kurze, Hanover, 1891
Annales Iuvavenses maximi	In: <i>MGH SS</i> , ed. H. Bresslau, Vol. 30, Hanover, 1926, pp. 727–744
Annales regni Francorum	In: <i>MGH SRG</i> , ed. Fridericus Kurze, Hanover, 1895
App.	Appendix
c.	century
CBR	<i>Carpathian Basin Rovas script</i>
cf.	compare
Ch.	Chapter

<sup>7</sup> Rogers 2005, p. 289

<b>character</b>	Characters can be letters, ligatures, numerals, diacritic marks or punctuation marks.
<b>DTS</b>	<i>Drevnetjurkskij Slovar</i> , ed. V.M. Nadeljaev et al. Leningrad, 1969
<b>Encyclopædia Iranica</b>	Vol. 1–14, Gen. Ed.: Ehsan Yarshater. Published by Encyclopaedia Iranica Foundation, (Center for Iranian Studies, Columbia University), 1985–present, ISBN 1568590504
<b>EtSz.</b>	Gombocz, Zoltán & Melich, János (1914–30, 1930–44): <i>Magyar etymologiai szótár</i> [Hungarian Etymological Dictionary] 1–XVIII. Budapest: Magyar Tudományos Akadémia [Hungarian Academy of Sciences]
<b>gen.</b>	Genitive case
<b>glyph</b>	A graphemic symbol, several glyphs can represent a character. <i>Halotti Beszéd</i> [Funeral Sermon] (ca. 1195). Publications: <i>Benkő</i> (1980), pp. 47–49 (transcription), pp. 55–57 (interpretation), pp. 290–313 (passim). Erzsébet Abaffy: Korai kis szövegeink újabb olvasata [Newer read of our early small text relics]. In <i>Magyar Nyelv</i> [Hungarian Language], Vol. LXXXVI, 1990, pp. 124–127.
<b>HB</b>	<i>A Halotti Beszédet követő Könyörgés</i> [Prayer after the Funeral Sermon] (ca. 1195). Publications: <i>Benkő</i> (1980), pp. 47–49 (transcription), pp. 55–57 (interpretation), pp. 290–313 (passim). Erzsébet Abaffy: Korai kis szövegeink újabb olvasata [Newer read of our early small text relics]. In <i>Magyar Nyelv</i> [Hungarian Language], Vol. LXXXVI, 1990, pp. 124–127.
<b>HBK</b>	<i>A Halotti Beszédet követő Könyörgés</i> [Prayer after the Funeral Sermon] (ca. 1195). Publications: <i>Benkő</i> (1980), pp. 47–49 (transcription), pp. 55–57 (interpretation), pp. 290–313 (passim). Erzsébet Abaffy: Korai kis szövegeink újabb olvasata [Newer read of our early small text relics]. In <i>Magyar Nyelv</i> [Hungarian Language], Vol. LXXXVI, 1990, pp. 124–127.
<b>Heb</b>	Epistle to the Hebrews. In <i>New Testament</i> .
<b>imp.</b>	Imperative mood
<b>instr.</b>	Instrumental case
<b>Ioh</b>	The Gospel According to John. In <i>New Testament</i> .
<b>IPA</b>	<i>International Phonetic Alphabet</i>
<b>KR</b>	<i>Khazarian Rovas script</i>
<b>letter</b>	Character that represents a phoneme
<b>loc.</b>	Locative case
<b>LTR</b>	<i>Left-to-right writing direction</i>
<b>MGH</b>	<i>Monumenta Germaniae Historica inde ab a. c. 500 usque ad a. 1500</i> , ed. G. H. Pertz et al. Publication: Hanover. Berlin, etc. (1826–present)
<b>MGH SS</b>	<i>Monumenta Germaniae Historica: Scriptorum</i> (in folio) ISSN 0343-2157 (1826–)
<b>MGH SRG</b>	<i>Monumenta Germaniae Historica: Scriptorum rerum Germanicarum in usum scholarum seperatum editi</i> (1871–)
<b>MGH SRM</b>	<i>Monumenta Germaniae Historica: Scriptorum rerum Merovingicarum</i> . Hannover. ISSN 0343-7574
<b>Mt</b>	The Gospel According to Matthew. In <i>New Testament</i> .
<b>MünchK.</b>	<i>Codex of Munich</i> (1466). Kritikai szövegkiadás a latin megfelelőjével együtt [Critical text publication with its Latin origin]. Publisher: Antal Nyíri. Series: Codices Hungarici, Vol. 7, Budapest: Akadémiai Kiadó, 1971.
<b>O</b>	Object

	<i>Ómagyar Mária Siralom</i> [Old Hungarian Lamentation of Mary] (13 <sup>th</sup> century). Publications: Loránd Benkő: <i>A magyar nyelv legkorábbi szövegeimlékei</i> [The earliest text relics of the Hungarian language]. Budapest: Akadémiai Kiadó, 1980. Erzsébet Abaffy: <i>Korai kis szövegeink újabb olvasata</i> [Newer read of our early small text relics]. In <i>Magyar Nyelv</i> [Hungarian Language], Vol. LXXXVI, 1990, pp. 124–127.
<b>ÓMS</b>	
<b>phone</b>	The actual sound produced by the speaker
<b>phoneme</b>	A contrastive unit of sound in a language; a class of allophones. <sup>8</sup> This sound exists in the mind of the speaker.
<b>PT</b>	Proto-Turkic (Ancient Turkic)
<b>RTL</b>	<i>Right-to-left writing direction</i>
<b>S</b>	Subject
<b>Sect.</b>	Section
<b>SHR</b>	<i>Szekely-Hungarian Rovas script</i>
<b>Subch.</b>	Subchapter
	<i>A tihanyi apátság alapítólevele</i> [The Founding Document of the Tihany Monastery] (1055) In Gusztáv Bárczi (1951): <i>A tihanyi apátság alapító levele mint nyelvi emlékek</i> [The founding charter of the Tihany Abbey as a linguistic relic], Budapest: Akadémiai Kiadó; József Molnár and Györgyi Simon (1976): <i>Magyar nyelvemlékek</i> . Budapest: Tankönyvkiadó, p. 15
<b>TA</b>	
	<i>A magyar nyelv történeti-etimológiai szótára</i> [The historical-etimological dictionary of the Hungarian language], Vol. I–IV. Chief Editor: Loránd Benkő. Budapest: Akadémiai Kiadó, 1967–1984, ISBN 963 05 3809 1.
<b>TESz</b>	
	<i>A magyar nyelv történeti nyelvtana</i> [The historical grammar of the Hungarian language]. Editor-in-Chief: Loránd Benkő. Budapest: Akadémiai Kiadó, Vol. I, 1991, Vol. II/1, 1992; Vol. II/2, 1995.
<b>TNyt.</b>	
<b>V</b>	Verb
<b>Wessobrunner Gebet</b>	<i>Süddliches Bistum Augsburg, vor oder um 814, Pergament, Bayerische Staatsbibliothek München: Clm 22053, III, pp. 65–66</i>

<sup>8</sup> Rogers 2005, p. 289



### 3. The family of the Rovas scripts

#### 3.1. General description

It is a hard task to determine the accurate genealogy and timelines of scripts, since they are mostly based on inscriptions of survived relics. Moreover, any new archaeological find can modify the known history of a script. At the same time, a variant of a script could be the ancestor of another script but if the relics of this variant were lost or yet not found, their relation can be hard to prove. Fortunately, up to now there are enough Rovas relics for a reliable general view. Therefore, the history of the Rovas scripts shall be discussed in a wider aspect taking into consideration the Rovas scripts' rich relations to other scripts.

The Rovas scripts were used in the Carpathian Basin (*Map 3.1-1*) according to the known finds from the 7<sup>th</sup> century to the present and in the territory of the late Khazar Khaganate of the period from the 8<sup>th</sup> to the 10<sup>th</sup>/13<sup>th</sup> centuries. In the research of the Rovas scripts, an important milestone was the symposium organized by the Department of Altayistic Studies and the Research Group of Hungarian Ancient History at the József Attila University of Sciences, Szeged (Hungary) in 1992.<sup>9</sup> A number of research works presented there helped to clarify the transcriptions of the Rovas relics; some of the publications are cited in this book.

The three Rovas scripts are the **Carpathian Basin Rovas (CBR)**, the **Khazarian Rovas (KR)**, and the **Szekely-Hungarian Rovas (SHR)**. The comprehensive view of the Rovas alphabets was introduced first at the end of the 20<sup>th</sup> century by the archaeologist-historian G. Vékony.<sup>10</sup> He gave transcriptions of CBR and KR inscriptions by using the same phonemes for identical glyphs.<sup>11</sup> Later, several improvements were made on these transcriptions mainly by the Hungarian linguist E. Zelliger, the Turkologist I. Vásáry, and the author of this book. Based on the developed modeling method this book proposes a comprehensive genealogy of the Rovas characters described in the **Rovas Atlas (Ch. 4)**. These Rovas alphabets provided linguistically accepted transcriptions for about 22 pieces of CBR relics (one of them is composed of 61 symbols), and 15 pieces of KR relics (one of them contains 67 symbols).

Based on the research results presented in this book; the Szekely-Hungarian Rovas script gradually differentiated from the Carpathian Basin Rovas in West Pannonia during the 8<sup>th</sup>–9<sup>th</sup> centuries. The earliest SHR characters were almost identical to a subset of widely used CBR at that time in the Carpathian Basin, and only few SHR characters were slightly redesigned versions of the appropriate CBR ones. The close relation of CBR to SHR has been shown by Gy. Németh in 1932.<sup>12</sup> Moreover, according to the archaeologist-historian I. Erdélyi the Khazarian Rovas is related to CBR and SHR.<sup>13</sup> The development of SHR continued after the Magyars' Landtaking (894–902), when the Magyars brought another Rovas to the Carpathian Basin.<sup>14</sup> This Rovas was a version of KR (*Sec. 7.2.13*) that – as an independent script – became extinct after the 10<sup>th</sup> century.

<sup>9</sup> Sándor 1992b, pp. 7–8; same proceedings: Róna-Tas, pp. 9–14; Juhász, pp. 15–20; Dienes, pp. 31–40; Vékony, pp. 41–50; Ferenczi, pp. 51–68; Kósa, pp. 69–78; Harmatta 2000, pp. 21–30; Sándor 1992c, 79–91

<sup>10</sup> Vékony 1997a, p. 26

<sup>11</sup> Vékony 2004a, *passim*.

<sup>12</sup> Németh 1932a, pp. 65–85 and 129–139

<sup>13</sup> Erdélyi 1982, p. 182

<sup>14</sup> Berta 1989; Róna-Tas 1996a, p. 289, pp. 335–341; Róna-Tas 2007a; 2007b





Map 3.1-1: The Carpathian Basin and the west part of the Eurasian Steppe.<sup>15</sup>

The Szekely-Hungarian Rovas is still a contemporary writing system of the Hungarians. As stated before, its roots have not yet been fully discovered; and its research is closely related to the exploration of the ancient history of the Hungarians.<sup>16</sup> The early history of the Hungarians has to be examined in relation to the history of Eurasia; the research methods rely on results in linguistics, archaeology, anthropology and natural history.<sup>17</sup> The author of this book added to the list the system modeling used in informatics.

The Rovas scripts dominantly derive from the Phoenician-origin scripts used in Persia (present-day Iran). Among others, Gy. Sebestyén described the Phoenician roots of SHR, and A. Róna-Tas stated that a kind of Semitic script is the ancestor of SHR.<sup>18</sup> Scholars have examined the indirect relation to the Old Turkic script as well.<sup>19</sup> Needless to say that the Rovas scripts are obviously different from the Runic script (its subgroups: early German, Scandinavian, etc.) and the Old Turkic script as well (its subgroups: Baykal–Lena area, Yenisei valley, etc.).<sup>20</sup> Therefore, the Hungarian-origin term *Rovas* /rova:f/ is used for naming the script and not the German-origin one: *rune* or *runic*. Additionally, the term *Rovas* has been used for a long time in international literature and it is accepted more and more in English and in other languages. Some examples are shown in *Table 3.1-1*. *Table 3.1-2* shows the comprehensive naming system of the three Rovas scripts.<sup>21</sup>

<sup>15</sup> Based on <http://printable-maps.blogspot.com/2008/08/map-physical-of-europe.html>

<sup>16</sup> Róna-Tas 1992; Vásáry 1974; Zimonyi 1990; Györfly & Harmatta 1996

<sup>17</sup> Róna-Tas 1999a; Erdélyi 2004a

<sup>18</sup> Sebestyén 1909, p. 288; Róna-Tas 1994

<sup>19</sup> Németh 1917–1920, pp. 31–44; Ligeti 1925, pp. 50–52; Nagy, G. 1985, pp. 269–276; Sándor 1996a, pp. 83–93

<sup>20</sup> Róna-Tas 1996a, p. 581

<sup>21</sup> Hosszú 2010c

Language	Version of the word <i>Rovas</i>
Albanian	<i>rabush, labush</i>
Bulgarian	<i>pавouи, pавyии, pовyии, pъвouи</i>
Czech	<i>rabuše</i>
Danish	<i>Rovás Skriften</i>
Polish	<i>rowasz</i>
Romanian	<i>răvaș, răbuș, răboj, ráboș rábaș</i>
Serbian, Croatian	<i>rovaš, ravaš, raboš, rabuš, r(e)vaš</i>
Serbian	<i>pовашкo писмo</i>
Slovakian	<i>rováš</i>
Slovenian	<i>rováš, rováša</i>
Ukrainian	<i>pоваии</i>

Table 3.1-1: Examples of the international use of the word *Rovas*

Specific attribute	Main type of the script	Name of the script in Hungarian in its own letters
Carpathian Basin	Rovas	"0Y7K 13^3>33-0Y30Y4,,
Khazarian		"1377K 2Y3038Y>,,
Szekely-Hungarian		"^4M3H H4#4#-0303,,

Table 3.1-2: The naming system of the Rovas scripts with sample texts

The early genealogy of scripts, in general, has been investigated so far in publications by I. Hackh among others.<sup>22</sup> In the 20<sup>th</sup> century, several new Rovas relics were discovered in the Eurasian Steppe and in the geographical area of the Carpathian Basin.<sup>23</sup> These new finds made possible the reconstruction of the early development of the Rovas scripts. Fig. 3.1-1 presents the genealogy of the Rovas scripts, where the thickness of the arrows shows the quantity of the character adoption; the categories are 4–6, 7–9 and 10+ loan characters. The relations including borrowing less than four characters are not denoted. The arrows do not always show direct contact between two scripts, in some cases currently unknown intermediary scripts can be anticipated. The relations of the scripts are based on acknowledged scientific literature and morphological similarities described in the **Rovas Atlas** (Ch. 4).

<sup>22</sup> Hackh 1927, p. 98

<sup>23</sup> Róna-Tas 1996a, p. 112

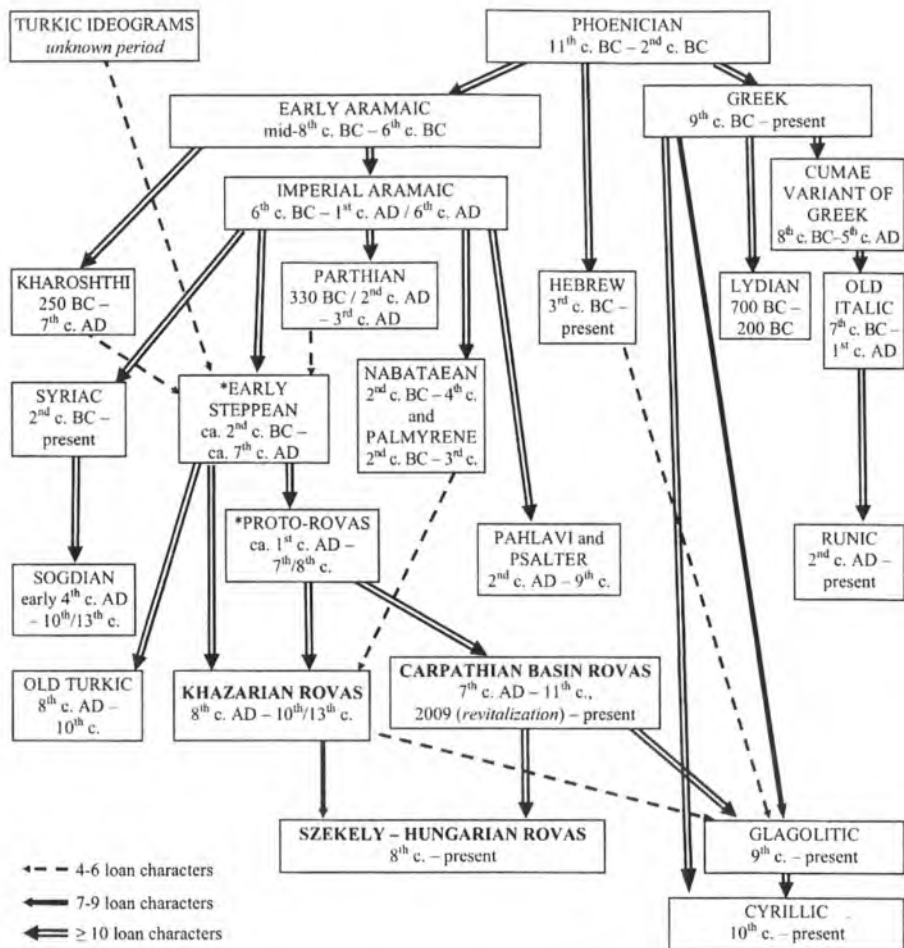


Figure 3.1-1: The genealogy of the Rovas scripts based on characters in the Rovas Atlas (Subch. 4.1, 2 & 3) excluding the numerals (Subch. 4.4). The relations including borrowing less than four characters and the unknown intermediary scripts are not denoted.

In this book, the proposed scripts *Early Steppean* (Subch. 3.2) and the *Proto-Rovas* (Subch. 3.3) are introduced in order to model the genealogy of the Rovas characters (Fig. 3.1-1 and Ch. 4). The Proto-Rovas is a common ancestor of KR and CBR; the Early Steppean is a common ancestor of the Proto-Rovas, the Khazarian Rovas, and the Old Turkic scripts. There is still no proven archaeological evidence for the existence of the Early Steppean and the Proto-Rovas scripts; however, the comparison results of the Rovas and cognate scripts make their existence highly probable. More detailed descriptions and indirect evidence is presented in the subsequent sections. The conception of the Early Steppean and Proto-Rovas as ancestor scripts of the Rovas and the Old

Turkic supports the statement of Róna-Tas proposing that the Old Turkic script was “developed in at least four phases”.<sup>24</sup> Fig. 3.1-2 presents the periods of use of the scripts discussed in this book.

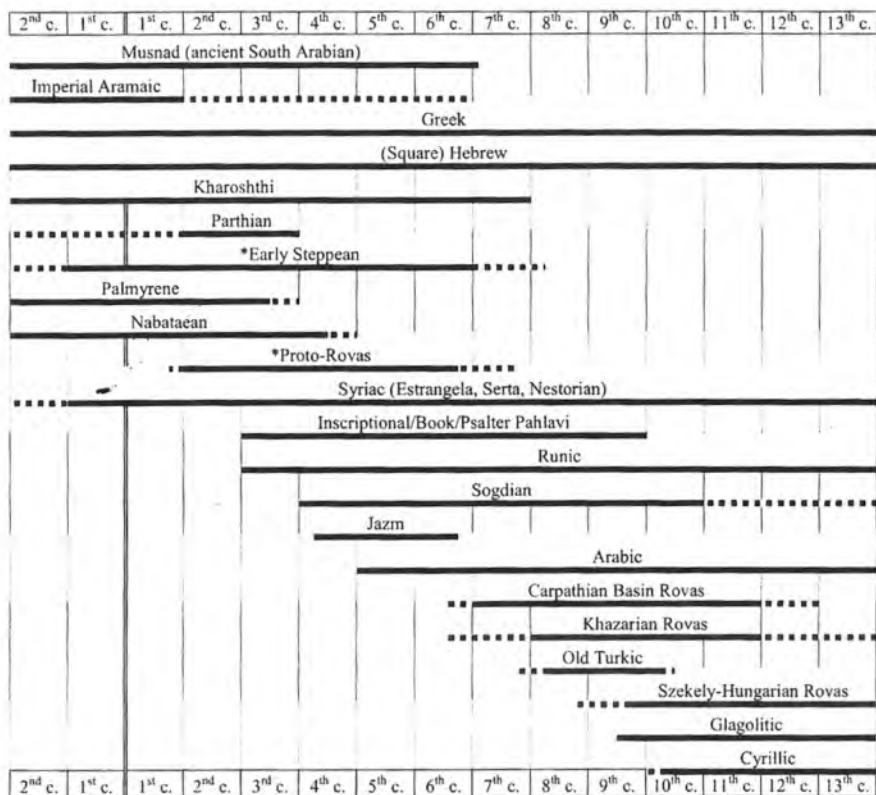


Figure 3.1-2: The periods of the scripts from the 2<sup>nd</sup> century BC to the 13<sup>th</sup> century AD. The solid thin horizontal line denotes the period, which is attested to by finds.

In the early times, the scripts were rarely uniformed – in terms as they are today, especially, if they were not used in the administration or in the religious life of a well-organized empire. In addition, borrowing characters from each other was unintentional. In fact, there were two main ways the alphabets evolved: the **scholar-driven** and the **organic** way. In the history of the scripts, there are examples of both ways.

As for borrowing scripts, C. Hockett stated that when the same *phoneme* (see Ch. 2) or phonetically similar ones occur in both the donor and the acceptor languages the graphemic symbol for that phoneme remains. Moreover, symbols for sounds not used in the acceptor language (i.e. acceptor language borrows the writing system) are discarded, and new symbols are invented for sounds of the acceptor language that do not occur in the donor language.<sup>25</sup>

In the Middle East, the evolution of the Aramaic script and its numerous derivatives was typically organic, as it will be presented in the subsequent sections. The *organic* evolution of a script is not a linear process and there are several casual constituents affecting the development process. Typeface

<sup>24</sup> Róna-Tas 1998b, p. 127

<sup>25</sup> Hockett 1958, p. 545; Rogers 1999, pp. 247–248

designer, librarian, and systems engineer S. D. Abulhab stated that a probabilistic approach is suitable for studying such development, since the scripts evolve in several cases through adoption of surrounding alphabets and actual socioeconomic and materialistic needs.<sup>26</sup> He also claimed that under normal circumstances, people do not abandon their own writing system abruptly in favor of another. The relation between the orthography and the cultural circumstances was underlined by the linguist K. Korompay as well.<sup>27</sup>

Similarly, there are numerous examples also for the other way of evolution called *scholar-driven*. This method was described by the Turkologist I. Vásáry in 1974. He stated that in several cases scholars improved the alphabet for the community.<sup>28</sup> The linguist K. Korompay assumed the influence of certain historical persons in the development of the Hungarian Latin-based orthography (Table C-2).<sup>29</sup> A very similar process can be observed in the development of the Carolingian minuscule in the Court of Charlemagne (App. B).

According to the traditional view of writing history, stated by C. Hockett, when the alphabetical writing system was first invented or introduced to a certain language, it was usually reasonably accurate and free from ambiguities.<sup>30</sup> In such a way, a newly borrowed writing system starts out with a good fit between the phonological and orthographic writing systems.<sup>31</sup>

The complexity of the script development can be understood via the example of the *Ancient Persian (Achaemenid)* Empire that emerged in the 6<sup>th</sup> century BC. The Aramaic script and language were chosen for the imperial chancellery and administration (App. B)<sup>32</sup>. Within these circumstances, the Aramaic language and script developed further into the so-called Imperial Aramaic script and language. This new script was used in an extended territory from South Egypt to the Indus River and to the Pamir Mountains (present-day mostly in Tajikistan). In different periods of history, the Rovas scripts borrowed characters from the Imperial Aramaic script and its Middle Persian descendants. Meanwhile, the glyphs of the Aramaic and its descendant scripts were adapted mainly for carving techniques.

Based on the analysis of the topological relations of the glyphs, the author of this book elaborated the **Layered Model** of the Rovas scripts in which each layer originates from various Aramaic-derivatives and other scripts. By means of this model, the Rovas scripts' interaction during their evolution can be traced as well. This Layered Model fits to the transcriptions of the inscriptions on the archaeological finds proven by archaeologists and other scholars, considering the known historical, geographical facts and results of historical linguistics. This model could be applied for describing the three roots of the Gothic script (Greek, Runic, and Latin) as well.<sup>33</sup>

The Layered Model detailed in the Rovas Atlas (*Ch. 4*) may be the subject of further refinement. Leastways, it gives a clear description and systematization method, which helps future research. The time diagram shows the dynamic interactions among the Rovas and cognate scripts (*Fig. 3.1-3*).

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<sup>26</sup> Abulhab 2009

<sup>27</sup> Korompay 2004, pp. 121–135

<sup>28</sup> Vásáry 1974, p. 168

<sup>29</sup> Korompay 2006, p. 207

<sup>30</sup> Hockett 1958, p. 545

<sup>31</sup> Rogers 1999, p. 248

<sup>32</sup> Györfly & Harmatta 1997, p. 147

<sup>33</sup> Fairbanks 1940, p. 324

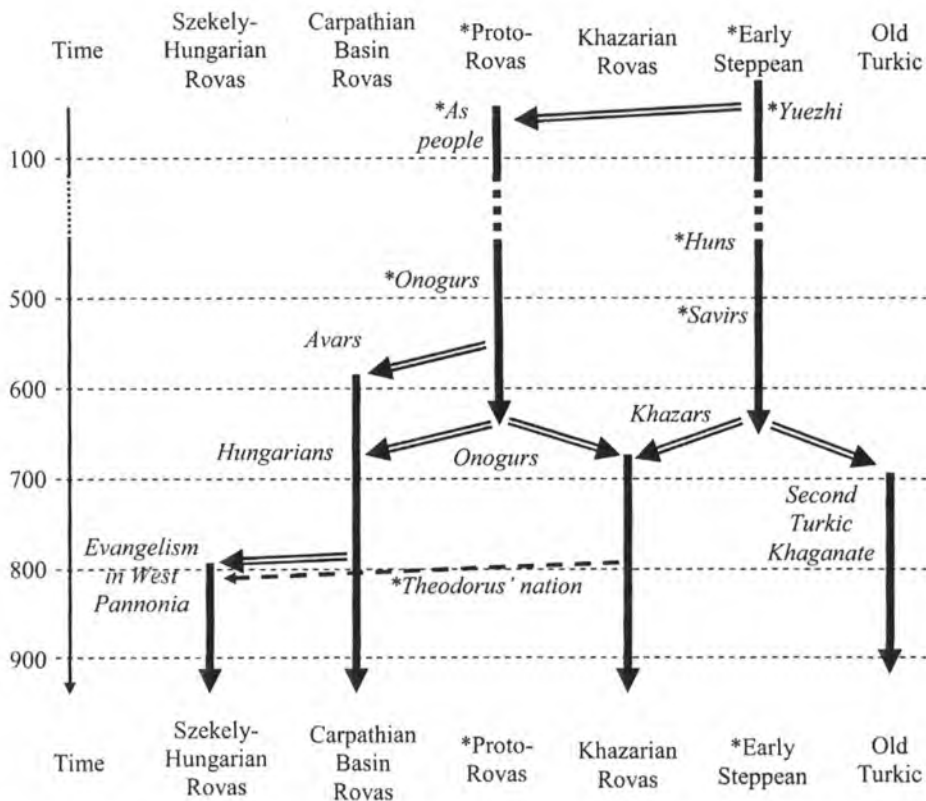


Figure 3.1-3: The time diagram of the interactions between the Rovas and cognate scripts. *Theodorus' nation* was presumably Onogur people who migrated from the Khazar Khaganate (Sec. 3.6.1).<sup>34</sup> The symbol asterisk (\*) before the name of a nation shows that its orthography is reconstructed.

Based on the comparisons of the appropriate glyphs of various scripts, the author identified the **script evolution principles** and the **glyph-forming methods** that were applied during the evolution of the analyzed scripts (Table 3.1-3 and 4). Note that these principles were not always applied *consciously*. Furthermore, several times the adoption of a glyph happened without larger modification; however, smaller variants of the glyph existed due to the inherent variability of the handwriting literacy. Examples for applying the glyph-forming methods will be presented in the subsequent sections and collected in Ch. 5.

<sup>34</sup> Vékony 1992c, pp. 448–449

Name of the script evolution principle	Description of the script evolution principle
<b>Adaptation</b>	If there is no glyph for a certain sound in a script but it becomes necessary, an existing glyph is reapplied for the required sound.
<b>Borrowing</b>	Borrowing (adopting) a character from another script with the needed sound value
<b>Closer-shape forming</b>	Modifying a glyph in order to reach a more closed glyph
<b>Differing</b>	Modifying a glyph in order to differentiate its multiple sound values
<b>Latin/Greek</b>	Influence of the Latin or Greek orthographies
<b>Style normalization</b>	(Re)shaping a glyph to fit existing style
<b>Writing technology</b>	Simplifying or modifying the glyph for easier writing or carving in accordance to the current writing technology, materials, etc.
<b>Symmetry</b>	Shaping the glyphs to reach axially or centrally symmetrical forms
<b>Unification</b>	After the maturation of a script, alternative characters for the same sound dropped out of use.
<b>Vertical emphasis</b>	During the formal changes, the main line of the glyph tends to be vertical.
<b>None</b>	The glyph was not modified.

Table 3.1-3: The script evolution principles applied in the development of the scripts.

Code	Name of the glyph-forming method	Description of the glyph-forming method
M <sub>1</sub>	<b>Slight modification</b>	The glyph is only slightly modified comparing to its ancestor.
M <sub>2</sub>	<b>Line insertion or removal</b>	Inserting an auxiliary line or removing a line of the glyph
M <sub>3</sub>	<b>Line extension, shortening or shifting</b>	Extending, shortening or shifting a line of the glyph
M <sub>4</sub>	<b>Mirroring or rotating</b>	Mirroring or rotating the glyph or a part of it, e.g. in case of forming a ligature
M <sub>5</sub>	<b>Ligature formation</b>	Developing a new glyph from the ligature of existing glyphs
M <sub>6</sub>	<b>Duplication</b>	Duplicating the glyph in order to get a new one
M <sub>7</sub>	<b>Line merger</b>	Merging two angled lines of the glyph into one line
M <sub>8</sub>	<b>Glyph variant</b>	Using existing (or just created) glyph variant with different sound value
M <sub>9</sub>	<b>Ornating</b>	The glyph is modified in order to look cursive, ornate or to have smooth angles.
M <sub>0</sub>	<b>No modification</b>	The glyph did not change.

Table 3.1-4: The glyph-forming methods applied in the development of scripts.

The rules of naming characters and marks are summarized in Table 3.1-5.



<b>The naming rules of the characters and marks</b>
In case of known alphabets, the widely accepted names are used in the book.
The terms “OPEN”, “CLOSE”, etc. in some character names reflect the topological features of the glyphs and they have no linguistic relevance.
The same characters in the three different Rovas scripts have the same name.
The names of the ligatures are composed of the character names of their elements.
The names of numerals, diacritic marks and punctuation symbols are identical to the standard English terms.

*Table 3.1-5: The naming rules for characters and marks*

### **3.2. The proposed Early Steppean script (or script family)**

Based on the known relics of the Rovas scripts (CBR, KR, and SHR) and the Old Turkic script, the existence of a proposed common ancestor script can be assumed, that is called the *Early Steppean* script. The Early Steppean script was probably used by Iranian and Turkic nations and tribes on the Eurasian Steppe. They were culturally connected to Persia (present-day Iran) and the Middle East as well, where the countries and empires had well-organized administrations with high-level literacy. These cultures continuously influenced the Steppean civilizations and several glyphs were adopted by the writing systems of the Steppean nations during the time. Iranist J. Harmatta also concluded similar results.<sup>35</sup> The multi-layer influence of the Phoenician- and Aramaic-origin scripts in the orthography of the scripts used in the Eurasian Steppe (*Fig. 3.1-1*) will be analyzed without the detailed history of the adoption process. Empires of Eurasia are shown on *Image D-1* including modern political boundaries to facilitate the reader’s orientation.

According to the author of this book, four scripts were essential in the evolution of the Early Steppean script (*Fig. 3.1-1*), namely the Imperial Aramaic, its two descendants (the Kharoshthi and the Parthian), and the Turkic ideograms (pictograms). Among these, the Imperial Aramaic script had the strongest influence (*Subch. 4.1*). Since only one Steppean civilization, the **Yuezhi Empire adopted the Imperial Aramaic script** in the 2<sup>nd</sup> century BC. This can be considered **as the beginning of the history of the Early Steppean script**. The Early Steppean script is believed to be the intermediary writing system between the Aramaic script and the Old Turkic script that evolved in Middle Asia. The earliest Old Turkic relics are attested from the 730s AD. *App. B* lists the supposed historical milestones of the Early Steppean script. Note that this supposition is derived from the genealogical modeling system of the Rovas and Old Turkic characters. Moreover, **it is possible that the Early Steppean script was not a homogenous writing system, but rather a group of related scripts.**

The Rovas and Old Turkic characters of *Table 3.2-1* are indicated with the same glyph. Therefore, this glyph had to exist in their common ancestor, the Early Steppean script and probably related to the Early Aramaic 𐤀 PE /p/f/. Since the descendants of the Early Aramaic 𐤀 PE /p/f/ in other scripts in *Fig. 3.1-1* are significantly different from the glyph 𐤀 of *Table 3.2-1*, the Early Steppean could not borrow the Early Aramaic 𐤀 PE /p/f/ through those scripts. In addition, the Early Steppean could not borrow the Early Aramaic 𐤀 PE /p/f/ directly due to geographical and historical distance. Taking into account the genealogy of the glyph 𐤀 of *Table 3.2-1*, it is necessary to assume an *unidentified intermediary script (or more)* between the Early Aramaic and the Early Steppean

<sup>35</sup> Hall 1997, pp. 863-874



scripts. It is noteworthy that the Scythians adopted the Aramaic script – according to Györfly and Harmatta<sup>36</sup>–, thus the intermediate script was probably the **Scythians' script**.<sup>37</sup>

Early Aramaic	Carpathian Basin Rovas	Khazarian Rovas	Old Turkic
𐤀 PE /p/f/	𐰀 SIMPLE P /p/	𐰀 SIMPLE P /p/	(Orkhon) 𐰀 EP /p/

Table 3.2-1: Adoption of the Early Aramaic 𐤀 PE /p/f/ through the Early Steppean script

The Kharoshthi script was used in Bactria (Middle Asia, see *Image D-1*). The Kharoshthi letters applied in this book are based on Glass et al. published in 2002,<sup>38</sup> except 𐰀 NYA /ɲ/ from Allon & Salomon<sup>39</sup> and 𐰀 CHA from the book of Glass published in 2000.<sup>40</sup> The Kharoshthi script directly affected the Early Steppean script (*Table 3.2-2*), the Old Turkic script (*Table 3.2-3*), the Proto-Rovas (*Table 3.3-4*), and the Carpathian Basin Rovas (*Table 3.4.2-2*). In the probable organic development of the *Kharoshthi* 𐰀 MA /ma/ > *Early Steppean* \*O /m/ the script evolution principle *Closer-shape forming* (*Table 3.1-3*) can be observed. The shape of Old Turkic 𐰀 EM /m/ was described by Kononov<sup>41</sup> and the glyph of Old Turkic 𐰀 ESH /s/ʃ/ by Róna-Tas.<sup>42</sup>

Kharoshthi	Khazarian Rovas	Old Turkic
𐰀, 𐰀 ZA /za/	𐰀, 𐰀 FORKED SZ /s/	𐰀, 𐰀 AS /s/
𐰀 LA /la/	𐰀 FORKED L /l/	𐰀 AEL /l/
𐰀 MA /ma/	𐰀 ROUND M /m/	(Talas) 𐰀 EM /m/
𐰀 NYA /ɲ/	𐰀, 𐰀 ANGLED N /n/	𐰀, 𐰀, 𐰀 AEN /n/
𐰀 SHA /ʃa/	𐰀 ARCHED SH /ʃ/	(Talas and Yenisei) 𐰀 ASH /ʃ/

Table 3.2-2: Influence of the Kharoshthi script on KR and Old Turkic through the Early Steppean

Kharoshthi	Old Turkic
𐰀 CHA	(Orkhon) 𐰀 ESH /s/ʃ/, (Yenisei) 𐰀 ESH /s/ʃ/
𐰀 THA /tʰa/	(Orkhon, Yenisei) 𐰀, 𐰀 AED /d/

Table 3.2-3: Direct influence of the Kharoshthi script on the Old Turkic script

The influence of the Imperial Aramaic script through the Early Steppean is presented in *Table 3.2-4*; the shapes of the Imperial Aramaic 𐤀 KAPH /k/x/ and 𐤀 SAMEKH /s/ letters are from Faulmann.<sup>43</sup>

The Imperial Aramaic 𐤀 ZAYIN /z/ was probably adapted by the *Yuezhi* people (*App. B*) and later the Turkic people. In the language of the Kypchak subgroups of the Turkic people there were the transitions /d/ > /t/ and /z/ > /s/.<sup>44</sup> That could be the reason that in all inscriptions in the Turkic language this symbol consequently has the sound value /s/; see *Table 3.2-4*. Specifically, in the *Ogur* (*Lir-Turkic*) languages the /z/ > /r/ transition happened, which is called Chuvash type

<sup>36</sup> Györfly & Harmatta 1997, p. 148

<sup>37</sup> Györfly & Harmatta 1997, p. 148

<sup>38</sup> Glass et al. 2002, p. 14

<sup>39</sup> Allon & Salomon 2000; Schøyen collection: Fragment 44 e Part A Line 3 Syllable 10

<sup>40</sup> Glass 2000, p. 14

<sup>41</sup> Kononov 1980, pp. 58–59

<sup>42</sup> Róna-Tas 1991a, p. 111, *Table 1*

<sup>43</sup> Faulmann 1880, p. 79

<sup>44</sup> Vásáry 2010–2011

*Rhotacism*.<sup>45</sup> Due to this process, the symbol | had the sound value /r/ as well. Evidence of this transformation can be observed in one relic of CBR (*Sec. 6.2.7*), where the use of the character of /s/ as /r/ is explicitly stated (see the third row from the bottom of the *Table 6.2.7-2*). In CBR, the character | SZ was used for both /s/ and /r/. Being a descendant of CBR, the SHR also kept the use of the | SZ /s/ as /r/ survived as < SHORT R /r/.

Since the Turkic people used the symbol | with sound value /s/, and the Ogurs' /r/ is a derivation of /z/ and not /s/, consequently, the Ogurs *did not borrow this symbol from the Turkic people*. Furthermore, in the Khazarian Rovas and in the Old Turkic scripts, this symbol had only the /s/ sound and not /r/. Therefore, its adaptation had to happen when the Ogurs adapted the Proto-Rovas script (from a non-Turkic nation). This conclusion is coherent with the assumption that the Proto-Rovas was used by the Iranian As people and it was adapted by the Ogurs, when the Ogurs occupied the Ases north to the Caucasus (*App. B*).

The adaptation of the Imperial Aramaic □ SAMEKH /s/ was partly different. First, its sound value probably changed: /s/ > /z/. As Vásáry showed, this transition was possible in the middle and at the end of the Turkic words, e.g. /kasar/ > /kazar/.<sup>46</sup> Then, due to the *Rhotacism*, the transition /z/ > /r/ occurred. It is noteworthy that in the Old Turkic script, the descendant of the Imperial Aramaic □ SAMEKH /s/ does not mean /r/; see □ ASH /ʃ/ in *Table 3.2-4*. This clearly shows that the Old Turkic script was never applied in the Ogur language. The sound value of the Old Turkic □ ASH shows the result of the very common change /s/ > /ʃ/.

Imperial Aramaic	Carpathian Basin Rovas	Khazarian Rovas	Old Turkic
𐤠 WAW /w/o:/u:/	𐤠 OPEN O /o/u/	𐤠, 𐤡 FORKED O /o/u/	> O /o/u/
𐤡 ZAYIN /z/	SZ /r/s/	SZ /s/	(Orkhon)   AES /s/
𐤢 YODH /j/i:/e:/	𐤢 ANGLED I /i/	𐤢 ANGLED I /i/e/	(Orkhon) 𐤢 I /i/ve/
𐤣, 𐤤 KAPH /k/x/	(There is no occurrence in relics)	> FORKED K /k/	(Orkhon) 𐤣, 𐤤 AEK /k/, (Yenisei) 𐤥 AEK /k/
𐤥, 𐤦 NUN /n/	𐤥 N /n/; 𐤦 NG /ŋ/	𐤥 N /n/; 𐤦 NG /ŋ/; 𐤧, 𐤨 FORKED N /n/	(Orkhon) 𐤥 AN /n/, 𐤦 ENG /ŋ/
𐤧, □ SAMEKH /s/	□ CLOSE R /r/	□ CLOSE R /r/	□ ASH /ʃ/
𐤨 RESH /r/	(There is no occurrence in relics)	𐤨, 𐤩 R /r/	(Orkhon) 𐤨 AR /r/
𐤩, 𐤪 SHIN /ʃ/	(There is no occurrence in relics)	𐤩 ZS /ʃ/	𐤩 IC /i/ʃ/i/ʃ/
𐤫 TAW /t/θ/	(There is no occurrence in relics)	𐤫 FORKED D /d/	(Orkhon) 𐤫 AET /t/

*Table 3.2-4: Influence of the Imperial Aramaic script through the Early Steppean*

The influence of the Parthian script through the Early Steppean is presented in *Table 3.2-5*. The glyphs of the Parthian letters are based on Akbarzādeh.<sup>47</sup>

<sup>45</sup> Róna-Tas 1991a, p. 28

<sup>46</sup> Vásáry 2010–2011

<sup>47</sup> Akbarzādeh 2002

Parthian	Carpathian Basin Rovas	Khazarian Rovas	Old Turkic
𐭠, 𐭡 ALEPH /a/a:/	(There is no occurrence in relics)	𐰇 CLOSE E /e/	(Yenisei, Talas) 𐰇 E /e/
𐭢 BETH /b/w/	(There is no occurrence in relics)	𐰈 ARCHED B /b/β/	(Orkhon) 𐰆 AB /b/
𐭣 HETH /ɣ/x/h/	(There is no occurrence in relics)	𐰉, 𐰊 SHARP UE /y/ø/	(Orkhon) 𐰏 OE /ø/y/w/
𐭤, 𐭥 QOPH /q/	𐰋 KUE /ky/	𐰋 KUE /ky/	(Orkhon) 𐰑, 𐰒 OEK /øk/yk/kø/ky/k/, (Orkhon) 𐰓 AQ /q/

Table 3.2-5: Influence of the Parthian script through the Early Steppean

The influence of the Syriac script on Carpathian Basin Rovas, Khazarian Rovas, and the Old Turkic script is shown in Table 3.2-6. Supposedly, the Estrangela version of the Syriac script affected first the Early Steppean script after the second century BC. Later, the Early Steppean script affected the Khazarian Rovas and the Old Turkic scripts. However, this influence cannot be traced in the Carpathian Basin Rovas relics; therefore, the interaction had to happen after the isolation of CBR and KR around 670 AD, when the Onogurs occupied the Carpathian Basin (*App. B*). Based on the topological similarity between the CBR/KR 𐰇 OPEN T and the KR 𐰇, 𐰈 CENTRAL Z, the Old Turkic 𐰆 Z, all of these characters are cognate. Therefore, their common ancestor character had to exist in the Early Steppean. Moreover, as the glyph 𐰇 is common both in CBR and in KR, it had to exist in their common ancestor script, in the Proto-Rovas as well.

Syriac	Carpathian Basin Rovas	Khazarian Rovas	Old Turkic
(Estrangela) 𐤛 TETH /tʿ/	𐰇 OPEN T /t/	𐰇, 𐰈 OPEN T /t/	(There is no occurrence in relics)
(Estrangela) 𐤛 TETH /tʿ/	(There is no occurrence in relics)	𐰇, 𐰈 CENTRAL Z /t/z/, 𐰇 CENTRAL T /t/	(Orkhon, Yenisei) 𐰆 Z /z/

Table 3.2-6: Influence of the Syriac script on CBR, KR and Old Turkic through the Early Steppean.

Besides the Aramaic-origin characters, the Early Steppean script obtained also some *ideogram based symbols* (*pictogram*, *graphic logogram* according to Amanjolv<sup>48</sup>) from the Turkic inscription heritage (Table 3.2-7).<sup>49</sup> The history of these ideograms is still obscure, but they had to be in use before the end of the Turkic nations' common history.

<sup>48</sup> Amanjolv 2003, p. 290

<sup>49</sup> Thomsen 1922; Amanjolv 2003, p. 290

Turkic ideograms and their supposed meaning	Carpathian Basin Rovas	Khazarian Rovas	Old Turkic
*ᠭ > *ᠬ /b/ɥ/ The pictogram of /ɛb/ɛv/ 'house/home' has the shape of a dwelling, yurt.	ᠬ SHARP U /ɥ/ > X B /b/	X B /b/	(Orkhon) ᠬ, (Yenisei) ᠭ, ᠬ AEB /b/ɥ/
*ᠬᠢ > *ᠬᠢ > *ᠬᠢ > *ᠢᠢ /ɣ/ The pictogram of /aɣ/ 'trap, snare, fishing tackle'	(There is no occurrence in relics)	'ᠢᠢ' TRIPLE GH /ɣ/	(Yenisei) 'ᠢᠢ', ᠬᠢ, ᠬᠢ (Orkhon) 'ᠢᠢ', ᠬᠢ AG /ɣ/
*ᠳ /j/ The pictogram of /jaj/ 'bow' or /aj/ 'moon', looks like the half full moon or a bow.	D CLOSE J /j/	D CLOSE J /j/	D AY /j/
*ᠮ /lt/ The pictogram of /alt/ 'bottom' is a schematic draw of the bottom half of a man.	(There is no occurrence in relics)	ᠮ LT /lt/	MELT /lt/ld/

Table 3.2-7: The Turkic ideogram-based Rovas (CBR, KR) and Old Turkic characters.

According to the Aramaic-origin, the Early Steppean based scripts skip the majority of the vowels. Some general rules have been explored for all descendants of the *Early Steppean* script (Table 3.2-8). In case of SHR, the rules of creating ligatures (Rule 4 in Table 3.2-8) were systematically described by S. Forrai, who explored similarities between the Szekely-Hungarian Rovas ligature creation and the Hungarian stenography as well.<sup>50</sup>

The general rules of the Early Steppean based orthographies in the early times	
Rule 1)	The direction of the Early Steppean based scripts was right-to-left (RTL) in the ancient times. Only in case of SHR, left-to-right (LTR) direction appeared in the Medieval Times. There are sporadic examples also for the boustrophedon direction.
Rule 2)	The long vowels (e.g. /a:/) were usually denoted and the short vowels (e.g. /a/) were generally not written. <sup>51</sup>
Rule 3)	The short vowel of the first syllable was written in several cases.
Rule 4)	Ligatures were occasionally used denoting all consonants – at least partly. <sup>52</sup>
Rule 5)	In the case of two neighboring vowels, only one of them should be omitted.
Rule 6)	The short and long vowels were represented by the same character up to the 17 <sup>th</sup> c.
Rule 7)	The duplication of consonants was infrequently denoted.

Table 3.2-8: Rules of the Early Steppean based orthographies.

<sup>50</sup> Forrai 1994

<sup>51</sup> Róna-Tas 1991a, pp. 58–60

<sup>52</sup> Vékony 1987a, p. 21

### 3.3. The reconstructed Proto-Rovas script

Comparing the Rovas scripts (CBR, KR, and SHR), it is clear that they preserved glyphs from their common ancestor called *Proto-Rovas*. Based on the Rovas relics, the author reconstructed the character repertoire of the Proto-Rovas script (Table 3.3-1), since the shape of several characters remained almost unchanged in the Rovas scripts.

According to the author, **the earliest version of the Proto-Rovas was brought in by the As people coming from Kangju** (other name: *K'ang-chü*, located east of the Aral Sea, see *App. B*) in the 1<sup>st</sup> century AD. The script was further developed in the north of the Caucasus and the Black Sea. Presumably, the use of the Proto-Rovas started to end in 567, when the Avars and the allied Ogurs moved to the Carpathian Basin, and this process ended in 670, when the Onogurs probably occupied the Carpathian Basin and the Proto-Rovas permanently split, evolving into two individual scripts, the *Carpathian Basin Rovas* and the *Khazarian Rovas*.

Origin of the Proto-Rovas characters	Reconstructed Proto-Rovas repertoire
Turkic ideograms adopted through the <i>Early Steppean</i> script	*ǧ /u/ > *X /b/; *D /j/
Phoenician-origin characters inherited from <i>Early Steppean</i> script	*ḏ /a/a:/ε/ > *ḡ /ø/y/; > *ḗ /a/ε/; *ḡ /o/u/; *l /r/s/; *N /x/; *X /t/; *1 /i/e/; *1 /p/; *B /ky/; *ḡ /n/; *Y /ŋ/, *Q /r/
Characters borrowed directly from <i>Phoenician</i> -origin scripts	*Y /a/ε/; *Y /a/ε/; *X /g/; *ḡ /d/; *A /x/; *1 /β/b-/; *ḡ /i/ḡ/; *1 /i/ḡ/; *X /l/; *ḡ /l/; *ḡ /m/; *ḡ /n/; *A /p/; *8, *X /q/; *Q /tj/s/; *D /t/

Table 3.3-1: The reconstructed repertoire of the Proto-Rovas script, denoting with symbol ">" the results of the supposed inner development of the Proto-Rovas script. It is noteworthy that the sound "velar i" is represented by /ḡ and not /u/ in the Turkic inscriptions, since the corresponding Turkic sound at that time has not yet been accurately determined.<sup>53</sup>

An important difference between CBR and KR is the partial existence of the vowel harmony in KR and the complete absence in CBR. The reason could be that the Proto-Rovas script did not apply vowel harmony, while the Early Steppean probably used it in its latest period, and KR was influenced by the Early Steppean script. However, the vowel harmony was not consequently applied in KR, as it will be demonstrated in several examples in *Sec. 7.1.4*. Due to the partial vowel harmony, there is a duplication of some consonants in KR.

There are evidences of the influence of the Phoenician and the Early Aramaic scripts on Proto-Rovas (Table 3.3-2 and 3.3-3). However, the presence of Rovas characters originated from the Phoenician and the Early Aramaic does not mean that the Proto-Rovas existed even in the time of these scripts. These Rovas characters were probably delivered by unidentified intermediary scripts, not by the Early Steppean. This intermediate script could be the Scythians' script, since the Scythians adopted the Early Aramaic script, which is a direct descendant of the Phoenician script.<sup>54</sup>

Phoenician	Carpathian Basin Rovas	Khazarian Rovas
𐤒 QOF /q/	8, ( <i>Aethicus</i> ) 𐤒 ARCHED Q /q/	X ANGLED Q /q/ua/, 8 ARCHED Q /q/

Table 3.3-2: Influence of the Phoenician script on CBR and KR through Proto-Rovas

<sup>53</sup> Vászary 2010-2011

<sup>54</sup> Györffy & Harmatta 1997, p. 148

Early Aramaic	Carpathian Basin Rovas	Khazarian Rovas
𐤊 NUN /n/	𐤆 OPEN NY /n/*ɲ/	𐤆, 𐤇 FORKED N /n/

Table 3.3-3: Influence of the Early Aramaic script on CBR and KR through Proto-Rovas

In the following part, the influence of the descendants of the Imperial Aramaic on the Rovas scripts will be demonstrated. Its earliest proof is the interesting glyph of 𐤆 SHARP CH – found in both CBR and KR, which is obviously the descendant of the Kharoshthi 𐭑 CHA /xɑ/ (Table 3.3-4). The style of the glyph 𐤆 is significantly different from the other Rovas characters and it is quite similar to the style of the characters of the *Issyk Inscription* dated to the 4<sup>th</sup>–3<sup>rd</sup> century BC<sup>55</sup> or the 5<sup>th</sup> century BC<sup>56</sup>. According to the Iranist Harmatta, the Issyk Inscription is written with Kharoshthi script.<sup>57</sup> It was already stated that the Kharoshthi script was used in Middle-Asia (Bactria), and this script was surely transmitted by the *Ases* (the Iranian-speaking people who came from Kangju, see *App. B*) to the north of the Black Sea and the Caucasus (*Map 3.3-1*), that was the land of the Alans at that time. The glyph of 𐭑 SHARP CH /x/ was published by Wuttke.<sup>58</sup>

Kharoshthi	Carpathian Basin Rovas	Khazarian Rovas
𐭑 CHA /xɑ/	𐤆, ( <i>Aethicus</i> ) 𐭑 SHARP CH /x/	𐤆 SHARP CH /h/
𐭒 LA /la/	𐤇 FORKED L //	𐤇 CROSSED L //

Table 3.3-4: Influence of the Kharoshthi script on CBR and KR through Proto-Rovas

The influence of the Imperial Aramaic script on CBR and KR through Proto-Rovas is shown in Table 3.3-5, with the example of the glyph 𐤆 PE /p/f/ of Faulmann.<sup>59</sup>

Imperial Aramaic	Carpathian Basin Rovas	Khazarian Rovas
𐤀 GIMEL /g/ɣ/	( <i>Aethicus</i> ) 𐤀, *𐤀 FORKED G /g/	𐤀 FORKED G /g/
𐤆 PE /p/f/	( <i>Aethicus</i> ) 𐤆, *𐤆 P /p/	𐤆, *𐤆 P /p/
𐤄 SADHE /sʕ/	( <i>Aethicus</i> ) 𐤄, *𐤄 CS /*tʃ/	𐤄, 𐤅 TRIPLE CS /tʃ/s/
𐤅, 𐤆 TAW /t/θ/	𐤅 CLOSE T /t/	𐤅 CLOSE T /t/, 𐤆 ARCHED D /d/di/de/ɟ/dʒ/

Table 3.3-5: Influence of the Imperial Aramaic script on CBR and KR through Proto-Rovas

The influence of the Parthian script on KR and CBR is presented in Table 3.3-6. The glyphs of the Parthian letters are from Akbarzādeh.<sup>60</sup>

<sup>55</sup> Hall 1997, pp. 863–874

<sup>56</sup> Amanjolov 2003, pp. 218–219

<sup>57</sup> Harmatta 1999, p. 421

<sup>58</sup> Wuttke 1853

<sup>59</sup> Faulmann 1880, p. 94

<sup>60</sup> Akbarzādeh 2002

Parthian	Carpathian Basin Rovas	Khazarian Rovas
𐭠, 𐭡 ALEPH /a/a:/	𐭠, 𐭡 FORKED A /a/ε/, 𐭠 FORKED E /a/ε/e/	𐭠 FORKED A /a/ε/, 𐭠 FORKED E /a/ε/
	𐭡, 𐭢 ARCHED UE /y/*ø/	𐭡 ARCHED E /a/a:/ε/, 𐭡 ARCHED UE /ø/y/
𐭣 DALETH /d/ð/	𐭣 SHARP D /d/	𐭣 SHARP D /d/
𐭤 HETH /χ/x/h/	𐭤, 𐭥 GH /χ/	𐭤, 𐭥, 𐭦, 𐭧 GH /χ/g/

Table 3.3-6: Influence of the Parthian script on CBR and KR through Proto-Rovas

The Proto-Rovas borrowed characters from two further Middle Persian scripts, the *Inscriptional Pahlavi* and the *Book Pahlavi* (Table 3.3-7). The glyphs of the Pahlavi letters are from Nyberg.<sup>61</sup>

Pahlavi scripts	Carpathian Basin Rovas	Khazarian Rovas
<i>Inscriptional Pahlavi</i> : 𐭣 YODH	𐭣 ARCHED I /i/ī/	𐭣, 𐭣, 𐭣 ARCHED I /i/ī/
<i>Book Pahlavi</i> : 𐭣 YODH ( <i>In the Rovas scripts its glyph was turned with 90°</i> )	( <i>Aethicus</i> ) 𐭣, *𐭣 CIRCLE ENDED I /i/	𐭣, 𐭣, 𐭣 CIRCLE ENDED I /ī/
<i>Book Pahlavi</i> : 𐭤 LAMEDH	𐭤 SIMPLE L /l/	𐭤 SIMPLE L /l/

Table 3.3-7: Influence of the Pahlavi scripts on CBR and KR through Proto-Rovas

The influence of the Lydian script<sup>62</sup> on CBR and KR through Proto-Rovas is shown in Table 3.3-8. The Lydian script became extinct in the 2<sup>nd</sup> century BC and the estimated starting time of the Proto-Rovas is 1<sup>st</sup> century AD. In addition, the Lydian script was in use in West Asia Minor (present-day Turkey) and the Proto-Rovas was developed north of the Black Sea and the Caucasus (present-day South Russia). Consequently, a currently unidentified intermediary script between Lydian and Proto-Rovas is assumed.

Lydian	Carpathian Basin Rovas	Khazarian Rovas
𐌶 /v/	𐌶 OPEN V /β/	𐌶 OPEN V /β/b-/
𐌷 /m/	𐌷 OPEN M /m/	𐌷 OPEN M /m/

Table 3.3-8: The probably indirect influence of the Lydian script on CBR and KR through Proto-Rovas

### 3.4. The Carpathian Basin Rovas script

#### 3.4.1. Historical background

##### 567–670 (Early Avar Period)

In order to understand the development of the Carpathian Basin Rovas script an overview of the history of the Carpathian Basin and its nations shall be presented. *App. B* presents the timeline of the Hungarian and Carpathian Basin-related (*Map 3.1-1*) events from the time before the Avar conquest. In accordance to Hungarian archaeological theories – especially the works of I. Kovrig –

<sup>61</sup> Nyberg 1964

<sup>62</sup> Melchert 2004, pp. 602–603



the periods of the Avar Age used in the book are the following: Early (567–670), Middle (670–710) and Late (710–822) periods.<sup>63</sup> Based on archaeological finds (*Subch.* 6.2), the Avars probably brought Proto-Rovas into the Carpathian Basin in 567, and then this script started to develop independently. *Map 3.4.1-1* shows the territory of the Avar Khaganate up to 670.<sup>64</sup>

The Avar population could not be very large since they were originally nomadic people. Moreover, few decades earlier the Avars had to escape from the Western Turkic Khaganate, so they were obviously much fewer than the Western Turks. When the Avars occupied the Carpathian Basin (567–568), the Longobards living in the western part of the Carpathian Basin (former Roman Province of Pannonia) left the region and moved to North Italy. Under these circumstances, it seems very probable that the Avars needed additional population inside the Carpathian Basin, since increasing the number of subjects was a necessity of each nomadic empire. Such subordinated tribes were the *Kuturgurs* (*Kutrigurs*) and *Utigurs* (different Ogur groups) who arrived with the Avars in 567 and lived in the Carpathian Basin up to 635.<sup>65</sup> Róna-Tas also stated that at least one group of the Avars spoke Ogur.<sup>66</sup> Another example is the Barsels who joined the Avars between 558 and 560 (*App. B*) and went together to the Carpathian Basin. There are topographical tracks of the Barsels, e.g. the village name Bercel (Hungary, see *Map 3.4.1-1*). The As-Alans also appeared in the Carpathian Basin; however, their migration into the Carpathian Basin has not been fully clarified.

In this age, the people named Antes by Byzantine sources lived east of the Carpathian Basin and a part of them possibly moved into the Carpathian Basin. According to the Soviet historian M.V. Fedorova, the Antes were of Finno-Ugric descent.<sup>67</sup> The presence of the Finno-Ugric population north of the Black Sea is attested to by Soviet and Bulgarian archaeologists.<sup>68</sup> The migration of the Antes into the Carpathian Basin could explain the early appearance of the Hungarian-speaking population in the Carpathian Basin, although the exact time of the migration has not yet been clarified. Additionally, in written sources there is no mention about the Antes migration; therefore, it most probably did not happen individually, but under the rule of another nation. According to Vékony, the Hungarians arrived from the wooded Steppe of East Europe.

Before the Avars however, larger Antes migration can be disclosed, since Germanic nations dominated this area up to 567 and to the East the Gepids closed the passes to the Carpathian Basin. The well-guarded Carpathian Mountains were also the eastern borders of the Avars between 567 and 602. This situation was similar to the period after 634, when Kuvrat of Great Bulgaria occupied the eastern territories of the Avars. However, between 602 and 634, the region of the Antes belonged to the Avars. According to the archaeologist-historian Vékony, the Penkovka archaeological culture of the wooded Steppe attributed to the Antes people<sup>69</sup> had strong relations to the Avar Khaganate of the Carpathian Basin.<sup>70</sup>

A possible reason of the absence of the Antes migration into the Carpathian Basin in the chronicles could happen inside the Avar Khaganate. After 602, the Antes – as an individual power – disappeared forever from the chronicles. According to this assumption, a part of the Antes could have joined the Avar Khaganate, similarly to several other tribes and nations.

<sup>63</sup> Kovrig 1963

<sup>64</sup> Szentpéteri 1995, *Map 1*

<sup>65</sup> Fehér 1935, pp. 519–520; Simonyi, D. 1959, p. 238

<sup>66</sup> Róna-Tas 1999c, p. 272

<sup>67</sup> Федорова 1976, p. 85

<sup>68</sup> Smirnov 1951, pp. 10–12; Artamonov 1962, pp. 82–83; Stanchev & Ivanov 1958, p. 93; Stanchev 1956, pp. 198–199; Vaklinov 1977, pp. 28–29

<sup>69</sup> Rashev 1992

<sup>70</sup> Vékony 2002, p. 178





Map 3.4.1-1: The western part of the Avar Khaganate and its neighboring area between ca. 567 and 670. On the map, the Roman-origin names are marked as in the medieval sources in Latin. There are some current geographical names of linguistic or archaeological interest: Bercei, Kunágota (Sect. 6.2.1), and Zamárdi. The map is based on archaeologist J. Szentpéteri.<sup>71</sup>

#### 670–822 (Middle and Late Avar Periods)

After 670 the *Onogurs*, a new nation, appeared in the Carpathian Basin.<sup>72</sup> This caused a socio-cultural change that can be traced in the culture and the art of the Avar Khaganate. The finds of the Onogurs are dated back to the *Middle* and *Late Avar* ages in Hungarian archaeology.<sup>73</sup> At that time, the Onogurs defended the country by maintaining an uninhabited and fortified military strip of land called *gyepű* /герпү/. It functioned as a buffer zone against the hostile invasions.<sup>74</sup> Presumably, the Avar Khaganate was already led by the Onogurs but the name *Avar* remained in use as the international denomination of the country.

The Onogurs as well, probably brought a special version of the Proto-Rovas script that was used in Kuvrat's Great Bulgaria. This script merged with the very similar Proto-Rovas of the Avars forming a significant component of the emerging Carpathian Basin Rovas. It can be demonstrated by the appearance of CBR  $\text{D}$  CLOSE T /t/ in the finds: in the case of 7<sup>th</sup> century relics, the glyph  $\text{D}$  for /t/ was not used but the CBR  $\text{X}$  OPEN T /t/. App. B presents the history of the Carpathian Basin around the 8<sup>th</sup> century, and Map 3.4.1-2 shows the area of the Avar Khaganate from ca. 670 to 796.

<sup>71</sup> Szentpéteri 1995, Map 1

<sup>72</sup> Bóna 2001–2002

<sup>73</sup> Garam 1978, p. 117

<sup>74</sup> Czeglédy 1976, p. 87



Map 3.4.1-2: The western part of the Avar Khaganate and its neighboring area between ca. 670 and 796. The map is based on Szentpéteri.<sup>75</sup>

According to the most probable alternative to the Antes migration theory between 602 and 634, the Hungarians (according to Vékony<sup>76</sup>) moved into the Carpathian Basin in 670 with the Onogurs occupying the Avar Khaganate. After 670, the Turkic Onogurs and the Hungarian population mixed and melted. Based on the Rovas relics of this period (*Subch.* 6.2), Hungarian became the most significant element of the unifying language in the Carpathian Basin, since the majority of the relics of that time were already written in Hungarian (e.g., the Inscription of Környe, see *Sec.* 6.2.6). Note that the early Hungarian Chronicles described two landtakings of the Hungarians, and the first of these was dated to 677 or 700.<sup>77</sup>

The Onogurs in the Carpathian Basin were not identical to the Danubian Bulgars (also called *Onogundurs*) of Esperúkh, as their names of the highest rank indicate: the rulers of the Avars and then the Onogurs of the Carpathian Basin were called *khagan*, while the rulers of the pre-Christian Danubian Bulgaria were undoubtedly *khan*. The other title of the Bulgar ruler according to epigraphic evidence (attested to between 822 and 836) was *k(h)anasybigi*.<sup>78</sup>

As for naming, already from the 1960s, researchers – Pritsak,<sup>79</sup> Boba,<sup>80</sup> Király, Róna-Tas and others – showed the genealogy of the international name of the Magyars ‘Hungarian’. Namely, it starts from the ethnic name *Onogur* > Slavic /ǫgūr-/<sup>81</sup> > Slavic *Ungri* > German *Ungri* > *Ungar* > *Ungari* > *Ungere* > *Unger*, Latin *Ungari* > *Ungarii*, Italien: *Ungheri*, French \**Ungre* > *Ongre* > *Ongrois* and *Hungre* > *Hongrois* > English *Hungarian*.<sup>82</sup> The word ‘Onogur’ was used to name the Onogurs

<sup>75</sup> Szentpéteri 1995, *Map 1*

<sup>76</sup> Vékony 2002, p. 178

<sup>77</sup> Zelliger 2010a, p. 283, cf. Gyula László and several others

<sup>78</sup> Stepanov 2007, p. 363

<sup>79</sup> Pritsak 1976

<sup>80</sup> Boba 1967; Boba 1982–83

<sup>81</sup> Zoltán 2008, pp 355–358

<sup>82</sup> Harmatta 1997a, pp. 119–140

living in the Carpathian Basin and not the Onogurs of the 5<sup>th</sup>–6<sup>th</sup> centuries who lived in Eastern Europe, as it was believed earlier.<sup>83</sup> According to Róna-Tas, the original name of this nation was *Onugur* and not *Onogur*. The East Slavic adoption of this word was *ongor* that changed to *> ungor* *> ugor*. Another East Slavic form is the *ugrin*.<sup>84</sup> The West Slavic languages used the *ongar* (*> ungar*) form, which is believed to be the origin of the German word *Ungar*.

The Hungarian language incorporated several Onogur loanwords since the period from the mid-5<sup>th</sup> to the 8<sup>th</sup> centuries proving the long coexistence and interference of these languages. However, Györffy showed that in some places, even in the 10<sup>th</sup> century, an Ogur type (Onogur) language was in use in Eastern Hungary.<sup>85</sup> These Onogurs merged later into the unifying Hungarians.<sup>86</sup>

The result of the merger of the Onogurs and Hungarians can be observed in the ethnic map of the Hungarian Kingdom in the 11<sup>th</sup> century (*Image D-4*). This map shows almost only Hungarian (no Onogur, Avar, etc.) population throughout the country. Linguist P. Király demonstrated that the name *Ungarus* and its versions originated from the name *Onogur* are several times listed in the western sources around the 8<sup>th</sup> century.<sup>87</sup> Linguist E. Zelliger showed that the various forms of the name *Ungarus* occur in several geographical names in Austria.<sup>88</sup> Consequently, a significant part of the population (or its leading group) in the Avar Khaganate was called Onogur in that time. Its reason might be the adoption of the name of the rulers by the whole nation.

#### *Period from the 9<sup>th</sup> to the 11<sup>th</sup> centuries (Carolingian and Early Arpadian Periods)*

In the 8<sup>th</sup> century, the Carpathian Basin Rovas was widely used in the Carpathian Basin based on archaeological finds. However, in the western areas occupied by the Frankish Empire in 897, the Carpathian Basin Rovas was gradually abandoned and substituted by its descendants: the SHR and from 863 the Glagolitic scripts. Oppositely, in the southeast part of the Carpathian Basin occupied by the Danubian Bulgars in 803, the Carpathian Basin Rovas remained in use and it survived until the 11<sup>th</sup> century. *App. B* presents the dates related to the history of the Carpathian Basin Rovas after the collapse of the Avar Khaganate at the end of the 8<sup>th</sup> century.

### **3.4.2. Evolution of CBR – Stage 1: The roots**

Based on archaeological finds, the use of Carpathian Basin Rovas from the 7<sup>th</sup> century onwards has been proved (*Subch. 6.2*). A significant majority of the Carpathian Basin Rovas texts on the relics are written in Hungarian. However, there are inscriptions also in Common Turkic (surely Eurasian Avar) from the 7<sup>th</sup> century, Ogur (surely Onogur) from the 7<sup>th</sup>–10<sup>th</sup>/11<sup>th</sup> centuries, moreover As–Alan and Slavic from the 10<sup>th</sup>/11<sup>th</sup> century (*Subch. 6.2*).

In the following, the Carpathian Basin Rovas characters will be examined, which were found in the Carpathian Basin Rovas relics exclusively. There is one character in the Carpathian Basin Rovas, namely the 𐰚 OPEN Z /z/, of which the closest relative is the Phoenician 𐤆, 𐤇 SEMK /s/ or (due to historical reasons) more probably the Early Aramaic 𐤆 SEMKATH /sʕ/ (*Table 3.4.2-1*). However, their relation cannot be direct – a currently unidentified intermediary script should be supposed. This intermediate script could be the Scythians' script, since the Scythians adopted the Early Aramaic script.<sup>89</sup>

<sup>83</sup> Király 1977; Róna-Tas 1995, p. 203; Róna-Tas 1988; Róna-Tas 1991b; Erdélyi 1982, pp. 25–26; Németh, A. 1999

<sup>84</sup> Róna-Tas 2001, p. 16

<sup>85</sup> Györffy 1990, p. 57

<sup>86</sup> Vásáry 2003

<sup>87</sup> Király 2006, p. 146

<sup>88</sup> Zelliger 2010a, p. 283–295; 2010b: 153–164

<sup>89</sup> Györffy & Harmatta 1997, p. 148

After borrowing the Early Aramaic 𐤍 SEMKATH /s<sup>5</sup>/, probably the phonetic change /s/ > /z/ happened in the languages where this character was used. A similar phonetic transition is known in the history of the Turkic languages: Vásáry showed that the transition /s/ > /z/ is possible in the middle or the end of the Turkic words, e.g. /kasar/ > /kazar/.<sup>90</sup> However, this change could happen in other languages as well. Consequently, this phonetic transition does not identify the language of the people who used the descendants of the Early Aramaic 𐤍 SEMKATH /s<sup>5</sup>/.

Phoenician	Early Aramaic	Carpathian Basin Rovas
𐤍, 𐤎 SEMK /s/	𐤍 SEMKATH /s <sup>5</sup> /	𐤍 OPEN Z /z/

Table 3.4.2-1: Influence of the Phoenician or the Early Aramaic script on CBR through unidentified intermediary script(s).

The influence of the Kharoshthi script on CBR is presented in Table 3.4.2-2. Due to historical reasons, the Kharoshthi elements in CBR are probably the heritage of the As people who migrated from their earlier living areas (east of the Aral See, Central Asia) where the Kharoshthi script was in use (*App. B*). In the organic development of the Kharoshthi 𐰽 SSA /s̄a/ > CBR 𐤍 CLOSE S /s/ the script evolution principle *Closer-shape forming* (Table 3.1-3) can be identified. The glyphs of the Kharoshthi letters are from Salomon.<sup>91</sup>

Kharoshthi	Carpathian Basin Rovas
𐰽 KA /ka/	𐤍 OPEN K /k/
𐰽 SSA /s̄a/	𐤍 CLOSE S /s/

Table 3.4.2-2: Influence of the Kharoshthi script on CBR

### 3.4.3. Evolution of CBR – Stage 2: Development in 7<sup>th</sup>–9<sup>th</sup> centuries

After 670, the Carpathian Basin Rovas started its individual evolution (Table 3.4.3-1). This process can be observed by the CBR 𐤍 SHARP H /x/ derived from the CBR 𐤍 SHARP CH /x/. The calligraphic version of 𐤍 SHARP CH /x/ is Aethicus' *hethmy* character 𐤍, which shows similar curved properties of the ancestor Kharoshthi 𐰽 CHA /xa/ (Table 6.2.7-2).

Earlier CBR character	Later CBR character
𐤍 OPEN V /β/	𐤍 OPEN F /f/
(Aethicus) 𐤍, *𐤍 FORKED G /g/	𐤍 SHORT G /g/
𐤍, (Aethicus) 𐤍 SHARP CH /x/	𐤍 SHARP H /*x̄x/ (or /*x̄β/)
𐤍 CLOSE J /j/	𐤍 CLOSE J /j/ /j/ > (Aethicus) 𐤍, *𐤍 LY /j/ /l/
𐤍 N /n/, 𐤍 OPEN NY /n/	𐤍 N /n/ /n/, 𐤍 OPEN NY /n/ *n/
𐤍, (Aethicus) 𐤍 CLOSE S /s/	𐤍 CLOSE S /s/
𐤍 OPEN Z /z/	𐤍, 𐤍, 𐤍 OPEN Z /z/

Table 3.4.3-1: The development of the Carpathian Basin Rovas in the 7<sup>th</sup>–8<sup>th</sup> centuries

It is highly probable, that the Carpathian Basin Rovas was used by Avars and Onogurs, and only then it was adapted to Hungarian in the 7<sup>th</sup>–8<sup>th</sup> centuries. The developments of 𐤍 OPEN F /f/,

<sup>90</sup> Vásáry 2010–2011

<sup>91</sup> Salomon 1998, p. 49

ጫ N /n/, ጫ OPEN NY /n/\*ŋ/, and 𐌆, 𐌇, 𐌈 OPEN Z /z/ prove the existence of the Hungarian-speaking population in the Carpathian Basin, especially because in the Turkic language, there was no /f/, and /ŋ/ appeared only sporadically. Moreover, the Ogur languages did not have a /z/ as opposed to Hungarian.

The comprehensive phonetic system of the Carpathian Basin Rovas, consonants and vowels, are presented in the following. In some cases, the glyph variants denoting the same phoneme are listed next to each other; however not all glyph variants are included into the tables. Table 3.4.3-2 shows the Carpathian Basin Rovas consonants, where the left hand side character in the cell is *voiceless* and the right hand side one is *voiced*. This representation is based on the linguistic system of the consonants in Hungarian (Table C-1).<sup>92</sup> In the 8<sup>th</sup> century, 𐌆 SZ was used for /r/ and /s/; however, later it was exclusively used for /s/, and another character was applied for /r/: 𐌇 CLOSE R (Sec. 6.2.8 and 9). In the Ancient Hungarian linguistic period, the 𐌆/𐌇 voiced palatal affricate already existed,<sup>93</sup> however, its symbol in CBR has not been found in any of the known relics. Probably, it was denoted by the ligature 𐌆𐌇 in the Szarvas Relic, see Sec. 6.2.8.

Place of articulation	Plosive	Nasal	Fricative	Affricate	Approximant	Liquid	
Bilabial	𐌆, *𐌇 /p/	X /b/	𐌈 /m/	𐌆 /β/			
Dental			𐌆 /f/				
Alveolar	𐌆 /t/	𐌇 /d/	𐌆, 𐌇 /n/	𐌆 /s/	𐌇 /z/	𐌆, 𐌇 /l/	𐌇 /r/
Postalveolar			𐌆, 𐌇 /ʃ/	*𐌆, 𐌇 /tʃ/			
Palatal		𐌆, *𐌇 /ŋ/	D, *𐌆, 𐌇 /j/	𐌆/𐌇		D, *𐌆, 𐌇 /ɰ/	
Velar	𐌆 /k/	*𐌆, 𐌇 /g/	𐌆 /ŋ/	𐌆 /x/	N /ɣ/	𐌆 /ɰ/	
Uvular	8 /q/						

Table 3.4.3-2: CBR consonants used in the 8<sup>th</sup> century, organized according to their phonetic values (the meaning of each feature is detailed in Table C-3).

The Carpathian Basin Rovas relics (Subch. 6.2) support the statements of historical linguistics. For instance, the consonant /f/ was used only in the word-beginning position in Hungarian.<sup>94</sup> The Rovas Relic of Szarvas (Sec. 6.2.8) is in accordance with this scientific fact, since the relic contains 𐌆 OPEN F /f/ in the beginning of the word 𐌆𐌆 /f<sup>h</sup>f<sup>h</sup>s/ 'unstitches'. Similarly, in Hungarian /g/ occurred only in the middle of the word.<sup>95</sup> This is also supported by two examples on the Relic of Szarvas (Table 6.2.8-1). The sound /ɣ/ can appear either in the middle of the word or at the end of the word, and /z/ was used only in the middle of the word during the end of the Ancient and even in the beginning of the Old Hungarian periods. Fig. 3.4.3-1 presents the Carpathian Basin Rovas vowels in their phonetic system. According to Zelliger, the identical symbol for /a/ε/ and /e/ is questionable due to their phonetic difference.<sup>96</sup>

<sup>92</sup> E. Abaffy 2003a, p. 122; 2003b, p. 316

<sup>93</sup> Zelliger 2010–2011

<sup>94</sup> E. Abaffy 2003a, p. 118, 121

<sup>95</sup> E. Abaffy 2003a, p. 123

<sup>96</sup> Zelliger 2010–2011

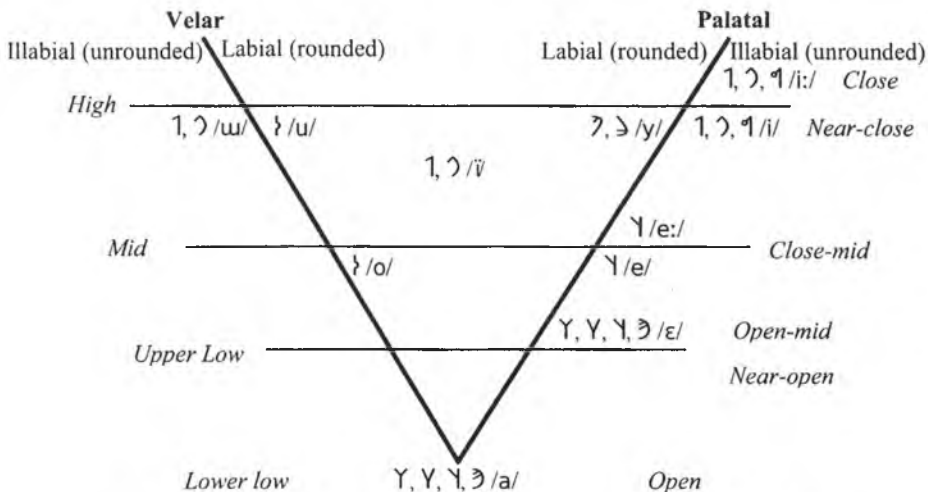


Fig. 3.4.3-1: The graphical representation of CBR vowels used in the 8<sup>th</sup> century

### 3.4.4. Evolution of CBR – Stage 3: Development in 10<sup>th</sup>–11<sup>th</sup> centuries

The influence of the Cyrillic script on CBR is presented in *Table 3.4.4-1*.<sup>97</sup> Due to historical reasons, only the early versions of the Cyrillic characters<sup>98</sup> have to be taken into account in this case. The Cyrillic script was developed around 893...927; therefore, the adoption of the Early Cyrillic  $\text{X}$  YUS /ʃ/ character into CBR as  $\text{X}$  FORKED U /ʃ/, had to happen after this time. This fact helps in determining the age of some CBR inscriptions of the Treasure of Nagyszentmiklós (*Sec. 6.2.9*). The reason for borrowing the Early Cyrillic  $\text{X}$  YUS /ʃ/ was that CBR was used for Slavic as well, and previously there had not been any character for /ʃ/ in CBR. The appearance of the Slavic language is surely related to the Bulgar rule of the Southeast Carpathian Basin (*App. B*), as at that time the Bulgars had already adopted the Slavic language. This can be demonstrated by the Slavic names of the Bulgar fortresses, e.g. Visegrad or Cernigrad (present-day Visegrád, Hungary) on *Map 3.6.1-2*. The city Cernigrad is the present-day Csongrád (<  $\text{r}\text{č}$ erni grad/ 'black castle', Hungary).<sup>99</sup>

Early Cyrillic	Carpathian Basin Rovas
$\text{X}$ YUS, (old name: $\text{X}$ съ /ʃsũ/) /ʃ/	$\text{X}$ FORKED U /ʃ/

Table 3.4.4-1: The influence of the Early Cyrillic script on CBR

*Image D-4* shows the map and important historical events of the Hungarian Kingdom in the 11<sup>th</sup> century, and some of the locations where CBR relics were found. The last relic of CBR from the 11<sup>th</sup> century (Torja, *Sec. 6.2.11*) shows a new Rovas character (*Table 3.4.4-2*).

<sup>97</sup> Róna-Tas 1996a, p.338

<sup>98</sup> Карский 1979

<sup>99</sup> Kniezsa 1963, p. 33; Bóna 2001–2002

Glyph-forming methods	Applied script evolution principles in the development of CBR character	Resulting character
Line merger, Slight modification	<b>Writing technology:</b> Presumably, the <b>𐌆</b> KUE /ky/ was modified by merging the close parts of the two arched lines in the middle of the glyph. The other parts of the two arched lines were straightened and partly merged. Presumably, the reason for its modification was that the straightforward lines of <b>𐌆</b> SHARP K were easier to carve. Its survived example is the Torja Relic ( <i>Sec. 6.2.11</i> ).	<b>𐌆</b> SHARP K /k/

Table 3.4.4-2: The evolution of CBR not later than the 11<sup>th</sup> century.

After the 11<sup>th</sup> century, there is no known CBR relic. However, in 2009, CBR was revitalized (*Sec. 6.1.2*).<sup>100</sup>

### 3.5. The Khazarian Rovas script

#### 3.5.1. Historical background

The *Khazarian Rovas* was used primarily in the Khazar Khaganate (after the mid-7<sup>th</sup> century to 965) by its constituent nations and tribes.<sup>101</sup> The known relics are mainly in *Turkic* languages (*Common Turkic* and *Ogur* groups) and in the *As-Alan* (*Preossetian*) languages.<sup>102</sup> The first known Khazarian Rovas relic is from the first third of the 8<sup>th</sup> century (Jitkov, *Fig. 7.2.1-1*). The script was used up to the fall of the Khazar Khaganate in the 960s. *App. B* lists some important dates and historical events related to the Khazars.

According to the Turkologist Róna-Tas, the ethnic name *Khazar* ultimately stems from the ancient Roman title *Caesar*, through Middle Iranian mediation.<sup>103</sup> The Iranian name *Kesar* passed over to the Turkic-speaking peoples where the *Kesar* became *Khasar*, and this title survived as both an ethnic name and a personal name.<sup>104</sup> The ethnic name evolved from the expression “*Khasar's people*”.

Numerous nations and tribes belonged to the Khazar Khaganate, among others: *As-Alans* (Iranian-speaking nations), *Ogurs* and *Common Turkic* speaking nations.<sup>105</sup> Of the group of Common Turkic, the languages belonging to the subgroups *Oguz* and *Kypchak* appeared in the Khazarian Rovas relics. Based on the Khazarian Rovas relics in the Khazar language, according to Vékony, Khazar belonged to a Common Turkic language group and to the *Kypchak* language subgroup.<sup>106</sup> The state system of the Khazar Khaganate was a dualistic kingdom: the prime ruler was a god-like spiritual leader, and the vice-king acted as an executive ruler. *Map 3.5.1-1* shows the territory of the Khazar Khaganate and its surroundings.

<sup>100</sup> Hosszú web site from 2009; 2011

<sup>101</sup> Vášáry 2003

<sup>102</sup> Kyzlasov, I.L. 1994

<sup>103</sup> Róna-Tas 1982a, pp. 349–390; 1983, pp. 126–133; 1993, p. 23; 1995, pp. 49–80 & 95–102

<sup>104</sup> Róna-Tas 1999a, p. 228

<sup>105</sup> Fodor 1999; Fodor 2004, p. 57

<sup>106</sup> Vékony 2004a, p. 280





Map 3.5.1-1: Khazaria and its neighbors in the 9<sup>th</sup> century. The map is based on Zelev.<sup>107</sup>

In the 9<sup>th</sup> century, after a lost civil war Khazarian rebels joined the *Magyars* (*App. B*). Their name in a Bavarian yearbook is *Cowari*<sup>108</sup> and in a Greek source (Constantine Porphyrogenitus) is *Kάβαροι*.<sup>109</sup> According to Róna-Tas the correct reading of the Greek version is *Kavari*, therefore in this book they are called *Khavars* and not *Khabars*.<sup>110</sup> Vásáry also supported the form /kavar/ being more probable than /kabar/.<sup>111</sup> The language of the Khavars was a dialect of Khazar – according to Vékony.<sup>112</sup>

The Magyars and the joined Khavars were led by the Grand Prince Álmos /a:lmoʃ/, and then together they completed the Magyars' Landtaking in 894–902 AD under the leadership of the Grand Prince Árpád /a:rpa:d/, son of Grand Prince Álmos (*App. B*).<sup>113</sup> The Khavars and their descendants used KR even after the Magyars' Landtaking in the 10<sup>th</sup> century. The known evidence of this is the Khazarian Rovas Inscription of Alsószentmihályfalva (*Sec. 7.2.14*) that also demonstrates the Khazar language being used by the Khavars.<sup>114</sup> Later on, the Khavars adopted Hungarian and took part in forming the unified Hungarian nation.<sup>115</sup>

### 3.5.2. The roots and the development of the Khazarian Rovas

The Khazarian Rovas had some variants used in different geographical areas (*Map 7.2-1*). One version existed in the area between the North Caucasus and the Kuban River (e.g., Khumara Building Inscription, *Sec. 7.2.5*) and another in the region between the Volga and Don rivers (e.g.,

<sup>107</sup> Zelev 2009

<sup>108</sup> Vásáry 2003

<sup>109</sup> Constantine Porphyrogenitus, 948–952

<sup>110</sup> Róna-Tas 1996a, p. 273

<sup>111</sup> Vásáry 2010–2011

<sup>112</sup> Vékony 2002, p. 185

<sup>113</sup> Erdélyi 1983a

<sup>114</sup> Vékony 2004a, p. 217

<sup>115</sup> Vékony 1996



Mayaki, *Sec. 7.2.2* and Stanitsa Krivyanskoe, *Sec. 7.2.7*). However, these cannot be considered as individual scripts.<sup>116</sup> Some further relics found outside of these areas also belong to KR, e.g., Achiktash Inscription from the Talas Valley (*Map 7.2-1*), Homokmégy-Halom and Alsószentmihályfalva inscriptions from Hungary (*Map 6.2-1*), and the Kievan Letter (*Sec. 7.2.15*).

The Khazarian Rovas evolved directly from Proto-Rovas but also had direct relations to the Early Steppean script (*Fig. 3.1-1*). Moreover, the Khazar orthography was influenced by other scripts as well. Borrowing characters for sound values being represented by already existing KR characters can be justified by Rogers' model of borrowing writing systems. Namely, Rogers stated that reasons for borrowing characters were several times social in nature.<sup>117</sup> Therefore, the influence of the Middle East cultures resulted in borrowing characters. *Table 3.5.2-1* shows the influence of the Imperial Aramaic script on KR.

Imperial Aramaic	Khazarian Rovas
(6 <sup>th</sup> c. BC) 𐤀, (4 <sup>th</sup> c. BC) 𐤁 HE /h/	𐰇, 𐰈 FORKED CH /x/

*Table 3.5.2-1:* The influence of the Imperial Aramaic script on KR. The dates of the different versions of the Imperial Aramaic HE are based on Schniedewind.<sup>118</sup>

*Table 3.5.2-2* presents the influence of the Parthian script on KR. The glyph of the Parthian letter is from Akbarzādeh.<sup>119</sup>

Parthian	Khazarian Rovas
𐭑 QOPH /q/	𐰉 OPEN Q /q/

*Table 3.5.2-2:* The influence of the Parthian script on KR

The Inscriptional and Psalter Pahlavi scripts loaned some characters to KR (*Table 3.5.2-3*). The glyphs of the Pahlavi letters and a diacritic mark are generally from Nyberg,<sup>120</sup> the 𐭑 QOPH /q/ is from Skjærvø.<sup>121</sup>

Inscriptional and Psalter Pahlavi	Khazarian Rovas
( <i>Inscriptional Pahlavi</i> ) 𐭒 HET /h/x/	𐰊 ARCHED CH /x/
( <i>Inscriptional Pahlavi</i> ) 𐭓 RESH /w/r/	𐰋, 𐰌 ARCHED R /r/
( <i>Inscriptional Pahlavi</i> ) 𐭔 QOPH /q/	𐰍 CLOSE G /g/ɣ/
( <i>Psalter Pahlavi</i> ) 𐭕 COMBINING DOT ABOVE	𐰎 COMBINING DOT ABOVE ( <i>Table 7.1.3-1</i> )

*Table 3.5.2-3:* The influence of the Inscriptional and the Psalter Pahlavi scripts on KR

A Greek character was also adopted by KR, since it was necessary to record As–Alan texts (*Table 3.5.2-4*).

<sup>116</sup> Vasil'ev 2005

<sup>117</sup> Rogers 1999, p. 252

<sup>118</sup> Schniedewind 2006, p. 140

<sup>119</sup> Akbarzādeh 2002

<sup>120</sup> Nyberg 1964

<sup>121</sup> Skjærvø 1996

Greek	Khazarian Rovas
ϕ PHI /f/p <sup>h</sup> /	ϕ CENTRAL F /f/

Table 3.5.2-4: The influence of the Greek script on KR

The influence of further two similar scripts of the Fertile Crescent, the *Nabataean* and *Palmyrene* on KR is demonstrated in Table 3.5.2-4. It is noteworthy that CBR does not contain any character borrowed from the Nabataean and Palmyrene scripts. Consequently, the Khazarian Rovas obtained the Nabataean and Palmyrene characters after the separation of CBR and KR. This separation ended in 670 when the Onogurs occupied the Carpathian Basin (*App. B*).

However, it is possible that instead of the Palmyrene 𐤃 TETH /t<sup>s</sup>/ a variant of the Nabataean 𐤃 TETH /t<sup>s</sup>/ – being similar to the Palmyrene 𐤃 TETH – was the ancestor of the KR 𐤃 ARCHED T /t/ (Table 3.5.2-5). The Nabataean glyphs are generally from Abulhab,<sup>122</sup> the Nabataean 𐤃, 𐤄 TETH /t<sup>s</sup>/ and the Palmyrene 𐤃 TETH /t<sup>s</sup>/ are from Nyberg.<sup>123</sup>

Nabataean and Palmyrene	Khazarian Rovas
Nabataean 𐤃, 𐤄, 𐤅 HETH /h/	𐤃 ANGLED CH /x/
Palmyrene 𐤃 TETH /t <sup>s</sup> / (Supposing an unidentified intermediary script or the existence of a similar glyph variant of the Nabataean 𐤃, 𐤄 TETH /t <sup>s</sup> /)	𐤃 ARCHED T /t/
Nabataean 𐤃, 𐤄 LAMADH /l/	𐤃 ARCHED L /l/
Nabataean 𐤃 SAMEKH /s/	𐤃 CIRCLE ENDED SH /ʃ/

Table 3.5.2-5: Possible influence of the Palmyrene and Nabataean scripts on KR

The KR 𐤃 ARCHED L /l/ is clearly of Aramaic origin. There were a few Aramaic-derivative scripts that could loan this glyph to the Khazarian Rovas; namely, Hebrew (𐤃 LAMED /l/), Inscriptional Pahlavi (𐭪 LAMEDH /l/), and Nabataean (𐤃, 𐤄 LAMADH /l/). Since the KR 𐤃 ARCHED L /l/ appeared in an Ogur inscription, the Hebrew option is less probable, since the conversion to Judaism happened dominantly in the ruling class of the Khazars. Moreover, comparing the glyphs of the three possible ancestors, the morphology of the Nabataean 𐤃 is the closest to the KR 𐤃: in the middle of both glyphs, there is a significant rising segment connected to the upper vertical straight line. As against, the appropriate segment is definitely horizontal and not rising in cases of the Inscriptional Pahlavi 𐭪 and the Hebrew 𐤃.

The Nabataean 𐤃 SAMEKH /s/ and the KR 𐤃 CIRCLE ENDED SH /ʃ/ represent different sounds. However, there are numerous examples in the history of scripts for the relation between the characters representing these *voiceless fricatives*, the *alveolar* /s/ and the *postalveolar* (*palato-alveolar*) /ʃ/. For instance, the Arabic abjad uses the ش SHIIN for /ʃ/ and س SIIN for /s/. Their glyphs are identical, differentiated with accents only. Both originated through the Jazm 𐬪 /ʃ/s/ (same glyph used for both sounds) from the Proto-Canaanite 𐤃 SHIN /ʃ/.<sup>124</sup> In addition, the majority of the Latin-based orthographies use the Latin *s* for /s/, but in the Hungarian Latin-based orthography the character *s* represents /ʃ/ and the digraph *sz* denotes /s/. As against, the Polish Latin-based orthography uses the digraph *sz* for the sound /ʃ/.

However, in our case, a closer relation can be detected. Two of the three Khazarian Rovas characters supposedly related to the Nabataean script survived in Khazarian Rovas inscriptions

<sup>122</sup> Abulhab 2009 Table of character shapes

<sup>123</sup> Nyberg 1964

<sup>124</sup> Abulhab 2009 Table of character shapes

written in Ogur and one (𐌰 CIRCLE ENDED SH /ʃ/) was found in an As–Alan text. Note that the As–Alans had a very strong relation with the Ogurs in the areas north of the Black Sea. Moreover, among the Khazarian Rovas characters later borrowed by the Szekely-Hungarian Rovas and surely the Ogurs brought them; there is the obvious descendant of 𐌰 CIRCLE ENDED SH /ʃ/; it is the SHR 𐌰 S /ʃ/. In the Chuvash and probably in other Ogur languages, the Proto-Turkic /\*s/ > /ʃ/. The character reception of 𐌰 SAMEKH /s/ as 𐌰 CIRCLE ENDED SH /\*s/ could happen even in the Proto-Turkic period. Then /\*s/ > /ʃ/ occurred in Ogur dialects but due to the conservativity of the writing the glyph of /s/ was kept for the new sound value /ʃ/. Note that despite of the formal similarity the KR 𐌰 CIRCLE ENDED SH /ʃ/ and the KR 𐌰 CIRCLE ENDED I /ʃi/ are unrelated.

It is a fact that the geographical distance between the Nabataean Kingdom and Khazar Khaganate was large; however, the Sogdian script was developed from the Syriac, even though the distance between Syria and Sogdiana was much larger. The trading and cultural relations were very strong between the Middle East and Khazaria that makes possible the relation between the Nabataean and the Khazarian Rovas scripts. *Table 3.5.2-6* shows the influence of the Syriac script (most probable the Nestorian version after the schism in the Syriac Christian Church in 489 AD, see *App. B*) on KR.

Syriac (Nestorian)	Khazarian Rovas
𐌰 QOPH /q/	𐌰 CLOSE Q /q/

*Table 3.5.2-6: The influence of the Syriac script on KR*

### 3.5.3. The phonetic system of the Khazarian Rovas

The system of Khazarian Rovas consonants and vowels in the 9<sup>th</sup>–10<sup>th</sup> centuries are presented in *Table 3.5.3-1* and *Fig. 3.5.3-1*, the meaning of each phonetic feature is detailed in *Table C-3*.

Place of articulation	Plosive (voiceless)	Plosive (voiced)	Nasal	Fricative (voiceless)	Fricative (voiced)	Fricative (voiceless, lateral)	Affricate (voiceless)	Affricate (voiced)	Liquid (voiceless, lateral)	Liquid (voiced)
Bilabial	ʈ, ɸ /p/	ɕ, ɖ, ʙ /b/, ɸ /b-/	ʙ /m/		ɸ /β/					
Labiodental				ɸ /f/						
Dental					ɸ /ð/					
Alveolar	ɕ, ɖ, ɸ, ɸ, ɕ /t/	ɕ, ɖ, ʎ /d/	ɕ, ɖ, ʎ /n/	ɸ, ɸ, ɕ /s/	ɕ /z/	ɕ /ʃ/			ɸ, ɸ, ɕ, ɸ /l/	ɸ, ɸ, ɕ, ɸ /r/
Post-alveolar				ɸ, ɸ, ɕ /j/			ɕ /tʃ/	ɕ /dʒ/		
Palatal					ɸ /j/					
Velar	ɕ /k/	ɕ, ɖ /g/	ɕ /ŋ/	ɕ, ɸ, ɕ /x/	ɕ, ɸ, ɕ /ɣ/					
Uvular	ɕ, ɕ, ɕ, ɕ /q/									
Laryngeal (glottal)				ɕ /h/						

Table 3.5.3-1: The phonetic system of Khazarian Rovas consonants used in the 8<sup>th</sup>-10<sup>th</sup> centuries

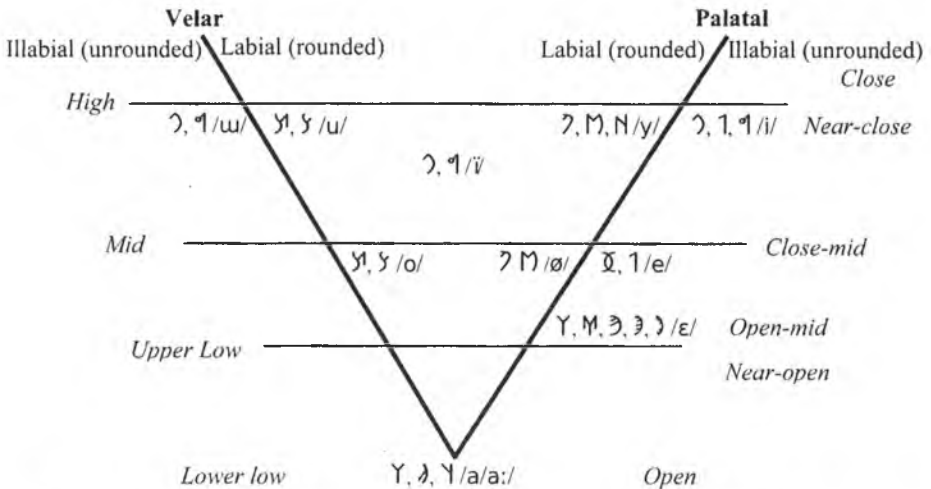


Fig. 3.5.3-1: The graphical representation of the phonetic system of Khazarian Rovas vowels used in the 8<sup>th</sup> century, using only some typical glyphs of each character

## 3.6. The Szekely-Hungarian Rovas script

### 3.6.1. Historical background

#### *The period between 788 and 805*

To understand the circumstances of the evolution of the Szekely-Hungarian Rovas, it is necessary to highlight the historical background of the Carpathian Basin. In the Frankish–Avar wars between 788 and 797 (*App. B*), the Avar Khaganate had no serious population loss. Szalontai proved that a large number of Avars survived the wars in the Carpathian Basin, including in the area of Pannonia.<sup>125</sup> Therefore, at the end of the 8<sup>th</sup> century, the population composition of the Carpathian Basin could have been very similar to that at the end of the 9<sup>th</sup> century.<sup>126</sup> As it was described in *Sec. 3.4.1*, a significant portion of the population in the Carpathian Basin spoke Hungarian in this period.

From the 8<sup>th</sup> century, there was strong Christian missionary activity in the territories of the current Austria, Germany and Czech Republic after the Franks conquered those areas. From the end of the 8<sup>th</sup> century, when the Frankish Empire occupied a part of the former Pannonia (*Image D-3*), the evangelization started there also. The occupied territory was near to *Carantania* (present-day Carinthia, see *Map 3.6.1-1*), the starting point of the missionary activities to these areas in the 9<sup>th</sup> century (*App. B*).

In 796, Frankish bishops met near the Danube, somewhere in Pannonia in order to discuss the concept of the evangelization of the newly formed Frankish Province Pannonia.<sup>127</sup> The central topic of this meeting was the conditions and prerequisites of baptism. The participants expressed the importance of following the customs of the Christian Church and they described the main stages of the conversion, namely (i) *fides docenda* 'founding religious instruction', (ii) *baptismi sacramenta percipienda* 'baptism', (iii) *evangelica praecepta tradenda* 'evangelizing'.<sup>128</sup> The reason of the bishops' meeting was the bitter experience of the previous conversions in other countries that the illiteracy of the local population built a serious barrier to the evangelization.<sup>129</sup> The illiteracy was an actual problem also in the Frankish Empire during that time, and was the background of Charlemagne's order, titled "*De litteris colendis*" (*App. B*) as well. Therefore, the participants of the meeting dealt with the problem of illiteracy as well.

A historical relic, the set of the Freising Manuscripts contain formulas of confession translated from Old High German to Western Slavic (previously there was strong evangelization in the Slavic-speaking Carantania). This is evidence that for improving the effectiveness of the conversion, the missionaries of Salzburg used the native language of the inhabitants in the prayers but not in the liturgy.<sup>130</sup> Similarly, in the beginning of the 9<sup>th</sup> century, the conversion of the population in Pannonia needed to use an alphabet appropriate for describing the prayers in Hungarian. The Hungarian linguistic research showed that the Christian terminology of the Hungarian language originated significantly from the Western Slavic and Old High German, which is in accordance to the concept mentioned above.<sup>131</sup>

<sup>125</sup> Szalontai 1984–1985, pp. 469–470

<sup>126</sup> Szöke 1999b, pp. 94–95

<sup>127</sup> Szádeczky-Kardoss 1998, pp. 291–292

<sup>128</sup> Veszprémy 2004, p. 60

<sup>129</sup> Veszprémy 2004, p. 59

<sup>130</sup> H. Tóth 2007, pp. 30–31

<sup>131</sup> H. Tóth 1996, pp. 77–78

### The period between 805 and 828

In 805, an important event happened: the Christian-named *Theodorus Capcan* asked Charlemagne for an area in the Frankish Empire for his nation (in sources '*Huns*'). Theodorus Capcan asked for land for living, which was a typical Steppean custom known from the history of the Magyars' Landtaking (894–902) as well. According to the archaeologist B.M. Szöke, Theodorus obtained the Danube Valley between the Ybbs River and "*inter Sabariam et Carnuntum*".<sup>132</sup> Carnuntum is currently between Petronell and Deutsch-Altenburg (Northeast Austria). The city of Sabaria is the present-day county seat Szombathely (Hungary). Very probably, this area was also called *Avaria* (*Avar March*) established by Charlemagne in the northern part of the Frankish Province Pannonia (*Pannonia Superior, Upper Pannonia*); see Map 3.6.1-1.<sup>133</sup>



Map 3.6.1-1: The west part of the Carpathian Basin between 805 and 828. The map is based on Szentpéteri and Szöke.<sup>134</sup> Note that the eastern and southeastern borders of the Frankish Empire are uncertain.

Archaeologist-historian G. Vékony assumed that this nation was different from the inhabitants of the Carpathian Basin, that they originated from the Onogur Bishopric at the Sea of Azov (near Crimean Peninsula); and the people of Theodorus were Christian.<sup>135</sup> The Turkic title *capcan* /*qapqan*/ – meaning *conqueror*, is a speaking name in this case;<sup>136</sup> a *throne name* used as honorary title.<sup>137</sup> Note that in the sources, the title *capcan* had not been known in the Avar Khaganate before 805, but as an honorary title it was used in the Western Turkic Khaganate by Khagan *Eterish* and

<sup>132</sup> *Annales regni Francorum*, ad. a. 805. MGH SRG, p. 119

<sup>133</sup> Bóna 1985, pp. 154–156; Bowlis 1978, pp. 3–26

<sup>134</sup> Szentpéteri 1995; Szöke 2000, pp. 336–337; 2004, pp. 185–186

<sup>135</sup> Vékony 1992c, pp. 448–449

<sup>136</sup> Vékony 1981a, p. 77; Vékony 1992c, p. 447

<sup>137</sup> Vékony 1981b, p. 223

his successor Khagan *Mo-chuo* (*App. B*).<sup>138</sup> Theodorus Capcan was khagan as well, similarly to his son *Abraham*. *App. B* lists the supposed historical milestones in this period.

The name *Theodor* was frequently used in the Eastern Christian Church, which was popular among the Goths as well. The Onogurs who lived in the Crimean Peninsula were in connection with the Crimean Goths (*App. B*). As against, the Christian name “Theodorus” was not frequently used by the Frankish missionaries, therefore it is probable that *Theodorus Capcan* was baptized originally near the Black Sea. So, probably their Christianity originated from the East. According to the written sources of Vékony (Frankish Annals),<sup>139</sup> the son of Theodorus, Abraham was already baptized. However, he might be rebaptised in the court of Charlemagne based on the principles accepted by the bishops of the Frankish Church in 796 (*App. B*). In the Carolingian period, baptism did not necessarily taking up a new name. There are examples in the sources for using the pagan names even after baptism because in the western Christian baptismal formula (“*Ego te baptizo in nomine Patris et Filii et Spiritus sancti*”) the name of the baptized was not mentioned.<sup>140</sup> For instance, the chieftains *Priwina*, *Rastislaw*, and *Swentopluk* were mentioned in the sources according to their pagan names – these names did not change during their baptism. In the court of *Priwina* (Mosaburg, see *App. B* and *Map 3.6.1-2*), the name *Unzat* was mentioned in the sources.<sup>141</sup> According to Dopsch, *Unzat* and *Chezil* were sons of *Priwina* (*App. B*).<sup>142</sup> Note that *Unzat* is not an Indo-European name.<sup>143</sup>

The name *Abraham* was also not given during baptism but it attests to the Eastern Christian traditions in the family of Theodorus Capcan. Accordingly, the people of Theodorus Capcan very probably came from the East (of the Carpathian Basin) and they may not have been Avars but Onogurs.<sup>144</sup>

#### ***The period between 828 and 894***

After 828, the territory between the Rapa River and the areas occupied by the Bulgar Khanate was out of any governmental system. It was called *Avarorum solitudo* (*Map 3.6.1-2*), that means ‘Region of Unsettled Avars’. Accordingly, it was inhabited by half-nomadic people and functioned as an uncontrolled buffer zone between the Frankish Empire and Bulgar Khanate.<sup>145</sup> At the same time, the eastern borders of the Frankish Empire were secured along the Rapa River and the activity of the Frankish Church was restricted west of the Rapa River.

The eastern border of the Frankish Empire (*Map 3.6.1-2*) divided the land of the Hungarian population in Pannonia. Their reunification was led by the landtaking Magyars at the end of the 9<sup>th</sup> century (*App. B*). Linguistic evidence of this is the fact that even today there is a so-called *West Transdanubian Dialect* of the Hungarian language. In addition, the region of this dialect is mainly the same territory that belonged to the Frankish Empire in the 9<sup>th</sup> century.

<sup>138</sup> Harmatta 1994, pp. 149–164

<sup>139</sup> Vékony 1981b, p. 224

<sup>140</sup> Vékony 1981b, p. 224

<sup>141</sup> Wolfram 1979, p. 132

<sup>142</sup> Dopsch 2002, p. 270

<sup>143</sup> Vékony 1981b, p. 224

<sup>144</sup> Vékony 1992c, p. 447

<sup>145</sup> Olajos 2001, p. 53; Szenthe 2010





Map 3.6.1-2: The West Carpathian Basin and the neighboring areas between 840 and 894. The map is based on Szentpéteri, Vékony, Szőke, and Fodor.<sup>146</sup> The former Avaria was named March of Pannonia in that time. Note that the eastern and southeastern borders of the Frankish Empire are uncertain.

#### From the 10<sup>th</sup> century

Archaeologist-historian Erdélyi stated that the population in the Carpathian Basin significantly outnumbered the landtaking Magyars of the Grand Prince Árpád in the late 9<sup>th</sup> century.<sup>147</sup> Numerous scholars claim that mostly Hungarian speaking people lived in the Carpathian Basin before the arrival of the Magyars. The Hungarians of the Carpathian Basin joined the Magyars and participated in their fights according to the traditions of the Szekelys and the medieval Hungarian chronicles.<sup>148</sup> In later sources, this Hungarian population was called *Szekelys* /se:keʎs/.

Independently from the Magyars' Landtaking the Szekely-Hungarian Rovas remained in use among the Szekelys. It is attested to by an archaeological relic, the Bodrog Inscription from around 900 (Fig. 8.2.2-1). Map 3.6.1-5 shows the western part of the Carpathian Basin and its neighboring areas in the 10<sup>th</sup> century.

<sup>146</sup> Szentpéteri 1995; Vékony 1999c; Szőke 2000, pp. 336–337; 2004, p. 186; Fodor 2009, p. 65

<sup>147</sup> Erdélyi 2004c, p. 169

<sup>148</sup> Benda, Bertényi, & Póto 2004; Erdélyi 2008b, pp. 52–58



Map 3.6.1-5: The West Carpathian Basin and the neighboring areas from 894 to 973. The map is based on Fodor.<sup>149</sup>

### 3.6.2. Evolution of SHR – Stage 1: The earliest glyphs (8<sup>th</sup> century)

#### A) General description

As it will be presented in the following, the evolution of the Szekely-Hungarian Rovas strongly depends on the evolution of the Hungarian language (*Table C-1*). The history of Szekely-Hungarian Rovas started in the Ancient Hungarian linguistic period. Therefore, the earliest Szekely-Hungarian Rovas character repertoire had to represent the phonemes of the Hungarian language in the 9<sup>th</sup> century.

This section demonstrates that Szekely-Hungarian Rovas was not created artificially but it is a **direct** descendant of the Carpathian Basin Rovas. The earliest character set of Szekely-Hungarian Rovas can be determined based on the comparative analysis of the known oldest Rovas relics, taking into account the facts of linguistic history.

From the first third of the 20<sup>th</sup> century, scientists claimed that the origin of the SHR  $\nabla$  AA was the Early Cyrillic  $\Delta$  A /a/.<sup>150</sup> However, as the author of this book recognized, the Early Cyrillic  $\Delta$  A is less similar to the glyph of the SHR  $\nabla$  AA than to the uncial character 'A', which was commonly used from the 4<sup>th</sup> to the 8<sup>th</sup> centuries in Latin and Greek manuscripts.<sup>151</sup> An example for the uncial character 'A' from the Codex Bezae is  $\Delta$ .<sup>152</sup> The origin of the SHR  $\nabla$  AA /a/e/e:/ is very probably the CBR  $\nabla$  FORKED E /a/e/e/. Only the design unification of  $\nabla$  was influenced by the uncial Latin  $\Delta$  A, applying an auxiliary slanting line. As *Table 3.6.2-1* demonstrates, this method was applied in

<sup>149</sup> Fodor 2009: 76

<sup>150</sup> Németh 1917–1920, pp. 31–44; Melich 1925, pp. 153–159; Király 1971a, 1971b; Róna-Tas 1996a, p. 338

<sup>151</sup> Merriam-Webster's 2003, p. 1361, article "uncial"

<sup>152</sup> Parker 1992

several cases of the creation of SHR glyphs. Moreover, the vertical line of the SHR  $\nabla$  AA was never slanting, differently from the longest line of the uncial  $\blacktriangle$  A, which was *always* slanting. Another argument is that the Early Cyrillic  $\blacktriangle$  A /a/ (and any other uncial  $\blacktriangle$  A) *never* represented /e:/; however, in the earliest Szekely-Hungarian Rovas relic the sound value of SHR  $\nabla$  AA was /e:/ (Fig. 8.2.2-1), which was inherited from the CBR  $\nabla$  FORKED E /a/ε/e/.

### B) The roots of SHR

The Szekely-Hungarian Rovas evolved from Carpathian Basin Rovas having been widely used in the Avar Khaganate (Carpathian Basin and present-day Moravia and Lower Austria). However, there are some Szekely-Hungarian Rovas characters whose origin is questionable since they could have been derived from either Carpathian Basin Rovas or Khazarian Rovas. Tables 3.6.2-1 and 3.6.2-2 show CBR and KR characters, which probably existed in the earliest set of SHR. It is noteworthy that there is no character in the earliest SHR character set which could exclusively be derived from KR. The characters with Hungarian phonetic values in the Ancient Hungarian linguistic period in Table 3.6.2-1 can only be found in CBR. The characters in Table 3.6.2-2 are practically identical in both of CBR and KR.

Carpathian Basin Rovas	Szekely-Hungarian Rovas
$\nabla$ FORKED E /a/ε/e/	$\nabla$ AA /a/a:/ε/e/e:/
(Aethicus) $\square$ , $\ast\blacktriangledown$ CS / $\ast\text{tʃ}$ /	$\blacktriangledown$ CS / $\text{tʃ}$ /
(Aethicus) $\text{Z}$ , $\ast\text{Z}$ DIAGONAL E /a/ε/	$\text{Z}$ E /ε/
$\text{G}$ SHORT G /g/	$\text{G}$ , $\text{GY}$ /g/
$\blacktriangle$ SHARP K /k/	$\blacktriangle$ SHARP K /k/
$\blacktriangledown$ OPEN K /k/	$\blacktriangledown$ OPEN K /k/
$\text{L}$ , (Aethicus) $\text{L}$ FORKED L /l/	$\blacktriangle$ L /l/
(Aethicus) $\text{L}$ , $\ast\text{L}$ LY /l/	$\text{L}$ LY /l/
$\text{N}$ /n/n/	$\text{N}$ /n/ $\ast$ n/
$\text{O}$ OPEN O /o/u/	$\text{O}$ O /o/u/
$\text{S}$ /s/r/s/	$\text{S}$ /s/r/s/
$\text{S}$ , $\text{S}$ CLOSE S /ʃ/	$\text{S}$ US /ʃ/
$\text{D}$ SHARP D /d/	$\text{T}$ /d/t/
$\text{Z}$ , $\text{Z}$ , $\text{Z}$ OPEN Z /z/	$\text{Z}$ Z /z/

Table 3.6.2-1: Carpathian Basin Rovas characters survived in the Szekely-Hungarian Rovas

The origin of the SHR  $\nabla$  AA /a/a:/ε/e/e:/ was the CBR  $\nabla$  FORKED E /a/ε/e/ and not the KR  $\nabla$  FORKED E /a/ε/, since the KR  $\nabla$  FORKED E was not employed for /e/, differently from the CBR  $\nabla$  FORKED E (Table 6.1.2-1 and 7.1.2-1). The SHR  $\text{N}$  /n/ $\ast$ n/ was probably borrowed from CBR and not KR, since the KR  $\text{N}$  /n/ never denoted /n/. Based on the known relics, the KR  $\text{S}$  /s/ did not represent /r/. The KR  $\text{Z}$  DIAGONAL E /ε/ did not represent /a/, therefore the ancestor of the SHR  $\ast\text{Z}$  DIAGONAL E /a/ε/ had to be the CBR  $\text{Z}$ ,  $\ast\text{Z}$  DIAGONAL E /a/ε/.

In case of characters which can be originated from both Carpathian Basin Rovas and Khazarian Rovas, surely only one of them could have been their ancestor. Since at the end of the 8<sup>th</sup> century, in the Carpathian Basin CBR was widely used (attesting relics are presented in Subch. 6.2), the common characters in Table 3.6.2-2 are regarded as being CBR-originated characters. In this deduction, the Minimum Entropy Method was used (Ch. 1).

Carpathian Basin Rovas or Khazarian Rovas	Szekely-Hungarian Rovas
CBR/KR X B /b/	X B /b/
CBR ( <i>Aethicus</i> ) 𐌶, *𐌶 FORKED G /g/ or KR 𐌶 FORKED G /g/	𐌶 G /g/
CBR/KR 1 ANGLED I /i/	1 J /i/:/u/j/
CBR 𐌺, *𐌺 OPEN M /m/ or KR 𐌺, 𐌺 OPEN M /m/	𐌺 M /m/
CBR/KR 𐌿 P /p/	𐌿 P /p/
CBR/KR N GH /ɣ/	N GH /ɣ/
CBR/KR 1 OPEN V /β/	1 OPEN V /β/

Table 3.6.2-2: The characters that appear in both CBR and KR, which were also used in SHR

In the Carpathian Basin Rovas, there was no character representing  $\widehat{\text{f}}\text{s}/$ . Its reason is that in the 9<sup>th</sup> century Hungarian language, the sound  $\widehat{\text{f}}\text{s}/$  did not exist as an individual phoneme, only as an allophone (*Ch. 2*). Some examples of the use of  $\widehat{\text{f}}\text{s}/$  as an allophone from that time are *cinege* 'titmouse', *τιρζα* (early name of the *Tisa* River – the word having survived in a Greek source)<sup>153</sup>, and *castelic* (>*Kesztölc*<sup>154</sup>, a village in Hungary). In Szekely-Hungarian Rovas, there is a glyph for the sound  $\widehat{\text{f}}\text{s}/$ , which indicates the evolvement of this sound.

There are numerous possible ways the glyph for the SHR  $\uparrow C \widehat{\text{f}}\text{s}/$  could have been obtained. One possibility is that it was borrowed from the Lydian script. Both the glyph and the character-name of the Lydian  $\uparrow C$  is that of the SHR  $\uparrow C$ . However, their sound values are different: the Lydian  $\uparrow C$  represented  $/d\text{z}/$ <sup>155</sup> but the SHR  $\uparrow C$  denotes  $\widehat{\text{f}}\text{s}/$ . Also, the historical distance is too large, hence their relation is doubtful. Another possibility, proposed by Rumi, is that the SHR  $\uparrow C \widehat{\text{f}}\text{s}/$  might have evolved from the CBR  $\downarrow$  OPEN K /k/ as an influence of the medieval Old Hungarian Latin-based orthography (see *Table C-2*), where the character *c* denoted both /k/ and  $\widehat{\text{f}}\text{s}/$ .<sup>156</sup>

The third possibility, presented by Vékony, is that the origin of the SHR  $\uparrow C \widehat{\text{f}}\text{s}/$  is the Runic  $\uparrow$  TIWAZ  $\widehat{\text{f}}\text{s}/$ .<sup>157</sup> Since in this concept both the glyphs and the sound values are identical, this theory is the most probable based on the Minimum Entropy Method (*Ch. 1*). In the 8<sup>th</sup> century, some Christian priests of Salzburg still knew the Runic alphabet. Another important fact is that the Germanic people in the area of the Archbishopric of Salzburg used the Old High German dialect. Both facts could have affected SHR. The character-name of the T-rune  $\uparrow$  was generally *Tyr* (currently the character-name *Tiwaz* is used); however, in the Old High German dialect it was *Ziu* and its pronunciation is attested to be  $\widehat{\text{f}}\text{s}io/$  in the Wessobrunn Prayer.<sup>158</sup> The date of its composition is around 790 or a little later, while the earliest surviving manuscript dates from about 814. Therefore, the adoption of the Runic  $\uparrow$  TIWAZ to Szekely-Hungarian Rovas had to happen when the Salzburg Archbishopric started to organize the evangelization in the territory of the Frankish Province Pannonia.

Runic	Szekely-Hungarian Rovas
$\uparrow$ TIWAZ with phoneme of the Old High German dialect ( <i>Hochdeutsche Mundarten/Dialekte</i> ) $\widehat{\text{f}}\text{s}/$	$\uparrow C \widehat{\text{f}}\text{s}/$

Table 3.6.2-3: The influence of the Runic script on SHR

<sup>153</sup> Porphyrogenetus (913–959 AD)

<sup>154</sup> TA 1055

<sup>155</sup> Melchert 2004, pp. 602–603

<sup>156</sup> Rumi 2011

<sup>157</sup> Vékony 1987a

<sup>158</sup> Wessobrunner Gebet

### C) The earliest SHR characters

Based on the comparison of SHR and its ancestor glyphs, the majority of the SHR characters are identical to its ancestors (Table 3.6.2-4).

Application of script evolution principles	Resulting character
- <b>None:</b> The CBR X B /b/ survived in SHR.	X B /b/
- <b>Borrowing:</b> The Runic ↑ TIWAZ /t̥s/ survived in SHR.	↑ C /t̥s/
- <b>None:</b> The CBR ( <i>Aethicus</i> ) 𐌶, *𐌶 CS /t̥ʃ/ survived in SHR.	𐌶 CS /t̥ʃ/
- <b>None:</b> The CBR ( <i>Aethicus</i> ) 𐌶, *𐌶 DIAGONAL E /a/ε/ survived in SHR. There is only indirect evidence for its use in its original shape (Fig. 8.2.7-5b); later it was modified in SHR (Table 3.6.4-1). The Glagolitic script also borrowed it (Ǻ JEST /ε/).	*𐌶 E /a/ε/, later form: Ǻ
- <b>Latin:</b> The CBR 1 ANGLED I /i/ survived in SHR. Up to the 13 <sup>th</sup> -16 <sup>th</sup> centuries the same glyph was used for /i/ and /j/, which could be due to the influence of the early Medieval Latin orthography.	1 J /i/i:/w/j/
- <b>None:</b> The CBR 4 OPEN K /k/ survived in SHR.	4 OPEN K /k/
- <b>None:</b> The CBR ( <i>Aethicus</i> ) 𐌸, *𐌸 LY /j/k/ survived in SHR.	𐌸 LY /k/
- <b>None:</b> The CBR 𐌹 N /n/ survived in SHR. In SHR the 𐌹 N /n/ was very probably used for representing /ɲ/ as well. In the Bologna Rovas Relic, D NY /ɲ/ is in the end of the alphabet (Fig. 8.2.6-4), which indicates that originally it was not part of the alphabet but probably the alphabet was extended with the character D NY /ɲ/ later. Consequently, in the earliest character set of SHR, there was no individual glyph for representing /ɲ/. Its reason could be that the CBR 𐌹 N represented both /n/ and /ɲ/ as well, e.g. Környe (Fig. 6.2.6-1). The sound value /ɲ/ for the SHR 𐌹 N is attested to from 1629 (Table 8.2.8-1); however, it could show the earlier use of the SHR 𐌹 N. Since the phoneme /ɲ/ existed in the Hungarian language in this time, SHR symbols had to exist for it. In the 12 <sup>th</sup> -14 <sup>th</sup> c., a ligature-based symbol was created for representing /ɲ/, see Table 3.6.4-3. If there would have been an individual SHR symbol for /ɲ/, there would not have been a need to create a new symbol for /ɲ/. The reason for creating a symbol for /ɲ/ was most probably the differentiation between the SHR symbols for /ɲ/ and another sound, which could not be other than /n/ based on the similarity of their pronunciation.	𐌹 N /n/*ɲ/
- <b>None:</b> Only the glyph 𐌶 from the existing CBR characters for /p/ (𐌶, 1) survived in SHR.	𐌶 P /p/
- <b>None:</b> The glyph 𐌷 of the CBR 𐌷, 𐌷 CLOSE S /ʃ/ survived in SHR. The existence of the glyph variant 𐌷 of the CBR 𐌷 CLOSE S /ʃ/ is attested to in a CBR relic (Fig. 6.2.9-8c).	𐌷 US /ʃ/
- <b>None:</b> The CBR 1 SZ /r/s/ survived in SHR.	1 SZ /r/s/
- <b>None:</b> The CBR N GH /ɣ/ survived in SHR. In Hungarian, the /ɣ/ was used only in the middle or the end of words.	N GH /ɣ/
- <b>None:</b> The CBR 1 OPEN V /β/ survived in SHR; see Bodrog Relic (around 900, Sec. 8.2.2) and Székelydália (Fig. 8.2.4-1). Probably, in the earliest period of the SHR, this character denoted the sound /f/ as well (see Sec. 6.2.7).	1 OPEN V /β/*f/

Table 3.6.2-4: The SHR glyphs which are identical to the appropriate glyphs of its ancestors \*

Table 3.6.2-5 shows the SHR characters being modified comparing to their CBR ancestors. During this process, in almost every case the applied glyph-forming method was “*Line insertion*”. This is evidence that these modifications were carried out by one person or a group of scholars. This is in accordance to Vásáry and Sándor, who also claimed the effect of careful, conscious design.<sup>159</sup> Vásáry claimed that the earliest form of SHR may have been the result of a tentative unification of the glyphs.<sup>160</sup> The applied script evolution principles used during the shaping of these SHR characters are described below.

Glyph-forming method	Application of script evolution principles	Resulting character
Line insertion	- <b>Closer-shape forming, Differing, Latin/Greek:</b> The CBR $\Upsilon$ FORKED E /a/ε/e/ was shaped according to the Uncial Latin or Greek $\Lambda$ A. The use of $\Upsilon$ AA for representing /e:/ is attested by the Bodrog Relic (around 900, <i>Sec. 8.2.2</i> ).	$\Upsilon$ AA /a/a:/ε/e/e:/
Line insertion	- <b>Closer-shape forming, Symmetry:</b> Applying auxiliary slanting line on the CBR ( <i>Aethicus</i> ) $\xi$ , * $\lambda$ FORKED G /g/ for obtaining a symmetric envelope curve.	$\lambda$ G /g/
Line shift & insertion	- <b>Closer-shape forming, Greek, Symmetry:</b> Applying an auxiliary slanting line in case of the CBR $\chi$ FORKED L // in order to obtain a symmetrical envelope shape and also to fit the style of the SHR $\lambda$ G /g/. Possibly the shape of the Greek $\lambda$ LAMBDA also influenced the design of the SHR $\lambda$ L. Probably, the glyph variant * $\chi$ was used as the ancestor of the SHR glyph. Similar SHR glyph variants are attested to in <i>Fig. 8.2.8-5</i> : $\lambda$ L // (in the second alphabet) and in <i>Fig. 8.2.7-5b</i> : $\lambda$ L //.	$\lambda$ L //
Mirroring & Line insertion	- <b>Closer-shape forming:</b> A vertical line was applied in order to close the form of the CBR $\xi$ OPEN M /m/. Surely, the mirrored $\xi$ glyph of the CBR $\xi$ OPEN M /m/ also existed. It is not attested to by the known surviving Carpathian Basin Rovas relics; however, there are examples for the mirrored $\xi$ glyph in KR, which is a close relative of CBR (e.g., see <i>Fig. 7.2.10-4</i> ).	$\xi$ M /m/
Line shifting	- <b>Closer-shape forming:</b> It was the modification of the CBR $\circ$ OPEN O /o/u/ in order to get a topologically closer form by shifting the two vertical lines toward each other.	$\circ$ O /o/u/
Extending & rotating line	- <b>Vertical emphasis:</b> The lower line of the CBR $\triangleright$ SHARP D /d/ was extended and turned in order to obtain a vertical position.	$\Upsilon$ T /d/t/
Line insertion	- <b>Closer-shape forming, Differing, Symmetry:</b> Applying an auxiliary vertical line on the CBR $\mathfrak{A}$ OPEN Z /z/, the new glyph differed from $\mathfrak{A}$ P /p/, and the new SHR $\mathfrak{Z}$ /z/ was more closed than its CBR ancestor $\mathfrak{A}$ OPEN Z /z/. Moreover the SHR glyph became centrally symmetric, differently from its ancestor.	$\mathfrak{Z}$ Z /z/

Table 3.6.2-5: The seven SHR characters which are shaped versions of their CBR ancestors

<sup>159</sup> Vásáry 1974, pp. 168; Sándor 1996a, pp. 83–93

<sup>160</sup> Vásáry 1974, pp. 159–171



Róna-Tas claimed that the reconstruction of the history of a script makes possible the restoration of an earlier version, which was probably composed of fewer characters.<sup>161</sup> The oldest reconstructed set of SHR characters in the beginning of the 9<sup>th</sup> century is composed of much smaller number of characters than the later repertoire of SHR. In addition, the earliest SHR alphabet differed from the appropriate CBR characters only by a few characters (*Table 3.6.2-6*). Note that this reconstruction is partly based on indirect evidence.

SHR characters being identical to the appropriate CBR characters	SHR characters originated from CBR with modification	SHR character borrowed from Runic
X /b/, 𐌵 /tʃ/, *ʒ /a/ɛ/, N /ɣ/, 1 /w/i/i:/j/, 𐌶 /k/, 0 /k/, 𐌷 /n/*ɲ/, 𐌸 /p/, 0 /ʃ/, 1 /r/s/, 𐌹 /β/*f/	𐌶 /a/a:/ɛ/e/e:/, 𐌶 /g/, 𐌶 /l/, 𐌸 /m/, 𐌷 /o/u/, 𐌹 /d/t/, 𐌸 /z/	↑ /ts/

*Table 3.6.2-6:* The oldest reconstructed set of SHR characters grouped according to their origins

*Table 3.6.2-7* shows the phonetic system of consonants. The character to the left in the cell is *voiceless* and to the right is *voiced*.<sup>162</sup> In the Ancient Hungarian linguistic period, the /tʃ/ voiced palatal affricate already existed;<sup>163</sup> however, its symbol in Szekely-Hungarian Rovas has not been found in the known relics. The symbol of the /x/ voiceless velar fricative in the earliest character set is also unknown.

Place of articulation	Plosive	Nasal	Fricative	Affricate	Liquid
<b>Bilabial</b>	*𐌸 /p/    *X /b/	*𐌸 /m/		*𐌹 /β/	
<b>Dental</b>			*𐌹 /f/		
<b>Alveolar</b>	*𐌹 /t/    *𐌹 /d/	*𐌷 /n/	*1 /s/    *𐌸 /z/	*↑ /tʃ/	*𐌶 /l/    *1 /r/
<b>Postalveolar</b>			*0 /ʃ/	*𐌵 /tʃ/	
<b>Palatal</b>		*𐌷 /ɲ/		*1 /j/	𐌶 /j/    *0 /k/
<b>Velar</b>	*𐌶 /k/    *𐌶 /g/		/x/    *N /ɣ/		

*Table 3.6.2-7:* The SHR consonants used in the 8<sup>th</sup> century organized according to their phonetic values (the meaning of each feature is detailed in *Table C-3*).

The phonetic system of the SHR vowels is presented in *Fig. 3.6.2-1*.

<sup>161</sup> Róna-Tas 1996a, p. 338

<sup>162</sup> E. Abaffy 2003a, p. 122; 2003b, p. 316

<sup>163</sup> Zelliger 2010–2011



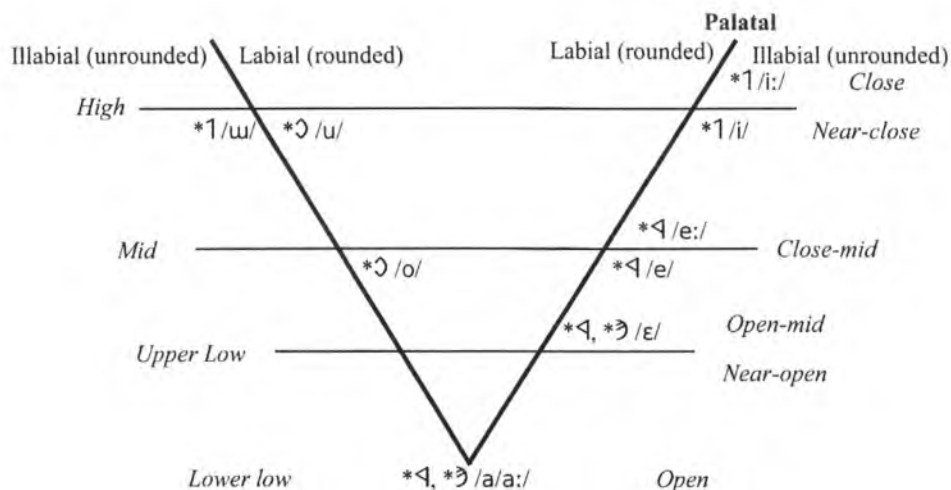


Fig. 3.6.2-1: The graphical representation of SHR vowels used in the 8<sup>th</sup> century

During the Ancient Hungarian linguistic period, the Hungarian language had two main dialects, namely the *illabial* and the *labial*.<sup>164</sup> According to linguist I. Szathmári, in West Transdanubia (the area of the late Frankish Pannonia) and around the ancient fortress of Nyitra (present-day Nitra, Slovakia) the Hungarian dialects even today are *illabial*.<sup>165</sup> Probably that was the situation in the 9<sup>th</sup> century, in the Frankish Pannonia as well, where SHR organically differentiated from CBR. This is the reason why there was no character for representing /y/ in the earliest version of SHR. Note that the western border between the illabial and labial dialects of the Hungarians in the Carpathian Basin shows correlations with the areas around Nyitra which were occupied by the Moravians and West Pannonia which was occupied by the Franks (Map 3.6.1-2). Therefore, the people of these areas were isolated from the other Hungarian speaking population of the Carpathian Basin in the 9<sup>th</sup> century. This isolation could cause the difference between the developments of the main dialects.

#### D) The circumstances of the first age of the Szekely-Hungarian Rovas

The circumstances for the evolution of Szekely-Hungarian Rovas are summarized in Table 3.6.2-8. In that time the Hungarian population of Pannonia presumably used the Carpathian Basin Rovas. Accordingly, the Szekely-Hungarian Rovas was surely gradually differentiated from the Carpathian Basin Rovas due to the geographical isolation of the Hungarians in West Pannonia, which belonged to the Frankish Empire from 796. At this time, an evangelization started by the missionaries of the Salzburg Archbishopric. Note that from 863 the evangelization of West Pannonia was organized by the Greek missionaries Saint Cyril and Saint Methodius. From that time onwards, the influence of the Salzburg Archbishopric significantly decreased. Saints Cyril and Methodius used Slavic as the language of the liturgy and the newly invented Glagolitic alphabet for the evangelization. Therefore, the emerging SHR had to be influenced by the Frankish missionaries before this time, at the end of the 8<sup>th</sup> century and in the first third of the 9<sup>th</sup> century.

<sup>164</sup> E. Abaffy 2003a, p. 124

<sup>165</sup> Szathmári 2010a, p. 58

Circumstance	Consequence
The Frankish Church consciously planned the evangelization of the local population.	-The Salzburg Archbishopric, which organized the evangelization in Pannonia, created a short collection of necessary knowledge of catechism and prayers.
The missionaries were open-minded for the languages of the local population.	-They surely translated the basic prayers in this case to Hungarian.
A portion of the users of the earliest SHR probably had strong Latin-based script knowledge.	-The CBR 1 ANGLED I /i/ was applied for /i/ and /j/, which was specific for the Medieval Latin orthography.
Charlemagne intended to suppress the illiteracy and along with Alkuin was very interested in the development of alphabets.	-The Frankish missionaries were ready and able to use the script of the local population, besides the predominant Latin and Greek alphabets.
The Avar Khaganate generally used the Carpathian Basin Rovas.	-Due to its extended use, Carpathian Basin Rovas was surely used by the missionaries.
Arn of Salzburg's <i>Instructio Pastoralis</i> contained the Runic alphabet among others.	-The missionaries probably knew the Runic characters. -The missionaries, who spoke German besides Hungarian, used the High German dialect, since the † TIWAZ /t/ rune was used to represent /tʃ/.

Table 3.6.2-8: The circumstances of the early evolution of SHR

The influence of the evangelization by Salzburg can be detected in the Bologna Rovas Calendar (Sec. 8.2.6). It contains a fragmentary archaic text (Fig. 8.2.6-11), in which there are the titles of two important prayers (*Lord's Prayer*, *Apostles' Creed*) and the geographical name "*Province Pannonia*" (Fig. 8.2.6-12). All of these were written onto a wooden stick, as it was usual in the Rovas literacy. Only a paper copy of the original Rovas Calendar's subsequent copies survived, which was made by Luigi Ferdinando Marsigli, an Italian soldier and naturalist in 1690.<sup>166</sup> The manuscript of Marsigli was found in Bologna (Italy); therefore, this Rovas relic is named after Bologna. Marsigli wrote on page 669 of his manuscript, "...*Calendario... per uso di quei primi convertiti alla Fede Cattolica...*"<sup>167</sup> It means, that according to Marsigli, the Rovas Calendar originated from the people who converted to Christianity earliest.<sup>168</sup>

### 3.6.3. Evolution of SHR – Stage 2: Incorporating loan characters (9<sup>th</sup>–12<sup>th</sup>/13<sup>th</sup> centuries)

Rogers explored that borrowing writing systems is affected by social and cultural aspects.<sup>169</sup> This is an improvement on the traditional view of Hockett, which was based on purely linguistic assumptions.<sup>170</sup> Rogers' model is useful to describe the further development of the earliest character set of SHR. During this period (9<sup>th</sup>–10<sup>th</sup> centuries), characters from other scripts were adopted by

<sup>166</sup> Sándor 1991

<sup>167</sup> Sándor 1991

<sup>168</sup> Vékony 1987a, p. 289

<sup>169</sup> Rogers 1999, p. 260

<sup>170</sup> Hockett 1958, p. 545

SHR. One of them was CBR that was still widely used throughout the Carpathian Basin. Consequently, their interaction and merger was a result of natural development (Table 3.6.3-1).

As an example, the SHR  $\ddagger$  GY originally represented the sound /g/: Fig. 8.2.8-3, Fig. 8.2.8-9, Fig. 8.2.6-4, Sec. 8.2.6/C, and Fig. 8.2.6-8b. Therefore, very probably the ancestor of the SHR  $\ddagger$  GY was the CBR  $\sphericalangle$  SHORT G /g/. However, when the SHR  $\ddagger$  GY was created as a duplication of the glyph of  $\sphericalangle$  SHORT G – in the ligature-oriented period (12<sup>th</sup>–14<sup>th</sup> centuries, Sect. 3.6.4/C) – CBR had already been extinct. Consequently, SHR probably borrowed  $\sphericalangle$  SHORT G from CBR first, and then the SHR  $\ddagger$  GY was created (Table 3.6.3-1).

Glyph-forming method	Application of script evolution principles	Resulting SHR character
No modification	<b>Borrowing:</b> The CBR $\sphericalangle$ SHORT G /g/ was borrowed.	* $\sphericalangle$ SHORT G /g/, it is attested in a duplicated form: $\ddagger$ (Table 3.6.4-3).
No modification	<b>Borrowing:</b> The CBR $\Delta$ SHARP K /k/ was borrowed. Since it is attested to in Torja (11 <sup>th</sup> c., see Fig. 6.2.11-1), where Szekelys lived from the 12 <sup>th</sup> c., the adaptation of this character surely happened in the 12 <sup>th</sup> –13 <sup>th</sup> c.	$\Delta$ SHARP K /k/ After the 14 <sup>th</sup> c. it was not in use.

Table 3.6.3-1: CBR characters incorporated into the already existing SHR

Khazarian Rovas characters were also borrowed in this time (Table 3.6.3-1). According to the author of this book, the Onogurs of Theodorus and Abraham – who came to West Pannonia in 805, according to Vékony<sup>171</sup> – surely used the Khazarian Rovas (Sec. 3.6.1). Later, their descendants presumably remained in leadership positions in the region. Therefore, using their KR characters could have been a kind of prestige. This assumption is in accordance with Rogers' model for borrowing scripts.<sup>172</sup>

The sound /y/ was used in this time by the Hungarian speaking population in regions of the Carpathian Basin (outside of the Frankish territories) where the *labial* dialect was in use. That was the reason why the KR  $\mathring{M}$  SHARP UE /y/ø/ was incorporated into SHR for representing /y/ (Table 3.6.3-2). A region of the labial dialect was around the mouth of the Drava River; the region where the people later called Szekelys settled. The Szekelys were a part of the population of the Carpathian Basin who became border guards after the Magyars' Landtaking. The Szekelys around the mouth of the Drava River migrated into the area of Szekelyland (today in Romania) in the 12<sup>th</sup> century.<sup>173</sup>

An important difference between KR and SHR is the primary material used for writing. While both of them used wooden sticks, stone and metal plates, the SHR predominantly applied wooden sticks. In case of carving into wooden material, the horizontal line could coincide with the wood's grain, and the carving knife could easily slip. Probably, one of the reasons why some borrowed glyphs were modified in SHR was to fit the writing techniques.

<sup>171</sup> Vékony 1992c, pp. 448–449

<sup>172</sup> Rogers 1999, p. 260

<sup>173</sup> Szathmári 2010b

Glyph-forming method	Application of script evolution principles	Resulting character
No modification	<b>Borrowing:</b> The KR Ǫ CLOSE E /e/ was borrowed.	Ǫ CLOSE E /e/
Slight modification	<b>Borrowing, Writing technology:</b> The KR Ǫ ANGLED Q was borrowed with sound value /x/. The glyph was modified by shortening and slanting its horizontal lines (Nikolsburg Alphabet, see Fig. 8.2.5-2) in accordance with the wood carving technology.	Ǫ CH /x/
Slight modification	<b>Adaptation, Borrowing, Symmetry:</b> The glyph of the KR Ǫ CLOSE Q /q/ was used consequently with the shape Ǫ during the history of KR. The vertically symmetric SHR Ǫ is a glyph variant, which fitted the style of other SHR glyphs better than the original KR Ǫ CLOSE Q.	Ǫ K /k/
No modification	<b>Borrowing, Differing:</b> The KR Ǫ R /r/ was borrowed.	Ǫ R /r/
Line removal	<b>Borrowing, Writing technology:</b> A simplified glyph variant of the KR Ǫ CIRCLE ENDED SH /ʃ/ was used, since its small arc was almost impossible to carve into wood.	Ǫ S /ʃ/
Line merger	<b>Borrowing, Writing technology:</b> The KR Ǫ CENTRAL T /t/ was borrowed. The reason for its modification could be that the SHR glyph (Ǫ) was easier to carve. The evidence, that this character was borrowed later than the creation of SHR is the fact that the SHR Ǫ TY represented only /t/. As against, the SHR Ǫ T represented both /t/ and /d/.	Ǫ TY /t/
Slight modification	<b>Borrowing, Symmetry, Writing technology:</b> The glyph variant Ǫ of the KR Ǫ SHARP UE /y/ø/ was applied in SHR. Its probable reason was that the symmetrical shape, vertical and straightforward lines of SHR Ǫ fitted the other existing SHR glyphs. In contradiction to its KR descendant, it did not denote /ø/ – since at that time this vowel did not exist in Hungarian. Its use is attested to in the Vargyas Relic (Fig. 8.2.3-1b). The name of the SHR letter (V) shows its final sound value; in the age of its adoption, it surely did not represent /v/.	Ǫ V /y/
No modification	<b>Borrowing:</b> The KR Ǫ ZS /ʃ/ was borrowed. For instance, in the Rovas Calendar in the words ǪǪǪ /koloʒ/ ‘Scholastica’ and ǪǪǪ /pmbroʒ/ ‘Ambrosius’, the Ǫ ZS denoted /ʃ/ (Table 8.2.6-3 and 8.2.6-4).	Ǫ ZS /ʃ/

Table 3.6.3-2: KR characters presumably incorporated into the already existing SHR in the 9<sup>th</sup>–10<sup>th</sup> centuries

The SHR Ǫ K /k/ and the Lycian Ǫ K /k/k/ (*Subch. 4.1, Descent Table of the Phoenician Ǫ QOF*) have identical glyphs and very similar sound values; however, based on the geographical and historical facts, these two characters are surely unrelated. Namely, the Lycian script was in use in Southwest Asia Minor (Anatolia) up to 330 BC and oppositely, the first SHR relic dated to around 900 AD and SHR was known in the Carpathian Basin.

Some KR loan characters superseded the CBR-originated characters in everyday use because of their more appropriate topological properties. For instance, the KR-origin SHR Ǫ R /r/ largely

superseded the use of the CBR-origin SHR | SZ representing /r/ (the SHR | SZ remained in use as the sound /s/). Moreover, the KR-origin  $\Lambda$  S /f/ superseded the CBR-origin  $\emptyset$  US /f/ because the latter was hard to distinguish from the SHR  $\emptyset$  LY. However, some loan characters were applied for adjusting SHR to the evolving Hungarian language. This process enabled the survival of these loan characters; e.g., the KR  $\Upsilon$  ZS /f/ was used to represent the new sound /z/ (Table 3.6.4-1).

As for the development of the SHR  $\Lambda$  S /f/, the KR-relationship can be observed in the Nikolsburg Alphabet (Fig. 8.2.5-2). There, the glyph of the SHR  $\Lambda$  S /f/ was consequently used even in the ligature  $\Lambda$  ST. In the case of both glyphs, the right hand line is clearly vertical and not slanted similarly to the KR  $\Lambda$  CIRCLE ENDED SH /f/. The asymmetric property of the glyph  $\Lambda$  was obviously intentional. Other SHR characters in the Nikolsburg Alphabet having identical envelope shapes were written consequently with symmetrical slopes ( $\Lambda$  G and  $\Lambda$  L). The original, asymmetric shape of the SHR  $\Lambda$  S /f/ can be observed on other earlier SHR relics, including the Rovas Calendar (Sec. 8.2.6) as well as the Ancient Alphabet of J. Kájoni (Fig. 8.2.8-9). Only later SHR relics show the symmetrically sloped glyph of the character  $\Lambda$  S /f/:  $\Lambda$ .

It is noteworthy that SHR characters stemming from KR do not show any sign of conscious design work; there were only slight modifications of the original KR glyphs. Consequently, this adoption most probably was an organic process, differing from the conscious design of the earliest set of SHR characters (Table 3.6.2-5).

The CBR  $\uparrow$  OPEN F represented /f/, which was an important phoneme in the Ancient Hungarian linguistic period. However, it was topologically almost identical to the CBR  $\uparrow$  OPEN V /β/. That could be the reason why a topologically distinct glyph was needed for representing /f/.

The use of the SHR  $\emptyset$  F /f/ was attested to already around 900 (Bodrog Clay Twyer:  $\emptyset\emptyset\emptyset$  /fuβne:k/, see Fig. 8.2.2-1). The sound /f/ is a *voiceless labiodental fricative* articulated with the lower lip and the upper teeth. The /θ/ is a *voiceless dental* (often-called *interdental*) *fricative*, which is articulated with the tongue on the lower or the upper teeth. Consequently, the /f/ and the /θ/ are close to each other in terms of pronunciation. The /θ/ is rare in the languages of the world and several times the /θ/ is substituted by other sounds, including /f/. For instance, the pronunciation *Th-fronting* in English also refers to this problem. On the other hands, the German language lacks /θ/.

The Greek  $\Theta$  THETA /θ/ and its earlier form,  $\theta$  THETA /θ/ could be suitable for representing /f/ in SHR (Table 3.6.3-3). The archaic glyphs of the Greek  $\Theta$  THETA were written as a cross within a circle, using the following two versions:  $\oplus$  and  $\otimes$ . Based on the listed facts the Greek  $\Theta$  THETA was almost surely the direct ancestor of the SHR F /f/, which has three glyph variants:  $\emptyset$ ,  $\otimes$  and  $\oplus$ . Possibly, the earliest version of the SHR F /f/ was the  $\emptyset$  F /f/ (Fig. 8.2.2-1), which was derived from the Greek  $\Theta$  THETA and the other glyph variants  $\otimes$  and  $\oplus$  are later modifications (Table 3.6.5-2).

Application of script evolution principles	Resulting character
- <b>Adaptation, Borrowing, Writing technology:</b> The original version of the Greek $\theta$ THETA /θ/ with sound /f/ was borrowed and its horizontal line was slanted (Vargyas Relic, see Fig. 8.2.2-1) in accordance with the wood carving technology.	$\emptyset$ DIAGONAL F /f/
- <b>Adaptation, Borrowing, Writing technology:</b> The Greek $\Theta$ THETA /θ/ with sound /f/ was borrowed with slight simplifications.	$\otimes$ F /f/

Table 3.6.3-3: Influence of the Greek script on SHR. The SHR  $\emptyset$  DIAGONAL F /f/ did not occur after the 12<sup>th</sup>–13<sup>th</sup> c.

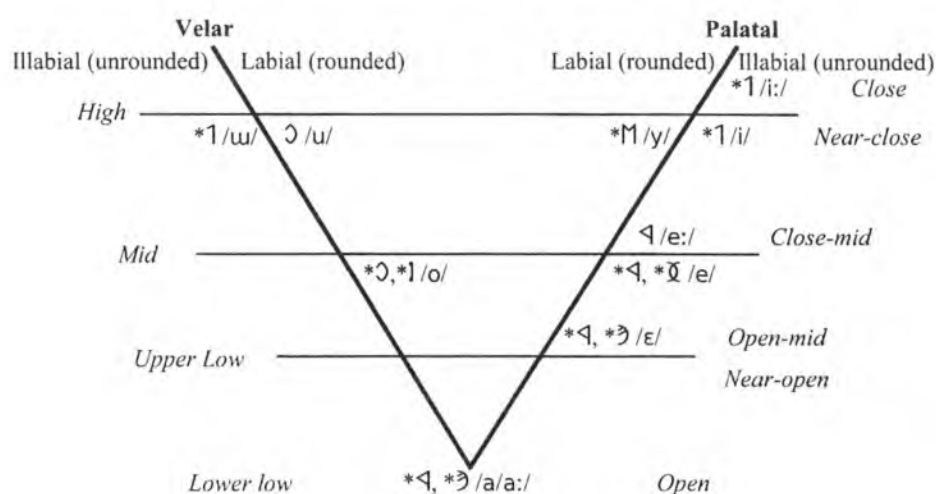
The incorporation of the Greek  $\theta$  THETA / $\theta$ / into the SHR might be related to the evangelization of the Byzantine missionaries Saints Cyril and Methodius. Its indirect evidence is the similarly shaped Glagolitic  $\Phi$  FITA character for the sound /f/,<sup>174</sup> since the Glagolitic alphabet was used by the Byzantine missionaries.

The incorporation of the Glagolitic character  $\mathfrak{O}$  ON / $\omega$ / also belongs to this stage of SHR's evolution; it will be presented in detail in *Sec. 3.7.2*. This character was used locally and did not survive after the 12<sup>th</sup> century. *Table 3.6.3-4* shows the reconstructed system of SHR consonants in the beginning of the 10<sup>th</sup> century, where the character to the left in the cell is *voiceless* and to the right is *voiced*.<sup>175</sup>

Place of articulation	Plosive	Nasal	Fricative	Affricate	Liquid
<b>Bilabial</b>	* $\mathfrak{P}$ /p/    * $\mathfrak{X}$ /b/	* $\mathfrak{M}$ /m/		$\mathfrak{F}$ /β/	
<b>Dental</b>			$\mathfrak{S}$ , * $\mathfrak{O}$ /f/		
<b>Alveolar</b>	* $\mathfrak{T}$ , * $\mathfrak{X}$ /t/    * $\mathfrak{D}$ /d/	$\mathfrak{N}$ /n/	* $\mathfrak{L}$ /s/    * $\mathfrak{Z}$ /z/	* $\mathfrak{C}$ /tʃ/	* $\mathfrak{R}$ /l/    * $\mathfrak{H}$ /r/
<b>Postalveolar</b>			* $\mathfrak{S}$ , * $\mathfrak{L}$ , * $\mathfrak{Y}$ /ʃ/	* $\mathfrak{C}$ /tʃ/	
<b>Palatal</b>		* $\mathfrak{J}$ /ɲ/		* $\mathfrak{I}$ /j/	$\mathfrak{I}$ /j/    * $\mathfrak{K}$ /ɰ/
<b>Velar</b>	* $\mathfrak{K}$ , $\mathfrak{G}$ /k/    * $\mathfrak{G}$ , * $\mathfrak{C}$ /g/		* $\mathfrak{X}$ /x/    * $\mathfrak{N}$ /ɣ/		

*Table 3.6.3-4: SHR consonants used in the 10<sup>th</sup> century, organized according to their phonetic values*

The phonetic system of SHR vowels in the 10<sup>th</sup> century is presented in *Fig. 3.6.3-1*.



*Fig. 3.6.3-1: SHR vowels used in the 10<sup>th</sup> century*

<sup>174</sup> Vékony 1985, pp. 82–83

<sup>175</sup> E. Abaffy 2003a, p. 122; 2003b, p. 316



The fact that the earliest set of SHR was differentiated from CBR without using any *attested* KR character shows that the user society of the emerging SHR most probably did not use KR. This population could be the inhabitants of the Avar (probable Onogur) Khaganate in the 8<sup>th</sup> century. The other fact, that some *attested* KR characters were adopted a bit later, supports the theory of the coexistence of another population, which *surely* did use KR. It is noteworthy that KR characters were adopted by the Glagolitic alphabet as well (*Sec. 3.7.1*).

According to the author of this book, it is highly unlikely that KR could have influenced the evolution of SHR without the presence of KR users. The Khazarian Rovas user population was surely the nation of Theodorus (*App. B*). The adoption of KR characters by SHR could only have happened after 805, when Abraham established his khaganate called in Frankish sources *Avaria* (*Map 3.6.1-1*). The center of that khaganate was between the town Carnuntum and the Rapa River (*Map 3.6.1-1*). Consequently, the SHR script started to differentiate from CBR **between 798 and 805**. *Fig. 3.6.3-2* presents the flow chart of the development of the Rovas scripts and the outer influences on them in the Carpathian Basin from 567 AD to the 11<sup>th</sup> century.

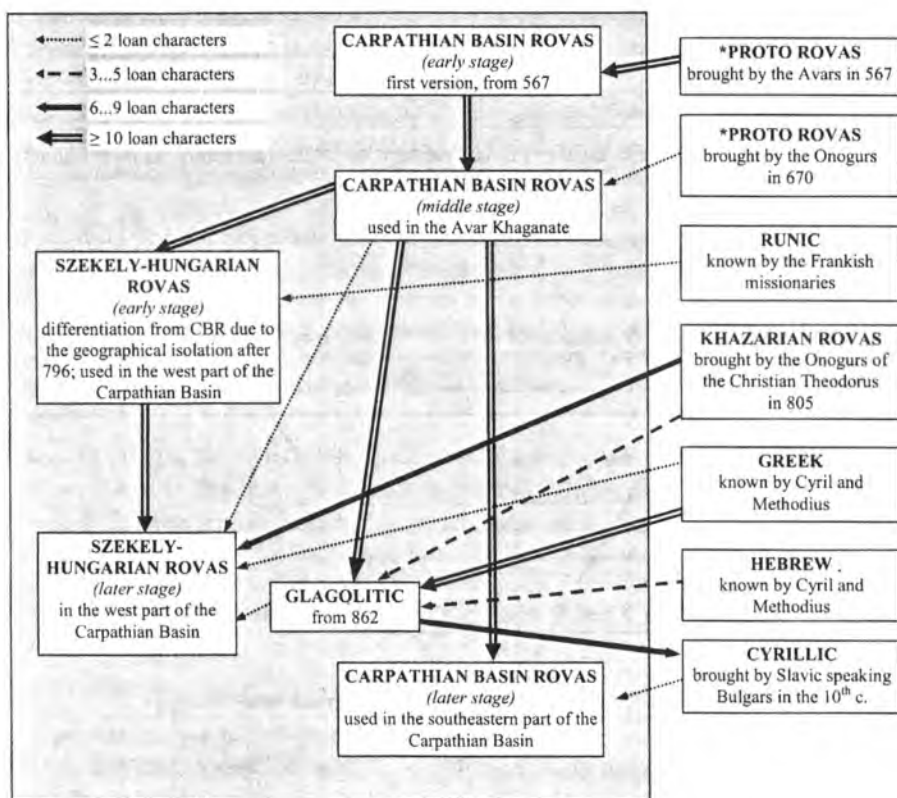


Figure 3.6.3-2: Flow chart of the evolution Rovas and Glagolitic scripts in the Carpathian Basin up to the 11<sup>th</sup> century



### 3.6.4. Evolution of SHR – Stage 3: Age of ligatures (11<sup>th</sup>–14<sup>th</sup> centuries)

From the 11<sup>th</sup> century, the Old Hungarian Latin-based orthography (see *Table C-2*), affected SHR. This stage of the evolution of SHR was named after the ligatures; since in this period, the ligating technique became popular and was consciously used for creating new characters in SHR.

#### A) Influence of the phonetic changes

SHR was affected by the significant phonetic changes of the Hungarian language in the early Old Hungarian linguistic period (from the 10<sup>th</sup> to the 13<sup>th</sup> centuries, see *Table C-2*). As Rogers demonstrated, if a language and its writing system get out of line with each other, then it would appear to be the job of orthographic reform to bring them back into a simple relationship.<sup>176</sup> In the 13<sup>th</sup> century, the new phoneme /ø/ appeared in the Hungarian language.<sup>177</sup> There were two main ways for the evolution of the phoneme /ø/, namely /e/ > /ø/ (labialization) and /y/ > /ø/ (becoming more open), see *Table 3.6.4-1*.<sup>178</sup>

In the Hungarian language, the sound /h/ appeared from two sources: /k/ and /x/.<sup>179</sup> The transition /k/ > /h/ happened as /k/ > /x/ > /h/.<sup>180</sup> The change /k/ > /x/ occurred even in the Ancient Hungarian linguistic period (before 896),<sup>181</sup> and /x/ > /h/ happened between the 12<sup>th</sup> and 13<sup>th</sup> centuries.<sup>182</sup> Sándor explored that there was no character for /h/ in the Rovas Calendar.<sup>183</sup> A typical example is the name /HODHJ /erod<sup>f</sup>/ 'Herod' (*Table 8.2.6-7*) in the Rovas Calendar. The absence of the Rovas character for /h/ was surely related to the disappearance of /x/ from the Hungarian language.

Glyph-forming method	Application of script evolution principles	Resulting character
No modification	<b>Adaptation:</b> Use of ↙AA /a/a:/ε/e/e:/ was modified and restricted to /o/a/a:/.	↙AA /o/a/a:/
No modification	<b>Latin:</b> ↑C /t͡s/ was also employed for both /k/ and /t͡ʃ/ ( <i>Table 3.6.6-1</i> ). <sup>184</sup>	↑C /t͡s/k/t͡ʃ/
Glyph variant	<b>Adaptation:</b> The †D, a glyph variant of ↘T /t/d/ started to be exclusively used for /d/. The ↘T was still applied for both /d/ and /t/, e.g. Vargyas Inscription (12 <sup>th</sup> c., see <i>Fig. 8.2.3-1b</i> ) and Constantinople Inscription (1515, see <i>Table 8.2.7-2</i> ). Later, the use of ↘T was gradually restricted to /t/.	†D /d/, ↘T /t/

<sup>176</sup> Rogers 1999, p. 258

<sup>177</sup> Vékony 2004a, p. 23

<sup>178</sup> E. Abaffy 2003b, p. 330

<sup>179</sup> E. Abaffy 2003a, pp. 118–119; 2003b, pp. 303–304

<sup>180</sup> Zelliger 2010–2011

<sup>181</sup> E. Abaffy 2003a, p. 314

<sup>182</sup> Zelliger 2010–2011

<sup>183</sup> Sándor 1991; Vékony 1997b, pp. 1317–1340; Vékony 2004a, p. 105

<sup>184</sup> Vékony 2004a, p. 106

<b>Line shifting</b>	<b>Writing technology, Adaptation, Differing:</b> To make it easier to carve into wood, the short lines of *Ƿ DIAGONAL E /a/ε/ were shifted. Moreover, this character was restricted to the use of /ε/ based on the known relics. In such a way, the SHR glyphs of /a/ and /ε/ became different. Lastly, the Ǻ E /ε/ was also adapted to denote /e/e:/ (appearing in the end of the Ancient Hungarian linguistic period, see Rovas Calendar: ǺY4Ǻ /ma:te:/ ‘Mathieu’ (Table 8.2.6-5). The first occurrence of Ǻ E is attested to by the Székelydália Relic (14 <sup>th</sup> c., see Fig. 8.2.4-1). Note that the glyph variant of Ǻ E in the Nikolsburg Relic (Fig. 8.2.5-2) was very similar to the glyph of *Ƿ DIAGONAL E /a/ε/.	Ǻ E /ε/e/e:/
<b>No modification</b>	<b>Latin:</b> The SHR Λ G /g/ was also employed for ȚȚ, and from the 12 <sup>th</sup> –15 <sup>th</sup> c. for /y/ (Table 3.6.6-1).	Λ G /g/ȚȚ/
<b>No modification</b>	<b>Latin:</b> The character Ǫ, ǫ CLOSE E /e/ was also used for denoting the consonant /h/ (Rudimenta, see Fig. 8.2.7-7a,b,c). Its background could be that the consonant cluster <i>eh</i> represented the sound /e/ in a certain period of the Latin-based Old Hungarian orthography, e.g. in <i>Emreh</i> /εmre/. <sup>185</sup> Therefore, the <i>eh</i> could serve as letter-name for the character Ǫ, ǫ CLOSE E /e/. In this period, the consonant /h/ appeared in the Hungarian language, and maybe the letter name <i>eh</i> of the Ǫ, ǫ CLOSE E /e/ was the reason that Ǫ, ǫ CLOSE E started to be used for representing /h/.	Ǫ, ǫ H /h/
<b>No modification</b>	<b>Differing:</b> The use of Ǫ O /o/ was restricted to represent /o/ and the M V /y/ was started to use for /u/, see below.	Ǫ O /o/
<b>Rotating &amp; Line shortening</b>	<b>Differing:</b> Slightly modifying the glyph of   SZ /s/r/ when it was used for representing /r/ by slanting the vertical line. In such a way the / SHORT R /r/ differed from the   SZ /s/.	/ SHORT R /r/
<b>No modification</b>	<b>Adaptation:</b> In the Hungarian language, /c/ appeared from the 13 <sup>th</sup> century. In the SHR orthography, both Ț T and Ț TY were used for representing /c/. <sup>186</sup> In the Rovas Calendar (Table 8.2.6-3) in the words 4Y-Ț /dur <sup>u</sup> c <sup>o</sup> / ‘Dorothy’ and ȚY4Ț /ma:ca:/ ‘Matthias’ /c/ was denoted by Ț T.	Ț T /t/d/c/, Ț TY /t/c/
<b>No modification</b>	<b>Adaptation, Latin:</b> Because of the influence of the early Old Hungarian orthography, M /y/ started to be used also for denoting /u/u:/. <sup>187</sup> Its evidence is obvious on the Homoródkarácsonyfalva Inscription (13 <sup>th</sup> c., see Fig. 8.2.3-3c). Note that at this time, the short and long versions of the same vowel were represented by the same character in both the Szekely-Hungarian Rovas and the Latin-based Old Hungarian orthography.	M V /y/u/u:/

<sup>185</sup> Fehértói 2004; Korompay 2010–2011

<sup>186</sup> Vékony 2004a, p. 105

<sup>187</sup> Vékony 2004a, p. 15

<p><b>No modification, Glyph variant</b></p>	<p><b>Adaptation:</b> In the 11<sup>th</sup> century, /ɣ/ gradually disappeared from the middle of the Hungarian words. Moreover, at the end of the words, /ɣ/ was vocalized, and it became /u/ or /y/.<sup>188</sup> They were used as diphthongs with the preceding vowel: /øu/ and /øy/ (Table A-2). In the 12<sup>th</sup>–14<sup>th</sup> centuries, a monophthongization occurred: /øu/ &gt; /o:/ and /øy/ &gt; /ø:/.<sup>189</sup> The influence of this phonetic development can be detected in the evolution of SHR as well. Namely, glyphs for /ø:/ were derived from NGH /ɣ/. Consequently, besides the disappearance of /ɣ/, its glyph (N) survived and it was used for /ø:/. However, during this process its shape was slightly modified. Later, the &gt; OPEN OE was also used for the short vowels /ø/.</p>	<p>&gt; OPEN OE /ø:/</p>
<p><b>No modification</b></p>	<p><b>Adaptation, Latin:</b> In the 12<sup>th</sup>–13<sup>th</sup> centuries, the change /β/ &gt; /b/v/ occurred; however the /β/ remained in use for centuries in the eastern part of the Carpathian Basin.<sup>190</sup> Its consequence was that, becoming unnecessary, Ꝛ OPEN V /β/ disappeared from SHR. The M V /y/u:/ was used for /v/ similarly to the character <i>u</i> in the Latin-based Old Hungarian orthography, which represented /y/u:/ as well (Table 3.6.6-1).</p>	<p>M V /y/u:/</p>
<p><b>No modification</b></p>	<p><b>Latin:</b> In the Hungarian language, in several cases, /s/ underwent voicing and became /z/.<sup>191</sup> This happened in the 12<sup>th</sup> century, e.g. the pronunciation of the word <i>yfaac</i><sup>192</sup> was /iz̩a:k/ ‘Isaac’.<sup>193</sup> First /z/ appeared in Hungarian as an allophone of /s/.<sup>194</sup> That is why in the Old Hungarian orthography the characters <i>s</i> and <i>f</i> was also used for representing the /z/.<sup>195</sup> Similarly, the SHR Ψ ZS could also represent a /z/-like allophone of /s/. This could be the reason why Ψ ZS /s/ was also used for /z/.</p>	<p>Ψ ZS /s/z/</p>

Table 3.6.4-1: Modification of SHR characters in 11<sup>th</sup>–13<sup>th</sup> centuries

### B) Symbols denoting a period of time

In 1092, there was a synod of the Hungarian prelates in the Fortress of Szabolcs (*App. B*), where the dates of the mandatory feasts were determined.<sup>196</sup> According to Vékony, a Catholic calendar written in Old Hungarian Latin-based orthography, was made after this synod, and this calendar was transcribed into SHR, which assumed to be the origin of the Bologna Rovas Calendar (*Sec. 8.2.6/A*).<sup>197</sup> Special symbols for a *period of time* related to the Rovas Calendar survived in some relics (Table 3.6.4-2). One of them is the Ꝛ NAP /nop/ found in a relic written in the 17<sup>th</sup> century (*Fig. 8.2.8-9*). However, this symbol kept a much earlier linguistic state, since it was obviously made as a ligature of Ꝛ N /n/ + Ꝛ O /o/ + Ꝛ P /p/. In several Hungarian words, /o/ started to be more

<sup>188</sup> E. Abaffy 2003b, p. 302, p. 312

<sup>189</sup> E. Abaffy 2003b, pp. 339–344

<sup>190</sup> E. Abaffy 2003b, p. 303

<sup>191</sup> Kenesei 2004, p. 130

<sup>192</sup> HBK; Korompay 2003b, p. 291

<sup>193</sup> Korompay 2003e, p. 787; 2010–2011

<sup>194</sup> E. Abaffy 2003b, p. 314

<sup>195</sup> E. Abaffy 2003b, p. 314

<sup>196</sup> Péterffy 1741–42, Vol. I, p. 14

<sup>197</sup> Vékony 1987a, p. 289; Vékony 2004a, pp. 106–108

open becoming /o/ from the 11<sup>th</sup> century, and this process concluded in the 14<sup>th</sup> century.<sup>198</sup> Therefore, the original ligature 𐌆 NAP /nop/ was created no later than the 14<sup>th</sup> century.<sup>199</sup> Its creation probably happened in the same period as the evolution of \*ʒ /ε/ > 𐌆 E /ε/ (Table 3.6.4-1), since in both cases the short lines reaching the long vertical arc were modified in order to cross the arc: ʒ > 𐌆 and 𐌆 > 𐌆.

A cognate of 𐌆 NAP /nop/ is the symbol 𐌆 TPRUS. Its name in the Nikolsburg Alphabet was probably \**tpris*. It is noteworthy that the last character of the *Latin name* of 𐌆 TPRUS of the Nikolsburg Relic is uncertain: probably it was a ligature of the Latin letters *i* and *s*. However, after finding the Nikolsburg Relic in the first half of the 20<sup>th</sup> century, it was read as *tprus* and this version remained in use.<sup>200</sup> In the Nikolsburg Relic, there is the mark of abbreviation above the name \**tpris* showing that a nasal character was omitted from the name, in this case the *m*.<sup>201</sup> Thus, the probable meaning the word was the Latin *temporis*, which is the Latin *tempus* 'period of time' in genitive case.<sup>202</sup> In Hungarian the word *nap* means 'day', but it had another meaning 'period of time', e.g. the Hungarian *hónap* 'month' < *hold* 'moon' + *nap* 'day' also contains the word *nap*.<sup>203</sup> In this composition, the word *nap* means a period of time.

The Szekely-Hungarian Rovas symbols 𐌆 ANT (Table 3.6.4-3), 𐌆 TPRU, and 𐌆 AMB are *reptile-like* in shape as Telegdi characterized them in his Szekely-Hungarian Rovas textbook in 1598 (Fig. 8.2.7-7a). According to Telegdi, they – and later their cognate symbols – were named after *capita dictionum* (in Latin) and also *reptile-like symbols*. The components of the Latin expression *capita dictionum* are *dictio*, *onis*, *f* 'word, saying' and *caput*, *itis*, *n* 'head'; so the meaning of *capita dictionum* could be 'the heads of the words'. Presumably, this term originally referred to the symbol 𐌆 NAP and its descendants (Table 3.6.4-2). The term *capita dictionum* could have a header-like meaning in the original version of the Rovas Calendar (Fig. 8.2.6-1).

However, there were several other attempts to explain the development of the reptile-like symbols: 𐌆 MB (Table 3.6.4-2) could be developed from the ligature of 𐌆 N and 𐌆 P;<sup>204</sup> 𐌆 ENT could be derived from the modification of the CBR 𐌆 OPEN T /t/, merging its lower part into one line. This glyph-forming method is known in the development of the scripts (Table 3.1-4). Further ideas: 𐌆 AMB and 𐌆 EMP (Table 3.6.4-2) were created from the duplicated ligature of 𐌆 N and 𐌆 P;<sup>205</sup> 𐌆 AMB, 𐌆 ENC, 𐌆 AND, 𐌆 UNK, 𐌆 EMP, and 𐌆 ENT could be the duplication of 𐌆 B, 𐌆 C, 𐌆 D, 𐌆 OPEN K, 𐌆 P, and 𐌆 T.<sup>206</sup> Moreover, the 𐌆 TPRU (Fig. 8.2.7-7a) is the cognate of 𐌆 NAP /nop/.<sup>207</sup> The 𐌆 TPRU could be the duplicated ligature of 𐌆 N + 𐌆 O + 𐌆 P,<sup>208</sup> however, more probably it was created by the duplication of 𐌆 NAP /nop/.<sup>209</sup>

The opinion of the author is presented in Table 3.6.4-2 and -3. There are other examples of similarly designed duplicated characters in Table 3.6.4-3 that proves that the duplication was a characteristic design style in that time. The shapes of the reptile-like symbols show a *conscious* design (Table 3.6.2-5).

The most important fact is that the relics, in which the symbols 𐌆 NAP /nop/, 𐌆 TPRUS, or 𐌆 TPRU meaning period were found, are related to the subsequent copies of the Rovas

<sup>198</sup> E. Abaffy 2003b, pp. 329–330

<sup>199</sup> Vékony 2004a, p. 105

<sup>200</sup> Németh 1934

<sup>201</sup> Máté 2001, p. 189

<sup>202</sup> Lewis & Short 1985

<sup>203</sup> TESz; Bárczi 1994

<sup>204</sup> Máté 2001, p. 190

<sup>205</sup> Rumi 2007, p. 200

<sup>206</sup> Zomoráné Cseh 2008–09; Szelp 2008

<sup>207</sup> Vékony 2004a, p. 95

<sup>208</sup> Rumi 2007, p. 200

<sup>209</sup> Sipos 2008–11

Calendar.<sup>210</sup> However, later the original meaning of these symbols was lost and their descendant symbols denoted consonant-pairs only: 𐌶 EMP /mp/, 𐌷 NB /nb/mb/, 𐌸 MB /mb/, and 𐌹 AMB /mb/. It is noteworthy that the /n/~m/ alternation was a Hungarian linguistic feature.<sup>211</sup>

In the Nikolsburg Alphabet, 𐌹 US was named by mistake as *tpris* first, later the writer of the alphabet named 𐌶 TPRUS as *tpris*, see Fig. 8.2.5-2. However, the glyphs of the 𐌹 US and the 𐌶 TPRUS are totally different topologically. According to the author of this book, the only one possible reason of the mistake was that the writer of the Nikolsburg Alphabet knew 𐌹 TPRU. Consequently, the Nikolsburg Rovas Relic gives a relation between 𐌶 TPRUS and 𐌹 TPRU, which supports the genealogical model above.

Glyph-forming method	Application of script evolution principles	Resulting character	Sound
Ligature formation	Symmetry: Ligature of 𐌵 N /n/ + 𐌶 O /o/ + 𐌶 P /p/	𐌶 NAP	/nop/ (earlier /*nop/)
Slight modification	Vertical emphasis: Developed from 𐌶 NAP /nop/	𐌶 TPRUS	/*nop/ (earlier /*nop/)
Duplication	Symmetry: Duplicated ligature of 𐌶 NAP /nop/ or 𐌶 P /p/	𐌶 EMP	/mp/
Slight modification	None: Developed from 𐌶 EMP	𐌸 MB	/mb/
Slight modification	None: Duplicated ligature of 𐌶 NAP /nop/	𐌹 TPRU	/*nop/ (earlier /*nop/)
Line extension, Ornating	Writing technology: Variant of 𐌹 TPRU, it was probably merged with the 𐌸 MB based on its sound value	𐌷 NB	/nb/mb/
Line insertion	Writing technology: Variant of 𐌹 TPRU, it was named 'Phtru' in the relic, where it survived (Fig. 8.2.8-10).	𐌶 TPRU	/*nop/ (earlier /*nop/)
Line removal, Ornating	Writing technology: Developed from 𐌷 NB	𐌹 AMB	/mb/

Table 3.6.4-2: SHR symbols developed for representing the period after 1092.<sup>212</sup>

### C) Duplication and creating ligatures

Table 3.6.4-3 demonstrates the SHR characters created by ligatures. According to the author of this book, the SHR characters 𐌶, 𐌶 GY, 𐌶 U and 𐌶 CLOSE UEE were created in a conscious development by duplicating of the SHR characters 𐌶 SHORT G /g/, 𐌶 V /y/u/, and 𐌶 E /ε/e/, respectively. Receiving the influence of the Old Hungarian orthography – where the *ew* denoted /y/ –, the new symbol 𐌶 was developed from the ligature of the 𐌶 E and its vertically mirrored glyph. The evidence of the ancient use of 𐌶 for representing /y/ is the Rovas Calendar, since in its archaic parts the character 𐌶 was consequently used for /y/.<sup>213</sup>

<sup>210</sup> Vékony 2004a, p. 96

<sup>211</sup> Benkő, L. 2001, pp. 7–68

<sup>212</sup> Vékony 2004a

<sup>213</sup> Sándor 1991

The Latin-based Old Hungarian orthography (Table C-2) represented  $\overline{g}$  with *g*, *gi* and later *gy*, e.g.: *gimilictul*  $\overline{g}$ imilctkty:l/ 'from their fruits', *oggun*  $\overline{g}$ on/ 'give (imperative)'.<sup>214</sup> Influenced by the Old Hungarian orthography, the SHR characters of /g/ ( $\Lambda$  and  $\ddagger$ ) surely also represented  $\overline{g}$ . In order to use different glyphs for /g/ and  $\overline{g}$  the less frequently applied character of /g/ was selected for representing  $\overline{g}$ . That was the  $\ddagger$  GY  $\overline{g}$  and the more common letter ( $\Lambda$ ) was gradually restricted to /g/.

Glyph-forming method	Application of script evolution principles	Resulting character
<b>Ligature formation</b>	None: Ligature of $\uparrow$ C $\overline{ts}$ / and $\downarrow$ OPEN K /k/	$\ddagger$ CAK $\overline{tsk}$ /
<b>Duplication</b>	<b>Differing, Latin:</b> It was created by the duplication of $\swarrow$ SHORT G /g/ (Nikolsburg, see Fig. 8.2.5-2). It was affected by the Old Hungarian orthography, where <i>g</i> or <i>gy</i> represented the sound $\overline{g}$ . The possible reason of duplication was the aim to differ from the $\swarrow$ SHORT R /r/.	$\approx$ GY $\overline{g}$ /
<b>Line insertion</b>	<b>Closer-shape forming:</b> Inserting an auxiliary vertical line (Nikolsburg, see Fig. 8.2.5-2) modifying the glyph to be contiguous. It was first used for /g/. An example for its use as /g/ is the name $\Lambda$ 4 $\ddagger$ /ga:l/ 'Gallus' of the Rovas Calendar (Table 8.2.6-6).	$\ddagger$ GY $\overline{g}$ /
<b>No modification</b>	<b>Adaptation:</b> From about the 12 <sup>th</sup> –15 <sup>th</sup> century, $\approx$ , $\ddagger$ GY $\overline{g}$ was used for representing /y/, when /y/ replaced $\overline{g}$ in the Hungarian language.	$\approx$ , $\ddagger$ GY /g $\overline{g}$ /y/
<b>No modification</b>	<b>None:</b> $\times$ CH /x/ went out of use since /x/ disappeared from the Hungarian language in the period from the 11 <sup>th</sup> to the 13 <sup>th</sup> centuries. However, there are still traces of /x/ in the 14 <sup>th</sup> century in the (Latin-based) Old Hungarian orthography.	-
<b>Ligature formation</b>	<b>Latin:</b> It was created by ligating $\uparrow$ J /j/ and $\downarrow$ N /n/*n/. It shows the influence of the (Latin-based) Old Hungarian orthography, where <i>ny</i> denoted /n/ ( <i>y</i> denoted /j/ in that time). The earliest version of the ligature of $\uparrow$ J /j/ and $\downarrow$ N /n/*n/ was probably $\mathfrak{D}$ . Later $\mathfrak{D}$ was simplified to $\mathfrak{D}$ . In the Nikolsburg Relic (Fig. 8.2.5-2), both can be found. The use of $\downarrow$ N for /*n/ gradually ended and later $\downarrow$ N represented only /n/.	$\mathfrak{D}$ NJ /nj/, $\mathfrak{D}$ NY /n/
<b>Duplication</b>	<b>Latin:</b> $\mathfrak{M}$ V was duplicated. The evidence that $\mathfrak{M}$ originated from $\mathfrak{M}$ V /y/u/u:/ is the use of $\mathfrak{M}$ U also for /y/ in the Rovas Calendar, see $\Lambda$ $\mathfrak{M}$ $\mathfrak{D}$ /kyf/ 'small' (Fig. 8.2.6-7c). The earliest occurrence of the glyph $\mathfrak{M}$ is in the undeciphered SHR wall inscription of Berekeresztúr made at the end of 14 <sup>th</sup> century or in the 15 <sup>th</sup> century. <sup>215</sup> Later, the use of $\mathfrak{M}$ U was restricted to /u/u:/.	$\mathfrak{M}$ U /u/u:/y/
<b>Duplication</b>	<b>Latin, Style normalization, Symmetry:</b> $\mathfrak{Q}$ was created from the ligature of $\mathfrak{E}$ (mirrored glyph) and $\mathfrak{E}$ . The style of $\mathfrak{Q}$ CLOSE UEE and $\mathfrak{Q}$ EMP is identical; they were probably developed in the same period.	$\mathfrak{Q}$ CLOSE UEE /y/y:/

<sup>214</sup> HB (Funeral Sermon, ca. 1195); Szathmári 2002, pp. 202–212

<sup>215</sup> Erdélyi & Ráduly 2010, p. 69



Glyph-forming method	Application of script evolution principles	Resulting character
No modification	<b>Adaptation:</b> In the 11 <sup>th</sup> –14 <sup>th</sup> centuries, the /y/y:/ became more open and this process resulted /ø/ø:/.	Ź OPEN OE /ø/ø:/y/y:/, Ǫ CLOSE UEE /ø/ø:/y/y:/
Duplication	<b>Symmetry:</b> Duplicated ↑ C	‡ ENC /n̄ts/
Ligature formation	<b>None:</b> Ligature of Ǿ N /n/ and Ǫ CS /tʃ/	⊘ NCS /n̄tʃ/
Duplication	<b>Symmetry:</b> Duplication of † D /d/	✕ AND /nd/
Ligature formation	<b>None:</b> Ligature of Ǿ N /n/ and † GY /g/ɣ/y/. The sound value of the ligature could be /ng/ based on tis letter name <i>eng</i> in the Nikolsburg Relic ( <i>Table 8.2.5-1</i> ).	⊘ NGY /ng/
Duplication	<b>Style normalization, Symmetry:</b> Ƨ was created from the ligature of the original and the mirrored glyph of Ƨ T /t/. The shape of Ƨ perfectly followed the design style of Ƨ TPRUS ( <i>Table 3.6.4-2</i> ).	Ƨ ENT /nt/
Duplication	<b>Symmetry:</b> Ǫ was created from the duplication of Ǫ OPEN K /k/. The consonant-pair /nk/ was very frequently used, e.g. <i>munèkꝥnc</i> /myne:kynk/ ‘for us’. <sup>216</sup> That could be the reason why it had its own symbol (Nikolsburg, see <i>Table 8.2.5-1</i> ).	Ǫ UNK /unk/*ynk/
Ligature formation	<b>None:</b> Ƨ was created from the ligature of the Ƨ S /ʃ/ and Ƨ T /t/. The importance of this ligature could be high, since it was used as the abbreviation of the name of the first Hungarian king, Saint Stephen I, in the Rovas Calendar: Ƨ / <sup>ε</sup> ʃt <sup>a:n</sup> / ‘Stephen’ ( <i>Table 8.2.6-5</i> ).	Ƨ ST /ʃt/*ʒd/
Ligature formation	<b>None:</b> Ligature of the Ƨ Z /z/ and Ƨ T /t/	Ƨ ZT /zt/*st/

Table 3.6.4-3: The development of SHR ligatures and their phonetic values in the 12<sup>th</sup>–14<sup>th</sup> centuries<sup>217</sup>

In the Old Hungarian linguistic period, the Old Hungarian digraph *st* was pronounced as /ʃt/. Later this pronunciation changed to /ʒd/ as in the following examples: *cuesʃti* /kyeʃti/ > *Kövesd* /køveʒd/, *ʃegifii* /ʃegifʃi/ > *Segesd* /ʃeʒeʒd/, and *Kakaʃti* /kakaʃti/ > *Kakasd* /kakaʒd/; all of them are names of Hungarian villages.<sup>218</sup> Moreover, the consonant pair /zt/ shows the result the *backward assimilation* existing in the Hungarian language according to the voiced/unvoiced sound attributes.<sup>219</sup> Namely, /t/ is voiceless but /z/ is voiced; therefore, /t/ assimilated /z/ to /s/. That is the reason why the Hungarian *zt* is pronounced as /st/. An example of this assimilation is a word from a relic from about 1456: *daghazth* ‘he/she kneads’, its pronunciation today is /dagast/. Consequently, the reason for creating the ligatures Ƨ ST and Ƨ ZT could be that their pronunciations differed from the sound values of their constituents.

<sup>216</sup> MünchK., 12rb; Zelliger 1994, pp. 214–215; Korompay 2003b, p. 291

<sup>217</sup> E. Abaŋy 2003a, pp. 115–125; 2003b, pp. 301–347; 2003c, pp. 596–609; 2003d, pp. 710–718; 2003e, pp. 789–799; Korompay 2003e; pp. 781–788

<sup>218</sup> E. Abaŋy 2003b, pp. 313–314

<sup>219</sup> E. Abaŋy 2003b, pp. 310–311





new Rovas characters emerged, but the new characters were selected or developed from the already existing ones. In addition, glyph variants of some SHR characters appeared in use since paper-based writing became the dominant technology stimulating the individualization of the glyphs. The development of SHR in the period from the 18<sup>th</sup> to the 21<sup>st</sup> centuries is demonstrated in *Ch. 8*.

Glyph-forming method	Application of script evolution principles	Resulting character
No modification	<b>Adaptation:</b> Up to the 14 <sup>th</sup> century, /a/ gradually disappeared (except in some dialects) and /o/ entered into the Hungarian language. Then Ǻ AA /a/a:/ denoted /o/a:/.	Ǻ AA /o/a:/
Glyph variant	<b>Differing:</b> The 1J /u/i:/j/ was gradually limited to represent /j/, and one of its glyph variations became used for /i:/. Moreover, in the end of the Old Hungarian linguistic period the change /u/ > /i/ completed; hence /u/ was not represented by any SHR character. <sup>220</sup>	†, † I /i:/, 1J /i:/j/
No modification	<b>Adaptation:</b> Ǻ OPEN K /k/ used also for denoting /ok/a:k/. Its reason was probable to shorten the representation of the frequently used /ok/ and /a:k/ vowel–consonant pairs. The earliest evidence of such use is the Nikolsburg Alphabet (15 <sup>th</sup> century, see <i>Table 8.2.5-1</i> ), where the name of this character was <i>ac</i> /a:k/. In the Csikszentmiklós Inscription (1501, see <i>Fig. 8.2.7-3</i> ) Ǻ OPEN K represented /ok/ and in the Constantinople Inscription (1515, see <i>Table 8.2.7-2</i> ) Ǻ OPEN K was consequently used for denoting /a:k/. Sípós stated that there are examples in relics for using Ǻ OPEN K in syllables with back vowels or at the end of words. <sup>221</sup>	Ǻ OPEN K /k/ok/a:k/
No modification	<b>Adaptation:</b> The use of Ǻ O /o/ was adapted to represent the new sound /o:/ as well.	Ǻ O /o/o:/
Slight modification	<b>Writing technology:</b> Ǻ was developed from Ǻ CLOSE UEE /y/y:/, see Kájoni ( <i>Fig. 8.2.8-8</i> ) and Patakfalvi Bible ( <i>Fig. 8.2.9-8</i> ). The background of this development is that the paper-based writing technology made drawing small circles easy.	Ǻ, Ǻ CLOSE UE /ø/y/y:/
Slight modification	<b>Adaptation, Differing:</b> Glyph variants of Ǻ E /ε/e/e:/ appeared (Csikszentmiklós, 1501, see <i>Fig. 8.2.7-1</i> ) with the sound value /ø/ due to the labialization of /e/ in the Hungarian language (started from about the 13 <sup>th</sup> century). Their use of /ø:/ also started in this period (Constantinople, 1515, see <i>Table 8.2.7-2</i> ). The sound values /ε/ and /e:/ of Ǻ OE are attested to in the 16 <sup>th</sup> century (Constantinople Inscr.), which proves that the origin of Ǻ OE was Ǻ E /ε/e/e:/.	Ǻ, Ǻ OE /ε/e:/ø/ø:/
Ornating	<b>Writing technology:</b> Due to paper-based technology, the glyphs became more calligraphic (Book of Mátyás Bél, 1718, <i>Fig. 8.2.9-1</i> ).	Ǻ OE /ø/ø:/

<sup>220</sup> E. Abaffy 2003b, pp. 320–321

<sup>221</sup> Sípós 2008–11

<b>Duplication</b>	<b>Symmetry:</b> ✕ was generated as a glyph variant of X OE /ø/, see Dobai (1753, see Fig. 8.2.9-5). Sípós showed the possibility of duplication (seen in case of reptile-like symbols) and turning of X OE in creating ✕. <sup>222</sup>	✕ OE /ø/
<b>No modification</b>	<b>Unification:</b> Ø US /ʃ/ dropped out of use and Λ S /ʃ/ became common, probably due to its easier carving/writing. In addition, the use of Ø US had the disadvantage of being easily confused with Ø LY /k/.	-
<b>Slight modification</b>	<b>Symmetry &amp; Unification:</b> Λ S /ʃ/ was modified to get a symmetrical shape and to follow the envelope curve of Λ G and Λ L. The symmetrical form appeared in the 14 <sup>th</sup> century (Székelydália, see Fig. 8.2.4-4); however, it became typical after the 16 <sup>th</sup> century.	Λ S /ʃ/
<b>No modification</b>	<b>Adaptation, Differing:</b> One of the characters ʏ T /t/ and ✕ TY /c/ were selected for representing the /c/ exclusively. <sup>223</sup> The more commonly used ʏ T remained the symbol of /t/, and the less frequently used ✕ TY became the character of /c/.	ʏ T /t/ ✕ TY /c/
<b>No modification</b>	<b>Differing:</b> Different characters became used for representing /y/, /u/ and /v/. They are attested to in the 15 <sup>th</sup> century (Fig. 8.2.6-4). M V /y/u/u:/ was restricted to denote only /v/. However, even in the 17 <sup>th</sup> century, there is an example for M V representing also /u/ (Bonyhai, see Fig. 8.2.8-3)	ǫ CLOSE UEE /y/y:/, M U /u/, M V /v/

Table 3.6.5-1: The development of SHR in the 14<sup>th</sup>–15<sup>th</sup> centuries

Table 3.6.5-1 shows the change ʏ > /y/ of the sound value represented by ✕ GY. However, in the Hungarian *Csango* /tʃa:ngo:/ dialect, this change was different: ʏ > /dʒ/.<sup>224</sup> The Csangos use the oldest version of the Hungarian language used today. They currently live east of the Carpathians (present-day Romania); however, there is a large Csango diaspora in Hungary as well.

<b>Glyph-forming method</b>	<b>Application of script evolution principles</b>	<b>Resulting character</b>
<b>Slight modification</b>	<b>Differing, Writing technology:</b> The 4 appeared as a glyph variant of 4 AA /o/a:/ (Rovas Calendar, see Sec. 8.2.6). The original Rovas Calendar was carved into wood, where horizontal lines were not recommended. However, the Rovas Calendar was copied to paper at the end of the 17 <sup>th</sup> c, which could have led to slight modifications in the glyphs.	4 A /o/a:/
<b>Ornating</b>	<b>Writing technology:</b> Developed from T ENT	ʏ ANT /nt/
<b>No modification</b>	<b>Adaptation:</b> In the Hungarian language the use of /e/ was restricted to some dialects only. Consequently, the ǫ CLOSE E /e/ was not in use and the ʏ E did not represent /e/ any more.	ʏ E /e/e:/

<sup>222</sup> Sípós 2008–11

<sup>223</sup> Vékony 2004a, p. 105

<sup>224</sup> Zelliger 2010–2011

<b>Glyph variant</b>	<b>Differing:</b> The glyph Ț was selected by G.M. Csulyak in 1655 to be used for /e:/ and Ț E started to be only used for /ε/.	Ț E /ε/ Ț EE /e:/
<b>Ornating</b>	<b>None:</b> Glyph variants of the SHR Ɔ F /f/ appeared.	Ɔ, Ɔ, Ɔ, Ɔ F /f/
<b>Ornating</b>	<b>Adaptation:</b> Glyph variants of Ɔ LY appeared. Moreover, from the 16 <sup>th</sup> century, /k/ started to disappear from the Hungarian language. However, the sound /k/ survived in some dialects, like the Paloc (used in North Hungary). <sup>225</sup> Currently, Ɔ LY and its glyph variants are generally used with /j/. It is noteworthy that in the Latin-based Old Hungarian orthography, the use of <i>ly</i> (with the current sound value /j/) remains in the spelling of several words.	Ɔ, Ɔ, Ɔ, Ɔ LY /j/k/
<b>Glyph variant</b>	<b>None:</b> The mirrored glyph of Ȥ OPEN OE /ø:/y/y:/ was used for /y/y:/ only.	Ȥ OPEN UE /y/y:/
<b>Duplication</b>	<b>Latin, Symmetry:</b> Bonyhai created a Szekely-Hungarian Rovas character for the equivalent of the Latin <i>q</i> as the duplication of Ɔ K /k/ in 1629 ( <i>Table 8.2.8-2</i> ). <sup>226</sup>	ƆƆ Q /ku/kv/
<b>Rotating line</b>	<b>None:</b> The short vertical lines of Ȧ TY /c/ were turned and joined to any of the long lines of the glyph. In such a way, several glyph variants were created in the 16 <sup>th</sup> century: Csíkszentmiklós ( <i>Fig. 8.2.7-2</i> ); Ȧ, Bögöz ( <i>Fig. 8.2.7-6</i> ); Ȧ.	Ȧ, Ȧ, Ȧ TY /c/
<b>Ligating</b>	<b>Latin:</b> Bonyhai created a glyph for the Latin X /ks/ as the ligature of Ɔ K /k/ and Ȧ S /s/ in 1629. It shows the influence of the Old Hungarian orthography, where <i>s</i> denoted /s/ besides the /ʃ/. <sup>227</sup>	Ȧ X /ks/
<b>No modification</b>	<b>None:</b> Bonyhai used the glyph of Ȧ J for creating Ȧ Y, which denoted both /i/ and /j/ (similarly to <i>y</i> in the Old Hungarian orthography) in 1629. Bonyhai followed the earlier tradition of SHR, where there were no individual characters for /i/ and /j/ ( <i>Table 3.6.2-4</i> ).	Ȧ J /i/j/, Ȧ Y /i/j/

Table 3.6.5-2: The development of SHR in the 16<sup>th</sup>–18<sup>th</sup> centuries

The system of SHR consonants in the 18<sup>th</sup> century is presented in *Table 3.6.5-3*, where the character to the left in the cell is *voiceless* and to the right is *voiced*. This representation is based on the linguistic system of the consonants in the Middle Hungarian period.<sup>228</sup>

<sup>225</sup> E. Abaffy 2003c, pp. 597–598; 2003d, pp. 711–713; Prószéký 2009, pp. 7–9

<sup>226</sup> Sipos 2008–11

<sup>227</sup> Rumi 2008–11

<sup>228</sup> E. Abaffy 2003c, p. 600

Place of articulation	Plosive		Nasal	Fricative		Affricate	Liquid
Bilabial	ɸ /p/	β /b/	ɱ /m/				
Dental				θ /f/	ð /v/		
Alveolar	ʈ /t/	ɖ /d/	ɳ /n/	ʃ /s/	ʒ /z/	ʧ /tʃ/	ʎ /l/ -, ʎ /r/
Postalveolar				ʂ /ʃ/	ʐ /ʒ/	ʧ /tʃ/	
Palatal	ç, ʃ, ʒ /c/	ʝ /j/	D /ɲ/		ʎ /j/		ʎ /ʎ/
Velar	q, ɣ /k/	g /g/					
Laryngeal (glottal)				ħ /h/			

Table 3.6.5-3: The phonetic system of SHR consonants used in the 18<sup>th</sup> century

SHR vowels of the 18<sup>th</sup> century are presented in the phonetic system (Fig. 3.6.5-1).<sup>229</sup>

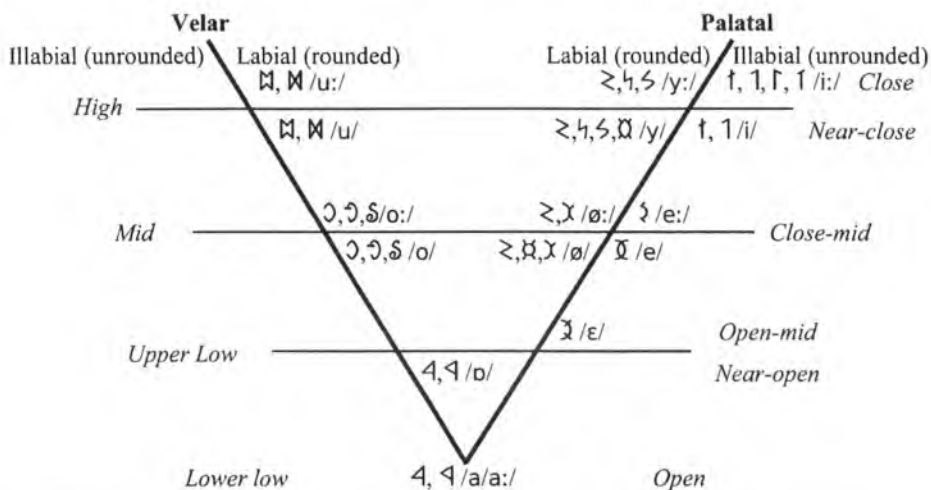


Fig. 3.6.5-1: The graphical representation of the phonetic system of SHR vowels used in the 18<sup>th</sup> century, denoting some glyph variants of each character

### 3.6.6. Relations of the development of SHR

#### A) Influence of the Latin-based orthography on SHR

The Latin-based orthographies affected SHR in all periods of its history, as it is summarized in Table 3.6.6-1.<sup>230</sup> Clearly the most influencing was the *Old Hungarian orthography* (Table C-2). However, in the 9<sup>th</sup> century the Latin orthography of the missionaries of Salzburg might affect SHR as well.<sup>231</sup> In the second column of Table 3.6.6-1, the dates of the first occurrence of the

<sup>229</sup> E. Abaffy 2003c, p. 609

<sup>230</sup> Vékony 2004a, p. 23

<sup>231</sup> Vékony 2004a, pp. 104–105

orthographical features in Hungary are listed. However, in some cases, the first occurrence of the orthographical features in *Europe* is marked in brackets as well.

Feature of the Latin-based orthography	Period of the occurrence of the feature in Hungary	Effect on the Szekely-Hungarian Rovas	Earliest example
The roles of the <i>u</i> and <i>v</i> letters were practically identical; <sup>232</sup> they represented (among others) /u/, /y/, and /v/. <sup>233</sup>	11 <sup>th</sup> – beg. 15 <sup>th</sup> c. (in Europe from the 10 <sup>th</sup> )	The SHR $\mathbb{M}$ V originally represented /y/ (Vargyas, see <i>Fig. 8.2.3-1b</i> ). Later, $\mathbb{M}$ V was used for /u/u:/v/ as well ( <i>Table 3.6.4-1</i> ). Sebastyén pointed out that the development of $\mathbb{M}$ V /v/ was influenced by the fact that in the earliest time the Latin characters <i>u</i> and <i>v</i> were frequently interchanged in the Old Hungarian orthography. <sup>234</sup>	Second half of 12 <sup>th</sup> c.
Letter <i>i</i> denoted /i/ and /j/ in the 9 <sup>th</sup> century	11 <sup>th</sup> – 16 <sup>th</sup> c. <sup>235</sup> (in Europe from the 9 <sup>th</sup> )	The SHR $\mathbb{1}$ J represented /i/ and /j/, e.g. relics of Vargyas ( <i>Fig. 8.2.3-1b</i> ), Homoródkarácsonyfalva ( <i>Fig. 8.2.3-3c</i> ), Constantinople ( <i>Fig. 8.2.7-4a</i> ), Rovas Calendar ( <i>Fig. 8.2.6-4</i> ), Dési Alphabet ( <i>Fig. 8.2.9-4</i> , in the ligature “ <i>si</i> ”). Later, the SHR $\mathbb{1}$ J was restricted to represent /j/.	13 <sup>th</sup> c.
Letters <i>u</i> , <i>v</i> , and <i>w</i> denoted /u/. <sup>236</sup> Sporadically <i>vv</i> represented /u:/, e.g. <i>vv</i> /u:/ ‘such’. <sup>237</sup> <i>w</i> and <i>uu</i> denoted /y:/, e.g. <i>wt</i> /y:t/ ‘him’ <sup>238</sup> ; <i>mezuul</i> /me:zy:l/ ‘like honey’. <sup>239</sup>	11 <sup>th</sup> –16 <sup>th</sup> c. (in Europe from the 10 <sup>th</sup> )	The SHR $\mathbb{U}$ /u/u:/y/ was created by duplicating the SHR $\mathbb{M}$ V /u/u:/y/v/ ( <i>Table 3.6.5-1</i> ).	14 <sup>th</sup> –15 <sup>th</sup> c.
Letter <i>c</i> represented /k/ if it was employed near any back vowel.	After the 10 <sup>th</sup> c.	The $\mathbb{K}$ OPEN K /k/ was called <i>ac</i> in the Nikolsburg Relic. The interesting feature of the name <i>ac</i> is the difference from the majority of the letter-names in this relic: they started with <i>e</i> and not <i>a</i> ( <i>Fig. 8.2.5-2</i> ). The letter-name <i>ac</i> meant ‘k’.	15 <sup>th</sup> c.

<sup>232</sup> Korompay 2010–2011

<sup>233</sup> Korompay 2003b, p. 288, 291

<sup>234</sup> Sebastyén 1909, pp. 286–287

<sup>235</sup> Korompay 2010–2011

<sup>236</sup> Korompay 2003b, p. 291; Korompay, *under publication*

<sup>237</sup> HB

<sup>238</sup> HB

<sup>239</sup> ÖMS

Feature of the Latin-based orthography	Period of the occurrence of the feature in Hungary	Effect on the Szekely-Hungarian Rovas	Earliest example
Letter <i>c</i> denoted /k/ besides /ts/. <sup>240</sup> Moreover, in the Latin-based orthography <i>nc</i> was frequently used as the abbreviation of <i>nec</i> . <sup>241</sup>	11 <sup>th</sup> –16 <sup>th</sup> c. (in Europe from the 10 <sup>th</sup> )	The SHR $\text{NC}$ (ligature of $\text{N}$ and $\text{C}$ ) might represent / $\text{n}^{\text{ek}}$ / (Rovas Calendar, see Table 8.2.6-9).	1690, origin: 12 <sup>th</sup> –15 <sup>th</sup> c.
Letter <i>c</i> denoted /tʃ/ as well, e.g. <i>gimilcictul</i> / $\text{gimil}^{\text{t}}\text{t}^{\text{c}}\text{ekty}:/$ 'by fruits'. <sup>242</sup>	12 <sup>th</sup> c.	The SHR $\text{C ts}$ denoted few times /tʃ/ as well, despite the fact that $\text{CS ts}$ also existed in SHR; e.g. Bonyhai (Table 8.2.8-1) and Kájoni (Fig. 8.2.8-9).	1627, 1673, origin: 12 <sup>th</sup> –15 <sup>th</sup> c.
Letter <i>g</i> denoted /g/ and /ɣ/ as well. <sup>243</sup>	11 <sup>th</sup> – beg. 14 <sup>th</sup> c.	The SHR $\text{AG}$ /g/ represented /ɣ/ also, e.g. Rovas Calendar: $\text{A}^{\text{g}}\text{Y}^{\text{g}}\text{A}^{\text{g}}\text{Z}^{\text{g}}/\text{E}^{\text{g}}\text{Y}^{\text{g}}\text{it}^{\text{om}}/$ 'Egypt' (Table 8.2.6-7).	1690, origin: 12 <sup>th</sup> –15 <sup>th</sup> c.
/z/ emerged in the Hungarian language in the 12 <sup>th</sup> c. and it was generally denoted by <i>s</i> up to the beg. 19 <sup>th</sup> c. However, sometimes it was represented by <i>z</i> . <sup>244</sup>	From 12 <sup>th</sup> c. <sup>245</sup>	In the 11 <sup>th</sup> – 12 <sup>th</sup> centuries there were three SHR characters for the sound /ʃ/: $\text{AS}$ , $\text{US}$ , and $\text{ZS}$ . In the Székelydála Relic, $\text{AS}$ represented /z/ (Fig. 8.2.4-1). Later the $\text{ZS}$ was selected for /z/, e.g. Nikolsburg Relic (Fig. 8.2.5-2).	15 <sup>th</sup> c.
Digraph <i>ny</i> denotes /ɲ/. The background of this digraph is that /ɲ/ evolved in several words from the consonants /n/+j/. <sup>246</sup> The letter <i>y</i> denoted /j/ in the Old Hungarian orthography. <sup>247</sup>	End of the 12 <sup>th</sup> – present-day	The $\text{NJ}$ /ɲj/ was developed from the ligature of $\text{N}$ /n/*ɲ/ and $\text{J}$ /j/, e.g. Nikolsburg, (Fig. 8.2.5-2), then it was simplified; $\text{NJ}$ /ɲj/ > $\text{NY}$ /ɲ/.	15 <sup>th</sup> c.
The sound /tʃ/ was denoted by <i>ci</i> , e.g. from 1529: <i>ciak</i> / $\text{t}^{\text{c}}\text{ok}/$ 'only'. <sup>248</sup> and by <i>cy</i> , e.g. from 1540: <i>Cyák</i> / $\text{t}^{\text{c}}\text{ok}/$ 'only'. <sup>249</sup>	16 <sup>th</sup> c.	The SHR $\text{CI}$ denoted /tʃ/ despite of the fact that the SHR $\text{CS}$ representing /tʃ/ also existed, e.g. Bonyhai (Table 8.2.8-1).	1627

<sup>240</sup> Korompay 2003b, p. 290

<sup>241</sup> Zelliger 2010–2011

<sup>242</sup> Korompay 2003b, p. 290; HB

<sup>243</sup> Korompay 2003b, p. 290

<sup>244</sup> Korompay 2003b, p. 285, p. 291

<sup>245</sup> Korompay 2010–2011

<sup>246</sup> A. Molnár 2003, p. 199

<sup>247</sup> Korompay 2003b, p. 286

<sup>248</sup> Hegedűs & Papp 1991, p. 176

<sup>249</sup> Hegedűs & Papp 1991, p. 474; Korompay 1999, pp. 198–204



Feature of the Latin-based orthography	Period of the occurrence of the feature in Hungary	Effect on the Szekely-Hungarian Rovas	Earliest example
Digraph <i>ly</i> denoted /k/, e.g. in 12 <sup>th</sup> c. <i>ullyetuk</i> /øʎʎe:tyk/ 'kill' (plural imp.) <sup>250</sup> and in 1530 <i>kýralýtul</i> /kíra:ʎto:l/ 'from king'. <sup>251</sup> Digraph <i>li</i> also denoted /k/ in 1539, e.g. <i>olian</i> /oʎan/ 'such'. <sup>252</sup>	12 <sup>th</sup> c., stabilized in 17 <sup>th</sup> c.	The SHR ʃΛ LI /k/ (pair of Λ L /l/ and ʃ I /i/) was used instead of ◊ LY /k/, e.g. Bonyhai (Fig. 8.2.8-2b).	1627
Latin character <i>q</i> denotes /ku/kv/	17 <sup>th</sup> c.	The SHR ◊ Q /ku/kv/ was developed from the duplication of ◊ K /k/, <sup>253</sup> e.g. Bonyhai (Table 8.2.8-2). The final glyph of ◊ Q /ku/kv/ was developed by Vér in 2001 (Fig. 8.2.12-1).	1629
Letter <i>x</i> denoted the cluster /ks/.	From Medieval Times	The SHR ʎ X /ks/ was developed from the ligature of ◊ K /k/ and Λ S /ʃs/, e.g. Bonyhai (Table 8.2.8-2). ◊ X /ks/ was developed from the ligature of ◊ K /k/ and ʃ SZ /s/, e.g. Bárczy (1971, see Table 8.1.4-1).	1629
Letter <i>w</i> (developed from the duplication of <i>v</i> ) denotes /v/ and historically it represented /y:/ as well. <sup>254</sup>	Since 11 <sup>th</sup> c. <sup>255</sup>	The SHR ʃ W was developed from ʃ V /v/, e.g. Carving knife of scouts (Fig. 8.2.11-1). ʃ W /v/ was developed from the duplication of ʃ V /v/, e.g. Vér (1994, see Table 8.1.4-1). Another glyph ʃ W /v/w/ was developed by Rumi, Sipos & Tisza in 2008. <sup>256</sup>	1930s
Letter <i>y</i> denotes /i/j/.	After 10 <sup>th</sup> c.	The SHR ʃ Y /i/j/ had an identical glyph to ʃ I /i/, e.g. Bonyhai (Table 8.2.8-2). ʃ Y /i/j/ was developed based on the shapes of ʃ II /i:/ and ʃ J /j/, e.g. Carving Knife of Scouts (Fig. 8.2.11-1). ʃ Y /i/j/ was developed from the ligature of ʃ I /i/ and ʃ J /j/, e.g. Bárczy (1971, see Table 8.1.4-1).	1930s (1629)

<sup>250</sup> ÓMS, Korompay 2003b, p. 286

<sup>251</sup> Hegedűs & Papp 1991, p. 208

<sup>252</sup> Hegedűs & Papp 1991, p. 455

<sup>253</sup> Sipos 2008-11

<sup>254</sup> Korompay 2003b, p. 291

<sup>255</sup> Korompay 2010-2011

<sup>256</sup> Hosszú, Rumi, Sipos 2008

Feature of the Latin-based orthography	Period of the occurrence of the feature in Hungary	Effect on the Szekely-Hungarian Rovas	Earliest example
Digraph <i>dz</i> denotes / $\overline{d}z$ /. Earlier / $\overline{d}z$ / was denoted by <i>ch</i> , <i>cz</i> , <i>dz</i> and <i>dzc</i> . <sup>257</sup> J. Tsétsi identified it as a phoneme and denoted / $\overline{d}z$ / by <i>dz</i> in 1708. <sup>258</sup>	16 <sup>th</sup> c. <sup>259</sup>	The $\text{DZ} / \overline{d}z /$ was developed from the ligature of $\text{D} / d /$ and $\text{Z} / z /$ , e.g. Verpeléti (Fig. 8.2.11-2b). Another glyph $\text{DZ} / \overline{d}z /$ was developed by Vér in 2001 (Fig. 8.2.12-1).	1935
Trigraph <i>dzs</i> denotes / $\overline{d}z$ /. From the 16 <sup>th</sup> c., <i>ds</i> denoted / $\overline{d}z$ /. <sup>260</sup> J. Tsétsi identified / $\overline{d}z$ / as a phoneme and he denoted it by <i>ds</i> in 1708. <sup>261</sup>	From 1922 <sup>262</sup>	The $\text{DZS} / \overline{d}z /$ was developed from the ligature of $\text{D} / d /$ and $\text{ZS} / z /$ , e.g. Verpeléti (Fig. 8.2.11-2b). Another glyph $\text{DZS} / \overline{d}z /$ was developed by Vér in 2001 (Fig. 8.2.12-1).	1935

Table 3.6.6-1: The influences of the Latin-based European and Old Hungarian orthographies on Szekely-Hungarian Rovas script

### B) The geographical distribution of SHR relics

The Szekelys were organized for guarding the borders of Hungary from the 10<sup>th</sup> century onwards. In the 12<sup>th</sup> century, some of them migrated to the eastern and southeastern borders, then to the current territory of Szekelyland (present-day Romania). Accordingly, Szekely-Hungarian Rovas relics appeared in Szekelyland from the end of the 12<sup>th</sup> century. In the Medieval Times, the center of the geographical distribution of SHR relics was in Udvarhely Seat (Szekelyland) that was established by the Szekelys in the middle of the 12<sup>th</sup> century, according to L. Benkő.<sup>263</sup> The relation of the original and the current location of each group of Szekelys are presented in Table 3.6.6-2, also denoting the Rovas relics found in each Szekely seat (seat: self-governing historical areas of Szekelys in Szekelyland).<sup>264</sup> According to L. Benkő, the Hungarian dialects used in Szekelyland are related to the dialects used in different areas of Transdanubia and other parts of the Carpathian Basin.<sup>265</sup> One of the numerous linguistic proofs of L. Benkő's statement is the name of Csík Seat (Szekelyland) that originated from the Csík Brook near the Rába River in southern Vas County (West Transdanubia, Hungary).<sup>266</sup>

<sup>257</sup> E. Abaffy 2003b, pp. 314–315

<sup>258</sup> Tsétsi 1708; Korompay 2003e, p. 592, 2009, pp. 7–10

<sup>259</sup> Korompay 2003e, p. 787

<sup>260</sup> Korompay 2012

<sup>261</sup> Tsétsi 1708; Korompay 2003e, p. 592, 2009, pp. 7–10

<sup>262</sup> Korompay 2003e, p. 781

<sup>263</sup> Benkő, L. 1990, pp. 109–122

<sup>264</sup> Benkő, L. 1990, pp. 114–115;

<sup>265</sup> Benkő, L. 1967, pp. 29–48, 1991, pp. 59–60; Botár 2008, p. 74; Szöllősy 2004

<sup>266</sup> Benkő, L. 1990, p. 114; 1998, pp. 135–136

Location before 12 <sup>th</sup> c.	Place and date of Rovas relic	Location from the 12 <sup>th</sup> –13 <sup>th</sup> c. to present	Place and date of Rovas relic
<p><i>Northwest medieval Hungary:</i> Pozsony, Moson and Sopron counties</p> <p><i>Southwest medieval Hungary:</i> Őrség (Őrvidék) 'Border Zone' (Map 3.6.1-5, Image D-4)<sup>267</sup></p>	-	Maros Seat (from the second half of the 12 <sup>th</sup> c.)	<ul style="list-style-type: none"> <li>- Erdőszentgyörgy, turn of the 14<sup>th</sup> c.<sup>268</sup></li> <li>- Berekeresztúr, 15–16 pieces of Rovas relics from the end of the 14<sup>th</sup> to the second half of the 16<sup>th</sup> c., e.g. Fig. 8.2.7-9<sup>269</sup></li> <li>- Kibéd (four relics), 16<sup>th</sup> – ca. 18<sup>th</sup> c.<sup>270</sup></li> <li>- Nyomát, 18<sup>th</sup> c.<sup>271</sup></li> <li>- Hármásfalu (Székelyszentistván), beg. of 20<sup>th</sup> c.<sup>272</sup></li> </ul>
<p><i>Southwest medieval Hungary:</i> Őrség (Őrvidék) 'Border Zone', the Kerka Valley<sup>273</sup></p>	Bodrog, around 900, see Fig. 8.2.2-1 (Nearby, in Somogy County)	Sepsi, Orbai, Kézdi, Kászon, Alcsík, Felcsík, Gyergyó seats	<ul style="list-style-type: none"> <li>- Gelence, 1497, Fig. 8.2.5-3</li> <li>- Kilyén, 15<sup>th</sup> c. – beg. of 16<sup>th</sup> c., Fig. 8.2.5-4</li> <li>- Csikszentmiklós, 1501, Fig. 8.2.7-1</li> <li>- Dálnok, 1526 or soon after, Fig. 8.2.7-5b</li> <li>- Szárhegy (from Kájoni), 1673, Fig. 8.2.8-9</li> <li>- Rovas Calendar (originated from around Gyergyó, ca. 12<sup>th</sup> c.), 1690, Sec. 8.2.6</li> </ul>
<p><i>Northwest medieval Hungary:</i> Pozsony and Trencsén counties</p>	-	Villages in Udvarhely Seat	<ul style="list-style-type: none"> <li>- Vargyas, 12<sup>th</sup> c., Fig. 8.2.3-1a,b</li> <li>- Homoródkarácsonyfalva, 13<sup>th</sup> c., Fig. 8.2.3-3c</li> </ul>
<p><i>The mouth of the Drava River in South medieval Hungary:</i> Tolna, Baranya, and Valkó counties</p>	-	Udvarhely Seat (from the second half of the 12 <sup>th</sup> c.)	<ul style="list-style-type: none"> <li>- Korond, end of 12<sup>th</sup> – beg. of 13<sup>th</sup> c., Sec. 8.2.3</li> <li>- Székelydália, 14<sup>th</sup> c., Fig. 8.2.4-4</li> <li>- Székelyderzs, ca. 1478 or 1490s, Fig. 8.2.5-1</li> <li>- Bögöz, 1530s, Fig. 8.2.7-6</li> <li>- Homoródkarácsonyfalva, 1625<sup>274</sup></li> <li>- Siménfalva, 1627, Fig. 8.2.8-2</li> <li>- Rugonfalva, 1638<sup>275</sup></li> <li>- Énlaka, 1668, Fig. 8.2.8-8</li> </ul>

Table 3.6.6-2: Left two columns: the regions Szekelys had lived in and the relics found there. Right two columns: their current locations in Szekelyland with the related SHR relics

The author explored the relation of two villages of Udvarhely Seat (*Vargyas* and *Homoródkarácsonyfalva*) to Northwest medieval Hungary (Table 3.6.6-2). Near Vargyas Village there is a hill called *Trencsén*, its name is identical to the name of *Trencsén* County in Northwest

<sup>267</sup> Benkő, L. 1999, p. 53

<sup>268</sup> Bözödi 1935; Ráduly 2007b

<sup>269</sup> Erdélyi & Ráduly 2010, pp. 65–78

<sup>270</sup> Ráduly 1992b, p. 3; 2007c, pp. 2–3

<sup>271</sup> Ráduly 2008a, pp. 67–69


<sup>272</sup> Ráduly 2008a, pp. 72–74

<sup>273</sup> Benkő, L. 1999, p. 53

<sup>274</sup> Mihály 2007

<sup>275</sup> Benkő, E. 1991, p. 20; Ferenczi 1992, pp. 57–58; Ráduly 2008a, pp. 64–66

medieval Hungary in the 12<sup>th</sup> century. The Szekelys of the Vargyas Village first settled on the Trencsén Hill (that time even name of the village was *Trencsén*<sup>276</sup>). After the attack of the Mongols in 1242, the village was moved to the nearby valley (Vargyas Village today). The first component of the name of Homoródkarácsonyfalva Village (*Homoród*) exists as a geographical name in Pozsony County (present-day Slovakia) as well.<sup>277</sup> The geographical name and the historical background data prove that the inhabitants of the two villages migrated from Northwest medieval Hungary.

Two significant SHR relics were found in Vargyas (Fig. 8.2.3-1a,b) and in Homoródkarácsonyfalva (Fig. 8.2.3-3a). The Vargyas Inscription contains two loan characters: one borrowed from the Greek (Ø DIAGONAL F /f/, which is similar to the Glagolitic  FITA, see Table 3.6.3-3), another from the Glagolitic (I CIRCLE ENDED O /o/, see Table 3.7.2-1). The Homoródkarácsonyfalva Relic contains one (Ø DIAGONAL F /f/). The cause of the appearance of these Glagolitic-related characters is obvious: in the 9<sup>th</sup> century, the areas of Trencsén and Pozsony counties belonged to the Duchy of Moravians, where the Glagolitic script was extensively used from 863 to 886. Being close in time to the emerging of SHR, the evangelized Szekelys of these areas surely obtained a certain Glagolitic cultural impression (Map 3.6.1-2). However, the counties Pozsony and Trencsén were out of Pannonia, where the majority of the Szekelys came from. Therefore, these characters were only locally used and went out of use very soon that indicates that the majority of the Szekelys did not experience significant Glagolitic influence. These facts support the proposition that in Pannonia the Glagolitic script had far less influence and the Slavic population was lower than in Moravia. It is perfectly in accordance with the ethnic map of the Carpathian Basin in the 11<sup>th</sup> century (no data is available from an earlier time, see Image D-5).

### 3.7. Relations between the Rovas and the Glagolitic scripts

#### 3.7.1. Rovas roots of the Glagolitic alphabet

There are several theories about the invention of the Glagolitic alphabet. One of them called *Jerome theory* attributes the origin of the Glagolitic script to *Saint Jerome*, the *Church Doctor* (died ca. 420). Saint Jerome was born in the Dalmatian city of Stridon, where Slavic people settled in the 6<sup>th</sup>–7<sup>th</sup> centuries.<sup>278</sup> M. Hocij associated the Jerome theory to *Aethicus' Cosmography* (for more information about Aethicus' Alphabet see Sec. 6.2.7).<sup>279</sup> As another approach, P. Skok stated that the Glagolitic script developed on Croatian lands evangelized from Aquileia in the 8<sup>th</sup>–9<sup>th</sup> centuries.<sup>280</sup> G.F. Turchaninov was the first scholar who showed the similarity of KR to the Glagolitic and the Cyrillic scripts. G. Vékony demonstrated that the Glagolitic script had a strong relation with CBR.<sup>281</sup> According to I. Vásáry, there is a relation between the Glagolitic and SHR.<sup>282</sup> Vékony assumed that the Glagolitic script had to be completed in the Carolingian Pannonia between 866 and 875, where both CBR and KR were known. In addition, McDaniel also concluded: "*the earliest use of Glagolitic script was surely in Pannonia*".<sup>283</sup> The author of this book assumes that the Glagolitic script was invented in relation to the evangelization of the Duchy of Moravians and Duchy of Mosaburg (Map 3.6.1-2).

<sup>276</sup> Orbán 1868–1873, XLVII. Vargyas

<sup>277</sup> Sófálvi 2005, p. 48

<sup>278</sup> Pohl 1988, p. 240, 261, 320

<sup>279</sup> Hocij 1940, pp. 509–600

<sup>280</sup> Skok 1953

<sup>281</sup> Vékony 1986; Vékony 2004a, p. 235

<sup>282</sup> Vásáry 1974, p. 169

<sup>283</sup> McDaniel 2004, p. 33

App. B lists the supposed historical milestones of the Glagolitic script. Table 3.7.1-1 demonstrates the relations of the Rovas scripts to the Glagolitic script.<sup>284</sup> The glyphs of the Glagolitic script are from Hersak.<sup>285</sup>

Carpathian Basin Rovas	Khazarian Rovas	Szekely-Hungarian Rovas	Glagolitic
*𐌆 CS /*tʃ/, Aethicus' glyph variant: 𐌆	𐌆, 𐌇 TRIPLE CS /tʃ/s/	𐌆 CS /tʃ/	𐌆 CHRV /tʃ/
*𐌈 FORKED G /g/, Aethicus' glyph variant: 𐌈	𐌈 FORKED G /g/	(There is not a cognate glyph in the relics)	𐌈, 𐌉 GLAGOLI /g/
> SHARP D /d/ (Maybe turned 90° in creating the Glagolitic glyph)	𐌐 ARCHED D /d/dɛ/	(There is not a cognate glyph in the relics)	𐌐 DOBRO /d/
*𐌑 DIAGONAL E /a/ɛ/ Aethicus' glyph variant: 𐌑	𐌑 DIAGONAL E /ɛ/	(Its later form: 𐌑 E /ɛ/)	𐌑 JEST /ɛ/ > 𐌑 YENSʙ /jɛ/
*𐌒 CIRCLE ENDED I /i/ Aethicus' glyph variant: 𐌒	𐌒 CIRCLE ENDED I /i/v̄/	(There is not a cognate glyph in the relics)	𐌒, 𐌓 IZHE /i/j/
*𐌔 LY /j/k/ Aethicus' glyph variant: 𐌔	𐌔 CLOSE J /j/	𐌔 LY /k/	𐌔 I /i/j/
𐌕 N /n/ɲ/, 𐌖 OPEN NY /n/*ɲ/	(KR characters did not represent /ɲ/)	𐌕 N /n/*ɲ/	𐌕 NASH /n/ɲ/
𐌗 OPEN O /o/u/	(There is not a cognate glyph in the relics)	𐌗 O /o/u/	𐌗 ON /ɔ/ Its descendants: > 𐌗 OT /ɔ/ > 𐌗 ONSʙ /ɔ/ (ligature with 𐌗 ES (ENSʙ) /ɛ/); > 𐌗 UK /u/ (duplication of 𐌗 ON or ligature of 𐌗 ON /ɔ/ and CBR 8 ARCHED Q /q/ or CBR B KUE /ky/)
𐌘 SIMPLE P, 𐌙 P /p/	𐌘 SIMPLE P, 𐌙 P /p/	𐌘 P /p/	𐌘 POKOJ /p/
𐌚 SZ /r/ (the same glyph was used for /r/ and /s/)	𐌚 R /r/ (glyph variant of 𐌚)	𐌚 SZ /r/ (the same glyph was used for /r/ and /s/)	𐌚 RCI /r/

<sup>284</sup> Vékony 1986a

<sup>285</sup> Hersak 1998




Carpathian Basin Rovas	Khazarian Rovas	Szekely-Hungarian Rovas	Glagolitic
l SZ /s/	l SZ /s/	l SZ /s/	Ŧ SLOVO /s/
∅ CLOSE T /t/	∅ CLOSE T /t/	(There is not a cognate glyph in the relics)	∅ TVRDO /t/
⚡ SHARP CH /x/, Aethicus' glyph variant: 	(There is not a cognate glyph with sound value /x/)	(There is not a cognate glyph in the relics)	⚡ KHER /x/
(There is not a cognate glyph in the relics)	∩ CIRCLE ENDED SH /ʃ/ (Mirrored vertically in creating the Glagolitic glyph)	(There is not a cognate glyph in the relics)	∩ CI /ʃs/
∩, ∩ ARCHED UE /y/*ø/, Aethicus' glyph variants: 	∩ ARCHED UE /ø/y/	(There is not a cognate glyph in the relics)	∩ JERI /ə/
D CLOSE J /j/	D CLOSE J /j/	(There is not a cognate glyph in the relics)	∩ JU /ju/
∅, ∅ CLOSE S /ʃ/, Aethicus' glyph variant: 	(There is not a cognate glyph in the relics)	∅ US /ʃ/	∩ ZHIVETE /z/

Table 3.7.1-1: Relations among the Rovas and the Glagolitic scripts

According to Vékony, the specific shape of the CBR or KR ∩ CIRCLE ENDED I /i/ with the small circle was the ancestor of the Glagolitic ∩, ∩ IZHE /i/j/ and the mirrored glyph of the KR ∩ CIRCLE ENDED SH /ʃ/ was used for the Glagolitic ∩ CI /ʃs/. Definitely, these CBR and KR characters existed before the estimated birth of the Glagolitic alphabet; therefore, these Rovas glyphs could contribute to the concept of using small *circles* in the Glagolitic characters.

In 2009, M. B. Szőke discovered a bottle fragment with a cross sign and two Glagolitic characters in Zalavár, Hungary (Mosaburg in the 9<sup>th</sup> century, see Fig. 3.7.1-1).<sup>286</sup> The two characters are the Glagolitic ∩ ON /ɔ/ and ∩ IZHE /i/j/. Based on Fig. 3.7.1-1, the relation between the Glagolitic ∩ ON /ɔ/ and the CBR ∩ OPEN O /o/u/ is highly probable. The author recognized that the small circles at the ends of the curving line of the Glagolitic glyph ∩ on the Fig. 3.7.1-1 are *outward* (differently from the currently used glyph shape: ∩). These small circles are located exactly in the position of the two short vertical lines of CBR ∩ OPEN O /o/u/.

Moreover, in the early version of the Glagolitic script, the /u/ had no individual character similarly to the case of the Rovas scripts, the Glagolitic ∩ ON /o/ denoted /u/ as well.<sup>287</sup>












<sup>286</sup> Magyar 2009








<sup>287</sup> Vékony 2004a, pp. 28–29



Fig. 3.7.1-1: Glagolitic Relic of Zalavár (Mosaburg) discovered by B.M. Szőke.<sup>288</sup>

Table 3.7.1-1 shows that the influence of CBR on the Glagolitic alphabet was stronger than KR. This theory is in accordance with the historical fact that CBR was most extensively used in the territory of the late Avar Khaganate at the time when the Glagolitic script was presumably invented. According to the author of this book, the creation of the Glagolitic alphabet could be related to the Salzburg-led evangelization, especially based on the similarities between Aethicus's Alphabet and the Glagolitic glyphs.

An example for the similarities is the Aethicus' glyph for ¶ CIRCLE ENDED I /i/:  and the Glagolitic  IZHE /i/. In addition, the Glagolitic  KHER /x/ indicates a relation to Aethicus' glyph variant  of the CBR  SHARP CH. Thus, the Carpathian Basin Rovas letter  SHARP CH was used for representing /x/, similarly to the Glagolitic  HER /x/. However, the KR  SHARP CH was used only for /h/ based on known relics. This relation supports the assumption that the Carpathian Basin Rovas character ,  SHARP CH was the origin of the Glagolitic  HER /x/. Consequently, the relationship of the Glagolitic script and the Szekely-Hungarian Rovas could be based on the assumption that both scripts are cognate of CBR.

The Glagolitic script extensively uses ligatures.<sup>289</sup> This property could be inherited from CBR, which also used ligatures. In addition, several Glagolitic characters were created via ligating, e.g.  UK /u/,  OT /ɔ/,  SHTA /t/ʃt/,  YERY /i/,  YENSʙ /jɛ/,  ONSʙ /ɔ/,  YONSʙ /jɔ/.

### 3.7.2. Influence on SHR

From 863, the Glagolitic alphabet was used in Duchy of Mosaburg (*Map 3.6.1-2*) in the Carolingian Empire during the age of Dux Chozel (*App. B*) and in the territories occupied by Swentopluk of Moravia. However, the Hungarian-speaking regions continued using SHR (e.g., Bodrog Relic, around 900, see *Fig. 8.2.2-1*). In this mixed cultural environment, SHR was influenced by the Glagolitic alphabet. The borrowed Glagolitic character in *Table 3.7.2-1* was only used locally for a certain period (survived in one SHR relic) and later it went out of practice.

<sup>288</sup> Magyar 2009

<sup>289</sup> McDaniel 2004, p. 33



Glagolitic character	Szekely-Hungarian Rovas character	Last occurrence in relic
Ǻ ON /ɔ/	Ǻ CIRCLE ENDED O /o/	12 <sup>th</sup> c.

*Table 3.7.2-1: The Glagolitic-originated Szekely-Hungarian Rovas character.*

The SHR Ǻ CIRCLE ENDED O /o/ found in the Vargyas Inscription is a descendant of the Glagolitic Ǻ ON /ɔ/ (*Fig. 8.2.3-1b*). However, the SHR Ǻ O /o/ is a direct descendant of the CBR Ǻ OPEN O /o/ (*Table 3.6.2-5*) based on their topological similarities. Moreover, the SHR Ǻ O /o/ has already existed in the 9<sup>th</sup>–10<sup>th</sup> centuries, much before the time of the Vargyas Relic (12<sup>th</sup> century, see *Fig. 8.2.2-1*). Consequently, the evolution of Ǻ CIRCLE ENDED O /o/ was independent from the SHR Ǻ O /o/.

It is noteworthy that the SHR Ǻ CIRCLE ENDED O /o/ (*Sect. 3.7.2*), which was adapted from the Glagolitic script, kept the early shape of the Glagolitic Ǻ ON /ɔ/. Its evidence is the glyph on the *Fig. 3.7.1-1*. Since the SHR Ǻ CIRCLE ENDED O /o/ shows this early stage of the Glagolitic Ǻ ON /ɔ/, this fact may indicate the date of the adaptation of the Glagolitic ON into SHR.

## 4. Rovas Atlas: Genealogy of all Rovas characters

This chapter presents the genealogy of all Rovas (CBR, KR, and SHR) characters. The background of their genealogy was discussed in detail in *Ch. 3*. Albeit there are several attempts for describing the relations of the scripts,<sup>290</sup> the Rovas Atlas is the first comprehensive description of the genealogy of all Rovas characters. The symbol \* before the characters, data or script-names in the Rovas Atlas indicates unattested data. Generally, the creation time of the earliest relic of each Rovas glyph is denoted. However, in reality, the date of their creation or adoption can be earlier. If the denoted time is estimated, it is also marked with an \* before it.

In the Rovas Atlas, the most typical – in several cases normalized<sup>291</sup> – glyphs were used. However, other important glyph variants were also listed if they significantly differ from each other. In some cases, *unidentified intermediary scripts* were assumed if the usage periods of the ancestor and the descendant scripts did not overlap.

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<sup>290</sup> Hitch 2010, p. 2

<sup>291</sup> The Unicode Standard, <http://www.unicode.org/charts>

#### 4.1. Genealogy of the Phoenician originated Rovas characters

- Phoenician** 𐤀 ALF /ʔ/ > *Early Aramaic* 𐤀 ALEPH /ʔ/ > *Imperial Aramaic* 𐤀 ALEPH /ʔ/a:/e:/
- > *Parthian* 𐭀, 𐭁 ALEPH /a/a:/
- > *\*Proto-Rovas* \*𐭂 /a/ε/
- > CBR (7<sup>th</sup> c.) 𐭂 FORKED E /a/ε/e/ > (21<sup>st</sup> c.) 𐭂 FORKED E /e:/
  - > SHR (\*8<sup>th</sup> c., 9<sup>th</sup>–10<sup>th</sup> c. in a ligature) 𐭂 AA /o/a/a:/ε/e/e:/ > (20<sup>th</sup> c.) 𐭂 AA /a:/
  - > SHR (17<sup>th</sup> c.) 𐭂 A /o/a/a:/ > (20<sup>th</sup> c.) 𐭂 A /o/a/
  - > KR (8<sup>th</sup> c.) 𐭂 FORKED E /a/ε/
- > *\*Proto-Rovas* \*𐭃 /a/ε/
- > CBR (7<sup>th</sup> c.) 𐭃, 𐭄 FORKED A /a/ə/ε/
  - > CBR (21<sup>st</sup> c.) 𐭃 FORKED A /o/a/, 𐭄 FORKED AA /a:/
  - > KR (8<sup>th</sup> c.) 𐭃 FORKED A /a/ε/
  - > KR (8<sup>th</sup> c.) 𐭄 ANGLED E /ε/
- > *\*Early Steppean* \*𐭅 /a/a:/ε/
- > *\*Proto-Rovas* 𐭅 /a/a:/ε/
  - > KR (8<sup>th</sup> c.) 𐭅 ARCHED E /a/a:/ε/
  - > *\*Proto-Rovas* \*𐭆 /ø/y/
  - > CBR (7<sup>th</sup> – 10<sup>th</sup> c.) 𐭆, 𐭇 ARCHED UE /y/
  - > CBR (21<sup>st</sup> c.) 𐭆 ARCHED UE /y/, 𐭇 ARCHED UEE /y:/
  - > *Glagolitic* (9<sup>th</sup> c.) 𐭈 JERI /ə/
  - > KR (8<sup>th</sup> – 9<sup>th</sup> c.) 𐭆, 𐭇 ARCHED UE /ø/y/
- > *\*Proto-Rovas* \*𐭉 /a/ε/
- > CBR (8<sup>th</sup> c.) \*𐭉 DIAGONAL E /a/ε/ (survived in a calligraphic form: 𐭉)
  - > CBR (21<sup>st</sup> c.) 𐭉 DIAGONAL E /ε/
  - > SHR (\*8<sup>th</sup> c.) \*𐭉 E /a/ε/, (16<sup>th</sup> c.) 𐭉 E /e/
  - > SHR (14<sup>th</sup> c.) 𐭉 E /ε/ > (15<sup>th</sup> c.) /ε/e/e:/ > (18<sup>th</sup> c.) /ε/
  - > SHR (14<sup>th</sup> c.) 𐭉 CLOSE UEE /ø/y/y:/ > (20<sup>th</sup> c.) /y:/
  - > SHR (17<sup>th</sup> c.) 𐭉, 𐭊 CLOSE UE /ø/y/ > (21<sup>st</sup> c.) /y/
  - > SHR (16<sup>th</sup> c.) 𐭉, 𐭊 OE /ε/e:/ø/ø:/ > (17<sup>th</sup> c.) 𐭉 OE /ø/ø:/
  - > SHR (20<sup>th</sup> c.) 𐭉 OE /ø/, 𐭊 OEE /ø:/
  - > SHR (17<sup>th</sup> c.) 𐭉 EE /e:/
  - > SHR (18<sup>th</sup> c.) - EE /e:/
  - > *Glagolitic* (9<sup>th</sup> c.) 𐭋 JEST /ε/ > 𐭋 YENSb /jε/
- > KR (8<sup>th</sup> c.) 𐭉 DIAGONAL E /ε/
- > KR (9<sup>th</sup> c.) 𐭉, 𐭊 DIAGONAL E /ε/
- > *\*Early Steppean* \*𐭌 /e/ (duplication of \*𐭅 /a/a:/ε/)
- > KR (8<sup>th</sup> c.) 𐭌 CLOSE E /e/
  - > SHR (\*9<sup>th</sup>–10<sup>th</sup> c., 12<sup>th</sup> c.) 𐭌, 𐭍 CLOSE E /e/ > (20<sup>th</sup> c.) 𐭌
  - > SHR (13<sup>th</sup> c.) 𐭌, 𐭍, 𐭎 H /h/ > (20<sup>th</sup> c.) 𐭌
  - > *Old Turkic (Yenisei, Talas)* 𐭏 E /e/
- > *Syriac (Nestorian after 489 AD)* ALAPH 𐤀 /ʔ/
- > *Sogdian* 𐰀 ALAPH /ʔ/
  - > *Old Turkic (Orkhon)* 𐰀 A /a/ε/

**Phoenician 𐤁 BET /b/** > *Early Aramaic 𐤁 BETH /b/* > *Imperial Aramaic 𐤁 BETH /b/v/*  
 > *Parthian 𐭅 BETH /b/w/*  
 > *\*Early Steppean /b/w/*  
   > *KR (8<sup>th</sup> c.) 𐎠 ARCHED B /b/β/*  
   > *Old Turkic (Orkhon) 𐰇 AB /b/*

**Phoenician 𐤀 GAML /g/**

> *Early Aramaic 𐤀 GIMEL /g/*  
 > *Imperial Aramaic 𐤀, 𐤁<sup>292</sup> GIMEL /g/ɣ/*  
   > *\*Proto-Rovas \*𐤀 /g/ɣ/*  
     > *CBR (8<sup>th</sup> c.) 𐎡, \*𐎢 FORKED G /g/*  
       > *SHR (\*8<sup>th</sup> c., 13<sup>th</sup>–14<sup>th</sup> c.) 𐎡 G /g/𐎢/*  
       > *(12<sup>th</sup>–15<sup>th</sup> c.) 𐎢/𐎣/*  
     > *CBR (8<sup>th</sup> c.) 𐎠 SHORT G /g/*  
       > *SHR (\*9<sup>th</sup> c.) \*𐎠 SHORT G /g/*  
       > *SHR (\*12<sup>th</sup> c., 15<sup>th</sup> c.) 𐎠, † GY /g/𐎢/ > (17. sz.) † > (21. sz.) †*  
       > *SHR (15<sup>th</sup> c.) 𐎠 NGY /ng/*  
     > *Glagolitic (9<sup>th</sup> c.) 𐌐, 𐌑 GLAGOLI /g/*  
   > *KR (9<sup>th</sup> c.) 𐎢 FORKED G /g/*  
 > *Syriac (Nestorian after 489 AD) 𐤀 GAMAL /g/ɣ/*  
 > *Sogdian 𐰇 GAMAL /g/ɣ/*  
 > *Parthian 𐭅 GIMEL /g/ɣ/*

**Phoenician 𐤃 DELT /d/** > *Early Aramaic 𐤃 DALETH /d/*

> *Imperial Aramaic 𐤃 DALETH /d/ð/*  
 > *Parthian 𐭄 DALETH /d/ð/*  
 > *\*Proto-Rovas \*𐤃 > /d/*  
   > *CBR (7<sup>th</sup> c.) > SHARP D /d/*  
     > *CBR (8<sup>th</sup> c.) 𐎣 SHARP GY /dɣ/ > (21<sup>st</sup> c.) /ɣ/*  
     > *CBR (21<sup>st</sup> c.) 𐎣 SHARP DZ /d̄z/*  
     > *CBR (21<sup>st</sup> c.) 𐎣 SHARP DZS /d̄z̄/*  
     > *SHR (\*8<sup>th</sup> c., 12<sup>th</sup> c.) 𐎣 T /t/d/ > (16<sup>th</sup> c.) /t/*  
       > *SHR (14<sup>th</sup> c.) † D /d/*  
         > *SHR (15<sup>th</sup> c.) † AND /nd/ > (20<sup>th</sup> c.) /ond/*  
         > *SHR (20<sup>th</sup> c.) 𐎣 earlier glyph of DZ /d̄z/*  
         > *SHR (20<sup>th</sup> c.) † earlier glyph of DZS /d̄z̄/*  
         > *SHR (20<sup>th</sup> c.) 𐎣 DZS /d̄z̄/*  
         > *SHR (21<sup>st</sup> c.) 𐎣 DZ /d̄z/*  
     > *SHR (14<sup>th</sup> c.) 𐎣 ENT /nt/ > (20<sup>th</sup> c.) /ent/*  
       > *SHR (17<sup>th</sup> c.) 𐎣 ENT /nt/ > (20<sup>th</sup> c.) /ent/*  
       > *SHR (17<sup>th</sup> c.) 𐎣 ANT /nt/ > (20<sup>th</sup> c.) /ont/*  
 > *KR (8<sup>th</sup> c.) > SHARP D /d/ð/d̄z̄/*

## Phoenician 𐤀 HE /h/

- > Early Aramaic 𐤀 HE /h/
- > Imperial Aramaic (6<sup>th</sup> c. BC) 𐤁, (4<sup>th</sup> c. BC) 𐤂 HE /h/
- > KR (9<sup>th</sup> c.) 𐤃, 𐤄 FORKED CH /x/
- > Kharoshthi 𐭅 CHA /xa/
- > \*Proto-Rovas \*𐭆 /x/
- > CBR (in a ligature: 7<sup>th</sup> c., 9<sup>th</sup>–10<sup>th</sup> c.) 𐭇 SHARP CH /x/
- > CBR (8<sup>th</sup> c.) 𐭈 SHARP CH /x/
- > Glagolitic (9<sup>th</sup> c.) 𐭉 KHER /x/
- > CBR (9<sup>th</sup>–10<sup>th</sup> c.) 𐭊 SHARP H /\*xx/ (or /\*xβ/)
- > (21<sup>st</sup> c.) /h/
- > KR (8<sup>th</sup> c.) 𐭋 SHARP CH /h/

## Phoenician 𐤁 WAU /w/

- > Early Greek 𐤁 \*VAU /w/
- > Euboean Greek 𐤂 DIGAMMA /w/
- > Old Italic (including Etruscan) 𐤃 VE /f/v/
- > Lydian (700–200 BC) 𐤄 V /v/
- > (Supposed unidentified intermediary script/s)
- > \*Proto-Rovas \*𐤅 /\*β/\*b-/
- > CBR (7<sup>th</sup>–8<sup>th</sup> c.) 𐤆, 𐤇 OPEN V /β/v/ > (21<sup>st</sup> c.) 𐤈 OPEN V /v/, 𐤉 OPEN W /w/w/
- > CBR (8<sup>th</sup> c.) 𐤊 OPEN F /f/
- > SHR (\*8<sup>th</sup> c., 9<sup>th</sup>–10<sup>th</sup> c.) 𐤋 OPEN V /β/
- > KR (8<sup>th</sup> c.) 𐤌 OPEN V /β/b-/
- > Early Aramaic 𐤍 WAW /w/
- > Imperial Aramaic 𐤎 WAW /w/o:/u:/
- > \*Early Steppean \*𐤏 /o/u/
- > \*Proto-Rovas \*𐤐 /o/u/
- > CBR (8<sup>th</sup>, distorted copy) 𐤑, (9<sup>th</sup>–10<sup>th</sup> c.) 𐤒 OPEN O /o/u/
- > CBR (21<sup>st</sup> c.) 𐤓 OPEN OO /o:/
- > SHR (\*8<sup>th</sup> c., 9<sup>th</sup>–10<sup>th</sup> c.) 𐤔 O /o/u/ > (14<sup>th</sup>–15<sup>th</sup> c.) /o/o:/ > (20<sup>th</sup> c.) /o/
- > SHR (16<sup>th</sup> c.) 𐤕 OO /o/o:/
- > SHR (17<sup>th</sup> c.) 𐤖 OO /o/o:/ > (21<sup>st</sup> c.) 𐤗 OO /o:/
- > Glagolitic (9<sup>th</sup> c.) 𐤘 ON /ɔ/
- > Glagolitic (9<sup>th</sup> c.) 𐤙 OT /ɔ/
- > Glagolitic 𐤚 UK /u/ (duplication of 𐤛 ON /ɔ/)
- > Glagolitic (9<sup>th</sup> c.) 𐤛 AS (Onсь) /ɔ/ (ligature with 𐤜 ES (Enсь) /ē/)
- > Early Cyrillic (9<sup>th</sup>–10<sup>th</sup> c.) 𐤝 YUS /ɔ/
- > CBR (9<sup>th</sup>–10<sup>th</sup> c.) 𐤞 FORKED U /ɔ/ > (21<sup>st</sup> c.) /u:/
- > SHR (12<sup>th</sup> c.) 𐤟 CIRCLE ENDED O /o/
- > KR (9<sup>th</sup> c.) 𐤠 FORKED O /o/u/
- > KR (10<sup>th</sup> c.) 𐤡 FORKED O /o/u/
- > Old Turkic > O /o/u/
- > Parthian 𐤢 WAW /w/o:/u:/
- > Kharoshthi 𐭆 VA /va/

**Phoenician ~ ZAI /z/**

- > Early Aramaic **I** ZAYIN /z/
- > Imperial Aramaic **I** ZAYIN /z/
  - > \*Early Steppean \***I** /s/z/
    - > \*Proto-Rovas \***I** /s/, also /r/ in Ogur due to Rhotacism
      - > CBR (7<sup>th</sup> c.) **I** SZ /r/s/ > (8<sup>th</sup> c.) /s/
        - > SHR (\*8<sup>th</sup> c., 12<sup>th</sup>–13<sup>th</sup> c.) **I** SZ /r/s/ (gradually restricted to /s/)
        - > SHR (14<sup>th</sup> c.) – SHORT R /r/
        - > Glagolitic **Q** SLOVO /s/
      - > KR (8<sup>th</sup> c.) **I** SZ /s/
    - > Old Turkic (Orkhon) **I** AES /s/
  - > Parthian **I** ZAYIN /z/
  - > Syriac (Estrangela from 2<sup>nd</sup> c. BC) **I** ZAIN /z/
    - > Sogdian **V** ZHAIN
- > Kharoshthi **𑀘, 𑀙** ZA /za/
  - > \*Early Steppean \***𑀘** /s/
    - > KR (8<sup>th</sup> – 9<sup>th</sup> c.) **𑀘, 𑀙** FORKED SZ /s/
    - > Old Turkic (Talas) **𑀘, 𑀙** AS /s/

**Phoenician** 𐤀 HET /ħ/

> *Early Aramaic* 𐤁 HETH /ħ/

> *Imperial Aramaic* 𐤂 HETH /ħ/

> *Parthian* 𐭠 HETH /χ/x/h/

> \**Early Steppean* \*N /ɣ/

> \**Proto-Rovas* \*N /ɣ/

> CBR (7<sup>th</sup> c.) N, 𐤀 GH /ɣ/ > (21<sup>st</sup> c.) N GH /ø:/

> SHR (\*8<sup>th</sup> c., 12<sup>th</sup> c.) N GH /ɣ/

> SHR (14<sup>th</sup> c.) ≥ OPEN OE /ø:/y/y:/

> SHR (16<sup>th</sup> c.) 𐤀 OPEN UE /y/y:/

> SHR (17<sup>th</sup> c.) ≤ OPEN UEE /y/y:/

> (21<sup>st</sup> c.) /y:/

> SHR (20<sup>th</sup> c.) 𐤀 OPEN UE /y/ > (21<sup>st</sup> c.) 𐤀

> SHR (18<sup>th</sup> c.) ≥ OPEN OE /ø:/

> CBR (21<sup>st</sup> c.) ≥ OPEN OE /ø/

> KR (8<sup>th</sup> c.) N, 𐤀, 𐤁, 𐤂 GH /ɣ/, in Alan: /g/

> \**Early Steppean* \*N /y/ø/

> KR (8<sup>th</sup>–9<sup>th</sup> c.) N SHARP UE /y/\*ø/

> KR (9<sup>th</sup>–10<sup>th</sup> c.) 𐤂 SHARP UE /y/ø/

> SHR (\*9<sup>th</sup>–10<sup>th</sup> c., 12<sup>th</sup> c.) 𐤂 V /u/u:/y/v/ > (15<sup>th</sup> c.) /v/

> SHR (\*12. c., 14<sup>th</sup>–15<sup>th</sup> c.) 𐤂 U /u/u:/y/ > (20<sup>th</sup> c.) /u/

> SHR (16<sup>th</sup> c.) 𐤂 UU /u/u:/ > (20<sup>th</sup> c.) /u:/

> SHR (17<sup>th</sup> c.) 𐤂 UU /u/u:/

> SHR (15<sup>th</sup> c.) 𐤂 V /v/

> SHR (20<sup>th</sup> c.) 𐤂 W /v/w/

> SHR (20<sup>th</sup> c.) 𐤂 W /v/w/

> SHR (21<sup>st</sup> c.) 𐤂 W /v/w/

> *Old Turkic (Orkhon)* 𐰽 OE /ø/y/w/

> *Inscriptional Pahlavi* 𐭠 HET /h/x/

> KR (8<sup>th</sup> c.) 𐭠 ARCHED CH /x/

> *Hebrew* 𐤀 HET /ħ/x/

> *Nabataean* 𐩁, 𐩂, 𐩃 HETH /ħ/

> KR (8<sup>th</sup> c.) 𐩁 ANGLED CH /x/



**Phoenician** Ⓞ TET /t<sup>s</sup>/

- > *Early Greek* ⊕ THETA /t<sup>h</sup>/<sup>293</sup>
  - > *Euboean Greek* (8<sup>th</sup>–5<sup>th</sup> c. BC) ⊗ THETA /t<sup>h</sup>/
  - > *Greek* ⊖ THETA /θ/ (*capital letter*)
    - > *SHR* (9<sup>th</sup>–10<sup>th</sup> c.) ⊖ F /f/
    - > *SHR* (15<sup>th</sup> c.) ⊖ F /f/
    - > *SHR* (18<sup>th</sup> c.) ⊖ F /f/
  - > *Greek* θ THETA /θ/ (*minuscule letter*)
    - > *SHR* (\*9<sup>th</sup> c., 12<sup>th</sup> c.) ⊖ DIAGONAL F /f/
    - > *Glagolitic* ⊕ FITA /θ/f/
      - > *Early Cyrillic* ⊖ FITA /f/t/θ/
- > *Early Aramaic* ⊕ TETH /t<sup>s</sup>/
  - > *Syriac* (*Estrangela* from 2<sup>nd</sup> c. BC) ↘ TETH /t<sup>s</sup>/
  - > \**Early Steppean* \*⋈
    - > \**Proto-Rovas* \*⋈ /t/
      - > *CBR* (7<sup>th</sup> c.) ⋈ OPEN T /t/ > (21<sup>st</sup> c.) ⋈ /c/
      - > *KR* (8<sup>th</sup> c.) ⋈ OPEN T /t/
      - > *KR* (9<sup>th</sup> c.) ⋈ OPEN T /t/
    - > *KR* (8<sup>th</sup>–9<sup>th</sup> c.) ⋈ CENTRAL Z /t/z/
    - > *KR* (9<sup>th</sup> c.) ⋈ CENTRAL T /t/
      - > *SHR* (\*9<sup>th</sup>–10<sup>th</sup> c., 15<sup>th</sup> c.) ⋈ TY /t/c/ (*before the 13<sup>th</sup> c. only /t/*)
      - > *SHR* (16<sup>th</sup> c.) ⋈, ⋈ TY /c/
  - > *Old Turkic* (*Orkhon, Yenisei*) ⋈ Z /z/
- > *Imperial Aramaic* Ⓞ TETH /t<sup>s</sup>/
  - > *Nabataean* Ⓞ, Ⓞ TETH /t<sup>s</sup>/
  - > *Palmyrene* Ⓞ TETH /t<sup>s</sup>/
    - > (*Supposed unidentified intermediary script/s*)
    - > *KR* (9<sup>th</sup> c.) Ⓞ ARCHED T /t/
  - > *Parthian* Ⓞ TETH /t<sup>s</sup>/
- > *Kharoshthi* †<sup>294</sup> THA /t<sup>h</sup>a/
  - > *Old Turkic* (*Orkhon, Yenisei*) †, ⋈ AED /d/

<sup>293</sup> Sihler 1995, p. 20

<sup>294</sup> Dani 1963, pp. 258–259, Dani suggested to derive Kharoshthi THA from the Aramaic TETH.

**Phoenician 𐤎 YOD /j/** > *Early Aramaic 𐤎 YODH /j/*

> *Imperial Aramaic 𐤎 YODH /j/i:/e:/*

> *\*Early Steppean \*1 /i/ǃe/*

> *\*Proto-Rovas \*1 /i/e/*

> *CBR (8<sup>th</sup> c.) 𐤎, \*1 ANGLED I /i/*

> *SHR (\*8<sup>th</sup> c., 12<sup>th</sup> c.) 𐤎 I /i/j/ > (18<sup>th</sup> c.) /j/*

> *SHR (12<sup>th</sup>–13<sup>th</sup> c.) 𐤎 I /i/j/ > (20<sup>th</sup> c.) 𐤎 II /i:/*

> *SHR (14<sup>th</sup> c.) 𐤎 I /i/*

> *SHR (17<sup>th</sup> c.) 𐤎 Y /i/j/*

> *SHR (20<sup>th</sup> c.) 𐤎, 𐤎 Y /i/j/*

> *KR (8<sup>th</sup> c.) 𐤎 ANGLED I /i/e/*

> *Old Turkic (Orkhon) 𐤎 I /i/ǃe/*

> *Inscriptional Pahlavi 𐬎 YODH /j/i:/*

> *\*Proto-Rovas \*𐬎 /i/ǃ*

> *CBR (7<sup>th</sup> c. in a ligature, 9<sup>th</sup>–10<sup>th</sup> c.) 𐬎 ARCHED I /i/ǃǃ > (21<sup>st</sup> c.) /i/j/*

> *KR (8<sup>th</sup> c.) 𐬎, 𐬎, 𐬎 ARCHED I /i/ǃ*

> *Book Pahlavi 𐬎 YODH /j/i:/*

> *\*Proto-Rovas \*𐬎 /i/ǃ (Book Pahlavi character was turned 90°)*

> *CBR (8<sup>th</sup> c.) 𐬎 CIRCLE ENDED I /i/ (reconstructed from Aethicus' 𐬎) > (21<sup>st</sup> c.) /i:/*

> *Glagolitic (9<sup>th</sup> c.) 𐬎, 𐬎 IZHE /i/j/*

> *KR (8<sup>th</sup> c.) 𐬎, 𐬎, 𐬎 CIRCLE ENDED I /ǃi/*

> *Parthian 𐬎 YODH /j/i:/e:/*

**Phoenician 𐤌 KAF /k/**

> *Early Aramaic 𐤌 KAPH /k/x/*

> *Imperial Aramaic 𐤌, 𐤌 KAPH /k/x/*

> *\*Early Steppean /k/*

> *KR (9<sup>th</sup> c.) 𐤌 FORKED K /k/*

> *Old Turkic (Orkhon) 𐤌, 𐤌 AEK /k/ (harmonized with front vowels)*

> *Old Turkic (Yenisei) 𐤌 AEK /k/ (harmonized with front vowels)*

> *Parthian 𐬌 KAPH /k/g/*

> *Syriac 𐤌 KAPH*

> *Kharoshthi 𐬀 KA /ka/*

> *CBR (8<sup>th</sup> c.) 𐬀 OPEN K /k/*

> *SHR (\*8<sup>th</sup> c., 15<sup>th</sup> c.) 𐬀 OPEN K /k/pk/a:k/*

> *SHR (15<sup>th</sup> c.) 𐬀 UNK /unk/\*ynk/ > (20<sup>th</sup> c.) /unk/*

### Phoenician 𐤌 LAMD /l/

- > Early Aramaic 𐤌 LAMEDH /l/
  - > Imperial Aramaic 𐤌 LAMEDH /l/>
    - > Parthian 𐭎, 𐭏 LAMEDH /l/
    - > Inscriptional Pahlavi 𐭎 LAMEDH /l/
    - > Book Pahlavi 𐭎 /l/
      - > \*Proto-Rovas \*𐭎 /l/
        - > CBR (7<sup>th</sup> c.) 𐭎 SIMPLE L /l/
        - > KR (8<sup>th</sup> c.) 𐭎 SIMPLE L /l/
      - > Syriac (*Estrangela*, *Serta* after 489 AD) 𐤌 LAMADH /l/
      - > Old Turkic: 𐰇 AL /l/ (*harmonized with back vowels*)<sup>295</sup>
      - > Sogdian 𐰇 LAMADH /l/d/
  - > Hebrew 𐤌 LAMED /l/
  - > Nabataean 𐩧, 𐩨 LAMADH /l/
    - > KR (9<sup>th</sup> c.) 𐩧 ARCHED L /l/
  - > Kharoshthi 𑀓 LA /la/
    - > \*Proto-Rovas \*𑀓 /l/
      - > CBR (8<sup>th</sup> c.) 𑀓, (*distorted*) 𑀔 FORKED L /l/
        - > SHR (\*8<sup>th</sup> c., 14<sup>th</sup> c.) 𑀕, 𑀖, 𑀗, 𑀘 L /l/
      - > KR (10<sup>th</sup> c.) 𑀓 CROSSED L /l/
      - > \*Early Steppean /l/
        - > KR (8<sup>th</sup> – 9<sup>th</sup> c.) 𑀓 FORKED L /l/
        - > Old Turkic 𑀓 AEL /l/ (*harmonized with front vowels*)

### Phoenician 𐤍 MEM /m/

- > Early Greek 𐀀 M /m/
  - > Lydian (700–200 BC) 𐀁 M /m/
    - > (*Supposed unidentified intermediary script/s*)
      - > \*Proto-Rovas \*𐀁, \*𐀂 /m/ (*turned -90° or 90°*)
        - > CBR (8<sup>th</sup> c.) 𐀁, \*𐀂 OPEN M /m/
          - > SHR (\*8<sup>th</sup> c., 12<sup>th</sup> c.) 𐀃 M /m/
          - > SHR (14<sup>th</sup> c.) 𐀄 M /m/
        - > KR (8<sup>th</sup> c.) 𐀁, (9<sup>th</sup> c.) 𐀂 OPEN M /m/
  - > Early Aramaic 𐤍 MEM /m/
    - > Imperial Aramaic 𐤍 MEM /m/
      - > Parthian 𐭍 MEM /m/
      - > Old Turkic (*Orkhon*) 𐰆 M /m/
        - > Old Turkic (*Orkhon*) 𐰇 M /m/
        - > Old Turkic (*Yenisei*) 𐰈 M /m/
    - > Kharoshthi 𑀕 MA /ma/
      - > \*Early Steppean \*𑀕 /m/
        - > KR (9<sup>th</sup> c.) 𑀕 ROUND M /m/
        - > Old Turkic (*Talas*) 𑀕 EM /m/

<sup>295</sup> According to Róna-Tas, the Old Turkic 𐰇 AL /l/ did not originate in the Sogdian 𐰇 LAMADH that was used as /d/ in the earliest Sogdian documents, see: Róna-Tas 1991a, p. 57.

### Phoenician 𐤊 NUN /n/

- > Early Greek 𐀀 N /n/
- > Lydian (700–200 BC) 𐌶 N /n/
- > Early Aramaic 𐤊 NUN /n/
- > \*Proto-Rovas \*𐤊 /n/
- > CBR (9<sup>th</sup>–10<sup>th</sup> c.) 𐤊 OPEN NY /n/\*ɲ/ > (21<sup>st</sup> c.) /ɲ/
  - > Glagolitic (9<sup>th</sup> c.) 𐌶 NASH /n/ɲ/
- > KR (8<sup>th</sup>–9<sup>th</sup> c.) 𐤊, 𐤋 FORKED N /n/
- > Imperial Aramaic 𐤊, 𐤋 NUN /n/
- > \*Early Steppean \*𐤊 /n/
- > \*Proto-Rovas \*𐤊 /n/
- > CBR (7<sup>th</sup> c.) 𐤊 N /n/ɲ/ > (21<sup>st</sup> c.) /n/
- > SHR (\*8<sup>th</sup> c., 9<sup>th</sup>–10<sup>th</sup> c.) 𐤊 N /n/\*ɲ/ > (15<sup>th</sup>–17<sup>th</sup> c.) /n/
- > SHR (15<sup>th</sup> c.) 𐤊 NJ /nɲ/ɲ/, 𐤊 NY /ɲ/
- > KR (8<sup>th</sup> c.) 𐤊 N /n/
- > Old Turkic (Orkhon) 𐰇 AN /n/ (harmonized with back vowels)
- > \*Early Steppean \*𐤊 /ɲ/
- > \*Proto-Rovas \*𐤊 /ɲ/
- > CBR (7<sup>th</sup> c.) 𐤊 NG /ɲ/
- > KR (8<sup>th</sup>–10<sup>th</sup> c.) 𐤊 NG /ɲ/
- > Old Turkic 𐰇 ENG /ɲ/
- > Kharoshthi 𑖦 NYA /ɲ/
- > \*Early Steppean \*𐤊, \*𐤋 /n/
- > KR (9<sup>th</sup> c.) 𐤋, 𐤌 ANGLED N /n/
- > Old Turkic 𐰇, 𐰈, 𐰉 AEN /n/ (harmonized with front vowels)

### Phoenician 𐤋, 𐤌 SEMK /s/

- > Early Aramaic 𐤋 SEMKATH /s<sup>ɛ</sup>/
- > (Supposed unidentified intermediary script/s)
- > CBR (8<sup>th</sup> c.) 𐤋 OPEN Z /z/
- > CBR (8<sup>th</sup> c.) 𐤋, 𐤌 OPEN Z /z/ > (9<sup>th</sup>–10<sup>th</sup> c.) 𐤋
- > SHR (\*8<sup>th</sup> c., 15<sup>th</sup> c.) 𐤋, 𐤌 Z /z/
- > Nabataean 𐤋 SIMKATH /s/
- > KR (8<sup>th</sup>–9<sup>th</sup> c.) 𐤋 CIRCLE ENDED SH /ʃ/
- > SHR (\*9<sup>th</sup>–10<sup>th</sup> c., 14<sup>th</sup>–15<sup>th</sup> c.) 𐤋 S /s/
- > SHR (13<sup>th</sup>–14<sup>th</sup>) 𐤋 S /ʃ/
- > Glagolitic 𐌶 CI /t͡s/
- > Imperial Aramaic 𐤋, 𐤌 SAMEKH /s/
- > \*Early Steppean /s/
- > \*Proto-Rovas \*𐤋 /r/ (due to Rhotacism in Ogur)
- > CBR (8<sup>th</sup> c.) 𐤋 CLOSE R /r/
- > KR (8<sup>th</sup> c.) 𐤋 CLOSE R /r/
- > Old Turkic (Orkhon, Yenisei) 𐰇 ASH /ʃ/ (not consequently harmonized with back vowels)

## Phoenician 𐤐 PE /p/

- > Early Aramaic 𐤐 PE /p/f/
- > \*Early Steppean \*𐤐 /p/
- > \*Proto-Rovas \*𐤐 /p/
- > CBR (7<sup>th</sup> c.) 𐤐 SIMPLE P /p/
- > Glagolitic (9<sup>th</sup> c.) 𐤐 POKOJ /p/
- > KR (8<sup>th</sup> c.) 𐤐 SIMPLE P /p/
- > Old Turkic (Orkhon) 𐤐 EP /p/
- > Imperial Aramaic (5<sup>th</sup> c. BC) 𐤐, (1<sup>st</sup> c. BC – 1<sup>st</sup> c. AD) 𐤐 PE /p/f/<sup>296</sup>
- > \*Proto-Rovas \*𐤐 /p/
- > CBR (8<sup>th</sup> c.) \*𐤐 P /p/ (reconstructed from Aethicus' 𐤐)
- > SHR (\*8<sup>th</sup> c., 14<sup>th</sup> c.) 𐤐 P /p/
- > SHR (\*12<sup>th</sup> c., 17<sup>th</sup> c.) 𐤐 P /p/
- > SHR (\*12<sup>th</sup> c., 17<sup>th</sup> c.) 𐤐 NAP /nop/ > (13<sup>th</sup>–14<sup>th</sup> c.) /nop/
- > SHR (15<sup>th</sup> c.) 𐤐 TPRUS /\*nop/\*nop/ > (21<sup>st</sup> c.) /e:v/
- > SHR (16<sup>th</sup> c.) 𐤐 TPRU /\*nop/ > (21<sup>st</sup> c.) /ho:nop/
- > SHR (17<sup>th</sup> c.) 𐤐 NB /nb/mb/ > (20<sup>th</sup> c.) /nb/
- > SHR (16<sup>th</sup> c.) 𐤐 AMB /mb/ > (20<sup>th</sup> c.) /omb/
- > SHR (17<sup>th</sup> c.) 𐤐 TPRU /\*nop/
- > SHR (15<sup>th</sup> c.) 𐤐 EMP /mp/ > (20<sup>th</sup> c.) /emp/
- > SHR (16<sup>th</sup> c.) 𐤐 MB /mb/
- > SHR (17<sup>th</sup> c.) 𐤐 P /p/
- > KR (8<sup>th</sup> c.) 𐤐, \*𐤐 P /p/
- > Parthian 𐤐 PE /p/
- > Kharoshthi 𐤐 PA /p/
- > Old Turkic (Yenisei) 𐤐 OP /p/

## Phoenician 𐤑 SADE /s/

- > Early Aramaic 𐤑 SADHE /s/
- > Imperial Aramaic 𐤑 SADHE /s/
- > \*Proto-Rovas \*𐤑 /s/
- > CBR (8<sup>th</sup> c., Aethicus' distorted copy) 𐤑, \*𐤑 CS /\*s/
- > SHR (\*8<sup>th</sup> c., 14<sup>th</sup> c.) 𐤑 CS /s/
- > SHR (16<sup>th</sup> c.) 𐤑 CS /s/
- > SHR (\*12<sup>th</sup> c., 15<sup>th</sup> c.) 𐤑 NCS /ntʃ/
- > Glagolitic (9<sup>th</sup> c.) 𐤑 CHRUV /s/
- > KR (\*7<sup>th</sup> c., 9<sup>th</sup> c.) 𐤑 TRIPLE CS /s/
- > KR (8<sup>th</sup> c.) 𐤑 TRIPLE CS /s/
- > Parthian 𐤑 SADHE /s/
- > Kharoshthi 𐤑 CA<sup>297</sup>
- > Kharoshthi 𐤑 CHA<sup>298</sup>
- > Old Turkic (Orkhon) 𐤑 ESH /s/
- > Old Turkic (Yenisei) 𐤑 ESH /s/

<sup>296</sup> Faulmann 1880, p. 94

<sup>297</sup> Glass 2000, p. 14

<sup>298</sup> Glass 2000, p. 14

## Phoenician 𐤑 QOF /q/

> (Supposed unidentified intermediary script/s)

> \*Proto-Rovas \*𐤑, \*𐤒 /q/

> CBR (8<sup>th</sup>–10<sup>th</sup> c.) 𐤑, (*Aethicus*) 𐤑 ARCHED Q /q/

> KR (8<sup>th</sup> c.) 𐤑 ARCHED Q /q/

> KR (8<sup>th</sup> c.) 𐤒 ANGLED Q /q/uq/

> SHR (\*8<sup>th</sup> c., 15<sup>th</sup> c.) 𐤒 CH /x/

> Early Greek 𐤑 KOPPA /k/

> Lycian (500 BC – 330 BC) 𐤑 K /k/k'/

> Early Aramaic 𐤑 QOPH /q/

> Imperial Aramaic 𐤑 QOPH /q/

> Parthian 𐤑, 𐤒 QOPH /q/

> \*Early Steppean \*𐤑 > \*𐤒 /q/

> \*Proto-Rovas \*𐤒 /ky/

> CBR (9<sup>th</sup>–10<sup>th</sup> c.) 𐤒 KUE /ky/

> CBR (11<sup>th</sup> c.) 𐤒 SHARP K /k/ > (21<sup>st</sup> c.) /ks/

> SHR (13<sup>th</sup> c.) 𐤒 SHARP K /k/

> KR (10<sup>th</sup> c.) 𐤒 KUE /ky/

> Old Turkic (*Orkhon*) 𐤒, 𐤒 OEK /øk/yk/kø/ky/k/

> Old Turkic (*Orkhon*) 𐤒 AQ /q/

> KR (8<sup>th</sup> c.) 𐤑 OPEN Q /q/

> Inscriptional Pahlavi 𐤑 QOPH /q/

> KR (8<sup>th</sup> c.) 𐤑 CLOSE G /g/ɣ/

> Syriac (*Nestorian, after 489 AD*) 𐤑 QOPH /q/

> KR (8<sup>th</sup>–9<sup>th</sup> c.) 𐤑 CLOSE Q /q/

> SHR (9<sup>th</sup>–10<sup>th</sup> c.) 𐤑 K /k/

> SHR (17<sup>th</sup> c.) 𐤑 Q /ku/kv/

> SHR (20<sup>th</sup> c.) 𐤑 Q /ku/kv/

> SHR (20<sup>th</sup> c.) 𐤑 Q /ku/kv/

> SHR (17<sup>th</sup> c.) 𐤑 X /ks/

> SHR (20<sup>th</sup> c.) 𐤑 X /ks/

> SHR (21<sup>st</sup> c.) 𐤑 X /ks/

> (Supposed unidentified intermediary script/s)

> Old Turkic (*Orkhon*) 𐤑 IK /'iq/q'vq/, (*Yenisei*) 𐤑 IK /'iq/q'vq/

## Phoenician 𐤓 ROSH /r/

> Early Aramaic 𐤓 RESH /r/

> Imperial Aramaic 𐤓 RESH /r/

> \*Early Steppean \*𐤓 /r/

> KR (8<sup>th</sup> c.) 𐤓 R /r/, (9<sup>th</sup> c.) 𐤓 R /r/

> SHR (\*9<sup>th</sup>–10<sup>th</sup> c., 15<sup>th</sup> c.) 𐤓 R /r/

> Glagolitic (9<sup>th</sup> c.) 𐤓 RCI /r/

> Old Turkic (*Orkhon*) 𐤓 AR /r/

> Inscriptional Pahlavi 𐤓 RESH /w/r/

> KR (9<sup>th</sup> c.) 𐤓, (8<sup>th</sup> c.) 𐤓 ARCHED R /r/

> Parthian 𐤓 RESH

### Phoenician **𐤃, 𐤄** SHIN /ʃ/

- > Early Aramaic **𐤃, 𐤄** SHIN /ʃ/
- > Imperial Aramaic **𐤃, 𐤄** SHIN /ʃ/
  - > \*Early Steppean /ʃ/
    - > KR (8<sup>th</sup> c.) **𐤃** ZS /ʃ/
    - > SHR (\*9<sup>th</sup>-10<sup>th</sup> c., 15<sup>th</sup> c.) **𐤃** ZS /ʃ/ > (\*12<sup>th</sup> c., 14<sup>th</sup>-15<sup>th</sup> c.) /ʒ/
      - > SHR (17<sup>th</sup> c.) **𐤃** SCH /ʃ/
      - > CBR (21<sup>st</sup> c.) **𐤃** ZS /ʒ/
      - > KR (11<sup>th</sup>-13<sup>th</sup> c.) **𐤃** SHL /ʃ/
    - > Old Turkic (Orkhon, Yenisei) **𐤃** IC /iʃ/ /eʃ/ /ɛʃ/ (not consequently harmonized with front vowels)
  - > Early Cursive Pahlavi **𐬛** SHIN /ʃ/
- > Nabataean **𐤃, 𐤄** SHEEN /ʃ/
- > Kharoshthi **𐬨** SSA /ʃa/
  - > CBR (8<sup>th</sup> c., Aethicus) **𐬨**, (\*8<sup>th</sup> c., 9<sup>th</sup>-10<sup>th</sup> c.) **𐬨** CLOSE S /ʃ/ > (8<sup>th</sup> c.) **𐬨**
    - > SHR (\*8<sup>th</sup> c., 15<sup>th</sup> c.) **𐬨** US /ʃ/ > (20<sup>th</sup> c.) /uʃ/
    - > Glagolitic (9<sup>th</sup> c.) **𐬨** ZHIVETE /ʒ/
- > Kharoshthi **𐬨** SHA /ʃa/
  - > \*Early Steppean /ʃ/
    - > KR (9<sup>th</sup> c.) **𐬨** ARCHED SH /ʃ/
    - > Old Turkic (Talas and Yenisei) **𐬨** ASH /ʃ/

### Phoenician **𐤅** TAU /t/

- > Greek **Τ** TAU /t/
  - > Old Italic (including Etruscan) **𐌞** TE /t/
  - > Runic **𐌞** T with High German phoneme /t̥s/
    - > SHR (\*8<sup>th</sup>-9<sup>th</sup> c., 14<sup>th</sup> c.) **𐌞** C /t̥s/
    - > SHR (15<sup>th</sup> c.) **𐌞** ENC /n̥t̥s/ > (20<sup>th</sup> c.) /ɛnt̥s/
    - > CBR (21<sup>st</sup> c.) **𐌞** C /t̥s/
- > Early Aramaic **𐤅** TAW /t/θ/
  - > Imperial Aramaic **𐤅, 𐤆** TAW /t/θ/
  - > \*Early Steppean **𐤅** /d/t/
  - > \*Proto-Rovas **𐤅** /t/
    - > CBR (8<sup>th</sup> c.) **𐤅** CLOSE T /t/
      - > Glagolitic (9<sup>th</sup> c.) **𐌞** TVRDO /t/
      - > KR (11<sup>th</sup>-13<sup>th</sup> c.) **𐤅** CLOSE T /t/
    - > KR (8<sup>th</sup> c.) **𐤅** ARCHED D /d/di/dɛ/ /d̪ɜ/
      - > Glagolitic (9<sup>th</sup> c.) **𐌞** DOBRO /d/
  - > \*Early Steppean **𐤅** /d/t/
    - > KR (10<sup>th</sup> c.) **𐤅** FORKED D /d/
    - > Old Turkic (Orkhon) **𐤅** AET /t/ (harmonized with front vowels)
  - > Syriac (Estrangela) **ܬ** TAW /t/θ/



## 4.2. Genealogy of the Turkic ideogram originated Rovas characters

### Turkic ideogram \*𐰇 /b/ǫ/

- > \*Early Steppean \*𐰇 /b/ǫ/
- > \*Early Steppean \*𐰇 /b/ǫ/
- > \*Proto-Rovas \*𐰇 /b/ǫ/
- > CBR (9<sup>th</sup>–10<sup>th</sup> c.) 𐰇 SHARP U /ǫ/ > (21<sup>st</sup> c.) /u/
- > KR (9<sup>th</sup> c.) 𐰇 RAISED B /b/
- > \*Proto-Rovas \*X /b/
- > CBR (7<sup>th</sup> c.) X B /b/
- > SHR (\*8<sup>th</sup> c., 14<sup>th</sup> c.) X B /b/
- > KR (9<sup>th</sup> c.) X B /b/
- > Old Turkic 𐰇 AEB /b/ǫ/
- > KR (9<sup>th</sup> c.) 𐰇 ANGLED B /b/ (turning with 90°)
- > Old Turkic (Yenisei) 𐰇 AEB /b/ǫ/

### Turkic ideogram \*𐰆, \*𐰆, \*𐰆 GH /ɣ/

- > \*Early Steppean \*' /ɣ/
- > KR (8<sup>th</sup> c.) ' TRIPLE GH /ɣ/
- > Old Turkic ' AG /ɣ/ (harmonized with back vowels)
- > Old Turkic (Orkhon) 𐰆 AG /ɣ/, (Yenisei) 𐰆, 𐰆 (harmonized with back vowels)

### Turkic ideogram \*𐰄 /j/

- > \*Early Steppean \*𐰄 /j/
- > \*Proto-Rovas \*𐰄 /j/
- > CBR (8<sup>th</sup> c.) 𐰄 CLOSE J /j/i/ɤ/ > (21<sup>st</sup> c.) /j/
- > CBR (8<sup>th</sup> c.) 𐰄, \*𐰄 LY /j/ɤ/
- > SHR (\*8<sup>th</sup> c., 15<sup>th</sup> c.) 𐰄, 𐰄, 𐰄 LY /ɤ/ > (16<sup>th</sup> c.) /j/ɤ/
- > Glagolitic (9<sup>th</sup> c.) 𐰄 I /i/j/
- > Glagolitic (9<sup>th</sup> c.) 𐰄 JU /ju/
- > KR (8<sup>th</sup> c.) 𐰄 CLOSE J /j/
- > KR (9<sup>th</sup>–10<sup>th</sup> c.) 𐰄 CLOSE J /j/
- > Old Turkic 𐰄 AY /j/ (harmonized with back vowels)

### Turkic ideogram \*𐰃 LT /lt/

- > \*Early Steppean \*𐰃 /lt/
- > KR (9<sup>th</sup> c.) 𐰃 LT /lt/
- > Old Turkic 𐰃 ELT /ld/lt/

### 4.3. Genealogy of the Greek originated Rovas character

**Early Greek (9<sup>th</sup> c. BC) Φ PHEI /p<sup>h</sup>/**

- > Etruscan (7<sup>th</sup>-3<sup>rd</sup> c. BC) Φ PHE /p<sup>h</sup>/
- > Greek Φ PHI /f/p<sup>h</sup>/
  - > KR (9<sup>th</sup>-10<sup>th</sup> c. AD) φ CENTRAL F /f/

### 4.4. Genealogy of the Rovas numerals

The genealogy of the Rovas numerals has uncertainties, since in several cases the numerals in the surviving relics are not specific for any certain script. The glyphs of the Parthian numerals are based on Akbarzādeh.<sup>299</sup>

**Phoenician | ONE**

- > Etruscan | ONE
  - > Roman | ONE
- > Early Aramaic (Not attested)
  - > Imperial Aramaic | ONE
    - > Parthian | ONE
      - > (Supposed unidentified intermediary script/s)
        - > SHR (19<sup>th</sup> c.) | ONE

**Phoenician || TWO**

- > Etruscan \*|| TWO
  - > Roman || TWO
- > Early Aramaic (Not attested)
  - > Imperial Aramaic √ TWO
    - > Parthian || TWO
      - > (Supposed unidentified intermediary script/s)
        - > SHR (18<sup>th</sup> c.) || TWO

<sup>299</sup> Akbarzādeh 2002

### **Phoenician III THREE**

- > Etruscan \*III THREE
  - > Roman III THREE
- > Early Aramaic (Not attested)
  - > Imperial Aramaic V THREE
  - > Parthian III THREE
    - > (Supposed unidentified intermediary script/s)
      - > SHR (19<sup>th</sup> c.) III THREE
    - > Parthian III FOUR
      - > (Supposed unidentified intermediary script/s)
        - > SHR (19<sup>th</sup> c.) III FOUR

### **Etruscan ^ FIVE**

- > Roman V FIVE
  - > (Supposed unidentified intermediary script/s)
    - > CBR (7<sup>th</sup> c.) V FIVE
    - > SHR (19<sup>th</sup> c.) V FIVE
- > Etruscan ^ FIFTY
  - > (Supposed unidentified intermediary script/s)
    - > SHR (19<sup>th</sup> c.) V FIFTY

### **Etruscan X TEN**

- > Roman X TEN
  - > (Supposed unidentified intermediary script/s)
    - > CBR (7<sup>th</sup> – 8<sup>th</sup> c.) X TEN
    - > SHR (19<sup>th</sup> c.) X TEN
- > Etruscan X ONE HUNDRED
  - > (Supposed unidentified intermediary script/s)
    - > SHR (19<sup>th</sup> c.) X ONE HUNDRED
      - > SHR (20<sup>th</sup> c.) X ONE THOUSAND
        - > SHR (20<sup>th</sup> c.) V FIVE HUNDRED

## 5. Examples of the glyph-forming methods

During the evolution of the scripts, various glyph-forming methods (Table 3.1-4) were applied. The following tables present examples of their applications.

<b>M<sub>1</sub>: Slight modification</b>
<i>Kharoshthi</i> 𑀓 CHA /xa/ > *Proto-Rovas *𑀓 /x/ > CBR 𑀓, 𑀓 SHARP CH /x/, KR 𑀓 SHARP CH /h/
KR 𑀓 SHARP UE /y/ø/ > SHR 𑀓 V /u/y/v/

Table 5-1: Examples of slight modification of the glyphs

<b>M<sub>2</sub>: Line insertion or removal</b>
<i>Kharoshthi</i> 𑀓 LA /la/ > *Proto-Rovas > CBR 𑀓 FORKED L /l/ (used slanting auxiliary line)
<i>Imperial Aramaic</i> 𐤌 TAW /tθ/ > CBR 𐤌 CLOSE T /t/
<i>Kharoshthi</i> 𑀓 MA /ma/ > *Early Steppean *O /m/ > > KR O ROUND M /m/, <i>Old Turkic</i> O EM /m/ <sup>300</sup>
KR 𑀓 FORKED A /d/ε/ > 𑀓 ANGLED E /ε/
CBR 𑀓 FORKED E /a/a:/ε/e/ + auxiliary slanting line > SHR 𑀓 AA /o/a:/
CBR *𑀓 FORKED G /g/ + auxiliary slanting line > SHR 𑀓 G /g/
CBR 𑀓 FORKED L /l/ + shifting slant lines + inserting auxiliary slanting line > SHR 𑀓, 𑀓, 𑀓, 𑀓 L /l/
CBR 𑀓, 𑀓 OPEN M /m/ + auxiliary vertical line > SHR 𑀓 M /m/
<i>Nabataean</i> 𐤓 SAMEKH /s/ > KR 𐤓 CIRCLE ENDED SH /s/ > SHR 𐤓 S /s/
CBR 𑀓 OPEN Z /z/ + auxiliary vertical line > SHR 𑀓, 𑀓 Z /z/

Table 5-2: Examples of the additional auxiliary line or removing a line

<b>M<sub>3</sub>: Line extension, shortening or shifting</b>
CBR 𑀓 OPEN O /o/u/ > SHR 𑀓 O /o/u/
<i>Kharoshthi</i> 𑀓 SSA /sa/ > CBR 𑀓 CLOSE S /s/ > SHR 𑀓 US /s/
CBR 𑀓 CLOSE S /s/ > CBR 𑀓 CLOSE S /s/
CBR > SHARP D /d/ > SHR 𑀓 T /d/t/ > SHR 𑀓 D /d/
SHR 𑀓 P /p/ > SHR 𑀓 P /p/

Table 5-3: Examples of extending, shortening or shifting line of the glyphs

<sup>300</sup> Kononov 1980, pp. 58-59

<b>M<sub>4</sub>: Mirroring or rotating a glyph or a line</b>
<i>KR</i> 𐎠 RAISED B /b/ > <i>KR</i> 𐎡 ANGLED B /b/
<i>Book Pahlavi</i> 𐎠 YODH /j/i:/ > <i>CBR</i> *𐎠 CIRCLE ENDED I /i/, <i>KR</i> 𐎠, 𐎡, 𐎢 CIRCLE ENDED I /i:/
<i>Early Aramaic</i> 𐤨 MEM /m/ > * <i>Proto-Rovas</i> *𐤨 /m/ (turning -90° or 90°) > <i>CBR</i> : 𐤨, *𐤨 OPEN M /m/, <i>KR</i> 𐤨, 𐤨 OPEN M /m/
<i>Parthian</i> 𐭪 QOPH /q/ >
<i>CBR</i> 𐭪 KUE /ky/, <i>KR</i> 𐭪 KUE /ky/, <i>Old Turkic (Orkhon)</i> 𐰆, 𐰇 OEK /øk/yk/kø/ky/k/
<i>CBR</i> 𐎠 SZ /r/s/ > <i>SHR</i> 𐎠 SHORT R /r/

Table 5-4: Examples of mirrored or rotated glyph based-development of the characters

<b>M<sub>5</sub>: Ligature formation</b>
<i>SHR</i> 𐎠 J /j/+ 𐎠 N /n/ > 𐎡 NJ /nj/n/ > 𐎢 NY /ŋ/
<i>CBR</i> 𐎠 GH /g/+ > SHARP D /d/ > 𐎡 SHARP GY /dɣ/*ɣ/
<i>SHR</i> 𐎠 D /d/+ 𐎠 Z /z/ > 𐎡 DZ /d̪z/
<i>SHR</i> 𐎠 D /d/+ 𐎡 ZS /z/ > 𐎢 DZS /d̪z̪/
<i>KR</i> 𐎠 ARCHED D /d/dɛ/ > 𐎡 ANGLED I /i/ > 𐎢 DI /di/de/ed/
<i>CBR</i> 𐎡 SHARP D /d/+ 𐎠 OPEN Z /z/ > 𐎢 SHARP DZ /d̪z/
<i>CBR</i> 𐎡 SHARP D /d/+ 𐎡 ZS /z/ > 𐎢 SHARP DZS /d̪z̪/

Table 5-5: Examples of ligature formation

<b>M<sub>6</sub>: Duplication of the glyph</b>
* <i>Early Steppean</i> *𐎠 /a/ > * <i>Early Steppean</i> *𐎡 /e/
<i>SHR</i> 𐎠 OPEN K /k/ > 𐎡 UNK /unk/*ynk/
<i>CBR</i> 𐎠 SHORT G /g/ > <i>SHR</i> (15 <sup>th</sup> c.) 𐎡, 𐎢 GY /g/
<i>SHR</i> 𐎡 E /ɛ/e/e:/ > 𐎢 CLOSE UEE /y/y:/
<i>SHR</i> 𐎠 /y/u/u:/ > 𐎡 U /u/u:/

Table 5-6: Examples of glyph duplication

<b>M<sub>7</sub>: Line merger</b>
* <i>Proto-Rovas</i> *𐎠 /b/u/ > <i>KR</i> 𐎠 RAISED B /b/ (merging the lower part of the glyph)
<i>KR</i> 𐎡 OPEN T /t/ > 𐎢 OPEN T /t/ (merging the lower part of the glyph)

Table 5-7: Examples of merging lines of the glyphs

<b>M<sub>8</sub>: Glyph variant</b>
<i>SHR</i> 𐎡, 𐎢 E /ɛ/e:/ > <i>SHR</i> 𐎡 E /ɛ/, 𐎢 EE /e:/
<i>SHR</i> 𐎠, 𐎡 J /w/i/i:/ > <i>SHR</i> 𐎠 I /i:/, 𐎡 J /i/i:/

Table 5-8: Examples of using existing glyph variant for new sound value

<b>M<sub>9</sub>: Ornating</b>
<i>SHR</i> ⚡ OE /ø/ > <i>SHR</i> ⚡ OE /ø/ø:/
<i>SHR</i> ⚡ MB /mb/ > <i>SHR</i> ⚡ TPRU /*nop/

*Table 5-9: Examples for ornating glyphs*

<b>M<sub>0</sub>: No modification (during adoption)</b>
<i>Imperial Aramaic</i> † ZAYIN /z/ > <i>CBR</i> † SZ /s/
<i>Parthian</i> † HETH /ɣ/x/h/ > <i>CBR</i> † GH /ɣ/

*Table 5-10: Examples for no modification of the glyphs during their adoption between scripts*

## 6. The Carpathian Basin Rovas

### 6.1. Description of the script

#### 6.1.1. General properties

The *Carpathian Basin Rovas* script was used in the Carpathian Basin (*Map 3.1-1*) between the 7<sup>th</sup> and 11<sup>th</sup> centuries.<sup>301</sup> Its history was discussed in *Subch. 3.4*, and the known CBR inscriptions are presented and transcribed in *Subch. 6.2*. In 2009, CBR was revitalized, and *Subch. 6.3* shows its current use.

The direction of writing in CBR is historically RTL but in the modern Carpathian Basin Rovas orthography, there are also examples for the LTR direction. However, the glyphs are never mirrored, differently from SHR, in which the characters are generally mirrored in case of the LTR direction (*Sec. 8.1.3*). There is no casing in the known Carpathian Basin Rovas relics. However, during the revitalization casing was introduced, in order to keep the consistency of spelling in publications, including modern books and other texts.

#### 6.1.2. Carpathian Basin Rovas characters

In the following, the Carpathian Basin Rovas character repertoire is introduced in detail (*Table 6.1.2-1*). Some glyph variants of the historical characters are considered individual characters, as they became independent orthographical units in present-day use. In *Table 6.1.2-2*, the first column presents the glyphs of the normalized Carpathian Basin Rovas characters according to the international standard proposal of the Hungarian Standards Institution.<sup>302</sup>

Glyph	Name	Historical use	Examples of the Carpathian Basin Rovas glyph in relics and in publications	Modern use
Υ	FORKED A	/a/	Nagyszentmiklós, Jug No. 6, <i>Fig. 6.2.9-9</i> , sound: /a/ Kiskörös, Chalice, 670–700, <i>Fig. 6.2.4-1a</i> , in a lig.	/ɒ/
Υ	FORKED AA	/*a/ε/	Jánoshida, 670–700, <i>Fig. 6.2.3-1</i> , sound: /ε/	/a:/
X	B	/b/	Jánoshida, Needle Case, 670–700, <i>Fig. 6.2.3-1</i> Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2 (calligraphic)</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i>	/b/
↑	C	-	Used in publications in the 21 <sup>st</sup> c., <i>Sec. 6.3</i>	/t͡s/
⌘	CS	/t͡ʃ/	Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2</i> , simplified: □	/t͡ʃ/






<sup>301</sup> Vékony 1987b

<sup>302</sup> Hosszú 2011, pp. 5–7 & 31–33



Glyph	Name	Historical use	Examples of the Carpathian Basin Rovas glyph in relics and in publications	Modern use
>	SHARP D	/d/	Bow from Környe, 7 <sup>th</sup> c., <i>Fig. 6.2.6-1a</i> Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic: ⚡</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, bowl, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-2 and 3</i> Drinking Horn No. 17, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-4a, b</i> Nagyszentmiklós, bowl, <i>Fig. 6.2.9-5a and 2a</i> Nagyszentmiklós, cup, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-5b, 6b</i> Nagyszentmiklós, Bowl No. 10, <i>Fig. 6.2.9-7</i> Nagyszentmiklós, Cup No. 23, <i>Fig. 6.2.9-8c</i> Nagyszentmiklós, jugs No. 3 & 4, <i>Fig. 6.2.9-10</i> Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i> Nagyszentmiklós, flat ladles, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-11</i>	/d/
⚡	SHARP DZ	-	Used in publications in the 21 <sup>st</sup> c., <i>Sec. 6.3</i>	/d̥z/
⚡	SHARP DZS	-	Used in publications in the 21 <sup>st</sup> c., <i>Sec. 6.3</i>	/d̥z̥/
⚡	DIAGONAL E	/a/*ε/	Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic: ⚡</i>	/ε/
γ	FORKED E	/a/ε/e/	Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1, sound: /a/ε/</i> Nagyszentmiklós, cup, <i>Fig. 6.2.9-8c, sound: /a/</i> Nagyszentmiklós, flat ladles, <i>Fig. 6.2.9-11, sound: /e/</i>	/e:/
ƒ	OPEN F	/f/	Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2 (Leipzig copy)</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i>	/f/
λ	FORKED G	/g/	Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2, calligraphic: λ</i>	/g/
⚡	SHORT G	/g/	Jánoshida, 670–700, <i>Fig. 6.2.3-1, in a ligature</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i>	/g/
⚡	SHARP GY	/d̥y/	Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i>	/j/
⚡	SHARP H	/*xx/ (or /*xβ/)	Nagyszentmiklós, Drinking Horn, <i>Fig. 6.2.9-4a, b</i> Nagyszentmiklós, bowl, <i>Fig. 6.2.9-5a and 6a</i> Nagyszentmiklós, cup, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-5b, 6b</i> Nagyszentmiklós, Bowl No. 10, <i>Fig. 6.2.9-7</i> Nagyszentmiklós, Cup No. 23, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-8</i>	/h/
⚡	SHARP CH	/x/	Környe, end of 7 <sup>th</sup> c., <i>Fig. 6.2.6-1a, in a ligature</i> Aethicus' Alphabet, <i>Fig. 6.2.7-2, glyph variant: ⚡</i> Nagyszentmiklós, Inscription No. 13, <i>Fig. 6.2.9-14</i> Békés-Povádzug, 10 <sup>th</sup> c., <i>Fig. 6.2.10-1</i>	/x/
1	ANGLED I	/i/	Szarvas, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1, mirrored glyph: 1</i>	/i/
1	CIRCLE ENDED I	/i/	Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic: 1</i>	/i:/

Glyph	Name	Historical use	Examples of the Carpathian Basin Rovas glyph in relics and in publications	Modern use
D	CLOSE J	/j/ɟ/	Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, Bowl No. 8, <i>Fig. 6.2.9-2, 3</i> Nagyszentmiklós, Cup No. 23, <i>Fig. 6.2.9-8c</i> Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i>	/j/
↯	OPEN K	/k/	Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i>	/k/
B	KUE	/ky/	Nagyszentmiklós, Flat ladles, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-11</i>	/ky/
⸥	FORKED L	//	Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic: ⸥</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i>	//
↳	SIMPLE L	//	Bow from Környe, 7 <sup>th</sup> c., <i>Fig. 6.2.6-1a</i>	//
∅	LY	/j/ɟ/	Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2, glyph: ∅</i>	/j/ɟ/
↳	OPEN M	/m/	Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i> Nagyszentmiklós, Jug No. 5, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-12</i>	/m/
↳	N	/n/ɲ/	Bow from Környe, 7 <sup>th</sup> c., <i>Fig. 6.2.6-1a</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, Bowl No. 8, <i>Fig. 6.2.9-2, 3</i> Torja, Pot Fragment, 11 <sup>th</sup> c., <i>Fig. 6.2.11-1</i>	/n/
Υ	NG	/ŋ/	Jánoshida, Needle Case, 670–700, <i>Fig. 6.2.3-1</i>	/ng/
↳	OPEN NY	/n/*ɲ/	Nagyszentmiklós, Bowl No. 8, <i>Fig. 6.2.9-2, 3</i> Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i>	/ɲ/
↳	OPEN O	/o/u/	Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2, calligraphic</i> Nagyszentmiklós, Bowl No. 8, <i>Fig. 6.2.9-2, 3</i> Drinking horn No. 17, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-4a, b</i> Nagyszentmiklós, bowl, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-5a, 6a</i> Nagyszentmiklós, cup, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-5b, 6b</i> Nagyszentmiklós, Bowl No. 10, <i>Fig. 6.2.9-7</i> Nagyszentmiklós, Cup No. 23, <i>Fig. 6.2.9-8c</i> Nagyszentmiklós, jugs No. 3 & 4, <i>Fig. 6.2.9-10</i>	/o/
↳	OPEN OO	-	Used in publications in the 21 <sup>st</sup> c., <i>Sec. 6.3</i>	/o:/
↳	OPEN OE	-	Used in publications in the 21 <sup>st</sup> c., <i>Sec. 6.3</i>	/ø/
N	GH	/-ɣ/-ɣ-/ /g-/	Környe, 7 <sup>th</sup> c., <i>Fig. 6.2.6-1a, mirrored glyph: N</i> Szarvas, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1, mirrored glyph: N</i> Nagyszentmiklós, Bowl No. 8, <i>Fig. 6.2.9-2, 3</i> Drinking horn, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-4a, b</i> Nagyszentmiklós, bowl, <i>Fig. 6.2.9-5a, mirrored: N</i> Nagyszentmiklós, cup, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-5b, 6b</i> Nagyszentmiklós, bowl, <i>Fig. 6.2.9-7c, mirrored: N</i> Nagyszentmiklós, cup, <i>Fig. 6.2.9-8, mirrored: N</i> Nagyszentmiklós, Jug No. 5, 9 <sup>th</sup> –10 <sup>th</sup> c., <i>Fig. 6.2.9-12</i>	/ø:/
⸗	P	/p/	Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic: ⸗</i>	/p/
1	SIMPLE P	/p/	Kiskörös, Chalice, 670–700, <i>Fig. 6.2.4-1a</i>	/p/

Glyph	Name	Historical use	Examples of the Carpathian Basin Rovas glyph in relics and in publications	Modern use
8	ARCHED Q	/q/	Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic:</i>  Nagyszentmiklós, Jug No. 5, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-12</i> Nagyszentmiklós, Cup No. 11, <i>Fig. 6.2.9-13</i>	/ku/kv/
□	CLOSE R	/r/	Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, bowl, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-5a, 6a</i> Nagyszentmiklós, Cup No. 22, <i>Fig. 6.2.9-5b, 2b</i> Nagyszentmiklós, Bowl No. 10, <i>Fig. 6.2.9-7</i> Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i>	/r/
∅	CLOSE S	/ʃ/	Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic:</i>  Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, Bowl No. 8, <i>Fig. 6.2.9-2, 3</i> Nagyszentmiklós, Cup No. 23, <i>Fig. 6.2.9-8c, glyph:</i>  Nagyszentmiklós, jugs No. 3 & 4, <i>Fig. 6.2.9-10</i> Nagyszentmiklós, Jug No. 5, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-12</i>	/ʃ/
l	SZ	/r/s/	Ozora, Silver Vessel, 670-700, <i>Fig. 6.2.2-1</i> Aethicus' Alphabet, 8 <sup>th</sup> c., <i>Fig. 6.2.7-2</i> Jánoshida, Needle Case, 670-700, <i>Fig. 6.2.3-1</i> Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i> Nagyszentmiklós, Jug No. 5, <i>Fig. 6.2.9-12</i> Nagyszentmiklós, Cup No. 11, <i>Fig. 6.2.9-13</i> Torja, Pot Fragment, 11 <sup>th</sup> c., <i>Fig. 6.2.11-1</i>	/s/
∅	CLOSE T	/t/	Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1</i> Nagyszentmiklós, Bowl No. 8, <i>Fig. 6.2.9-2, 3</i> Nagyszentmiklós, Drinking Horn, <i>Fig. 6.2.9-4a, b</i> Nagyszentmiklós, bowl, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-5a, 6a</i> Nagyszentmiklós, cup, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-5b, 6b</i> Nagyszentmiklós, Bowl No. 10, <i>Fig. 6.2.9-7</i> Nagyszentmiklós, Cup No. 23, <i>Fig. 6.2.9-8c</i> Nagyszentmiklós, flat ladles, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-11</i>	/t/
⌘	OPEN T	/t/	Kunágota, Jug, beg. 7 <sup>th</sup> c., <i>Fig. 6.2.1-1</i> Ozora, Silver Vessel, 670-700, <i>Fig. 6.2.2-1</i> Bow from Környe, 7 <sup>th</sup> c., <i>Fig. 6.2.6-1a, glyph:</i>  Kiskőrös, Chalice, 670-700, <i>Fig. 6.2.4-1a, in a lig.</i> Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic glyph</i>	/c/
⌘	SHARP U	/u/	Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i>	/u/
⌘	FORKED U	/ʊ/	Nagyszentmiklós, Cup No. 23, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-8</i> Nagyszentmiklós, Jug No. 6, 9 <sup>th</sup> -10 <sup>th</sup> c., <i>Fig. 6.2.9-9</i>	/u:/
ʔ	ARCHED UE	/y/	Aethicus' Alphabet, <i>Fig. 6.2.7-2, calligraphic:</i>  Szarvas, Needle Case, 8 <sup>th</sup> c., <i>Fig. 6.2.8-1, sound:</i> /y/ Nagyszentmiklós, Cup No. 23, <i>Fig. 6.2.9-8c</i>	/y/
ʔ	ARCHED UEE	/y/	Jánoshida, 670-700, <i>Fig. 6.2.3-1, in a lig., sound:</i> /y/ Nagyszentmiklós, Drinking Horn, <i>Fig. 6.2.9-4a</i> Nagyszentmiklós, Cup No. 22, <i>Fig. 6.2.9-6b</i> Nagyszentmiklós, Bowl No. 9, <i>Fig. 6.2.9-6a</i> Nagyszentmiklós, Bowl No. 10, <i>Fig. 6.2.9-7</i>	/y:/

The first symbol (from right) is a tamgha representing a personal name or a clan. The tamgha was a symbol of property and served for marking the authenticity of the owner or the writer.<sup>314</sup> In the Rovas scripts, the tamgha symbols were frequently applied.<sup>315</sup> The word /at/ in Common Turkic means *name*. Its Ogur-type Chuvash version is /jat/; the chronology of the transition /at>/jat/ is unknown.<sup>316</sup> Accordingly, the inscription is presumably not in Ogur, but in Common Turkic. As in the 7<sup>th</sup> century, there was only one significant Turkic population in the Carpathian Basin, which could be Common Turkic: the Eurasian Avars (the insignificant Kuturgur population was surely Ogur).<sup>317</sup> This relic supports the theory that the Eurasian Avars used a Common Turkic language.

## 6.2.2. Silver Vessel of Ozora-Tótipuszta

The Silver Vessel of Ozora-Tótipuszta (Hungary, see *Map 3.4.1-2* and *6.2-1*) was created in the last third of the 7<sup>th</sup> century (Middle Avar Period).<sup>318</sup> This relic is preserved in the Hungarian National Museum. On the bottom of the vessel, there is a CBR inscription written in Ogur (probably Onogur, since the Onogurs probably occupied the Carpathian Basin in 670), see *Fig. 6.2.2-1*;<sup>319</sup> its transcription and meaning are presented in *Table 6.2.2-1*.<sup>320</sup>

*Figure 6.2.2-1:* The inscription on the Silver Vessel of Ozora-Tótipuszta<sup>321</sup>

Written with normalized Carpathian Basin Rovas font	XHI X
IPA phonetic transcription	/10 si̯ <sup>h</sup> t/
Translation from Ogur	'10 [pieces] fit [inside]'

*Table 6.2.2-1:* Transcription of the Ozora-Tótipuszta Relic, last third of the 7<sup>th</sup> century

## 6.2.3. Needle Case of Jánoshida

In 1958, a needle case from the last third of the 7<sup>th</sup> century was discovered by the historian-archaeologist I. Erdélyi in Jánoshida (Hungary, see *Map 6.2-1*).<sup>322</sup> First D. Csallány<sup>323</sup> then the Turkologist I. Vásáry acknowledged it has a Rovas script of the Avar-age.<sup>324</sup> *Fig. 6.2.3-1* presents the two sides of the needle case.<sup>325</sup>

<sup>314</sup> Vásáry 2003

<sup>315</sup> László 1955; Erdélyi 1982, p. 184

<sup>316</sup> Vásáry 2010–2011

<sup>317</sup> Vékony 2004a, p. 197

<sup>318</sup> Erdélyi & Ráduly 2010

<sup>319</sup> Vásáry 1972, pp. 343–344; Szádeczky-Kardoss 1990, pp. 206–228, 452–457; Garam & Kiss 1992, p. 18; Róna-Tas 1996a, p. 108;

Szádeczky-Kardoss 1998

<sup>320</sup> Vékony 2004a, p. 195

<sup>321</sup> Vékony 2004a, pp. 203–207

<sup>322</sup> Erdélyi 1958a, p. 39, *Table XLIV/2*; Erdélyi 1958b, pp. 55–56; Erdélyi 1961, pp. 279–280

<sup>323</sup> Csallány 1969, pp. 302–303

<sup>324</sup> Vásáry 1972, pp. 337–338

<sup>325</sup> Vékony 1987a, p. 74, 76



Figure 6.2.3-1: Two sides of the Rovas Inscription of the Needle Case of Jánoshida

Written with normalized Carpathian Basin Rovas font	Y <sup>3</sup> \ B <sup>3</sup> IX
Written with normalized CBR font without ligatures	Y <sup>3</sup> \ B <sup>3</sup> IX
IPA phonetic transcription	/iŋɛ/ \ /b <sup>a</sup> s <sup>3</sup> ʝɲy <sup>3</sup> g/
Translation from Ogur	'Needle, \ defeat Üngür!'

Table 6.2.3-1: Transcription of the Jánoshida Relic from the last third of the 7<sup>th</sup> century

The interesting feature of the relic is the extensive use of ligatures: ʝ /iŋ/, ʝ /ɲy/, B /r<sup>3</sup>g/. Archaeologist G. Vékony showed that in the Ogur dialect used in the Carpathian Basin, the /v/ and /j/ *prosthesis* at the beginning of the words was missing, differently from other Ogur dialects.<sup>326</sup>

#### 6.2.4. Chalice of Kiskőrös-Vágóhíd

Archaeologist Gy. László discovered a silver chalice in a cemetery in Kiskőrös-Vágóhíd (Hungary, see *Map 6.2-1*).<sup>327</sup> Archaeologist É. Garam dated the age of the relic to the Middle Avar Period (last third of the 7<sup>th</sup> century).<sup>328</sup> There are Rovas symbols carved onto the bottom of the drinking cup (*Fig. 6.2.4-1a*).

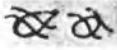


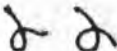
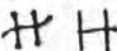
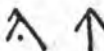
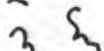
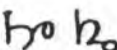

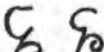
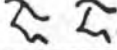
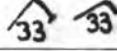
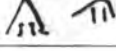
One of the possible transcriptions is /p<sup>u</sup>t<sup>ə</sup>/ 'louse'; this word is known in the Ogur-type Chuvash. In this case, the inscription is surely in Ogur. The other possible transcription is /buta/ '[camel] foal'. This reading is based on the fact, that in the Proto-Turkic language there were unvoiced plosives (/p-/ , /t-/ , and /k-/) at the beginning of the words, which later changed to voiced plosives: /p-/>/b-/ , /t-/>/d-/ , and /k-/>/g-/.<sup>329</sup> Therefore, possibly in the age of the inscription, the pronunciation was already /buta/ but it was written with /p/ due to the conservativity of the orthography. The inscribed word could be the name or nickname of the owner.

<sup>326</sup> Vékony 2004a, p. 188

<sup>327</sup> László 1955, pp. 160–161; Vásáry 1972, p. 344

<sup>328</sup> Garam 1976, pp. 143–144

<sup>329</sup> Vásáry 2010–2011

Glyphs of Aethicus	Names of Aethicus' characters	Typical or reconstructed CBR glyph	Cognate characters
	<i>alamoy</i> The copies are shaped to the Carolingian minuscule <b>λ</b> A. <sup>361</sup>	* <b>Ɔ</b> DIAGONAL E /a/ε/ Its sound value /a/ in CBR was surely inherited from Proto-Rovas (Subch. 4.1).	KR <b>Ɔ</b> DIAGONAL E /ε/, SHR <b>Ɔ</b> E /ε/e:/, Glagolitic <b>Ɔ</b> JEST /ε/
	<i>becach</i>	X B /b/	KR X B /b/, SHR X B /b/
	<i>cathy</i>	* <b>Ɔ</b> CS /*tʃ/	KR <b>Ɔ</b> , <b>Ɔ</b> TRIPLE CS /tʃ/s/, SHR <b>Ɔ</b> , <b>Ɔ</b> CS /tʃ/
	<i>delfoy</i>	> SHARP D /d/	KR > SHARP D /d/ð/dʒ/, SHR <b>Ɔ</b> T /d/t/
	<i>effothy</i> < <i>efothy</i> (German pronunciation) < * <i>euothy</i> Originally this character denoted /y/. <sup>362</sup>	И, N GH /ɣ/	KR N GH /ɣ/g/ SHR N GH /ɣ/
	<i>fomethy</i> : The first (Leipzig) copy is correct; the second (Oxford) copy is distorted.	Ɔ OPEN F /f/	CBR Ɔ OPEN V /β/
	<i>garphoy</i>	* <b>λ</b> FORKED G /g/	KR <b>λ</b> FORKED G /g/. SHR <b>λ</b> G /g/
	<i>hethmy</i> : In the 8 <sup>th</sup> century, in German orthography, the letter <i>h</i> also denoted /x/. <sup>363</sup>	<b>λ</b> SHARP CH /x/	Glagolitic <b>λ</b> HER /x/
	<i>iofithy</i> : The second (Oxford) copy is misleading; it was affected by the shape of the Greek PHI <b>φ</b> , which was obviously known by the copier.	∅ LY /j/λ/	SHR ∅ LY /j/λ/
	<i>kaithy</i> : The upper side shows the modification due to its calligraphic handwriting.	Ɔ OPEN K /k/	SHR Ɔ OPEN K /k/
	<i>lethy</i> : Greek <b>λ</b> LAMBDA influenced the copier.	λ FORKED L //	SHR <b>λ</b> L //
	<i>nabelech</i> : The copier created it instead of the probable damaged original glyph. <sup>364</sup>	-	-
	<i>malathy</i> : The copier created it instead of the probable damaged original glyph. <sup>365</sup>	-	-

<sup>361</sup> Carolingian minuscule, article in Encyclopædia Britannica; Vékony 2004a, p. 233

<sup>362</sup> Vékony 2004a, p. 236

<sup>363</sup> Vékony 2004a, p. 236

<sup>364</sup> Vékony 1997a, p. 97

<sup>365</sup> Vékony 1997a, p. 97

Glyphs of Aethicus	Names of Aethicus' characters	Typical or reconstructed CBR glyph	Cognate characters
	<i>ozechy</i>	ʃ OPEN O /o/u/	SHR ʃ O /o/u/
	<i>chorizech</i> : The origin of the character-name was <i>q</i> that was transliterated with <i>ch</i> . <sup>366</sup> Hence its sound value could be /q/.	8 ARCHED Q /q/	KR 8 ARCHED Q /q/
	<i>pithirin</i>	*ʒ P /p/	KR ʒ *ʒ P /p/, SHR ʒ P /p/
	<i>salathy</i> : The first (Leipzig) copy was damaged.	ϕ, ϕ CLOSE S /ʃ/	SHR ϕ US /ʃ/
	<i>inthalech</i>	ʔ, ʔ ARCHED UE /y/*ø/	KR ʔ ARCHED UE /ø/y/
	<i>thotimos</i> : The half circle shows the modification due to its calligraphic handwriting form.	ʌ, (Környe Relic) ʌ OPEN T /t/	KR ʌ OPEN T /t/
	<i>azatoth p(ro) r.</i> Its upper side shows the modification due to its calligraphic handwriting form. The glyph in the Leipzig copy resembles the Rovas glyph /s/. The meaning of Aethicus' character-name: 'the glyph of the /s/ [or /z/] is used for /r/'. <sup>367</sup>	l SZ /s/r/	SHR l SZ /s/, SHR - SHORT R /r/
	<i>irchoni</i> < <i>Onogur</i> /irγun/ 'written character' This glyph proves that the ʎ /i/ʎ existed in the 8 <sup>th</sup> c., in CBR.	*ʎ CIRCLE ENDED I /i/	KR: ʎ CIRCLE ENDED I /i/, Glagolitic ʎ IZHE /i/j/
	<i>zotichin</i> It was shaped to the Latin <i>z</i> by the copier.	ʒ OPEN Z /z/	SHR ʒ Z /z/

Table 6.2.7-2: Analysis of Aethicus' Alphabet.<sup>368</sup> In the first column there are two glyphs, the one on the left is from the Leipzig copy (earlier) and the one on the right is from the Oxford copy (later).<sup>369</sup> In the third column, the presumably original CBR glyphs are reconstructed.

The character *fomethy* verifies the supposition that the original alphabet reached Aethicus through a Hungarian-language environment, since the consonant /f/ did not exist in Ogur. Consequently, in the time of the recording (mid-8<sup>th</sup> century) this alphabet was used by Hungarians.

The supposed original CBR glyphs of \*ʒ DIAGONAL E /ə/ε/, \*ʎ CIRCLE ENDED I /i/, and \*ʌ FORKED G /g/ were reconstructed based on their cognate KR characters and \*ʎ CS /tʃ/ was reconstructed based the appropriate SHR character taking into account their probable relationship (*Subch. 4.1*). All other characters were reconstructed based on glyphs found in CBR relics.

<sup>366</sup> Vékony 2004a, p. 237

<sup>367</sup> Vékony 2004a, p. 240

<sup>368</sup> Vékony 2004a, pp. 217–230

<sup>369</sup> Vékony 1997a, p. 149