



MEDICINE I. INTRODUCTION OF WESTERN MEDICINE TO IRAN

MEDICINE

i. INTRODUCTION OF WESTERN MEDICINE TO IRAN

Western medicine was introduced to Iran by European physicians who began to arrive there from early nineteenth century onwards (Elgood, pp. 437-93). This gradual process was part and parcel of the increasing influence of the West in the country. The foreign doctors came on a variety of missions: as court physicians, as members of military missions, or as instructors for the [Dār al-fonun](#). They were also attached to foreign consulates or to Christian evangelical missions, as well as to the newly established Telegraph Company.

The first foreign doctor to arrive in Qajar Iran was Dr. Salvatori who came in 1807 as part of [General Gardane's military mission](#) to the court of [Fath-'Ali Shah](#) and established a European style dispensary (Elgood, p. 441). Salvatori's successful treatment of some members of the court kindled an interest in Western medicine, as well as giving him access to influential courtiers. Consequently the political importance of these physicians became apparent to other foreign powers, and henceforth British military missions always included a physician.



The British mission of [Sir Harford Jones](#) in 1808 included Assistant Surgeon James Campbell as medical officer. When Sir Harford Jones left Bušehr for Tehran, he also took with him [Dr. Andrew Jukes](#), the British Resident at Bušehr. Dr. Jukes also accompanied the mission of Sir John Malcolm in 1808 to Tehran. He practiced medicine during these missions and in particular tried to introduce Jenner's smallpox vaccine to Iran (Morier, 1818, p. 191; Malcolm, II, p. 532 n.).

The pioneer in this field, as in many others, who recognized the efficacy of Western medicine and by setting an example helped to propagate it, was the Crown Prince '[Abbās Mirzā](#) (1789-1833). Assistant Surgeon James Campbell, a member of the mission of Sir Harford Jones in 1808, was seconded for a while to the Persian army under 'Abbās Mirzā in Tabriz. Dr. Campbell not only cured the prince himself of a venereal disease but also vaccinated his entire household against smallpox (Wright, 1977, p. 123). From that point onwards 'Abbās Mirzā had a foreign doctor always in attendance. The prince was also indirectly responsible for the first medical book to be printed in Persia, a treatise on inoculation for smallpox *Resāla-ye ābela-kubi*, in ten chapters with a preface, written by Dr. William Cormick who had succeeded Dr. Campbell as 'Abbās Mirzā's personal physician. It was translated into Persian by Ḥakim Moḥammad b. 'Abd-al-Šabur Qoboli Kō'i, entitled *Resāla-ye ābela kubi-ye karmak* and printed in 1829-30 as an appendix to his three-volume work *Anwār al-nāšeriya* or *Mer'āt al-ḥekmat al-nāšeriya*, which included also three other works by him: *Tašriḥ al-bašar va toziḥ al-šovar*, *Ošul al-ṭebbia*, and *Javāher al-ḥakāma*, at the new printing press established in Tabriz by 'Abbās Mirzā in 1816 (Browne, 1914, p. 7; Najmābādi, 1972, pp. 704-708; Rawšani, p. 203, Mošār, I, p. 171). It was also on 'Abbās Mirzā's orders that the first two Persian students went abroad to be trained in Western medicine. These were [Mirzā Ḥāji Bābā Afšār](#) and Mirzā Kāžem. They left Persia for England in 1811 with Sir Harford Jones (Wright, 1985, pp. 70-82; Hāšemiān, pp. 5-21). Ḥāji Bābā completed his study of medicine and returned to Persia in 1819 in the company of four other students whom 'Abbās Mirzā had sent to England in 1815. Upon his return Ḥāji Bābā was appointed physician to 'Abbās Mirzā and later Moḥammad Shah (1834-48).

By this time it had become customary for the Shah to have a foreign doctor in attendance and a series of foreign physicians were employed as court doctors (Floor, pp. 169-73). The first of these was the French Dr. Labat. He was succeeded in 1846 by Dr. Ernest Cloquet, the son of a famous Parisian



anatomist. After the death of Moḥammad Shah in 1848, Dr. Cloquet continued as personal physician to Nāṣer-al-Din Shah (r. 1848-96). While he held this position, Dr. Cloquet was asked by the shah to give private medical instructions in Western medicine and surgery to a few Persian doctors (*Ruznāma-ye waqāye'-e ettefāqiya*, no. 52, Thursday 7 Rabi' II 1268/Friday 30 January 1852). He was succeeded by the Austrian [Dr. Jakob Polak](#) as the shah's personal physician.

Dr. Polak had come to Tehran as professor of medicine for the newly established Dār al-fonun, the Polytechnic founded in 1851 by Mirzā Taqī Khan Amir Kabir, the reform-minded Prime Minister of Nāṣer-al-Din Shah. Amir Kabir, another pioneer in the mold of 'Abbās Mirzā, was instrumental in the propagation of Western medicine. As mentioned earlier, although the inoculation against smallpox had been introduced to Persia during the reign of Faṭḥ-'Ali Shah, its use had not been extended to the wider public. It was Amir Kabir who promulgated a law that provided free public inoculation. It was announced through a decree making inoculation of children compulsory for all families, the dereliction of which was punishable by a fine. Individuals were trained in inoculation techniques and sent to the provinces. The treatise of Dr. Cormick on smallpox was reprinted and circulated (*Ādamiyat*, pp. 332-34). Amir Kabir also established the first modern state-run hospital and pharmacy in Persia (*Marizkāna-ye dowlati*). According to *Ādamiyat*, the building was started in 1849 and inaugurated in 1851 (*Ādamiyat*, pp. 334-35). Polak also gives an account of the establishment of this hospital, and the two accounts differ substantially from each other regarding the dates and the history of the foundation (Polak, Pers. tr., pp. 212-14; *Sāruḳāniān*, pp. 1399-444). However, this much is certain that at this time a "government or military" hospital was established to which Polak took his students to examine patients and to practice surgery (Ebrahimnejad, 2004, pp. 58-75). Another hospital was also established under Nāṣer-al-Din Shah in 1284/1867-68 (*E'temād-al-Salṭana, Ma'āter wa'l-ātār*, I, p. 105; Elgood, p. 512).

According to Hormoz Ebrahimnejad (2004, p. 68), there may have been a number of state hospitals (*marizkānahā-ye dawlati*) creating some confusion among the sources. At the same time Amir Kabir employed a number of foreign doctors whom he sent to the provinces in order to propagate modern ideas of medicine and hygiene. Among these was the Dutch Dr. Johann L. Schlimmer, who later became a professor at the Dār al-fonun (Polak, tr., pp. 334-35).



The Dār al-fonun was established with the initial objective of training army officers and civil servants. In fact few of the students joined the army, but the school did make modern education including medicine, available. The school contained departments of medicine, including surgery and pharmacology as well as mining, engineering, and military sciences. There were twenty students in the department of medicine (Najmābādi, 1975, p. 205; Maḥbubi, *Mo'assasāt*, I, p. 296). The establishment of the Dār al-fonun was therefore of great importance to the gradual introduction of Western medicine into Persia. It planted the seed for its future propagation. The foundation for the [Faculty of Medicine](#) was laid by Dr. Jacob Polak who lectured on ophthalmology, surgery, and anatomy. There is a discrepancy in the sources on the initial number of medical students. Some sources list the medical students as twenty, Polak himself states that he had fourteen students (Najmābādi, 1975, p. 205; Polak, tr., p. 209). When Polak started teaching medicine at the Dār al-fonun, he encountered various obstacles, especially two major interrelated problems: the instructors' lack of knowledge of Persian, and the fact that modern medical terms had not yet been introduced into the Persian language. The chosen language of instruction was initially French. Although Polak was provided with an interpreter, he realized that the translations were not done correctly (Polak, tr., pp. 209-14). To rectify this situation, and to fill the existing lacuna of medical books and terminology, he learnt Persian, taught in Persian, and strove hard to establish a medical vocabulary in Persian. He wrote ten textbooks that were translated into Persian on various aspects of medicine, surgery, anatomy, pathology, and ophthalmology. All these books were printed in Tehran (Floor, pp. 240-43; Elgood, pp. 501-502). After he became the shah's personal physician, he was joined in 1856 by Dr. Johann L. Schlimmer who also taught medicine at the Dār al-fonun. Dr. Schlimmer wrote fourteen books on diverse medical fields such as pharmacology, ophthalmology, and pediatrics. He also compiled a dictionary of Persian medical terms as well as plants and minerals with therapeutic qualities with French, British and German equivalents entitled *Terminologie Medico-Pharmaceutique et Anthropologique Française-Persane* (Floor, pp. 240-43). This dictionary was a landmark in the gradual transition from traditional medicine to Western medicine.

In 1856, after four years of studying at the Dār al-fonun, three of Dr. Polak's pupils, Mirzā 'Alinaqi, later Ḥakim-al-Mamālek, Mirzā Ḥosayn, and Mirzā Reżā, all of whom had graduated and studied French, accompanied the embassy of [Farrok Khan Amin-al-Dawla](#) to Paris and engaged in postgraduate



medical studies there (Hāšemiān, pp. 75-90). All three wrote original and commendable theses and completed their studies in 1860-61 (Polak, tr., pp. 214-15; Hāšemiān, pp. 80-90). In 1859 another three of Dr. Polak's students were included amongst the 42 students sent to Europe with the embassy of [Hasan-'Ali Khan Amir Nezām Garrusi](#) (Momtaḥen-al-Dawla, pp. 74-86, 113-19; Maḥbubi, *Mo'assasāt*, I, pp. 320-40). They were Mirzā Āqā Bozorg Nawāb, Šayḵ Jalil Ešfahāni and Mirzā 'Abd-al-Wahāb Khan later Faḵr-al-Aṭebbā' (Maḥbubi, *Mo'assasāt*, I, pp. 327-28; Hāšemiān, pp. 351-52). Eventually some of the students who had studied medicine abroad replaced the foreign instructors at the Dār al-fonun (Maḥbubi, *Mo'assasāt*, I, pp. 285-89; Hāšemiān, pp. 324-28, 437-41). Amongst those educated abroad who became instructors in medicine at the Dār al-fonun were: Mirzā Ḥosayn son of Mirzā Aḥmad Ṭabib-e Afšār (Bāmdād, *Rejāl*, V, p. 75), Doktor Ḳalil Khan Ṭaqafi, later 'Alam-al-Dawla, the son of Ḥāj 'Abd-al-Bāqī E'tezād al-Aṭebbā' (Bāmdād, *Rejāl*, I, pp. 487-89), Mirzā Moḥammad Doktor or Doktor Moḥammad Khan Kermānšāhi, Mo'tamed-al-Aṭebbā', (Bāmdād, *Rejāl*, III, pp. 275-78), Mirzā 'Ali Doktor-e Hamadāni later Ra'is-al-Aṭebbā' (Bāmdād, *Rejāl*, V, pp. 156-57) and Mirzā Rezā Doktor 'Ali-ābādi (Bāmdād, *Rejāl*, V, p. 97; Maḥbubi, *Mo'assasāt*, I, pp. 285-89; Hāšemiān, pp. 324-28, 437-41).

After a nine-year stay, Dr. Polak left Persia in 1860 and was succeeded in his capacity as court physician to Nāšer-al-Din Shah by the French doctor Joseph Desiré Tholozan. Except for a brief period of three years (1889-92), when another French physician [Jean-Baptiste Feuvrier](#) replaced him, Dr. Tholozan stayed in Persia and in that post for almost forty years until his death in Tehran in 1897. He was a distinguished physician who did valuable research on various endemic diseases of Persia and published his findings in international medical journals. He also published treatises on those subjects (Najmābādi, 1954, pp. 1143-53; Elgood, p. 511, 513). Dr. Tholozan was also instrumental in initiating reforms in public health services, renewing smallpox inoculation (which had fallen into abeyance) and establishing quarantines during epidemics. He obtained the shah's permission for the establishment of a public health council (*Majles-e Šeḥḥat*) in 1867, consisting of both traditional physicians and Western educated ones at the Dār al-fonun to deal with these problems (*Ruznāma-ye mellati*, No. 21, pp. 108-10; Elgood, pp. 517-18, 564; Browne, 1893, p. 107). Parallel to teaching at the Dār al-fonun he also furthered the careers of various graduates of that institution by being instrumental in sending them to France for further study so that they could later practice Western medicine at home. Among the students whom Tholozan



assisted to go to France were: Loqmān-al-Mamālek, Mirzā Zayn-al-‘Abedin, as well as Mo‘in-al-‘Aṭebbā’, surgeon and doctor to Moẓaffar-al-Din Shah (Bāmdād, *Rejāl*, III, pp. 282-83), A‘lam-al-Dawla, Dr Ƙalil Ƙān Ṭaqafi, physician to Moẓaffar-al-Din Shah (Bāmdād, I, pp. 487-89). He was a major influence in the propagation of Western medicine, and as a result the medicine practiced in Persia for many years was French oriented.

Another group of Western doctors who came to Persia were missionaries. As early as 1834 the Boston-based Congregational American Board of Commissioners for Foreign Missions (ABC) established a mission to the Assyrian (Nestorian Christians) at Urmia in Azarbaijan. This mission was instituted by Mr. Justin Perkins who was joined by a physician, Dr. Asahel Grant. Both were accompanied by their wives. Dr. Grant was a pioneer in the field of medical missionary work in Persia. In 1840 he was joined by Dr. Austin Wright. From the beginning these doctors were welcomed by all classes of people who flocked to consult them. Dr. Grant became famous for performing cataract operations. Dr. Wright stayed in Persia for 25 years. Another famous physician of that mission was Dr. Joseph P. Cochran, born in Persia and the son of Rev. J. G. Cochran of the same mission, who came back to Persia in 1878. Dr. Cochran established the first American hospital in Persia in Urmia in 1882. Aside from his work at the hospital he also had a number of medical students. He continued practicing in Persia until his death in 1905.

In 1871 the New York based Presbyterian Board of Foreign Missions (BFM) took over the responsibility of missionary work in Persia from ABC. This organization established missions in all the major towns of northern Persia and continued its medical activities as well. The first of these new missions was founded in Tehran in 1872, but it was not until a decade later, in 1881, that the medical work of the mission was started by Dr. W. W. Torrence who was decorated by the Shah. In 1888 the Shah asked him to accompany the first Persian envoy, Ḥāj Ḥosayn Qoli Ƙān Ṣadr-al-Salṭana, to Washington (Bāmdād, *Rejāl*, I, pp. 459-60, Gleeson, pp. 192-93). Dr. Holmes, who arrived in Persia in 1874 and was working in Urmia, was transferred to Tabriz in 1881. Whilst in Tabriz he served as physician to Moẓaffar-al-Din Mirzā, the Crown Prince (Gleeson, p. 194).

The British established missions later than the Americans. The Church Missionary Society of London (CMS) established a mission in Isfahan. It was started in Julfa by Reverend Robert Bruce. In 1880 Dr. E. E. Hoernle arrived as medical assistant to Rev. Bruce. Gradually other missionaries including



doctors and nurses joined them and went on to establish stations in Kerman, Yazd, and Shiraz (Wright, 1977, p. 118).

Initially Western medicine did not encounter much opposition. This may have been due to the fact that at the beginning there were few physicians who practiced it. Indeed it would appear from Morier's account of the mission of Sir Harford Jones to Persia, that at first it was the elite who were hostile to Western medicine and that the common people welcomed it. He describes cases related to the upper classes of the society when lives could have been saved, particularly those of children, had the doctor attached to the mission been consulted and his prescription followed. On the other hand, he relates that when the embassy doctors introduced cowpox vaccination it was so welcomed by the poor women of Tehran that the embassy doctors vaccinated three hundred children in a single month. Had the government not stopped the procedure through prejudice, many more children could have been vaccinated (Morier, 1818, pp. 191-92). Similarly, and contrary to commonly held assumptions, the prejudice of the elite against Western medical theory was much greater than that of the common people. 'Abd-Allāh Mostawfi, from an elite background, relates how his family did not believe in vaccinating children young, as a result of which both he and his brother caught smallpox (Mostawfi, I, p. 156).

All travelers' accounts bear witness to the fact that, whether they were physicians or not, throughout the country people flocked to them in the hope that they might prove to be foreign doctors (*hakim-e farangi*). The belief that all foreigners were doctors was so widespread that travelers resorted to distributing harmless pills as medicine (Treacher Collins, p. 68). Gaetano Osculati, the Italian naturalist and zoologist, reported that he and his companion Felice De Vecchi were taken for physicians, and even when they refused to attend to patients in their own houses, sick people would go to Osculati's house (Osculati, 1844, pp. 246-61). Dr. Wright of the ABC related in his diaries that in every village he traveled through, he was surrounded by the villagers seeking medical attention (Newman, p. 79). Treacher Collins wrote that while he was traversing the country en route to Isfahan, and when people discovered that he was "a real *hakim*, sent for by the Prince, they descended on our tent in crowds" (Treacher Collins, p. 68). Edward Browne relates how, on numerous occasions, ordinary people gathered to see him, believing in the extraordinary power of Western medicine (Browne, 1893, pp. 377-79, 216, 255, 292, 375, 384-85, 389-90, 395, 423). Dr. Wills also reported that in his



dispensary in Hamadān two hundred people came to see him every day and that during his time there he saw thousands of patients (Wills, p. 65). The same phenomena occurred at all the British consulates with medical consultants, in the stations of the Telegraph Departments and amongst the evangelical missions, where thousands of people annually were treated at the dispensaries specially established for treating the poor (Wright, 1977, p. 126). The common people had access to few doctors and made the best of those available whether traditional or Western.

The elite, however, who had access to both types of doctors, consulted them all. A dual system of medicine was practiced and there was rivalry between the two. It was also about social status. There were many instances of members of the elite having as their regular doctor either a foreigner or a Western educated Iranian physician, as Western medicine was in vogue (Mahdavi, pp. 183-84).

The opponents of Western medicine were the traditional physicians and the ulema. The traditional physicians saw their profession threatened and at the same time probably genuinely did not believe in the new system. The leader of the opponents of Western medicine was Mirzā Āqā Bābā Moḥammad Taqī Širāzi, Malek al-Aṭebbā', doctor to Faṭḥ-'Ali Shah, Moḥammad Shah and Nāṣer-al-Din Shah. He wrote a treatise entitled *Resāla-ye Johariyya* in which he attacked Western medicine and the use of Western drugs (Mir, pp. 50-53; Elgood, p. 511; Najmābādi, 1975, p. 204; Ebrahimnejad, 2004, pp. 38-40). He was followed by Mirzā Abu'l-Qāsem, Solṭān-al-Ḥokamā who taught traditional medicine at the Dār al-fonun and was physician to the Shah (Bāmdād, *Rejāl*, I, pp. 57-58, Hašmiān, pp. 323-24). The third practitioner of traditional medicine and an opponent of Western medicine, also a physician to the Shah, was Mirzā Kāzem Rašti Malek al-Aṭebbā' Filsuf-al-Dawla (Bāmdād, *Rejāl*, III, pp. 138-40). Finally the conflict between the two schools was resolved in 1860 by the decision to teach the medical students at the Dār al-fonun traditional medicine as well as Western medicine. The reason for this, as stated in the announcement, was to overcome public prejudice against Western medicine by proclaiming that the graduates of the school were adept at both. However, the resolution of the conflict was definitely a major incentive for the decision. The first teacher of traditional medicine at the Dar al-fonun was Mirzā Aḥmad Ṭabib-e Kāšāni, a famous doctor of his time (Maḥbubi, *Mo'assasāt*, I, pp. 283-84).

Most of the ulema were personally opposed to Western medicine for different



reasons, and primarily because they saw it as a threat to their own position. Until the establishment of the Dār al-fonun the ulema held the monopoly on education, including medicine. This was instrumental in their general opposition to the establishment of the Dār al-fonun and the teaching of Western sciences, including Western medicine (Ringer, 2001, pp. 99-105).

For the ulema, the establishment and spread of Western medicine not only introduced a system unfamiliar to them, but it also meant that its popular acceptance might bring to an end their own intellectual supremacy and henceforth they might lose their control and power over the people. This is well illustrated in an essay written by Moḥammad Karim Kān Kermāni in 1863 criticizing Western sciences in general, maintaining the validity of Islamic sciences and objecting to the loss of prestige of the ulema caused by the introduction of Western sciences (Arjomand, 1997, pp. 18-19). Furthermore, the fact that Western medicine was patronized by the secular elite magnified the loss of prestige by the ulema. However, although there was criticism of Western medicine by some of the ulema and hostile sermons were delivered against it, the religious establishment finally if not always explicitly recognized the new medicine (Ebrahimnejad, 2002, pp. 91-112).

The introduction and establishment of Western medicine brought about many changes in medical practice in Persia. The main change was the institutionalization of the practice of medicine. This came about both as the result of the establishment of the Dār al-fonun and the institution of regular examination for those who wished to become doctors and those qualifying abroad who had gone through the same process there. As a result not everyone could call himself a doctor. It was due to the efforts of two patriotic and reformed minded statesmen, ‘Abbās Mirzā and Amir Kabir, that the public began to become receptive to the practice of Western medicine. The advent of foreign doctors not only affected the practice of medicine in Persia but their presence with their families was instrumental in importing many Western customs and ideas into the country which in turn affected many traditional institutions.



BIBLIOGRAPHY

Fereydun Ādamiyyat, *Amir Kabir va Irān*, Tehran, 1965.

Iradj Amini, *Napoleon and Persia: Franco-Persian Relations Under the First Empire*, Richmond, U.K., 1999.

Ḥosayn Maḥbubi Ardakāni, *Tāriḵ-e mo'assasāt-e tamaddoni-e jadid dar Irān* I, Tehran, 1975, II, Tehran, 1978, III, ed. Karim Eṣfahāniān and Jahāngir Qājāriya, Tehran, 1989.

Idem, s.v. E'temād-al-Salṭana, II.

Kāmrān Arjomand, "The Emergence of Scientific Modernity in Iran: Controversies Surrounding Modern Astrology and Modern Astronomy in the Mid-Nineteenth Century," *Iranian Studies* 30, 1997, pp. 5-24.

Edward G. Browne, *A Year Amongst the Persians*, London, 1893; repr., London, 1984.

Idem, *The Press and Poetry of Modern Persia*, Cambridge, 1914.

S. Barjesteh, F. Barjesteh, and M. Eskandari Qājār, eds., *Qājār Era Health, Hygiene and Beauty*, Rotterdam, 2003.

Hormoz Ebrahimnejad, "La médecine d'observation en Iran du XIX siècle," *Gesnerus* 55, 1998, pp. 33-57.

Idem, "Introduction de la médecine européenne en Iran au xix siècle," *Science Social et Santé* 16, 1998, pp. 69-96.

Idem, "Theory and Practice in Nineteenth-Century Persian Medicine: Intellectual and Institutional Reforms," *History of Science* 38, 2000, pp. 171-78.

Idem, "Religion and Medicine In Iran: From Relationship to Dissociation," *History of Science* 40, 2002, pp. 91-112.

Idem, *Medicine, Public Health and the Qājār State*, Leiden, 2004.

Cyril Elgood, *A Medical History of Persia and the Eastern Caliphate*, Cambridge,



1951, repr. with additions, Amsterdam, 1979.

Karim Esfahāniān, ed., *Majmu'a-ye asnād va madārek-e Farroḡ Kān Amin-al-Dawla*, 5 vols. Tehran, 1968-79.

Moḥammad-Ḥasan Khan Ṣani'-al-Dawla E'temād-al-Salṭana, *al-Ma'āter wa'l-ātār*, ed. Iraj Afšār as *Čehel sāl tāriḡ-e Irān dar dawra-ye pādšāhi-e Nāšer-al-Din Ṣāh: al-Ma'āter wa'l-ātār*, 3 vols., I, Text of *al-Ma'āter wa'l-ātār*, II, Commentary by Ḥosayn Maḥbubi-Ardakāni, III. Indices by Iraj Afšār, Tehran, 1984-89.

Idem, *Tāriḡ-e montazam-e nāšeri*, ed. M.-E. Rezwāni, 3 vols., Tehran, 1984-88.

Jean-Baptiste Feuvrier. *Trois ans à la cour de Perse*, Paris, 1906.

Willem Floor, *Public Health in Qajar Iran*, Washington, D.C., 2004.

Alfred de Gardane, *Mission du Général Gardane en Perse sous le Premier Empire*, Paris, 1856.

Kristin L. Gleeson, "Healers Abroad: Presbyterian Women Physicians in the Foreign Mission Field." Ph.D. diss., Temple University, May 1996.

A. Hāšemiān, *Taḥavolāt-e farhangi-ye Irān dar dowra-ye Qājāriya va madresa-ye Dār al-fonun*, Tehran, 1936.

Shireen Mahdavi, "Shahs, Doctors, Diplomats and Missionaries in 19th Century Iran," *British Journal of Middle East Studies* 32/2, 2005, pp. 169-91.

Moḥammad Taqi Mir, *Pezeškān-e nāmi-e Fārs*, Shiraz, 1984.

Mirza Mehdi Khan Momtaḥen-al-Dawla, *Ḳāterāt-e Momtaḥen-al-Dawla*, ed. Ḥosaynqoli Ḳānšaqāqi, Tehran, 1983.

James Morier, *A Journey Through Persia, Armenia and Asia Minor, to Constantinople, Between the Years 1808 and 1809*, London, 1812.

Idem, *A Second Journey Through Persia, Armenia and Asia Minor, to Constantinople, Between the Years 1810-1816*, London, 1818.

Ḳānbābā Mošār, *Fehrest-e ketābhā-ye čāpi-e fārsi*, 3 vols., Tehran, 1973.

Maḥmud Najmābādi, "Un Serviteur de la Médecine Moderne Iranienne: le Dr. Desire Tholozan," in *Proceedings of the 14th International Congress of the*



History of Medicine, Rome, 1954 pp. 1143-53.

Idem, *Ta'lim pezeški-ye sad sāleh-e Farānsaviān dar Irān*, Tehran, 1956.

Idem, "Les relations médical entre la Grand Bretagne et l'Iran et les médecine contemporaine de l'Iran," *Proceedings of the XXIII International Congress of the History of Medicine*, I, London, 1972, pp. 704-708.

Idem, "Ṭebb-e Dār al-fonun va kotob-e darsi-ye ān," in Qodrat-Allāh Rošani Za'farānlu ed., *Amir Kabir va Dār al-fonun*, Tehran, 1975, pp. 202-37.

Homā Nāṭeq, *Irān dar rāhyābi farhangi: 1834-1848*, London, 1988.

Andrew Newman, "An American Medical Missionary Amongst the Nestorians of Persia: The Diaries of Austin Hazen Wright, 1831-63" History Honors Thesis, Dartmouth College, 1974.

John Malcolm, *The History of Persia from the Most Early Period to the Present Times*, 2 vols., London, 1815.

'Abd-Allāh Mostawfi, *Šarḥ-e zendagāni-e man yā tāriq-e ejtemā'i va edāri-e dawra-ye Qājāriya*, 2nd. ed., 3 vols., Tehran, 1964.

Nicolson to Rosebery, Commercial and General Reports, Tehran, May 10 1886 Appendix. F. O. 60/482 Public Records Office, London.

Gaetano Osculati, *Note di un viaggio in Persia e nelle Indie Orientali negli anni 1841-42*, Monza, 1844.

Justin Perkins, *Residence of Eight Years in Persia*, New York, 1843.

Jakob Eduard Polak, *Persien, das Land und Seine Bewohner*, 2 vols, Leipzig, 1865. tr., Kaykāvus Jāhāndāri as *Safarnāma-ye Polak: Irān va Irāniān*, Tehran, 1981.

Monica M Ringer, *Education, Religion and the Discourse of Cultural Reform in Qājār Iran*, Costa Mesa, 2001.

Ruznāma-ye mellati (Ruznāma-ye saniyyeh-e Irān) No. 21, Tehran, 1868, Reprint ed., Seyyed Farid Qāsemi, Tehran, 1995.

Qodrat-Allāh Rawšani Za'farnlu ed., *Amir Kabir va Dār al-fonun*, Tehran, 1975



J. L. Schlimmer, *Terminologie médico-pharmaceutique et anthropologique française-persane*, Tehran, 1874; repr. Tehran, 1970.

Garaging Sarukāniān, “Ṭebb va behdāšt,” *Irānšahr* 2, 1964, pp. 1399-444 Robert E. Speer “*The Ḥakim Sāhib*,” *The Foreign Doctor*, 1911.

The Presbyterian Church of the U. S. A., *A Century of Mission Work in Iran 1834-1934*, Beirut, 1936.

E. Treacher Collins, *In the Kingdom of the Shah*, London, 1896.

C. J. Wills, *Persia As It Is*, London, 1886.

Idem, *In the Land of the Lion and Sun*, London, 1891.

Denis Wright, *The English Amongst the Persians*, London, 1977.

Idem, *The Persians Amongst the English*, London, 1985.

Eḥsān Yāršater, ed., *The History of Medicine in Iran*, (Collection of articles from the Encyclopaedia Iranica), New York, 2004.