

THE CIRCULATION OF AYURVEDIC KNOWLEDGE IN INDO-PERSIAN MEDICAL LITERATURE

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Abstract. An important number of texts on Indian medicine were composed in Persian language in India, starting from the Sultanate period (13th-16th centuries) and especially during the following Mughal epoch (1526-1858). This can be considered as one of the major movements of scientific translation that took place between various South Asian cultures, as well as the main scientific movement of this kind that took place in the coeval Muslim world. This paper will focus on some of the main features, scholars and texts that characterized this movement of studies. In Mughal India, also Hindu scholars composed Persian scientific texts. Several Hindus studying at the Madrasa, were proficient in Persian and wrote medical and scientific works in this language, some also on the sciences of the Avicennian tradition. Several Persian works on Indian learning were composed for Muslim nobles, and Persian works on Ayurvedic medicine were even dedicated to Awrangzeb (r. 1658-1707). The royal patronage offered in Mughal India to Persian medical works was bigger than that given in contemporary Safavid Persia. However, and in particular in the pharmacological field, these studies were largely stimulated by practical reasons, and the assimilation of the Indian pharmacopoeia acted therefore as a main instrument for the adaptation of the practice of the Muslim physicians to the local conditions.

First of all I would like to specify that I'm not a specialist of Ayurvedic medicine but of Persian medical literature and it is chiefly from the point of view of Persianate studies that I will consider the subject of my talk. I outline in my contribution some of the main features, texts and scholars characterising the movement of writing of Persian texts on Indian medicine that took place in Muslim India. This can be regarded among the important movements of scientific translation that were realised between different South-Asian cultures. Concerning the Muslim world, it represents the main process of transfer of scientific knowledge from a pre-Islamic tradition taking place in the Muslim world during the late medieval and modern epochs. We have recently launched at the IFRI of Tehran a research programme aiming to constitute a first descriptive catalogue of the Persian sources on Indian traditions and sciences. On the basis of a preliminary survey I have made of the existing manuscript sources, it can be said that there exists a corpus of about eighty to one hundred Persian texts on Indian medicine and related subject, such as sexology and veterinary medicine, and including also the important discussions given in Persian texts which are not monographs on Indian medicine.

However, among the translation movements that took place in the Muslim world, the one from Indian sources into Persian remains certainly the lesser known one and many sources remain unknown even in the main bibliographical surveys of Persian literature. One of the main reasons for that lack of interest is the myth of the decline of medical and scientific studies in the Muslim world during the post-medieval period. This view is underlying in most of the general volumes on history of medicine in the Muslim world, being mainly histories of the medieval Arabic texts and authors that were also well known in the European world through Latin translations. Later sources and authors, as in the case of Ayurvedic tradition, have always been considered as deserving very little attention, since they are essentially sterile repetitions and commentaries of the classic authorities, being the Muslim one a culture where right knowledge was based on the imitation of the past. However, a closer analysis of

later medical production, shows surprisingly that many Arabic medical works which were regarded as classics by Western scholars because of their circulation into Latin versions, they were never translated into Persian.

Early contacts between the Muslim and the Indian medical traditions had been already realised during the 9th century under the Abbaside caliphate of Baghdad. However, it seems that the texts produced in Arabic at this time had a very limited impact on later Muslim medical learning. We do not find any early Arabic text on Indian medicine translated into Persian in Muslim India, not even Rabban al-Tabari section on Indian medicine included in the *Firdawas al-hikmat*. The Persian texts on Indian medicine produced in India were mainly new compilations. It can be said that Persian studies on Indian medicine had on later Muslim medical culture a much bigger impact than that of earlier Arabic text on the same subject.

To resume a few basic points: the first Indo-Persian works on Indian medicine were composed in medieval India, from the 14th century onward, under the sultans of Delhi, Gujarat and Malwa. An important development of these studies took place during the Mughal epoch (1526-1858) and this trend lasted until the colonial period when works on Indian medicine were written in Urdu as well. During this period, that spread over seven centuries, many Persian works were composed also on other Indian branches of learning and some articles by Carl Ernst have recently analysed in particular the works dealing with yoga and religious traditions. For what concerns the scientific domain field, we find a much bigger number of Persian works on medicine than on other Indian sciences such as mathematics and astronomy. Many dealt in particular with Indian pharmacology; moreover, we find also texts or relevant chapters on Indian sexology, veterinary medicine and iatrochemistry.

It is important to underline some features of the role played by the Persian language as means of scientific expression in India. Mughal India had a much bigger population than Safavid Persia. The Mughal Empire had therefore a bigger Persian speaking population than Safavid Persia and there were many more Persian manuscripts produced in modern India than in Persia. Muslim India was far richer than Persia and Indo-Muslim courts offered a large patronage to Persian speaking scholars and physicians migrating from Iran and Central Asia. In Mughal India, also many Hindu scholars began to study Persian and to compose scientific works in Persian language. Many Hindus, and especially Kayasthas and Khatri, studied at the Madrasa in order to get the *munshi* (secretary) degree that qualified for administrative posts. The curriculum of the Indian Madrasas included often the study of Avicennian medical and scientific texts, such as the *Qanun* and its commentaries. Hindus began to write Persian scientific works especially from the second half of the 17th century. Some important examples are the *Rahat al-faras*, on the horse and his treatment, by Anand Ram Mukhlis (m. 1164/1751), one of the leading Hindus scholars writing Persian texts and poetry; and the 19th century *Mu'alajat-i hindi* by Shaykh Haydar Misri dedicated to the third Nizam of Hyderabad. It is also possible that the early 16th century *Ma'dan al-shifa'-i Sikandar-shahi* had been composed with the help of Hindu scholars. The biographies of these Hindu physicians versed in Persian were included in a few collections of biographies of physicians composed in Urdu during the colonial period. During the Mughal epoch, we find even some Christian physicians writing medical texts in Persian, such as those of the family Da Silva. Around the beginning of the 19th century, José da Silva wrote a Persian treatise on the Indian *materia medica*, entitled *Mufradat-i hindi* (Indian simples). However, we have to remark that the most important Persian works on Indian medicine were mainly composed by Muslim physicians and not by Hindu Persian speaking scholars.

We must consider to which extent courtly patronage supported these kinds of studies. Important Persian texts on Indian medicine were dedicated and composed for Muslim nobles. For example, before the Mughal epoch we find already three Persian texts based on the *Shalihotra* composed for the sultans of Gulbarga, Gujarat and Malwa. We find such texts

dedicated also to Muslim sultans that usually are not remembered for a positive attitude towards the Hindus, such as the same Awrangzeb, after whom a few Persian texts on Indian medicine were named. The most important was the *Tibb-i Awrangshahi* by Darwish Muhammad Imanabadi, a general manual on Indian medicine, which was later copied several times. Of both the other works dedicated to Awrangzeb, the *Mirat al-hukama-yi Awrangshahi* by Abu al-Fath Chishti and the *Dar al-shifa-yi Awrangshahi* by Abu al-Fath Khayri, only one existing manuscript is known to us. There is a famous *farman* by Awrangzeb asking for quicksilver from the abbot of Jakhbar, and extending to him his protection. It is interesting to note that the works by Darwish Muhammad and Abu al-Fath Khayri both included chapters on iatrochemistry. Also if the composition of such texts can be considered as an element of the cultural politic and the imperial ideology of the Mughals which made of Persian translations of Indian works an instrument of this politic, we can say that courtly patronage did not represent the main drive for this movement of studies.

Practical needs, such as finding local substitutes of drugs, played certainly a major role. Indo-Muslim authors explained that they were driven to write such books by the great difficulties encountered in India in identifying and finding the drugs described in Arabic and Persian medieval pharmacopoeias. A colleague has recently drawn my attention to the fact that something similar had happened when the Arabic texts were introduced into Muslim Spain. It was especially in the field of pharmacology and therapeutics that Muslim physicians experimented in India the most important limits of the knowledge transmitted by the Arabic classical works. Pharmacology was the Indian medical discipline that most attracted the interest of the Muslim physicians and it was certainly the field in which the contacts with the local tradition determined the most sensible renewal of the medical knowledge circulating among Indo-Muslim physicians. Indian pharmacology and its lexicon were incorporated as well in several Indo-Persian texts dealing with Avicennian medicine. The integration of the Indian pharmacopoeia acted therefore as a main instrument for the adaptation of the practice of the Muslim physicians to the local conditions.

It seems that the synthesis of Indian knowledge was realised mostly in the practical field, such as pharmacology, and to a much lesser extent in the doctrinal sphere. There are nevertheless a few examples demonstrating that some efforts were made also in this direction. Shihab al-Din Nagawri, a 14th court physician of the sultan of Gujarat, proposes in his work *Tibb-i Shihabi* a division of humoral pathology combining the views of the Muslim and the Indian physicians. Shihab al-Din considers the humours as being four, but the two biles, as in the Indian tradition, are regarded as one, and the remaining place is taken by the wind, called *bad* in Persian. We can observe that this was not something completely new for the Muslim thought, since references to *bad* are found for example in some medical traditions of the Shiite imams, such as the *Risala al-dhahabiyya* attributed to the eighth imam 'Ali al-Rida (d. 818), of which I've recently made an Italian translation that is in the press.

Persian descriptions of Indian knowledge were adapted through different means to the *forma mentis* of the Avicennian physicians. Muslim authors employed the Arabic-Persian physiological lexicon to translate and explain the concepts of the Indian doctrine. The Indian drugs were presented according to the typical order, from head to toe, of the nosography of Persian texts. The prescriptions, derived from Indian iatrochemistry, were often included in the class of the elixirs (*iksir*). The circulation of Indian knowledge in Persian language was made also through its integration in apocryphal texts, such as the *Tuhfat al-ashiqin* ascribed to Avicenna, and the *Haft ahabab*, an alchemical text including iatrochemistry, attributed to a group of scholars, among them a couple of Indian Sufis and a Nath yogi converted to Islam. I've given a description of the *Haft ahabab* based on the manuscript copy preserved in the Library of Leiden, which has been included in the volume *Bronnen van Kennis* (Leiden,

2006).

It is moreover important to point out that the assimilation of Indian medical knowledge was made also through the reference to the scriptural sources of Islam, and in particular the sayings of prophet Muhammad praising the knowledge of medicine and the quest for scientific knowledge. This kind of discourse was not a completely new one. The compilers of some Medieval Arabic commentaries of the medical traditions of prophet Muhammad were already inclined to show the analogies between Muhammad's traditions and the Greek medical knowledge of Galen. It is interesting to observe that the first noteworthy Indo-Persian medical discussion of the sayings of prophet Muhammad is that given in a treatise on Indian medicine, the *Ma'dan al-shifa-yi* by Miyan Bhuwa. An important text of this kind is the *Mu'alajat-i nabawi* (Prophetic remedies) by Ghulam Imam, an author who flourished around the 18th century. It is a dictionary of drugs dedicated, the author says at the beginning, to the traditions of the prophet Muhammad and the Indian drugs. The prophetic traditions create here the framework of the work and represent an expedient for its composition, but within the text they are mentioned only in reference to a limited number of substances. The reference to the prophetic traditions praising the study of medicine became an element of the rhetorical discourse of the Muslim physicians aiming to present and justify such undertakings according to the Muslim view. Prophetic traditions could act therefore as a powerful symbolic means for the adaptation of the knowledge of the Muslim physicians to local conditions. We can notice moreover that Muslim physicians affiliated to Sufi orders, the main mystical school of Islam, wrote several important Persian works on Indian medicine.

Religious and magical remedies of Indian origin were mentioned in some Persian and Urdu texts, of non-medical contents as well. For instance, the 15th century mystical treatise *Lata'if-i Ashrafi* by the Sufi Ashraf Jahangir Semnani included Sanskrit mantras against diseases. Both the works on the Indian pharmacopoeia by Aman Allah Khan and by Sharif Khan mention the anti-demoniac properties of several substances. The Mughal emperor Akbar ordered the translation into Persian of the *Atharvaveda*: however it doesn't seem that this translation was completed.

We must observe an important feature concerning the main kind of Persian texts circulating on Indian medicine. The direct translations of Sanskrit medical works into Persian were not many. The most important Persian works were on the contrary new general manuals on Indian medicine and treatises on Indian pharmacology. Moreover, important Indo-Persian treatises on Avicennian medicine comprised descriptions and discussions of Indian knowledge. It seems therefore that the composition of new works and chapters, and not the translation of previous texts, acted as the principal means for the integration of Indian knowledge into Persian medical literature. Most Persian works on Indian medicine were composed in prose; nevertheless we find also a few in poetry, such as the *Qasida dar lughat-i hindi* (Poem in the Indian Language) by Muhammad ibn Yusuf, a court physician of the Mughals Babur and Humayun and author of other well-known medical texts. Manuscripts copies of some of these texts were illustrated with miniatures, and especially those on sexology and those on the horse and its treatment.

Among the main Persian general treatise on Indian medicine are the *Ma'dan al-shifa-yi Sikandar-shahi* by Miyan Bhuwa, the *Dastur al-atibba* by Firishta and the *Tibb Awrangshahi* by Darwish Muhammad. Miyan Bhuwa's work was composed in 1512 and was dedicated to the sultan of Delhi, Sikandar Shah Lodhi. During the following century Hasan Muqarrab Khan, a physician and a Mughal nobleman, wrote the *'Ain al-shifa*, a treatise on pharmacology based on the *Ma'dan al-shifa*. The *Dastur al-atibba* was composed by the Iranian Abu al-Qasim Firishta, the author of a famous history of Muslim India, who lived at the court of the 'Adil Shah sultans of Bijapur during the early 17th century. In his book

Firishta refers to having studied with an Indian physician. The introduction of *Dastur al-atibba* describes the principles of Indian medical doctrine, the first chapter discusses Indian simples and foodstuffs presented in form of a dictionary, the second chapter is on compound drugs, including iatrochemistry, while the last deals with pathology and treatment. The *Tibb Awrangshahi* by Darwish Muhammad, dedicated to Awrangzeb, is a work divided into seven chapters covering in order: the principles of Ayurveda, anatomy, pathology and therapeutics, woman's diseases, calcinations of metals, purgation, phlebotomy, compound and simple drugs.

Several treatises on the Indian pharmacopoeia were composed during the late Mughal period such as the *Mu'alajat-i nabawi* by Ghulam Imam, the *Anis al-atibba* by Nafi' al-Siddiqi al-Ja'isi, the *Bustan-i afroz* by Sayyid 'Abd al-Fattah, the *Mu'alajat-i hindi* by Shaykh Haydar Misri, the *Muntakhab al-adwiya* by Muhammad Qamar al-Din Husayn, and the vast dictionary of Indian simples *Mufradat-i hindi* by Muhammad Sharf al-Din. The most renowned Persian dictionary of the Indian *Materia medica* was the *Ta'lif-i Sharifi* by Muhammad Sharif Khan, a physician who died in the beginning of the 19th century. Few decades after Sharif Khan's death the text was translated into English by George Playfar, a surgeon on service in Bengal. During the same years was composed in the Deccan the *Tadhkirat al-hind*, a detailed dictionary of Indian drugs by Riza 'Ali Khan. An earlier version of this book was written in Arabic by 'Ali Khan's father, and stands as one of the rare known texts of this kind composed in Arabic in India.

Indo-Persian works on Avicennian medicine included important descriptions of the Indian knowledge. The two main examples are the 17th century works by Aman Allah Khan and Nur al-Din Shirazi. The *Ganj-i bad-awurd* is among the main Indo-Persian works on pharmacology and was composed by Aman Allah Khan, a nobleman of the Mughal court who also translated the *Madanavinoda* into Persian. The *Tibb-i Dara Shikohi* by Nur al-Din Shirazi is the biggest Persian medical encyclopaedia written in India and stands as a leading effort aiming to describe in the same book the knowledge of the Muslim and the Indian physicians. The work was dedicated to the Mughal prince Dara Shikoh, one of the most emblematic figures of the contacts between the Muslim and the Indian cultures; his *Majma al-bahrayn* was the most important Persian treatise offering a comparative description of the philosophic and mystical doctrines of the Muslims and the Hindus.

For what concerns veterinary medicine, this field was characterised by the composition of some monographic works on the horse and the elephant. The early integration of the Indian lexicon of remedies for animals is illustrated by the *Tibb-i Firuz-shahi*, a 13th century work on the treatment of the falcon employing about fifty Hindustani terms of simples without giving their Persian translation. The *Salihotra* seems to be the Sanskrit scientific treatise most translated into Persian in India. We find at least seven Persian works, which refer to the *Salihotra* or have been considered as based on this text. However, a preliminary analysis of some of these Persian versions, such as the 16th century one by Hashimi (made for the sultan of Gujarat), shows that it is rather possible that under this title Muslim physicians did not know only the homonymous work by Shalihotra but also other Sanskrit works having the same title or which were based on the *Salihotra*. There are several illustrated copies of some Persian works based on the *Salihotra*, such as some manuscripts of the 17th century version made for Abd Allah Khan Firuz Jang. This version mentions in the preface the sayings of the Muslim prophets on the horses and a copy preserved in the National Library of Paris includes some miniatures of the horses mentioned in the traditions of the Muslim prophets.

Treatises on the elephant may be regarded as an original contribution of Persian studies. Some of these works on the elephant were certainly based on Indian sources, while

for other works we haven't enough information on their contents to say that. A detailed treatise on this subject is the *Fil-name* by Sa'd Akbar ibn Awliya of which is preserved a manuscript copied in the 19th century. The author refers to having based his treatise on Brhaspati's *Brhaspatimata* to which he added some integrations from the work by Kalakapya.

To sum up, I've presented in my talk an introductory description of some of the main features that characterised the movement of Persian studies on Indian medicine. Of course, my aim was not to give a comprehensive vision of this huge corpus of texts, but only to discuss some of its main trends, texts and figures. This corpus of texts shows in particular the limits of some main beliefs of the standard reconstruction of the history of medicine in the modern Muslim world. The Persian studies on the Indian sources did not certainly have an impact on Muslim culture comparable to that which the Greek sources had previously for the early development of Arabic medical studies from the 9th century. However, this generated a corpus of texts, which in terms of existing sources seems second only to the production that characterised the process of translation from Greek into Arabic. As I said before, I'm not a specialist of Ayurvedic medicine and therefore I hope to benefit a lot from your comments and suggestions to my talk.