

TERMINOLOGY DEVELOPMENT IN CHINESE AND KAZAKH LANGUAGES: HISTORICAL AND COMPARATIVE ANALYSIS



<https://doi.org/10.24412/2181-1784-2025-26-498-508>

Kalibekuly Tolkyn

Candidate of Philological Sciences,
Professor at the Department of Theory of Foreign Philology,
Ablai khan KazUIR & WL
kalibek.tolkyn@gmail.com

Sabirova Madina

PhD student at Ablai khan KazUIR & WL
stmmt@mail.ru

Annotation. This article examines the formation and development of terminology in Chinese and Kazakh languages, focusing on differences between Kazakhstan and China. It highlights the methods of term creation in Chinese, including compounding, transcription, and affixation, and compares them with Kazakh practices such as morphological, semantic, and syntactic approaches. The study also addresses challenges in translating international scientific terms and historical names, especially the cases of Confucius (孔子) and Mencius (孟子). Emphasis is placed on the importance of considering historical, cultural, and linguistic contexts in order to ensure semantic accuracy, consistency, and the modernization of Kazakh terminology.

Keywords: Terminology, Chinese, Kazakh, Translation, Term formation, Morphology, Semantics, Phonology, Standardization, Linguistic adaptation, international terms, Cultural context

Аннотация. В данной статье рассматривается формирование и развитие терминологии в китайском и казахском языках, с акцентом на различия между Казахстаном и Китаем. Рассматриваются методы терминообразования в китайском языке, включая словосложение, транскрипцию и аффиксацию, и проводится их сравнение с казахской практикой, включая морфологический, семантический и синтаксический подходы. В исследовании также рассматриваются проблемы перевода международных научных терминов и исторических имён, особенно Конфуция (孔子) и Мэн-цзы (孟子). Особое внимание уделяется важности учёта исторического, культурного и лингвистического контекстов для обеспечения

семантической точности, единообразия и модернизации казахской терминологии.

Ключевые слова: Терминология, китайский язык, казахский язык, Перевод, Терминообразование, Морфология, Семантика, Фонология, Стандартизация, Лингвистическая адаптация, Международные термины, Культурный контекст

In China, terminology is primarily developed in the official language – Chinese (Putonghua). New scientific or technical terms are first translated into Chinese and then adapted to the phonological, morphological, and semantic rules of the language. International terms are generally introduced into Chinese either through direct translation (calque) or transcription based on phonetic similarity. This approach makes effective use of the internal linguistic resources of the national language, ensuring both semantic precision and terminological consistency.

Chinese terminology is developed in a systematic and planned manner, aimed at supporting the country's scientific and technological progress. New terms, or technical designations, are primarily formed by combining root morphemes. This constitutes the most common and productive method in the Chinese language.

Compounds formed from root morphemes form complex lexical units, which are constructed on the basis of various semantic relations, including predicative, attributive, adverbial, object, complement, and coordinate relationships. According to *The Dictionary of Modern Chinese* («现代汉语词典»), approximately 56,000 lexical items are recorded, of which 32,346 are compound words.

The structure of Chinese terms resembles the syntactic relations within sentences. For example, in predicative constructions the first morpheme functions as the subject, while the second serves as the predicate: 地震 (dìzhèn — *earthquake*), 头疼 (tóuténg — *headache*).

In attributive constructions, the first morpheme specifies the second: 红旗 (hóngqí — *red flag*), 铁路 (tiělù — *railway*).

In object constructions, one morpheme denotes an action, and the other denotes its object: 司机 (sījī — *driver*: 司 — *to manage*, 机 — *machine*), 管家 (guǎnjiā — *housekeeper*: 管 — *to manage*, 家 — *house*).

In coordinate construction, both morphemes are semantically equal: 买卖 (mǎimài — *trade*: *to buy* + *to sell*), 土地 (tǔdì — *land*: *soil* + *ground*).

In addition, foreign terms enter Chinese through transcription, direct translation, or abbreviation, thereby enriching the lexical stock of the language. For example: 咖啡 (*kāfēi* – *coffee*), 太空船 (*tàikōngchuán* – *spaceship*), 世卫 (*Shìwèi* – *WHO, World Health Organization*).

Affixes also participate in Chinese term formation, though they are relatively limited in number and restricted in use. Depending on their position relative to the root, affixes are classified into three types: prefixes (前缀), infixes (中缀), and suffixes (后缀).

Modern Chinese contains approximately twenty frequently used affixes, which are categorized into three groups according to their position within a word:

Prefixes (前缀) – 6: 阿 (*ā*), 初 (*chū*), 第 (*dì*), 老 (*lǎo*), 小 (*xiǎo*), 打 (*dǎ*).

Suffixes (后缀) – 11: 子 (*zǐ*), 家 (*jiā*), 头 (*tóu*), 儿 (*r*), 们 (*mén*), 边 (*biān*), 巴 (*ba*), 尔 (*ěr*), 乎 (*hū*), 然 (*rán*), 于 (*yú*).

Infixes (中缀) – 3: 里 (*lǐ*), 不 (*bù*), 得 (*de*).

In addition, Chinese also makes use of affix-like morphemes (类词缀), some of which have emerged under the influence of Western languages. These morphemes are actively employed in coining new terms, often serving as functional equivalents of Western prefixes and suffixes, while in many cases retaining their original meanings. Examples include: 半 (*semi-*), 超 (*super-*), 次 (*sub-*), 单 (*mono-*), 微 (*micro-*), 多 (*poly-/multi-*), 反 (*anti-/counter-*), 泛 (*pan-*), 非 (*non-/in-/un-*), 后 (*post-*), 前 (*pre-*), 亚 (*sub-*), 准 (*quasi-*), 化 (*-ize/-fy/-tion*), 度 (*-ness/-ity/-ation*), 手 (*-er/-or*), 性 (*-ness/-ity*), 学 (*-logy/-ism/-ing* [1,124])

The development of the Kazakh terminological system constitutes one of the key factors in the broader process of linguistic evolution and cultural modernization. This process exhibits different characteristics across different countries, depending on historical, social, and linguistic contexts. In particular, the development and methods of Kazakh terminology in Kazakhstan and in China demonstrate notable differences.

In modern Kazakh, the main methods of term formation are morphological, semantic, and syntactic.

Under the **morphological method**, new terms are coined through affixation (*әдебиетчи* – *literator*, *заңгер* – *lawyer*, *мемлекеттік* – *state-related*). In the

semantic method, existing words acquire new meanings (*желі* – *network* [as in the *Internet*], *өріс* – *field* [as in *intellectual field*]). In the **syntactic method**, compound terms are formed through word combinations (*жасанды интеллект* – *artificial intelligence*, *ғаламдық жылыну* – *global warming*, *қосымша құн салығы* – *value-added tax*).

The development of terminology in Kazakhstan exhibits distinctive characteristics. Since the Soviet period, many scientific terms have entered the Kazakh language through Russian and continue to be used in their original forms.

After independence, certain measures were undertaken to build a national terminological foundation. However, a fully consistent scientific and methodological framework has not yet been developed. As a result, the phonological, grammatical, and semantic characteristics of the Kazakh language are not always adequately considered in the process of term formation. This indicates that the influence of Russian loan terms remains substantial.

The well-known terminologist Sherubay Kurmanbaiuly observes: “...in the future, shall we continue translate geographical and personal names into Kazakh through the intermediary of Russian, as was done in the 20th century, or shall we adopt them directly from the source languages? We must resolve this issue in principle and provide it with a solid scientific basis.” This view underscores the necessity of freeing Kazakh terminology from dependence on Russian and to developing an autonomous system based on original sources [2].

His proposal to adopt terms directly from source languages, rather than through Russian mediation, is both timely and well-founded. Russian-mediated terms often fail to align with the intrinsic system of the Kazakh language and may disrupt its internal regularities and linguistic harmony. As a result, elements incompatible with the structural patterns of Kazakh tend to spread more actively, thereby posing risks to its integrity.

Therefore, it is essential at this stage to promote the practice of borrowing directly from original sources. This approach contributes to preserving the phonological and grammatical characteristics of Kazakh, ensures consistency in terminology, and enhances scientific precision.

The Kazakh communities in Kazakhstan and China follow different approaches to the adoption of scientific terminology. In Kazakhstan, scientific terms are mainly borrowed directly or indirectly through Russian mediation, whereas in China, apart from those initially introduced via Russian, terms are often translated directly from Chinese sources. This difference becomes particularly evident in the treatment of international scientific terms and linguistic concepts. Variations in the

spelling and usage of “equivalent terms in the two countries impede the consistent development of Kazakh scientific terminology.

The differences in term formation and adoption between Kazakh communities in Kazakhstan and China are closely linked to the linguistic and socio-political contexts of their respective environments. In Kazakhstan, a large proportion of scientific terms are adopted primarily through Russian mediation. Such terms follow Russian phonological and orthographic conventions, often resulting in forms that do not align with the phonetic system of Kazakh. This mismatch leads to inconsistencies with Kazakh orthoepic and orthographic norms and can complicate the precise comprehension of such terms.

In contrast, Kazakhs in China typically rely on Chinese equivalents when translating terms, applying direct translation strategies. Specifically, the meaning of the Chinese term is first interpreted, after which a corresponding Kazakh equivalent is constructed. While this approach may facilitate more accurate meaning transfer, consistency is not always maintained. It should also be noted that in China, terms are not only borrowed from Chinese but also at times from Russian and English, are subsequently adapted or translated as appropriate.

When Russian-origin words are transcribed into the Arabic-script Kazakh orthography (төте жазы), they are generally represented in accordance with Russian pronunciation and orthographic conventions, as practiced in Kazakhstan. In such cases, the orthographic form prioritizes the preservation of the original Russian form rather than adapting to Kazakh phonological principles. Thus, writing reflects Russian orthography rather than Kazakh pronunciation. This approach has been oriented more toward standardizing borrowed terms in line with Russian-based spelling practices than at preserving phonetic principles of Kazakh.

For example, in the *Comparative Mini-Dictionary of Chinese–Kazakh Linguistic Terms*, the Chinese terms 离心结构 (lìxīn jiégòu) and 向心结构 (xiàngxīn jiégòu) are translated as *central-repelling structure* (орталықтан тебу құрылымы) and *central-attracting structure* (орталыққа тарту құрылымы), respectively [3,192]. However, these renderings do not fully correspond to the established English equivalents *exocentric construction* and *endocentric construction*. Therefore, rendering them in Kazakh as *exo-centric structure* (экзоорталық құрылым) and *endo-centric structure* (эндоорталық құрылым) would provide greater precision and ensure consistency with international linguistic terminology. Such an approach preserves scientific accuracy and facilitates appropriate interpretation at the international level.

Another example is the Chinese term 平台 (píngtái) which in Kazakhstan is commonly translated as *platform* (платформа), and, on occasion, as *network* (желі). The term corresponds to *platform* in English and *платформа* in Russian. In Chinese, the word consists of two morphemes: 平 meaning “flat” or “level,” and 台 meaning “stand” or “stage.” Based on this etymological interpretation, in China the term has been translated into Kazakh as *текуше* (cube or pedestal) – for example, *social platform* as *әлеуметтік текуше* and *educational platform* as *оқу-ағарту текушесі*. However, such literal translations deviate from the internationally recognized meaning of the term, leading to conceptual discrepancies and a narrowing of its semantic scope in both professional and academic discourse.

In Chinese-published dictionaries, the term 附加成分 is translated inconsistently. In some instances, constructions it is rendered as *additional (suffix, ending)* [10, p.73], while in others as *addition, affixes* [4, p.127]. Given that the term bears two different meanings, the appropriate translation should be determined by context. When 附加成分 functions as a syntactic concept in Chinese grammar, it should be translated into Kazakh as *secondary member of the sentence* (сөйлемнің қосалқы мүшесі), since Chinese grammar classifies sentence constituents into three groups: main members (主要成分), accompanying members (连带成分), and secondary members (附加成分). Chinese linguistics does not treat *affix* (қосымша) as an inherent grammatical category; although a few derivational affixes exist, case endings and other inflectional morphemes are absent. In contrast, Kazakh morphology distinguishes between *suffixes* and *endings*. If the term 附加成分 refers to Kazakh or Russian morphological features, it should be translated into Kazakh as *affix* (қосымша) and into Russian as *окончание* or *аффикс* [4, 80].

Considering the phonetic and morphological characteristics of the Kazakh, scientific terminology should be borrowed directly from English rather than via Russian mediation. Such a practice would modernize the national terminological base, enhance the consistency and semantic precision of terms, and facilitate the establishment of a unified and comprehensible set of terms for Kazakhs worldwide. Such unification will promote mutual intelligibility among Kazakhs speakers across different countries and reinforce the role of Kazakh as an effective medium of international communication.

Challenges in Translating the Names of Chinese Historical Figures into Kazakh

Translating the names of Chinese historical figures into Kazakh presents several linguistic and methodological challenges. For example, Kazakhs in China

render 孔子 as *КҰҢЗЫ* and 孟子 as *МЫҢЗЫ*. This approach relies on transliteration, whereby Chinese phonetic patterns are adapted to the Kazakh phonological system. For instance, the character 孔 (kǒng) is rendered as *КҰҢ*, while 子 (zǐ) becomes *ЗЫ*. Similarly, 孟子 (mèngzǐ) is transcribed as *МЫҢЗЫ*: 孟 (mèng) – *МЫҢ*, and 子 – *ЗЫ*. Since the nasal *-ng* sound exists in Kazakh, it is represented orthographically by the letter *Ң*. As a result, the forms *КҰҢЗЫ* and *МЫҢЗЫ* are both phonetically natural and orthographically convenient for Kazakh speakers. Thus, in China, 孔子 and 孟子 are widely used among Kazakhs in China.

However, this method deviates considerably from international scholarly conventions. Globally, these names are best known in their Latinized forms- **Confucius** and **Mencius**. These variants were introduced by early missionaries who transmitted Chinese philosophy to Europe centuries ago and have since become firmly entrenched in academic discourse.

In Kazakhstan, by contrast, the dominant forms are **Конфуций** and **Мэн-цзы**, which follow the Russian transcription model. This convention, established during the Soviet period, was later institutionalized through textbooks, encyclopedias, academic publications, and mass media, and remains officially used today. These forms are familiar to Kazakh readers and are firmly entrenched in the scientific and educational discourse of Kazakhstan.

Overall, the development of Kazakh terminology in Kazakhstan and China has taken different paths. In China, new terms are systematically created based on the official language and adapted to the demands of scientific advancement, whereas in Kazakhstan, Russian has played a dominant role, and most terms entered through Russian mediation. This difference affects the consistency of Kazakh scientific terminology across the two countries.

Therefore, when translating the names of historical figures, it is essential to take into account not only the phonological features of the Kazakh language but also international academic standards. Relying solely on phonetic equivalence is insufficient; considering the historical and cultural context as well as global academic practice helps improve translation quality and ensures that Kazakh scientific language remains clear and relevant in international communication.

Let us now examine the formation of the name *Confucius* from 孔子 (孔夫子, Kǒngzǐ). The name *Confucius* originates from Latin. In the 16th century, European Catholic missionaries who arrived in China became acquainted with the teachings of the great thinker, who had been revered in China as a philosopher for more than two millennia. They translated his works as well as the Confucian classics into Latin, thereby introducing them to Europe for the first time. Among these

missionaries, the one who first brought Confucian teachings to Europe was **Matteo Ricci**. Since Latin was the official language of the Roman Catholic Church, the missionaries adapted Chinese names, including that of Confucius, to the phonetic system of Latin. In this way, the Chinese name Kǒng Fūzǐ (孔夫子) was rendered into Latin as *Confucius*.

When translating 孔夫子, the character 孔 was transcribed as *con*, 夫 as *fu*, whereas 子 had no exact phonetic equivalent in Latin. Thus, the missionaries selected the combination *ci*, which approximated the Chinese *zi*, although Latin lacked precise equivalents such as *zi*, *ci*, or *si*. Since in Latin proper names are gendered and masculine names usually take the suffix *-us*, the name was written and established as *Confucius*. This form subsequently spread across European languages: in German as *Konfuzius*, in Italian and Spanish as *Confucio*, in Swedish as *Konfucius*, in Polish as *Konfucjusz*, and in Russian as *Конфуций*. From Russian, the name later entered Kazakh language [5].

During the Ming and Qing dynasties, missionaries similarly Latinized the names of other Chinese philosophers. For example, the name 孟子 (Mèngzǐ) was rendered as *Mencius*. In this process, not only phonetic adaptation but also conformity to the European scholarly lexicon was taken into account. Since masculine names in Latin commonly end with *-us*, the suffix was added to *Menci-* to form *Mencius*. Such adaptation rendered the name more acceptable and natural within philosophical and scientific discourse.

However, certain translation errors also occurred. For instance, the name 门修斯 (Ménxiūsī) appeared as a mistranslation in the 1998 Chinese edition of Anthony Giddens' *The Nation-State and Violence*. The translators, Hu Zongze and Zhao Litao, unaware that the established English form of 孟子 was *Mencius*, rendered it phonetically into Chinese as 门修斯. As a result, the historical figure's name was distorted, and its original reference was lost.

This case underscores the importance of accounting for cultural and linguistic peculiarities, as well as the necessity of standardization in translating historical names and terms. Moreover, the emergence of such mistranslations indicates that some contemporary translators lack a full understanding of the historical origins of names like *Mencius*, which in turn leads to erroneous renderings such as 门修斯. These errors distort the historical and cultural context, and at times produce translations that are meaningless or even unintentionally comical. This clearly illustrates the deficiencies arising from inadequate cultural-historical knowledge. It

is worth noting that such problems often arise when translators prioritize mere phonetic equivalence while neglecting contextual and cultural meaning.

In the process of translation, awareness of a term's historical background and cultural context is essential for preserving its semantic integrity. Ignoring the etymology and historical development of a term while relying only on literal translation may lead to semantic distortion. A thorough understanding of cultural codes and linguistic features ensures that translation is both natural and scientifically grounded. Therefore, in translating terms, attention must be paid not only to phonetic and morphological equivalence but also conceptual and cultural correspondence. This approach guarantees consistency and semantic precision within the terminological system.

In this regard, the standardizing the Kazakh equivalents of Chinese terms, as well as cultural and scientific concepts in general, constitutes one of the most urgent and important tasks of modern Kazakh terminology.

The processes of terminology formation and translation in Kazakhstan and China differ significantly. In China, new terms are systematically and purposefully developed on the basis of the state language to promote scientific advancement. In Kazakhstan, however, due to the strong influence of Russian, terminology has largely been adopted following Russian models and norms. These two approaches have distinct impacts on the consistency and semantic precision of terms.

Therefore, taking into account the historical and cultural context in translation is crucial, as it ensures the scientific and linguistic coherence of terms. In the future, the development of Kazakh terminology will require effective utilization of the national language's potential while carefully considering both linguistic and cultural foundations. At the same time, the issue of standardizing Kazakh terminology across Kazakhstan and China remains highly significant.

Understanding the history and cultural context of a word in the translation process is essential for preserving its semantic integrity. Literal translation without considering the origin and historical development of a term can lead to semantic distortion. Furthermore, accurate comprehension of cultural codes and linguistic features contributes to producing translations that are both natural and academically sound. Therefore, when translating terms, not only phonetic and morphological correspondences but also conceptual and cultural connections must be taken into account. Such an approach ensures consistency and semantic precision within the terminological system.

In this regard, the standardization of Kazakh equivalents for Chinese terms, as well as for broader cultural and scientific concepts, constitutes one of the most pressing and significant tasks currently facing Kazakh terminology.

The processes of term formation and translation strategies in Kazakh differ considerably between Kazakhstan and China. In China, terminology is developed systematically and deliberately on the basis of the national language, with the aim of promoting scientific and technological advancement. In Kazakhstan, however, due to the strong influence of Russian, terminology has often been adopted in accordance with Russian linguistic structures and norms. These two divergent approaches have led to the consistency and semantic precision of terms in different ways.

It is therefore essential to take into account the historical and cultural context in translation, as this ensures the scientific and linguistic coherence of terminology. Looking ahead, the effective utilization of the expressive potential of the national language, combined with consideration of linguistic and cultural foundations, is of particular importance for the development of Kazakh terminology. Moreover, the issue of standardizing Kazakh-language terms in both Kazakhstan and China remains an urgent and highly relevant task.

The article provides a historical and comparative analysis of terminology formation in Chinese and Kazakh. In Chinese, term creation is carried out systematically, through internal linguistic mechanisms such as compounding, calquing, transcription, and limited affixation. In Kazakh, morphological, semantic, and syntactic methods are more prevalent. In Kazakhstan, many scientific terms have been adopted mainly through Russian, often resulting in discrepancies with the natural phonetic and grammatical system of Kazakh, while in China, Kazakhs typically translate terms directly from Chinese. These differing approaches complicate the unification of Kazakh scientific terminology.

The article further identifies key challenges in translating international scientific concepts and historical names (e.g., Confucius 孔子, Mencius 孟子), underscoring the importance of historical and cultural awareness in translation. Overall, the study concludes that modernization of Kazakh terminology requires direct borrowing from original sources, alignment with international scholarly standards, and systematic standardization across Kazakh communities in Kazakhstan and China.

REFERENCES

1. Fu, Ruomei. Chinese Affixes and Word Formation//*HUMANIORA*, vol. 5, no. 1, 2014, pp. 122–127.
2. Kurmanbaiuly, Sh. How Do We Write Ethnonyms? *Til Álemi* Website [Electronic Resource]. Available at: <https://tilalemi.kz/kz/news/ult-ataularin-qalay-jazip-jurmiz.html>

3. Nazari, D. A Short Comparative Chinese-Kazakh Dictionary of Linguistic Terms. Ürümqi: Xinjiang People's Publishing House, 1985. 431 p.
4. Kalibekuly, T. Chinese-Kazakh-Russian Dictionary of Linguistic Terms. Beijing: Minzu University of China Press, 2018. 286 p.
5. 为什么孔子的英文名叫 Confucius? Available at:
https://www.thepaper.cn/newsDetail_forward_6822687