



Z.M. Bazarbayeva¹
T.K. Chukayeva²

¹Institute of Linguistics named after A. Baitursynov, Almaty, Kazakhstan
²Kazak Ablai Khan University of International Relations and World Languages
*Corresponding author: talshynchukaeva319dig@gmail.com

The phonematic principle of the Kazakh script based on Latin graphics

Abstract. *The article is aimed at demonstrating the phonematic principle of the Kazakh language in accordance with the transference to Latin graphics. The phonematic principle is considered predominant in writing, and it implies that one grapheme must be used to denote one phoneme. The research of writing principles is reviewed, and the advantages of transferring the language into Latin graphics are demonstrated with a variety of examples. The transformation of Kazakh sounds in the flow of speech is examined in detail. It is revealed that such transformations occur due to the influence of neighboring sounds. Despite various alterations in speech, the new writing system encodes the main (or dominant) variants of phonemes with correspondent graphemes. This corresponds to the law of economy which is widespread in contemporary alphabets of the world. The research is carried out with the help of the methods of auditory and acoustic analysis, and theoretical analysis along with the experimental-phonetic method.*

Keywords: *Latin graphics, phonematic principle, phoneme, grapheme, law of economy, orthoepic rules, sound transformations, elision, prothesis.*

DOI: <https://doi.org/10.32523/2616-678X-2023-142-1-8-14>

Introduction

Language reform is the core of the spiritual renewal program. This is a great achievement and it has great historical significance. Latin graphics open a direct path to progress, advanced technology, civilization, and are closely related to the global process. It is known that 70-80 percent of countries use Latin script. Therefore, through information systems, other countries can freely get to know our culture, history, and traditions. In the world of modernization, innovation, and

digitalization, it is possible to enter the global informative communication with ease by using Latin script. By transferring our language to Latin graphics, we ensure its competitiveness, and as a result, the language will be elevated to the international level, and our horizons will be broadened.

Now we all use the Internet and various gadgets. Every day information comes in Latin script and is answered. Our young people are eager to learn Latin script. The reason is that they need to know the script of developed countries to

make their career, and they associate Latin script with high quality and success. So, the relevance of the article on language reform is beyond doubt.

The aim of the article is to define the principle of the Kazakh script based on Latin graphics and to demonstrate the interrelation of contemporary norms of speaking and writing along with showing the connection between orthography and orthoepic based on the main principle of transmission to the Latin graphics.

The history of research

The rules and principles of the written language are researched by such parts of graphics as orthography and orthoepic. There are three widespread types of script in the world: Latin, Cyrillic, and Arabic. Orthography and spelling demonstrate the principles of correct writing. As writing is common for everyone, spelling rules should be stable. While compiling the rules of spelling, the Rules prepared before (in 1957 and in 1983) were taken into consideration. The main principle of spelling is to preserve the basic norm and to write as conveniently and ergonomically as possible. It is well-known that writing is encoded through the sounds of speech. It is not required to encode all the sounds specifically: the exact representation of phonemes is valued. The interrelation between norms of speech and writing is defined with the help of spelling rules and national alphabet. Speech, in its turn, is aimed at preserving the unity of national writing.

When transferring the Kazakh language to Latin graphics, it is necessary to define the main principles of writing. In Kazakh language, such principles as phonematic, morphological, and traditional-historical principle are used, with the phonematic one being dominant. According to this principle, a phoneme equals to a grapheme in writing. Phonemes are distinctive thanks to their shades and features which are not taken into consideration while writing: only the main variant of a phoneme is encoded.

The relationship between pronunciation norms and writing of the modern Kazakh language has been studied in detail by domestic sciences. The codified norms in the oral form of the Kazakh literary language, the compatible and

incompatible aspects of the oral language with the written language were studied on the basis of real materials. Formal and informal types of the speech were analyzed, and their differences along with ethical, aesthetic norms of spoken utterances and their role in verbal and non-verbal communication were revealed. (R. Syzdyk, N. Ualiyev, A. Aldasheva. Kazakh orthographic dictionary. Almaty, 1988; R. Syzdykova. Word melody. Almaty, 1995; R. Syzdykova. Kazakh language guide. Astana, 2000; R. Syzdykova. Language norm and its formation. Astana, 2001; Orthographic dictionary of the Kazakh language, Almaty, 2007, K. Kuderinova. Peculiarities of modern oral literary language // Problems of language, literature, translation at the intersection of cultures. Proceedings of the international scientific theoretical conference).

Methods of research include auditory analysis, acoustic analysis, experimental-phonetic method, and theoretical analysis.

Results and discussion

The most important thing in writing is to keep the content of the thought. Therefore, the first versions of writing (pictures) could not show the sound side of the word at all. During the development of the language, sounds were denoted by letters. If phonetics studies the acoustic-articulatory features of sounds, the field that considers the functional side of sounds is called phonology. The smallest unit of phonology is called a phoneme.

The law of economy is the main principle which the orthography of different languages utilizes. In order to create the most economic alphabet, scientists and linguists attempted to synthesize mathematical formulae that shows the interrelation of phonemes and graphemes [1]. In Kazakh linguistics, A. Baitursynuly was the first to create the economic type of writing. He encoded numerous Kazakh sounds with only a few letters.

Words in the language are not pronounced and written the same. According to the Kazakh language, the spelling of many words deviates from the norm. The norms of correct pronunciation of words are based on sound harmony, that

is, on the laws of progressive, posterior, and overlapping influences. The field that studies the set of rules for the correct pronunciation of words and phrases is called orthography (Greek 'orthos' - correct, epos - word, speech). The correct pronunciation of words is shown in orthographic dictionaries. Spelling allows to maintain the melodiousness of words, and regulates the norms of oral speech of the language. The orthography of each language is based on the main phonetic laws of that language [2].

Nowadays, the status of spoken word has increased in interpersonal relations, performing arts, and mass media. The Kazakh literary language has long-established traditional orthoepic rules. Orthoepy examines the pronunciation of a language. Concepts and phenomena of phonology, intonology, prosody related to the development of new trends in Kazakh linguistics are also considered in orthography [3]. As orthography studies the speech norms of the language, the transformation of some vowels in the Kazakh language in the spoken word is considered according to the modern Latin-based spelling rules.

For example, when a vowel phoneme <a> comes after the phonemes <ş> and <j>, it is pronounced closer to the variant [ä], while the written variant preserves the main shade: şai – [şäi] (tea), jaıbaraqat – [jäıbaraqat] (without worries), jaıbasar – [jäıbasar] (a slow person), jaıǵasy – [jäıǵasy] (to settle), jaıdaq – [jäıdaq] (without a saddle), jaıdary – [jäıdary] (jubilant), jaıly – [jäily] (comfortable), jaıma-jai – [jäıma-jäi] (just), jaisyz – [jäisyz] (uncomfortable), jaisañ – [jäisañ] (convenient). Also, when the vowel <a> comes first or in the first syllable, it is pronounced as [ä]: aıǵölek – [äıǵölök] (a Kazakh traditional game), qadir – [qädir] (worth), qazir – [qäzir] (now) and when it comes in the second syllable, it becomes [ä]: kitap – [kitäp] (book), kitaphana – [kitäphana] (library) [3].

In the similar way, phonemes <e>, <o> and <ö> are pronounced as [ie], [uo] and [uö] when they are in the beginning of the word or in the first syllable. For example, erke – [erke] (coddle), eńbek – [eńbek] (labour), egın – [eǵın] (sowing), egız – [eǵız] (twins), esik – [esik] (door), elek – [ielek] (flour sifter), otan – [otan] (motherland), oqıǵa –

[oqıǵa] (story), olqylyq – [olqylyq] (weirdness), orama – [orama] (a bunch or a Kazakh national dish), orasan – [orasan] (great), orman – [orman] (forest), oshaq – [oshaq] (fireplace), otyń – [otyn] (woods), omyrau – [omyrau] (chest); ömir – [ömir] (life), öleń – [öleń] (song), ötinış – [ötiniş] (request), ösimdik – [ösımdık] (plant), örkeniet – [örkeniet] (civilization), öńir – [öńir] (region), özara – [özara] (within the familiar group), ökpe – [ökpe] (lungs), ökım – [ökım] (order) – in these words the phonemes <e>, <o>, <ö> are pronounced as [e], [o], [ö]. When these phonemes are in the middle or at the end of the words, they are pronounced as monophthongs: kilem (carpet), sebep (reason), kerek (necessary), qora (barn), molda, qolda, söz, köl, tös. Thus we come to the conclusion that the phonemes <e>, <o>, <ö> are pronounced as [e], [o], [ö] only in the beginning of words.

Some vowel phonemes, when they are found in weak positions, lose their own phonemic features and acquire the characteristics of other phonemes, for example: the phonemes <y>, <i>, <e> are partly modified and turned into [u], [ü], [ö]. For example, qolyń – [qol^uyn] (your hand), momyn – [mom^uyn] (quiet), jolyń – [jol^uyn] (your path), söziń – [söz^uın] (your word), köziń – [köz^uın] (your eye), tösiń – [tös^uın] (your chest), köilek – [köil^öek] (dress), öngen – [öng^öen] (the rising), köngen – [köng^öen] (the obedient).

The vowels y, ı are pronounced differently depending on their position, that is, whether they are found in the first or in the second syllable. In the first syllable, those vowels become reduced and weaker, and in the second syllable they are pronounced clearly. For example, tynysh – [tyn^yısh] (quiet), myqty – [m^yqty] (mighty), dybys – [d^ybys] (sound), topyraq – [top^yraq] (soil), japyraq – [jap^yraq] (leaf), kirpık – [k^ır^ıpık] (eyelash), tırshılık – [t^ırshılık] (existence), ädilet – [äd^ılet] (justice), qasiret – [qas^ıret] (sorrow), mälimet – [mäl^ımet] (information). The reason why those sounds differ lies in the placement of accent. The vowels in unstressed syllables are pronounced weaker and in the reduced way, compared to the stressed syllable vowels which are pronounced clearly and loudly.

When two vowels come across in a word or between words, one of them is omitted in

pronunciation. For example, ala at – a-lat (a striped horse), qara ala – qa-ra-la (black and white), tory at – to-rat (a bay horse). Specifically speaking, the word combination that makes a syntagma is pronounced as a single phonetic word. This phenomenon is called elision [4].

The phoneme *b* of the Kazakh language is pronounced closer to *v* when it comes between two vowels (within a word combination or in a word) and between vowels and certain consonants. For example: abyroi – [ab^vyroi] (honour), abyru – [ab^vyru] (to worry), köbik – [köb^vik] (foam), säbız – [säb^vız] (carrot), tabaq – [tab^vaq] (plate), sabaq – [sab^vaq] (stem), qabaq – [qab^vaq] (eyelid), jabyq – [jab^vyq] (closed), abzal – [ab^vzal] (honored), abdyra – [ab^vdyra] (a big dower chest). Also, the voiced consonant *b* becomes voiceless at the end of words. For instance, hidjab – [hidjap], arab – [arap], ştab – [ştap] (headquarter), klub – [klup] (club), kub – [kup] (cube).

The consonant *p* changes according to its position in the flow of speech. For instance, qypşaq – [qy^fpşaq] (Kypchak, and ancient tribe), tapşy – [ta^fpşy] (deficit) – in these words it is possible to hear the sound [f] which cannot be met in Kazakh phonetic system. Even if the articulatory appearance of the sound *F* is a little different from its Russian variant, some similarities can be found. The mentioned sound is not original to the Kazakh phonetic system, yet it can be met in everyday speech according to the positions of other sounds. The transformation of the phoneme <*p*> into [f] is made possible because of the position of the first phoneme, that is, because of the influence of surrounding sounds [5].

When phonemes *s* and *ş* come together between the root and the affix, *s* turns into *ş*, and *ş* turns into *s*. This mutual transformation is one of the characteristics of these sounds. Here are the examples. Basşy – [başşy] (leader), taşşy – [taşşy] (the one who works with stones), qosşy – [qosşy] (add, please), toşşy – [toşşy] (please wait), tessı – [teşşı] (make a hole), kessı – [keşşı] (please cut), aşşa – [aşşa] (if opened), qaşşa – [qaşşa] (if someone runs away), işse – [işse] (if someone drinks), köşse – [köşse] (if someone migrates). In some words the consonant *ş* can be pronounced close to *ch*. Also, the phoneme *ş* can

also transform in one of its variations, becoming *ch*. For example, aitşy – [aitchy] (please say), ötşy – [ötchy] (please go across), hatşy – [hatchy] (a secretary), ketşy – [ketchy] (go away).

When the sounds *z* and *j*, *s*, *ş* come together, and *z* is the first sound, it is transformed into *j*, *s*: köz jazbau – [köjjazbayu] (to stare), boz jorğa – [bojjorğa] (a horse), qyz jibek – [qyjibek] (Kyz Zhibek – a character from the famous lyrical poem), köz jasy – [köjjasy] (to lose from sight), izsiz – [issiz] (without a track), sözsiz – [sössiz] (without a word), tuzsyz – [tussyz] (without salt), qobyzshy – [qobyszşy] (the one who plays kobyz, a Kazakh national string instrument resembling cello), tazşa – [taşşa] (the boy from Kazakh national fairy-tales), otyrğyzşy – [otyrğyszşy] (please make him seated). The phoneme <*z*> is represented by three of its variants: <*z*> = [j] [s] [ş]. This is the characteristic that differentiates this phoneme from other phonemes of the Kazakh language.

Also, the phoneme *s* transforms according to its position and becomes (ц) (or [ts]). For example, aitsa – [aitca] (if he says), ötse – [ötce] (if he goes across), jatsa – [jatca] (if he lies down). Even if the sound [ts] cannot be met in Kazakh phonetic system, it can be found in speech and it is adapted to the articulatory apparatus of the Kazakh speakers [6]. Thus, this sound exists in the syntagmatic system of the language even though it is not present in the paradigm. When transferring the language into Latin graphics, it is possible to give the letter ц with the symbol *c*. This symbol is utilized in every alphabet of world languages (in European and Turkic alphabets). For example: cirk (circus), cirkul (compass), konstitucia (constitution), evolucia (evolution). Such writing is carried out in accordance with the orthoepic norm of the Kazakh language. The sound is pronounced in accordance with the norms of Kazakh pronunciation [7].

Voiceless consonants *k*, *q* become voiced when they come across with a vowel that follows them in a word or in the middle of two words. For example, qyrküiek – [qyrgüiek] (September), köknär – [kögnär] (poppy), kökjiek – [kögjiek] (horizon), kök alma – [kögalma] (an unripe apple), qazaq änu – [qazağani] (Kazakh song), qulaq asu – [qulağasu] (to be all ears), esek däme

– [esegdäme] (asking for a favor), jaryq dünie – [jaryğdünie] (the world), bulşyq et – [bulşyğet] (muscle), qyryq jamau – [qyryğjamau] (torn apart clothes). Such a process happens because of the influence of the surrounding sounds [8].

The words starting with sonorants l and r have their own distinctive characteristics. When those words are pronounced, the sounds y and i can be heard before them. This is a phonetic phenomenon called prothesis. For example: ras – [yras] (true), laq – [ylaq] (kid), laj – [ylaj] (dirty water).

Conclusion

To summarize, it is known that people communicate their thoughts to each other verbally and in writing. Writing is a form of expression. The main purpose of writing is to convey the content of thoughts clearly and precisely to someone else. Writing plays a special role in the development of the culture of human

society. After the approval of the new Kazakh alphabet based on Latin letters, the spelling rules of the new Latin-based Kazakh alphabet should be prepared. Spelling ensures correct spelling. In order to master the literary language, it is necessary to observe the spelling norms. The Kazakh script, like any other script, is based on the national alphabet and national graphics. Written language is a graphic representation of spoken language. Graphics is a set of symbols used in writing. It is usually used in connection with phonemic writing. In writing, the accuracy of the transmission of all types of sounds is not required, only typical sounds (phonemes) are important. The exact relationship between written and spoken forms is determined by spelling rules and based on the national alphabet. The spoken language is aimed at preserving the unity of the national script. The article was written in the scope of the project “Automatic recognition of the Kazakh text: development of linguistic modules and IT-solutions”.

References

1. Сыздыкова Р. Тілдік норма және оның қалыптануы. – Астана, 2001.
2. Уәли Н. Графика, Орфография, Орфоэпия. – Алматы, 2018. – 250 б.
3. Қазақ тілінің орфоэпиялық сөздігі. / Құраст. Н.Уәлиұлы, А.Фазылжан, Қ.Күдерінова. – Алматы: «Қазақ кітабы» баспасы, 2019. – 744 б.
4. Қазақ тілінің орфографиялық сөздігі. / Құраст. А.Алдаш, Б.Қ.Момынова, З.М.Базарбаева және т.б. – Алматы: «Қазақ кітабы» баспасы, 2019. – 1100 б.
5. Bazarbayeva Z.M., Chukayeva T. K. New Kazakh letter based on the latin chart // Вестник ЕНУ им. Л.Н. Гумилева. Серия «Филология». – 2021. – № 3 (136). – 163 р.
6. Жұмабаева Ж. Қазақ орфоэпиясының кейбір мәселелері // Материали ХҮ Международна научна практична конференция Ключови въпроси в съвременната наука – 2019, София «Бял Град –БГ ОДД». – 31-34 б.
7. Кудеринова Қ. Жаңа емле ережесіндегі кірме сөздер жазылуына қатысты ізденістер // Вестник КазНУ имени Абая, серия Филологическая. - 2020. - №1. –108-118 б.
8. Әміржанова Н. Тарихи тағылым: XX ғ. басындағы латын графикасына негізделген қазақ жазуындағы кейбір ерекшеліктер. // Қазақ жазуының тарихы және латын әліпбиіне көшудің ғылыми-тәжірибелік негіздері атты республикалық конференция материалдары. – Астана, 2018. – 151-158 б.

References

1. Syzdykova R. Tildik norma zhane onyn kaliptanui [Language norm and its stabilization]. - Astana, 2001. [In Kazakh]
2. Uali N. Grafika, orfografiya, orfoepija [Graphics, orthography, orthoepy]. – (Almaty, 2018, 250 p.) [In Kazakh]

3. Kazakh tilinin orfoepijalyk sozdigi [Orthoepic dictionary of the Kazakh language]. Ed. by N. Ualiuly, A. Fazylzhan, K. Kuderinova ("Kazakh kitabi" publishing house, Almaty, 2019, 744 p.). [In Kazakh]
4. Kazakh tilinin orfografijalyk sozdigi [Orthographic dictionary of the Kazakh language]. Ed. by A. Aldash, B.K. Momynova, Z.M. Bazarbayeva et al. ("Kazakh kitabi" publishing house, Almaty, 2019, 1100 p.). [In Kazakh]
5. Bazarbayeva Z.M., Chukayeva T. K. New Kazakh letter based on the latin chart, Vestnik ENU im. L.N. Gumileva. Serija «Filologija» [Bulletin of L.N. Gumiliov Eurasian National University, "Philology" series]. – 2021. – V. №3 (136). – 163 p.
6. Zhumabayeva Zh. Kazakh orfoepijasynyn keibir maseleleri [Several issues of Kazakh orthoepy] // Proceedings of XV International scientific practical conference "Key issues of modern science" (Sofia, 2019, p. 31-34). [In Kazakh].
7. Kuderinova K. Zhana emle erezhesindegi kirme sozderdin zhazylyuyna katysty izdenister [Inquiries connected to the spelling of borrowed words in the new script], Vestnik KazNU imeni Abaja, serija Filologicheskaja [Bulletin of Abai KazNU. Philology series], 1, 108-118 (2020). [In Kazakh]
8. Amirzhanova N. Tarihi tagylym: XX g. Basyndagy Latyn grafikasy na negizdelgen [History lesson: certain characteristics of Latin-based], Kazakh zhazyndagy keibir erekshelikter [Kazakh writing in the beginning of XX century] (Astana, 2018, p.151-158). [In Kazakh]

З.М. Базарбаева¹, Т.К. Чукаева²

¹Ахмет Байтұрсынұлы атындағы Тіл білімі институты, Алматы, Қазақстан

²Абылай хан атындағы қазақ халықаралық қатынастар және әлем тілдері университеті,
Алматы, Қазақстан

Латын әліпбиіне негізделген қазақ жазуының фонематикалық принципі

Аңдатпа. Мақала латын графикасына көшуге байланысты қазақ жазуының фонематикалық принципін көрсетуге арналған. Қазақ тілінде фонематикалық принцип басым болып саналады және ол бір фонеманы бір графема арқылы белгілеуді білдіреді. Жазу принциптері бойынша зерттеулерге шолу жасалып, латын графикасына көшудің артықшылықтары бірқатар мысалдармен дәлелденді. Қазақ тілі дыбыстарының түрленулері жан-жақты қарастырылады. Мұндай өзгерістер көршілес дыбыстардың әсерінен болатыны анықталды. Фонематикалық принцип бойынша латын графикасына негізделген жаңа қазақ жазуы фонеманың негізгі (басым) нұсқасын бір графемамен белгілейді. Бұл қазіргі әлем жазуында жиі кездесетін үнем заңына сәйкес келеді. Зерттеу жұмысында акустикалық, аудиториялық, теориялық талдау, сонымен қатар эксперименттік фонетикалық әдіс сияқты әдістер қолданылды.

Түйін сөздер: латын әліпбиі, фонематикалық принцип, фонема, графема, үнем заңы, орфоэпия заңдары, дыбыс трансформациялары, элизия, протеза.

З.М. Базарбаева¹, Т.К. Чукаева²

¹Институт языкознания имени Ахмета Байтурсынова, Алматы, Казахстан

²Казахский университет международных отношений и мировых языков имени Абылай хана,
Алматы, Казахстан

Фонематический принцип казахского письма, основанный на латинской графике

Аннотация. Статья посвящена демонстрации фонематического принципа казахского письма в связи с переходом на латинскую графику. Фонематический принцип считается доминантным в казахском языке и подразумевает обозначение одной фонемы одной графемой. Проведен обзор исследований принципов письма, преимущества перехода на латинскую графику подкреплены рядом примеров. Трансформации звуков казахского языка рассмотрены детально. Определено, что подобные изменения обусловлены влиянием соседствующих звуков. Согласно фонематическому принципу, новое казахское

письмо, основанное на латинской графике, подразумевает обозначение основного (доминантного) варианта фонемы одной графемой. Это соответствует закону экономии, который распространен в современной мировой письменности. Исследование проведено при помощи таких методов, как акустический, аудиторный, теоретический анализ, а также экспериментально-фонетический метод.

Ключевые слова: латинская графика, фонематический принцип, фонема, графема, закон экономии, законы орфоэпии, трансформации звуков, элизия, протеза.

Information about authors:

Bazarbayeva Z.M. – Doctor of Philology, Professor, Academician of the National Academy of Sciences of the Republic of Kazakhstan, Chief Researcher of the Institute of Linguistics named after A. Baitursynov, 29 Kurmangazy str., Almaty, Kazakhstan.

Chukayeva T.K. – Master of Philology, teacher of the Department of Theory of Foreign Philology, Kazakh Abylai Khan University of International Relations and World Languages, 200 Muratbaev str., Almaty, Kazakhstan.

Базарбаева З.М. – филология ғылымдарының докторы, профессор, Қазақстан Республикасы Ұлттық ғылым академиясының академигі, А.Байтұрсынұлы атындағы Тіл білімі институтының бас ғылыми қызметкері, Құрманғазы көш., 29, Алматы, Қазақстан.

Чукаева Т.К. – филология ғылымдарының магистрі, Абылай хан атындағы Қазақ халықаралық қатынастар және әлем тілдері университеті «Шетел филологиясы теориясы» кафедрасының оқытушысы, Мұратбаев көш., 200, Алматы, Қазақстан.