




# Method of morphemic analysis


## as an effective tool for teaching medical terminology in the study of Chinese as a foreign language


*Método de análisis morféxico como herramienta eficaz para la enseñanza de la terminología médica en el estudio del chino como lengua extranjera*

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### Abstract

International cooperation affects all spheres of human life. The medical field is no exception in this regard. In recent years, there has been an increase in interest in traditional Chinese and modern Chinese medicine in the global medical community. In this connection, there is an increasing need for specialists who speak Chinese as a foreign language. Specific of training such specialists for work in the health sector is the need to teach them a large number of medical terms and also to acquaint with the peculiarities of the Chinese mentality. This will make it possible to build a dialogue with Chinese colleagues more effectively. Because “the knowledge of behavioral patterns can progress students’ ability to model a dialogue and at large their speaking skills in the foreign language.”. In addition, understanding the Chinese mentality through learning Chinese as a foreign language can solve the “problem of formation of ethno-cultural competence of students - future teachers.”. As traditional medicine and modern medicine co-exist in the PRC, each of them has its own research vocabulary. The peculiarity of the terms pertaining to traditional Chinese medicine is that they are formed from polysemantic hieroglyphs and have a metaphorical character, which is due to the close relationship between traditional Chinese medicine and ancient Chinese philosophy. Therefore, the most effective approach to explain the meaning of the terms of traditional Chinese medicine is the use of the method of morphemic analysis in combination with an explaining philosophical and cultural concepts behind these terms. Most of these terms represent phonetic and semantic borrowings. The method of morphemic analysis is effective for explaining the meanings of semantic borrowings which occupy an important part in the terminological system of the Chinese language.

**Keywords:** terms, traditional medicine, modern medicine, semantic borrowings, phonetic borrowings, method of morphemic analysis.

### Resumen

La cooperación internacional afecta a todas las esferas de la vida humana. El campo de la medicina no es una excepción en este sentido. En los últimos años, ha habido un aumento en el interés por la medicina china tradicional y china moderna en la comunidad médica mundial. En este sentido, existe una creciente necesidad de especialistas que hablen chino como lengua extranjera. Específico de la formación de tales especialistas para el trabajo en el sector de la salud es la necesidad de enseñarles una gran cantidad de términos médicos y también familiarizarse con las peculiaridades de la mentalidad china. Esto permitirá construir un diálogo con los colegas chinos de manera más efectiva. Porque “el conocimiento de los patrones de comportamiento puede mejorar la capacidad de los estudiantes para modelar un diálogo y, en general, sus habilidades para hablar en el idioma extranjero”. Además, la comprensión de la mentalidad china a través del aprendizaje del chino como lengua extranjera puede resolver el “problema de la formación de la competencia etnocultural de los estudiantes - futuros maestros”. Como la medicina tradicional y la medicina moderna coexisten en la República Popular China, cada una de ellas tiene su propio vocabulario de investigación. La peculiaridad de los términos pertenecientes a la medicina tradicional china es que se forman a partir de jeroglíficos polisemánticos y tienen un carácter metafórico, lo que se debe a la estrecha relación entre la medicina tradicional china y la antigua filosofía china. Por lo tanto, el enfoque más efectivo para explicar el significado de los términos de la medicina tradicional china es el uso del método de análisis morféxico en combinación con una explicación de los conceptos filosóficos y culturales detrás de estos términos. La mayoría de estos términos representan préstamos fonéticos y semánticos. El método de análisis morféxico es efectivo para explicar los significados de los préstamos semánticos que ocupan una parte importante en el sistema terminológico del idioma chino.

**Palabras clave:** términos, medicina tradicional, medicina moderna, préstamos semánticos, préstamos fonéticos, método de análisis morfémico.

## Introduction

Traditional Chinese medicine is a system of contemporary teachings and practices created in the PRC in the 1950s on the basis of ancient Chinese treatises. It embraces all the features of the worldview of the Chinese<sup>1,2</sup>. The interest of Russian doctors in Chinese medicine is increasing every year. This is explained not only by a holistic approach to the human body that is unconventional for Western medicine, but also by the positive results that Chinese doctors are achieving in the treatment of diseases considered incurable in Russia. For example, infantile cerebral palsy and a number of others<sup>3-5</sup>.

The growing interest of Russian doctors in traditional Chinese medicine is one of the reasons for their desire to study Chinese as a foreign language for professional purposes. Knowledge of the Chinese language in combination with medical education will reduce the number of translation errors, since today scientific and practical interaction between Chinese and Russian doctors is, as a rule, carried out with the help of translators<sup>6-8</sup>. Medicine is an area of enhanced responsibility. Therefore, the requirements for knowledge of the Chinese language are especially demanding. The employment of the method of morphemic analysis of the lexical units meaning is intended to increase the effectiveness of teaching Chinese as a foreign language, to provide knowledge about the features of the word-formation system of the Chinese language, to form a linguistic flair and to contribute to the formation of a creative personality<sup>9-13</sup>. Thus, this study attempts to analyze the method of morphemic analysis as an effective tool for teaching medical terminology in the study of Chinese as a foreign language.

## Methods

The lexical peculiarity of medical texts is the widespread use of medical terminology. We can divide the medical terminology of the modern Chinese language into the terms of traditional Chinese medicine and the terms of modern Chinese medicine, each having its own specific features.

Morphemic analysis is while a student face new words and split them down into sections to evaluate the meaning to particular parts and hence arrive at a more retinal definition than just guessing. Through examining a word's structure utilizing morphemes, it permits parts of the new words to be comprehended.

Learning the terms pertaining to traditional Chinese medicine is the most difficult process, since the hieroglyphs that make it up are polysemantic, and the terms themselves are metaphorical. In Chinese-Russian dictionaries, you can usually find only the common meaning of a word from which it is not always clear what meaning a certain term carries in the

medical context<sup>3</sup>. For example, the Chinese medical term 五行的 (wǔxíng) consists of two polysemantic morphemes 五 (wǔ) five, fifth (in order), five tenths, fifth lunar month, fifth scale, last name Wu and 行 (xíng) go, walk, move, travel, fit, be suitable (acceptable, possible), be strong (talented, able), carry out, offer, serve, etc. The large Chinese-Russian dictionary contains a phonetic version of the translation of *Wuxing*, as well as *five powers, five elements, five transformations (in cosmogony: earth, wood, metal, fire, water); five virtues; basic norms of [human] relations*<sup>4</sup>. Morphemic analysis of this term or Chinese-Russian dictionaries do not provide an accurate understanding of the meaning of this term. We learn from Chinese medical reference books that “the term 五行 is a concept of ancient Chinese philosophy. 行 indicates five elements: wood, fire, earth, metal and water. Everything on Earth consists of these five elements. 行 indicates movement and change. The five elements are in constant interaction. They can create or destroy each other. For example, earth brings forth metal, and metal chops wood. Five internal organs correspond to the five elements: liver, heart, spleen, lung and kidneys, respectively, which also influence each other”<sup>5</sup>. Based on this example, we see that the method of morphemic analysis of the of traditional Chinese medical terms can lead to confusion, therefore, we consider the most effective method to be the method of morphemic analysis in combination with explanation<sup>12-15</sup>.

## Results and discussion

Let us consider the effectiveness of the application of the method of morphemic analysis in teaching the terms of modern Chinese medicine. An overwhelming majority of terms in modern Chinese medicine are borrowed lexical units. Youwei is studying the question of borrowed words of the Chinese language. He highlights the “phonetic and semantic way of borrowing”<sup>5</sup>. In his point of view, the phonetic way is the most important way of borrowing, and the semantic way is the tendency to form borrowings.

“Semantic borrowings, also called calques, appear as a result of translating words of other languages into Chinese, at the same time copying the internal structure of the borrowed word, and new words appear in the borrowing language”<sup>7</sup>. For example, the term 糖niaòbing (tángniàobīng) *diabetes; mellitus polyuria*; is a borrowed term and consists of three morphemes. Three-morphemic lexical units in the Chinese language “arose as a result of a secondary word-formation act and can be called secondary complex words. One part is a simple morpheme, the other is a compound morpheme. The compound morpheme in its volume corresponds to a two-morpheme compound word.”<sup>8</sup>. The term 糖niaòbing (tángniàobīng) consists of a two-morpheme word 糖niaò (tángniào) *glycosuria (the presence of glucose (sugar) in the urine)* and 病 (bīng) *disease*. The two-morpheme word 糖niaò (tángniào) *glycosuria* consists of two distinct morphemes 糖 (táng) *sugar* and niaò (niào) *urine*.

This type of terms should be attributed to terms that etymologically reveal the content of the calqued word. Thus, the term of modern Chinese medicine, on the one hand, is a borrowed term that has retained its morphological structure. On the other hand, it is a term formed according to word formation rules of in the Chinese language. Therefore, it is easily assimilated by native Chinese speakers and, over time, is not perceived as borrowed.

Semantic borrowings in the Chinese language are created from elements of the vocabulary of the Chinese language and, therefore, in their graphic and vocal shape, do not differ in any way from the primordial Chinese vocabulary. Therefore, in relation to this type of terms, the method of morphemic analysis is effective, since it shows the internal logical connections between morphemes, and also demonstrates an obvious continuity in the structure of the original term and its counterpart in Chinese.

Another type of semantic borrowing is represented by the terms of modern Chinese medicine, some of them being phonetic borrowings, and some conveying semantic meaning. This type of borrowing is called a half-calque. For example, the term 艾滋病 *acquired immune deficiency syndrome, AIDS* consists of three morphemes, the first two of them 艾 *ài* and 滋 *zī* are a phonetic borrowing from the English term *AIDS*, and the third morpheme is 病 *bìng* *disease*. The peculiarity of the hieroglyphics of the Chinese written language is that each hieroglyph “has a certain pronunciation and independently expresses a certain meaning correlated with the meaning of the whole word. The meaning of a complex word is added and determined by the meaning of each component it comprises. This specificity of word formation in the modern Chinese language is determined by the specific phonetic system of the Chinese language.”<sup>99</sup>. Half-calques, in comparison with calques, are more difficult to assimilate by the recipient language, that is, native speakers, upon first acquaintance with this term, will perceive it as a term whose meaning is the sum of the meanings of all morphemes that make up its composition. If we analyze the term 艾滋病 from the perspective of the meaning of each morpheme, we get 艾 *ài* *wormwood*, 滋 *zī* *ripen*, 病 *bìng* *disease, ailment*. Obviously, the meaning of the complex term does not follow from the meaning of the morphemes that form it. The presence of the third morpheme 病 *bìng* *disease, ailment* is necessary, otherwise the speakers of the Chinese language will not understand the term 艾 *ài* *zī*. Using the method of morphemic analysis in relation to half-calques without explaining the peculiarities of the origin and structure of this term in the Chinese language will be ineffective. For a more effective formation of lexical skills, the teacher must, when explaining the meaning of this group of terms, use the method of morphemic analysis in combination with explanation of etymology, that is, in regard to this group, it is necessary to highlight the phonetic borrowing part of the term and the part that conveys the semantic meaning.

Semantic borrowing is the most important way of borrowing foreign vocabulary. At the present stage of development, in the Chinese language, as in other languages of the world, the

Russian language in particular, words are mainly borrowed from the English language. The field of medical terminology is no exception. The phonetic method of borrowing or the so-called method of transcription is also an important way to enrich the vocabulary of the Chinese language.

Phonetic borrowings are also present among the terms of modern Chinese medicine. Under this method of borrowing, the vocal shape of the word is preserved, and when writing, hieroglyphs are used that sound close to the pronunciation of the borrowed words. For example, 阿司匹林 *āsīpīlín* *aspirin*. Since the terms are written in hieroglyphs that are similar in sound, but not in meaning, and each hieroglyph retains its independent meaning within the borrowed one, this type of terms in the Chinese language are problematic to function, because they are difficult for native Chinese speakers to learn. For Chinese speakers, the meaning of the hieroglyph is primary, and the sound is secondary, therefore, most of these terms have a counterpart in the Chinese language that does not coincide in sound with the borrowed word, but conveys the meaning it expresses. For example, another variant for the term 阿司匹林 *āsīpīlín* *aspirin* is 乙酰水杨酸 *qīyǐxiān shuǐyángsuān* *acetylsalicylic acid*, consisting of a combination of the two-morpheme unit 乙酰 *qīyǐxiān* *acetyl* and the three-morpheme unit 水杨酸 *shuǐyángsuān* *salicylic acid*. Phonetic borrowings are not subject to the morphemic analysis of components, since phonetic borrowing takes into account only the sound of the morpheme and does not take into account its meaning. However, the semantic counterpart of the borrowed term is subject to morphemic analysis.

A special group of borrowed terms in the Chinese language are the terms in which the letters of the Latin alphabet are used. For example, X光 *xguāng* *radiography, X-ray* is borrowed from the English term *X Ray*. We see the preserved morphemic structure and the transmission of the semantic part of *Ray* by the hieroglyph 光 *guāng* *rays*, expressing a similar meaning. The method of morphemic analysis in explaining the meaning of terms in this category involves an explanation of the meaning of that part of the term which is expressed by the hieroglyph. Since the Chinese language uses hieroglyphic writing, it has a small number of terms that include letters. However, under the impact of international cooperation, their number is increasing every day.

Having analyzed the structural features of the borrowed terms in the Chinese language, let us analyze their quantitative composition. The overwhelming majority of borrowed terms in the Chinese language are the terms of semantic borrowing, that is, terms that copy the morphemic structure of the borrowed word. Half-calques, phonetic borrowings and terms using the letters of the Latin alphabet are present in smaller numbers. Therefore, the method of morphemic analysis of terms will prevail in explaining the meaning of terms pertaining to modern Chinese medicine.

Having analyzed the peculiarities of the terminology of modern Chinese medicine, we can give the following recommendations to teachers of Chinese as a foreign language when explaining the meaning of the terms. First of all, it is neces-

sary to determine which category the term belongs to, whether it is a term of traditional Chinese medicine or a term of modern Chinese medicine. If the term refers to modern medicine, then it is necessary to determine the way of its origin, which will determine the method of explaining the meaning of this term.

## Summary

The method of morphemic analysis for the explanation of the lexical units meaning is widely used to explain the meaning of terms, including the terms of Chinese traditional and modern medicine. However, taking into account the specifics of traditional Chinese medicine terms, the method of morphemic analysis of the lexical units meaning must be combined with explanation of the philosophical and cultural concepts included in the semantic structure of those terms. The method of morphemic analysis is most effective when applied to the terms of modern Chinese medicine representing semantic borrowings.

## Conclusions

The method of morphemic analysis of the lexical units meaning takes into account the peculiarities of the Chinese language, and it is designed to increase the efficiency of teaching Chinese as a foreign language, especially in the aspect of lexical skills formation, to give students general knowledge about the word-formation system of the Chinese language, to form the ability of independent, quick and effective vocabulary replenishment, to develop the skill of linguistic instinct, formation of a tolerant personality, because “today tolerance is a fundamental universal principle the world, in general, and the individual community, in particular, should be based on it”<sup>10</sup>.

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