



Scholars Who Contributed To The Development Of Medicine In Medieval Central Asia

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Abstract: This article examines the development of medical terminology in medieval Transoxiana, focusing on the linguistic and scientific significance of Arabic medical sources. It analyzes the contribution of scholars such as Ibn Sina, al-Razi, al-Zahrawi, and Najibuddin Samarqandi to the formation of medical vocabulary. The study highlights the interaction of Arabic, Persian, and Turkic elements, the principles of term formation, and philological challenges in translation, emphasizing the role of Arabic as the primary language of scientific discourse in the region.

Keywords: Medical terminology, transoxiana, Ibn Sina, arabic scientific language, lexicology, philological analysis, medieval medicine, semantic structure, translation studies, terminological system.

Introduction: It is well known that Movarounnahr and Khorasan have long been centers of science, culture, and literature. During the Middle Ages, the interaction of Arabic, Persian, and Turkic linguistic elements intensified in these regions, while science—particularly medicine, philosophy, and the natural sciences—experienced dynamic development. In this period, cities such as Bukhara, Samarkand, Khwarazm, Merv, and Termez emerged as major scientific centers. Numerous madrasas and libraries operated in these cities.

One of the most prominent representatives of medicine in Movarounnahr was Ibn Sina (Avicenna) (980–1037). His work *Al-Qānūn fī al-ṭibb* (“The Canon of Medicine”) is considered one of the most important sources in the history of world medicine. The medical terms in this work are not only scientifically accurate but are also grammatically and stylistically precise. The text demonstrates the high degree of systematization

characteristic of the Arabic scientific style, enriched with synonyms and etymological explanations. Ibn Sina's linguistic style reflects the finest level of scientific Arabic. He defined simplicity in grammatical structure, clarity in meaning, and purity in expression as the main criteria of scientific writing. The work contains more than 4,500 medical terms. For example:

- حَرَارَةٌ (ḥarāra – heat)
- رُطُوبَةٌ (ruṭūba – moisture)
- مِزَاجٌ (mizāj – temperament/balance)
- حُمَّى (ḥummā – fever)
- جُدَامٌ (juzām – leprosy)

The text employs over 10,000 lexical units (الوحدات) (المعجمية), related to various fields, such as:

- تَغْذِيَةٌ (nutrition),
- تَشْرِيحٌ (anatomical analysis),
- عِلَاجٌ (treatment),
- دَوَاءٌ (medicine),
- دَاءٌ (disease).

Most of these terms are formed through root (الجزر) and morphological pattern (الوزن) relations, commonly based on the patterns fa'ala–yaf'alu and maf'ul.

Arabic medical literature emphasizes logical explanation (الشرح المنطقي) rather than artistic expression. However, stylistic refinement (جمال الأسلوب) and rhetorical clarity (البلاغة العلمية) are also occasionally observed.

Ibn Sina writes:

“فإنَّ الجسدَ مركَّبٌ من الأخلاط الأربعة: الدم، والبلغم، والصفراء، والسوداء.”

“The human body is composed of four humors: blood, phlegm, yellow bile, and black bile.”

This sentence maintains logical order, brevity, precision, and consistent terminology. Nominal constructions (الإضافة) are frequently used in scientific discourse, such as:

- قَانُونُ الطَّبِّ (law of medicine),
- عِلْمُ التَّشْرِيحِ (science of anatomy),
- أَسْبَابُ الْأَمْرَاضِ (causes of diseases).

Arabic medical works entered Movarounnahr between the 9th and 13th centuries through scholarly translation movements. This process was led by scholars active in centers such as Baghdad, Bukhara, Samarkand, and Merv. The works of Ibn Sina, al-Razi, and al-Majusi influenced not only medicine but also linguistics and lexicography. Their terminology and stylistic approaches formed the foundation of scientific

vocabulary in the Uzbek language.

Many Arabic medical terms adopted in Movarounnahr subsequently became common in Uzbek. For example:

- قَلْبٌ (qalb) – heart
- دِمَاحٌ (dimāgh) – brain
- كَبِدٌ (kabid) – liver
- مَعْدَةٌ (ma'ida) – stomach
- دَوَاءٌ (dawā') – remedy
- مَرَضٌ (maraḍ) – disease
- شِفَاءٌ (shifā') – healing
- طَبِيبٌ (ṭabīb) – physician
- عِلَاجٌ ('ilāj) – treatment

These words enriched Uzbek with scientific meanings such as medicine, healing, and disease.

However, translating Arabic medical texts into Uzbek presents several linguistic challenges:

1. Polysemy (تعدّد المعاني):

Many Arabic words have multiple meanings, requiring careful contextual interpretation.

Example: عَيْنٌ ('ayn) may mean eye, but also source or essence.

2. Morphological differences (اختلاف صرفي):

Arabic forms often cannot be directly mirrored in Uzbek.

Example: يُعَالَجُ (yu'ālaj) literally means “is treated by”, but is translated simply as “davolanadi”.

3. Terminological stability (ثبات المصطلحات):

Finding standard Uzbek equivalents for Arabic terms can be problematic.

Example: سَوْدَاءٌ (sawdā') may be translated as black bile (scientific) or melancholy (figurative).

Abu Mansur al-Muvaffaq (10th century), born in Khorasan, authored one of the earliest bilingual medical lexical works in Persian, describing over 600 medicinal plants and substances, demonstrating semantic relations between Arabic and Persian terms.

Abu al-Qasim al-Zahrawi (Albucasis) (936–1013), author of *At-Taṣrīf liman 'ajiza 'an at-ta'līf*, compiled the first comprehensive surgical encyclopedia in Arabic. His terminology had significant influence in Movarounnahr.

Najib al-Din al-Samarqandi (نجيب الدين السمرقندي), in his work *al-Asbāb wa-l-'Alāmāt*, systematized medical terminology associated with causes and symptoms.

For example:

- السَّبَبُ الدَّاخِلِيّ – internal cause
- السَّبَبُ الْخَارِجِيّ – external cause
- الْعَلَامَةُ الظَّاهِرَةُ – external symptom

- العلامة الباطنة – internal symptom

These works demonstrate the high development of semantic precision in Arabic medical terminology.

CONCLUSION

In conclusion, the medieval period in Movarounnahr was not only a time of medical advancement but also linguistic development. The Arabic language served as the principal medium of scientific thought and scholarly communication. Although Arabic formed the basis of scientific expression, Persian and Turkic elements also became integrated, reflecting deep linguistic and cultural interaction.

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