

The Medical Sciences in the Ayyūbid Era

Salman Younas

The prevalent approach to the study of the ancient sciences, such as medicine and mathematics, in the Islamic world has been described as one that analyses history from a vertical perspective. In this approach, history is viewed as a sequence of events embodying either decline or progress, with the latter being associated with innovation and the former with its absence. Scholars who have engaged in this type of historical analysis place great emphasis on discovering evidence for innovation in order to identify periods in which progress occurred and then the beginnings of what they view as decline. Consequently, these scholars focus on studying works of major scholars and the relationship of these works to ancient Greek or Persian contributions. In the field of medicine, for example, significant attention has been paid, firstly, to the rapid appropriation of Hellenistic, Persian, and Indian medicine during the 2nd/8th-3rd/9th centuries through the processes of 'infiltration' and translation, and, secondly, to the systematization, modification, and elaboration of these ancient traditions to produce a coherent medical system. The latter has been primarily analysed from the perspective of continuity with an earlier tradition. Inevitably, an age of assimilating foreign traditions is followed by a golden age of innovative thought only to be preceded by decline and stagnation.

In contrast to the above, there has been a recent push to analyse the ancient sciences from a horizontal perspective where history is seen as contingent and local. This approach surveys, identifies, and analyses scientific activity within a particular period and locality with a focus on contextual aspects that the vertical approach deems superfluous: power relations, patronage, knowledge platforms, reputation of the sciences and its disciplines, diverse practitioners of scientific knowledge, scholarly relationships, status and visibility, and so forth. In this horizontal approach, science is studied within, and as a part of, culture. Indeed, outside an Islamic context, the history of science has been far more focused on this aspect of the study of the sciences rather than on the study of the content of major scientific texts and figures.¹

The current article will combine these approaches. It will focus on the medical sciences during the Ayyūbid period and examine the physicians who operated under this dynasty, their backgrounds, education, written works, and relationship with the ruling elite. The local history of the Ayyūbid physician will continue to be situated within a vertical approach where the question of decline will be briefly touched upon and more attention paid to how the medical tradition of the past informed and influenced the discourse and practice of a group of local physicians working in a specific period and under a specific dynasty. In undertaking this, this article will utilize an array of secondary sources to identify the broad themes that scholars have discussed as it relates to medicine in the Islamic world. It will then use relevant primary sources to provide details. Such histories can provide the reader

* This is a working paper for the CSIA Project at the Oxford Department of International Development. It is still undergoing substantial modifications and review.

¹ For these different approaches see Sonja Brentjes with Robert G. Morrison, "The Sciences in Islamic Societies", *The New Cambridge History of Islam*, ed. Robert Irwin (Cambridge: Cambridge University Press, 2010), 564.

with a better understanding of how a science was studied, understood, and practiced in different parts of the Islamic world. While a comparison between different dynasties is beyond the scope of the current article, the current study of medicine in the Ayyūbid era can hopefully be utilized by future researchers to compare the developments in this period with those of others – whether as a diachronic or synchronic investigation.

The Ayyubid Dynasty

Şalāḥ al-Dīn ibn Ayyūb was the founder of the Ayyūbid dynasty. He first served as ruler of Egypt in the name of Nūr al-Dīn Zengī (d. 569/1174) and was responsible for bringing about the official end of the Fāṭimid caliphate in 567/1171 when he declared Egyptian allegiance to the ʿAbbāsīd caliph. During his years as ruler of Egypt, Şalāḥ al-Dīn extended his power and reach dispatching several military expeditions to surrounding regions. His elder brother Turānshāh (d. 576/1180) was sent to Yemen in 569/1173 where he uprooted the Sulaymānid, Zuraʿīd, and Mahdid dynasties. Taqī al-Dīn ʿUmar (d. 587/1191), the nephew of Şalāḥ al-Dīn, was sent to Cyrenaica. Damascus itself was conquered by Şalāḥ al-Dīn in 570/1174 following the death of Nūr al-Dīn, while Ḥamā was seized from Nūr al-Dīn's successors in 574/1178–9. By 579/1183, the entirety of Syria and parts of Upper Mesopotamia came under Ayyūbid control. The unification of these territories by Şalāḥ al-Dīn and the subsequent alliances he entered into with others allowed him to turn his attention towards the western Frankish and Latin states. Jerusalem and several other major coastal towns were conquered by Şalāḥ al-Dīn following the defeat of the Frankish army on the plain of Ḥaṭṭīn in 583/1187, a monumental event that had an enormous impact in both the Muslim and Western world.

Şalāḥ al-Dīn died in 589/1193 and the Ayyūbids subsequently formed what was essentially a family confederation to govern the lands that he had conquered. His eldest son, al-Afḍal (d. 622/1225), inherited Damascus; al-ʿAzīz (d. 595/1200), his second son, was given rule over Egypt; and a third son, al-Zāhir, was granted Aleppo. Ḥama was ruled by al-Manşūr ibn Taqī al-Dīn ʿUmar (d. 617/1221). Yemen was entrusted to Tuḡtegin ibn Ayyūb (d. 593/1197), while Upper Mesopotamia was placed under the rule of al-ʿĀdil (d. 615/1218), both of them younger brothers of Şalāḥ al-Dīn and the latter now the most senior member of the family. Amidst a power struggle between the sons of Şalāḥ al-Dīn, al-ʿĀdil would proclaim himself sultan of Egypt after several years acting as a mediator between rival camps. Though al-ʿĀdil was initially forced to ward off challenges posed to his rule by al-Afḍal and al-Zāhir, his authority was eventually acknowledged by all members of the Ayyūbid family. The Ayyūbid lands were subsequently distributed among his sons with the most important being al-Kāmil (d. 635/1238) who was entrusted with Egypt. He would subsequently become sultan upon the death of his father.²

² For sources on the Ayyūbids see Ibn Shaddād, *al-Nawādir al-sultāniyya wa-l-maḥāsin al-Yūsufiyya*, ed. Jamāl al-Dīn al-Shayyāl (Cairo: Bulāq, 1964); Abū Shāma, *Kitāb al-rawḍatayn fī akhbār al-dawlatayn* (Cairo: Bulāq, 1287–92/1871–5); Ibn Wāṣil, *Mufarrij al-kurūb fī akhbār Banī Ayyūb*, ed. Jamāl al-Shayyāl, Ḥasanayn Rabīʿ, and Saʿīd ʿĀshūr (Cairo 1953–77); R. Stephen Humphreys, *From Saladin to the Mongols. The Ayyubids of Damascus, 1193–1260* (New York: SUNY Press, 1977); Anne-Marie Edde, “Ayyūbids”, *El3*.

The Ayyūbid dynasty inherited the traditions of the peoples and dynasties that preceded them. By the time they ascended to power, the ancient sciences were well-established in the major centres of the Islamicate world. The Fāṭimids, who at their peak ruled over an area of land extending from Morocco to Syria, represented a period of cultural and intellectual efflorescence where scientific development flourished to an extent quite comparable to earlier periods. Their emergence coincided with the conclusion of the translation movement and the beginning of a period described as the golden age of scientific thought wherein local dynasties patronized scholars of the ancient sciences. The reigns of al-ʿĀdil and al-Kāmil were the peace periods of the Ayyūbid dynasty. While frictions between various members of the family existed, the Ayyūbids continued to contribute to the cultivation of the sciences and occupy an important place in the history of their development and transformation.

The Physicians of the Ayyūbid Period

The main source for the history of the medical sciences during the Ayyūbid period is the biographical dictionary of Ibn Abī Uṣaybiʿa (d. 668/1270) entitled *ʿUyūn al-anbāʾ fī ṭabaqāt al-aṭibbāʾ*.³ Having lived towards the end of the Ayyūbid period, Ibn Abī Uṣaybiʿa provides a contemporary account of prominent physicians active during the 7th/13th century, and, through information obtained from his father, teachers, and earlier sources, for those in preceding centuries as well. These biographies usually include anecdotes and life details, educational and professional activities, poetry, wise sayings and maxims, and lists of texts attributed to a physician. Sonja Brentjes has noted that the two focal points in the biographical narratives presented by Ibn Abī Uṣaybiʿa are “patronage and excellence” where “a physician’s exemplary status is defined by knowledge, experience, success and behaviour” and “the patron’s exemplary status... by position in the ruling family and in regard to the ruling family, the number of clients, the clients’ status, and the patron’s behaviour.”⁴ For this reason, the work of Ibn Abī Uṣaybiʿa disproportionately focuses on individuals who occupied a prominent position in the field of medicine and were attached to the ruling elite.

The final sections of the *ʿUyūn* are particularly relevant to the current article. Here, Ibn Abī Uṣaybiʿa arranges his material geographically and focuses on physicians from the Levant, Egypt, Upper Mesopotamia, the Maghrib, and India. The former three regions, as noted earlier, were ruled by various Ayyūbid princes after the fall of the Fāṭimids and Zengids. Yemen is conspicuously absent though some information regarding the medical sciences in the region can be gleaned from other sources. In Ayyūbid Egypt and Syria, Ibn Abī Uṣaybiʿa has seventy-five entries in total with twenty-four appearing in the chapter on Egypt and fifty-five in Syria

³ For more on Ibn Abī Uṣaybiʿa and his work see J. Vernet, “Ibn Abī Uṣaybiʿa”, EI2; Franak Hilloowala, “Ibn Abī Uṣaybiʿa”, EI3; Manfred Ullmann, *Die Medizin im Islam* (Leiden: Brill 1970), 231–33; Franak Hilloowala, “An analysis of Ibn Abī Uṣaybiʿah’s *ʿUyūn al-anbāʾ fī ṭabaqāt al-aṭibbāʾ*” (PhD. diss., University of Arizona, 2000).

⁴ Sonja Brentjes, “Ayyubid princes and their scholarly clients from the ancient sciences”, *Court Cultures in the Muslim World: Seventh to Nineteenth Centuries*, ed. Albrecht Fuess and Jan-Peter Hartung (London: Routledge, 2011), 327.

(there are a few repetitions). The vast majority of these scholars were physicians, though, as shall be taken later, there were also several who engaged other ancient sciences, such as philosophy and mathematics.

Many of the major physicians who were active during early Ayyūbid period had served earlier dynasties and rulers. Indeed, the early Ayyūbids continued many of the policies and trends of their predecessors in this regard. Abū al-Manṣūr ‘Abd Allāh ibn Abī al-Ḥasan (d. 592/1195-96), known as al-Shaykh al-Ṣadīd, was among the most renowned physicians in Egypt. Educated under his father and Abū Naṣr Adnān ibn al-‘Ayn Zarbī (d. 548/1153),⁵ he found himself in the service of the Fāṭimid caliphs after his father, who himself worked as a physician at the royal court, introduced him to al-Āmir (r. 495-525/1101-30) as a young and skilled cupper. Having impressed the caliph with his cupping procedure, al-Shaykh al-Ṣadīd found favour with al-Āmir and was regularly called back to the royal palace for his services as a physician. Ibn Abī Uṣaybi‘a mentions that he would go onto serve four more Fāṭimid caliphs: Al-Ḥāfiz (r. 525-44/1130-49); Al-Zāfir (r. 544-9/1149-54); Al-Fā’iz (r. 549-55/1154-60); and Al-‘Āḍid (r. 555-67/1160-71). His reputation during this period brought him immense wealth, prestige, and the position as ‘head of the physicians’ (*ra’īs al-ṭibb*). Following the conquest of Egypt by Ṣalāḥ al-Dīn, al-Shaykh al-Ṣadīd continued to be consulted by the former until he passed away.⁶

The historical sources reveal that Ṣalāḥ al-Dīn surrounded himself with several physicians associated with the Fāṭimid and Zengid courts. Ibn al-Jumay‘ al-Isrā’īlī (d. 594/1198) was a Jewish physician who served the last Fāṭimid caliph and then Ṣalāḥ al-Dīn. Abū al-Bayān ibn al-Mudawwir (d. 580/1184) served the Fāṭimid caliphs during the latter part of their reign. He then attached himself to Ṣalāḥ al-Dīn who “followed his advice, submitted to his treatment, and placed his trust in him.”⁷ Muḥadhdhab ibn al-Naqqāsh (d. 574/1173) was the private physician of Nūr al-Dīn Zengī until the latter’s death. He went on to serve Ṣalāḥ al-Dīn when he became ruler of Damascus.⁸ Abu Sulaymān Dāwūd ibn Abī al-Munā (d. *after* 583/1187) lived during the days of the Fāṭimid caliphs and moved to Jerusalem at the request of King Amalric of Jerusalem. After the conquest of the city, Abu Sulaymān earned the respect and favour of Ṣalāḥ al-Dīn. His children continued in the service of the Ayyūbid rulers as court-physicians.⁹

In total, Ibn Abī Uṣaybi‘a enumerates no less than twenty-nine physicians who were in the service of Ṣalāḥ al-Dīn with Muslims, Jews, and Christians being almost equally represented. Other members of the Ayyūbid family appear less frequently as patrons of physicians in the work of Ibn Abī Uṣaybi‘a though they continued to surround themselves by them: al-‘Ādil with eleven physician-clients; al-Kāmil with ten; al-Mu‘azzam ‘Īsā with eight; and al-Ashraf with seven. However, as Sonja Brentjes has noted, this distribution, as well as the total number of physicians mentioned by Ibn Abī Uṣaybi‘a in his work, can hardly be seen

⁵ For more on Ibn al-‘Aynzarbī see S Hamarneh, “The Arab Physician Ibn al-‘Ayn Zarbī (d. 548/1153), his therapeutics,” *International Symposium for the History of Arabic Science*, volume 1 (Aleppo: Institute for the History of Arabic Science, 1976), 641-80.

⁶ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 572-73.

⁷ *Ibid.*, 575.

⁸ *Ibid.*, 535-36

⁹ *Ibid.*, 587-90.

as fully representing medical practice over ninety years of Ayyūbid rule but reflect the narrative strategies of Ibn Abī Uṣaybi‘a with its focus on patronage and excellence.¹⁰ Here, Ṣalāḥ al-Dīn as the founder of the dynasty assumes the most prominent role along with the more learned and elite physician class who had ascended to the highest ranks of their profession.

The Learned Medical Profession vs. The Lay Medical Profession

Information about lower ranking physicians who did not share the renown of those affiliated with royal courts is scarce and only appears in the odd anecdote related by Ibn Abī Uṣaybi‘a. For example, in one entry, Ibn Abī Uṣaybi‘a reports how Ibn Abī al-Ḥawāfir rebuked a Jewish physician whom he observed treating someone on the road for an eye ailment.¹¹ This individual is unnamed and was likely one of the many physicians active within general Ayyūbid society. Similarly, Ibn Abī Uṣaybi‘a mentions several leading physicians who taught large groups of students, or who held public lectures, but only identifies a few of these students explicitly in his biographical text. The historical literature also makes reference to inspectors and overseers who would accompany physicians making rounds in hospital wards but once again without any detailed information regarding their names or specific function.¹²

Here, Franz Rosenthal forwards a sensible observation: the existence of a learned and elite class of physicians indicates that there must have been a broad supporting base offering medical services to a large portion of society.¹³ Indeed, this idea is corroborated by the number of low-quality copies of famous books, or amateur compilations from other texts, by individuals who presumed they could master medicine by self-learning through the use of these manuals. In fact, works of popular medicine (*ṭibb al-‘amma*) written in simple colloquial language were authored precisely for the purpose of self-learning and self-treatment.¹⁴ The Genizah Documents shed additional light on the qualitative aspect of medicine both as a science and profession as it was practised around the time of the Ayyūbid dynasty. In one fragment, a physician writes to his wife describing how difficult it is for him to secure a living among fiercely competing physicians in the place where he is residing. Another fragment reveals how some physicians attend to the common people and others the upper class, i.e. plebeian and patrician - a description of the type of two-tier medicine that Rosenthal describes.¹⁵ Finally, medical care in the medieval Islamic world was pluralistic and fluid. Magic, astronomy, and divination were utilized for the diagnosis of illnesses, to determine the

¹⁰ Brentjes, “Ayyubid princes and their scholarly clients from the ancient sciences”, 328-29.

¹¹ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 585.

¹² *Ibid.*, 628.

¹³ Franz Rosenthal, “The Physician in Medieval Muslim Society”, *Science and Medicine in Islam: A Collection of Essays* (London: Variorum, 1991), 477.

¹⁴ Haskell D. Isaacs, “Arabic Medical Literature”, *Religion, Learning and Science in the ‘Abbasid Period*, ed. M. J. Young, J. D. Latham, & R. B. Serjeant (Cambridge: Cambridge University Press, 1990), 348.

¹⁵ For a general survey see G. A. Khan, “The Arabic fragments in the Cambridge Genizah collections”, *Manuscripts of the Middle East: A journal devoted to the study of handwritten materials of the Middle East*, ed. J.J. Witkam (Leiden: Brill, 1986), 54-60.

ideal times for treatment, and so forth. The learned medical tradition, in other words, was only one facet of the actual medical practice of society.¹⁶

Learned Medicine as a Family Profession

The biographical entries reveal features of the learned medical profession during the Ayyūbid period that were quite typical from the early classical period onwards. In many cases, these professions ran in the family and were passed down from father to son.¹⁷ During the late Umayyad and Abbāsīd periods, the Bukhtīshū‘ family represented what can be rightly called an entire dynasty of translators and physicians spanning almost six generations: from Jurjīs ibn Jibrā‘īl Bukhtīshū‘ (d. after 151/768) in the Umayyad era to Jibrā‘īl ibn ‘Ubayd Allāh (d. 396/1006) who served the Buyids. Other examples include the Ṭayfūrī family, the Māsawayh family, the Qurra family, the family of Ḥunayn ibn Ishāq (d. 260/873), the Banū Zuhr, and several others. This trend was also common in the Ayyūbid period.¹⁸ The example of al-Shaykh al-Sadīd has already been noted earlier. Another example was Abū al-Faraj who followed his father, Muhadhhab al-Dīn ibn al-Nāqīd (d. 584/1188), in a career as a general practitioner and ophthalmologist.¹⁹ Ibrahīm ibn Mūsā was the son of the famous Maimonides. Both were physicians in the service of the Ayyūbid rulers.²⁰ As‘ad al-Dīn ibn Abī al-Ḥasan (d. 635/1237) was the personal physician of al-Malik al-Mas‘ūd (d. 626/1228), the Ayyūbid ruler of Yemen. His father practiced medicine before him in Egypt.²¹ ‘Afīf ibn Sukra (d. 584/1188) was a Jewish physician “whose sons and relatives also practiced medicine and lived in Aleppo.”²² Nafīs al-Dīn ibn al-Zubayr (d. 636/1236 or 642/1244) excelled in surgery and became famous as an oculist as did all of his children.²³ Similarly, Raḍī al-Dīn al-Raḥbī (d. 631/1133) was the son of a physician and his own sons, Jamāl al-Dīn (d. 658/1259) and Sharaf al-Dīn (d. 667/1268), followed in the footsteps of their father.²⁴

Two families during the Ayyūbid period provide a vivid example of the sustained presence of the medical profession within a specific household. Abu Sulaymān Dāwūd ibn Abī al-Munā, whose name was mentioned earlier, was the son of a physician. He himself excelled in the science of medicine and practiced in Egypt and Jerusalem during the reign of the last Fāṭimid caliphs and after Ṣalāḥ al-Dīn conquered these lands. Four of his sons – Abū Sa‘īd (d. 613/1216), Abū Shākīr (d. 613/1216), Abū Naṣr (d. n.d.), and Abu al-Faḍl (d. 644/1265) - would go on to become physicians and enjoyed great prestige with the Ayyūbid rulers. The one son of

¹⁶ For more on this see Charles Burnett, *Magic and Divination in the Middle Ages: Texts and Techniques in the Islamic and Christian Worlds* (London: Variorum, 1997); Emilie Savage-Smith, *Magic and Divination in Early Islam* (London: Ashgate, 2004).

¹⁷ Gary Leiser, “Medical Education in Islamic Lands from the Seventh to the Fourteenth Century”, *Journal of the History of Medicine and Allied Sciences* 38 (1983), 49.

¹⁸ Isaacs, “Arabic Medical Literature”, 346.

¹⁹ Ibn Abī Uṣaybi‘a, *‘Uyūn al-anbā’*, 580.

²⁰ *Ibid.*, 582-83.

²¹ *Ibid.*, 600.

²² *Ibid.*, 638.

²³ *Ibid.*, 654.

²⁴ *Ibid.*, 672, 675, 682.

Abū Sulaymān who did not become a physician, al-Fāris al-Khayr (d. n.d.), was ordered by al-Malik al-Kāmil to send his own son, Rashīd al-Dīn (d. 660/1262) to Damascus to study medicine under his paternal uncle Abū Saʿīd. He would serve as personal physician to al-Malik al-Kāmil, al-Malik al-Ṣāliḥ Ayyūb (d. 647/1249), and al-Malik al-Muʿazzam Tūrānshāh (d. 648/1250). This family would continue to count physicians amongst its members and came to be known as the Banū Shākīr.²⁵

Another example of a prominent, multi-generational family of physicians were the descendants of Jamāl al-Dīn ʿUthmān ibn Hibat Allāh al-Qaysī ibn Abī al-Hawafir (d. 619/1222). Jamāl al-Dīn was born in Damascus and moved to Cairo where he served al-Malik al-ʿAzīz and later al-Malik al-Kāmil. He was described as an expert in both the theory and practice of medicine. During the reign of al-Malik al-ʿAzīz, Jamāl al-Dīn was appointed head physician in Cairo.²⁶ His son, Fatḥ al-Dīn Aḥmad ibn ʿUthmān (d. *before* 647/1249 or 657/1260) was also a physician and oculist in Egypt and served al-Malik al-Kāmil and after him al-Malik al-Ṣāliḥ.²⁷ The nephew (or son) of Fatḥ al-Dīn was named Shihāb al-Dīn. Ibn Abī Uṣaybiʿa lauds him as the preeminent scholar and practitioner of medicine in his time who surpassed all of his predecessor and contemporaries.²⁸ He served as physician to al-Malik al-Zāhir (d. 676/1277) – the Mamlūk Bahrī ruler - who ruled Egypt and Syria. According to al-Nuwayrī, he became the chief physician in Egypt after Fatḥ al-Dīn Aḥmad ibn ʿUthmān. The Ibn Abī al-Hawafir family of physicians continued for several generations: Jamāl al-Dīn ʿUthmān ibn Aḥmad ibn ʿUthmān ibn Hibat Allāh al-Qaysī (d. 701/1302);²⁹ Sharaf al-Dīn ʿAbd Allāh ibn Shihāb al-Dīn Aḥmad ibn Muḥyī al-Dīn Rashīd ibn ʿUthmān ibn Hibat Allāh al-Qaysī (d. 711/1312);³⁰

²⁵ Ibid., 623.

²⁶ Ibid., 584-85.

²⁷ Ibid., 585. There seems to be some confusion regarding his date of death. Ibn Abī Uṣaybiʿa states he died during the reign of al-Malik al-Ṣāliḥ, while al-Nuwayrī states that a Fatḥ al-Dīn Aḥmad ibn Jamāl al-Dīn Abu ʿAmr ʿUthmān passed away in 657. Clearly, the latter is referring to the same person as the one under discussion here. This is also reported by al-Dhahabī under the entry on Fatḥ al-Dīn Aḥmad ibn ʿUthmān ibn Hibat Allāh though in another entry for Fatḥ al-Dīn ibn al-Jamāl ʿUthmān ibn Abī al-Ḥawāfir he relates basically what Ibn Abī Uṣaybiʿa does. See Shihāb al-Dīn al-Nuwayrī, *Nihāyat al-arab fi funūn al-adab* (Cairo: Dar al-Kutub wa-l-Wathāʾiq al-Qawmiyya, 1423 A.H.), 29:470; Muḥammad ibn Aḥmad al-Dhahabī, *Tārīkh al-Islām wa-wafayāt al-mashāhīr al-ʿālam*, ed. Bashshār ʿAwwād Maʿrūf (Beirut: Dār al-Gharb al-Islāmī, 2003), 14:339.

²⁸ Ibn Abī Uṣaybiʿa (and al-Dhahabī follows him) states he was the son of Fatḥ al-Dīn Aḥmad ibn Jamāl al-Dīn, while al-Nuwayrī says he was the son of Muḥyī al-Dīn Rashīd ibn Jamāl al-Dīn, i.e. another son of Jamāl al-Dīn ʿUthmān ibn Hibat Allāh. See Ibn Abī Uṣaybiʿa, *Uyūn al-anbāʾ*, 585; al-Nuwayrī, *Nihāyat al-arab*, 29:470; al-Dhahabī, *Tārīkh al-Islām*, 14:339.

²⁹ Ṣalāḥ al-Dīn al-Ṣafādī, *Aʿyān al-ʿaṣr wa-aʿwān al-naṣr*, ed. ʿAlī Abū Zayd (Beirut: Dār al-Fikr, 1998), 3:214.

³⁰ al-Nuwayrī, *Nihāyat al-arab*, 32:194; Aḥmad ibn ʿAlī ibn Ḥajar al-ʿAsqalānī, *al-Durar al-kāmina* (Hyderabad: Majlis Dāʾirat al-Maʿārif al-ʿUthmāniyya, 1972), 3:14.

Muḥammad ibn ‘Uthmān ibn Aḥmad ibn ‘Uthmān ibn Hibat Allāh al-Qaysī (d. 728/1328),³¹ and Bahā’ al-Dīn ‘Alī ibn ‘Uthmān ibn Aḥmad ibn ‘Uthmān ibn Hibat Allāh al-Qaysī (d. 734/1334).³²

There are examples of individuals who came from humble backgrounds, or those whose forefathers were scholars in entirely different fields. For example, Abū al-Najm ibn Abī al-Ghālīb (d. 599/1202) was the son of a farmer from the village of Shafā in Ḥawrān. He ended up studying medicine at the home of a physician in Damascus and eventually joined the court of Ṣalāḥ al-Dīn.³³ Given the focus of Ibn Abī Uṣaybi‘a on elite physicians, however, scholars like Abū al-Najm seem to be rare exceptions in his work. The majority of physicians from the learned physician class were from established scholarly households. These households, however, were not always physician-households. Fakhr al-Dīn Riḍwān ibn Muḥammad (d. n.d.) was the son of a watchmaker who built a water clock for Nur al-Dīn Zengī. Fakhr al-Dīn himself reconstructed the clock in 600/1203 after it fell into disrepair describing the process in his work *Kitāb ‘Amal al-sa‘āt wa-l-‘amal bihā* (“On the Construction of Clocks and their Use”).³⁴

Areas of Specialization in the Ayyūbid Period

By the time the Ayyūbids came to power, the major sub-fields in the science of medicine had largely taken shape. The broadest division within this science was perhaps medicine as theory (*ṭibb naẓarī*) and medicine as practice (*ṭibb ‘amali*). Ibn Abī Uṣaybi‘a regularly describes physicians in terms of their expertise in these two areas. Muwaffaq al-Dīn Ya‘qūb al-Sāmarri (d. 681/1282), for example, was a physician whose “medical knowledge was perfect in both theory and practice”,³⁵ while Maimonides was “unique in his time in medical theory and practice.”³⁶ Some scholars were adept in medical theory but had little practical experience. Ibn al-Haytham (d. 430/1039) was described as an “expert in the theory, rules, and general aspects of medicine, but he did not practice it and had no experience in therapy.”³⁷ Ibn Abī Uṣaybi‘a mentions the practical training he himself received in medicine at the hands of ‘Imrān al-Isrā’īlī (d. 637/1240) and Muhadhhab al-Dīn ‘Abd al-Raḥmān ibn ‘Alī al-Dakhwār (d. 658/1260):

‘Imrān regularly visited the Great Hospital to treat patients. At that time, Muhadhhab al-Dīn ‘Abd al-Raḥmān ibn ‘Alī, who was my teacher, also worked at that hospital, and the cooperation of the two yielded favourable results and proved beneficial to the patients. At that time, I was training under their guidance in the practical application of medicine. So, I was able to witness ‘Imrān’s amazing feats of therapy and diagnosis. One day, for example, a hemiplegic was brought to the hospital, and the physicians insisted that he should be given certain decoctions and other medicines which they were unwilling to prescribe. When ‘Imrān saw him, he put him

³¹ al-Ṣafadī, *Aḡyān al-‘aṣr*, 4:571; Ibn Ḥajar al-‘Asqalānī, *al-Durar al-kāmina*, 5:289.

³² al-Dhahabī, *Tārīkh al-Islām*, 15:138; Ibn Ḥajar al-‘Asqalānī, *al-Durar al-kāmina*, 4:96.

³³ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*. 661.

³⁴ *Ibid.*, 634.

³⁵ *Ibid.*, 767.

³⁶ *Ibid.*, 582.

³⁷ *Ibid.*, 550.

on a diet for that day and later ordered him to be bled. After the bloodletting, he treated him until his health was completely restored. I also observed many times how he prescribed certain drinks and foods to patients in accordance with their desires but still in keeping with the requirements of treatment, and they proved beneficial. This is a very important aspect of therapy. I also saw him treat many people suffering from chronic illnesses who had become weary of life and of whom the physicians lost hope in curing. They recovered through strange drugs he prescribed and wonderful cures he knew.³⁸

The division between theory and practice extended back to the pre-Islamic period with Hippocrates, Rufus of Ephesus, Paul of Aegina, and Galen whose works became the foundation for medicine in the Islamic world.³⁹ Ḥunayn ibn Ishāq, the preeminent translator of Greek and Syriac medical works into Arabic, followed earlier Hellenistic formulations that divided medicine into theoretical and practical fields,⁴⁰ and by the end of the 3rd/9th century, Hellenistic approaches to medicine formed the basis of all learned Arabic medical discourses. Treatises and texts authored by physicians in the medieval Islamic world systematized and synthesized Hellenistic medical literature to produce a coherent and orderly medical system, which was essentially Galenic in nature but modified and elaborated. Many medical texts, such as the *Qānūn* of Ibn Sīnā and *Kāmil al-sinā'a* of al-Majūsī, sought to be comprehensive discussing general principles of medicine, such as humours, fevers, symptoms, and anatomy, and then more practical elements, such as therapy, pharmacology, surgery, and the prescription of drugs to prevent or cure diseases. Theoretical medicine, therefore, meant learning about the principles of medicine, such as fevers being of three categories, and temperaments of nine types, while practical medicine consisted of methods of practice and incorporated therapeutics, the administration of drugs, surgical procedures, and so forth. As Hormoz Ebrahimnejad observes:

Along with the external configuration of medical texts, different medical paradigms developed by the Greek, and particularly Alexandrian, schools of medicine, including clinical medicine, anatomy, and surgery, and the relationship between magic/religion and medicine, were introduced. The Alexandrian School was home to an intellectual movement much influenced by Aristotle and the dogmatics who laid emphasis on the importance of anatomy. Unlike Rufus, who focused more on clinical and bedside medicine, Galen reconciled philosophy, clinical medicine, and anatomy, producing a

³⁸ *Ibid.*, 567.

³⁹ “The most influential of the Greek medical writings to be translated into Arabic included the compendium on *materia medica* by Dioscorides (d. ca. 90), various treatises by Rufus of Ephesus (fl. ca. 100), the Greek encyclopaedia by Paul of Aegina, working in Alexandria in the seventh century, and especially the voluminous medical writings by Galen (d. ca. 216).” See E. Savage-Smith, “Medicine in Medieval Islam”, *The Cambridge History of Science* (2013), 144.

⁴⁰ S. Hamarneh, “The Physicians and the Health Professions in Medieval Islam,” *Bulletin of New York Academy of Medicine* 47 (1971), 1090.

synthesis of various tendencies, such as dogmatism and empiricism, as well as various approaches found among the Hippocratics.⁴¹

However, Emilie Savage-Smith has noted that there was considerable discrepancy between the therapeutics practiced and those advocated in theoretical tracts. The histories that describe the application of drugs reveal that it did not “appear to be as determined by the humoral theory of disease as might be expected from the formal, highly theoretical medical literature.”⁴² Similarly, many surgical procedures described in texts of theory are absent in collections of clinical cases and were never put into practice. Indeed, it has been suggested that descriptions of surgical procedures in medical texts were often akin to thought experiments outlining procedures a physician may possibly undertake in a particular situation, or they simply represented a literary tradition handed down from earlier authorities unrelated to actual surgical practice.⁴³

Medicine in both its theoretical and practical components addressed various subjects: pathology, aetiology, pharmacology, anatomy and surgery, immunology, applied botany, ophthalmology, dietetics, paediatrics, obstetrics, climate, rules for preservation or restoration of health, and more. The major medical compendia address these various subjects,⁴⁴ as do smaller treatises and tracts. However, though the theory and practice of medicine engaged these various subjects, they were not generally viewed as specialized fields of knowledge. While Muḥammad ibn Zakariya al-Rāzī had a monograph entitled “The Diseases of Children”, this did not translate into the rise of a class of physicians called paediatricians or a defined medical subfield known as paediatrics. Indeed, Ibn Abī Uṣaybi‘a tends to express

⁴¹ Hormoz Ebrahimnejad, “Medicine in Islam and Islamic Medicine,” *The Oxford Handbook of the History of Medicine*, ed. Mark Jackson (Oxford: Oxford University Press, 2011), 175.

⁴² Savage-Smith, “Medicine in Medieval Islam”, 162.

⁴³ E. Savage-Smith, “The Practice of Surgery in Islamic Lands: Myth and Reality,” *Social History of Medicine* 13 (2002), 307-21. One example given by Savage-Smith is that of abdominal surgery, which was said to have been performed for an umbilical hernia and treated by ligaturing it with a thread or silk cord, after which the tumour was to be opened above the ligature. If the intestines were found to be in it, the ligature was to be released and the intestines pushed inward. After tightening the ligature, the tumor was then to be cut off, the vessels ligatured, and the incision stitched closed. However, as Savage-Smith notes, the Arabic accounts are simply repetitions of those in Greek treatises. No Islamic physician mentions seeing it done or modifies the procedure in any way, and the very nature of the description is so imprecise that its applicability is dubious.

⁴⁴ For example, Ibn Sīnā divided his *Qānūn* into five parts: the first book begins with the general principles of humoral theory and how it fits into the four elements, four ages of man, and the four temperaments. It then moves on to anatomy, physiology, hygiene, aetiology, and symptoms and treatments of disease. The second book details all known information on the physical properties of simple drugs and lists over seven hundred different types of medicinals. The third book catalogues diseases from head to toe outlining the aetiology, symptoms, diagnosis, prognosis, and treatment of each one of these diseases. The fourth book conditions that affect the entire body, including fevers, infections, ulcers, abscesses, pustules, and fractures. The final book discusses drugs and how they are composed.

specialization during the Ayyūbid period in limited terms in his biographical dictionary: physicians were either general practitioners, ophthalmologists and oculists (*kaḥḥāl*), and/or surgeons (*jarrāḥ*). Sometimes, a physician was recognized as having engaged in all these fields but excelling in one. Ibn al-Nāqid, for example, was a general practitioner “but ophthalmology was his main concern.”⁴⁵ Nafīs al-Dīn ibn al-Zubayr was a skilled general practitioner and also “mastered ophthalmology and surgery, becoming known especially as an eye-doctor.”⁴⁶ Meanwhile, al-Shaykh al-Sadīd was both experienced in therapeutics and a skilled surgeon.⁴⁷ Ibn Abī Uṣaybi‘a reports that his own father was entrusted to Abū al-Ḥajjāj Yūsuf (d. n.d.) “in order to study ophthalmology”, while his uncle attached himself to Jamāl al-Dīn ibn Abī al-Ḥawāfir and “studied general medicine under him.”⁴⁸

Pharmacology and pharmacognosy were also singled out by Ibn Abī Uṣaybi‘a as specialist areas.⁴⁹ Ibn Abī al-Bayān, for example, was said to be an expert on simple drugs (*adwiyya mufrada*) and the preparation of compound drugs (*adwiyya murakkaba*).⁵⁰ Ibn al-Baytār (d. 646/1248) was one of the greatest authorities in the Ayyūbid period in the sciences of botany and pharmacology. Ibn Abī Uṣaybi‘a, who met and studied under him, stated that he was “the greatest authority of his age on plants, their identification, medicinal use, places of occurrence, and taxonomic names.”⁵¹ During the reign of al-Malik al-Kāmil, Ibn al-Baytār was appointed chief of all herbalists and horticulturalists in Egypt.⁵² Such appointments themselves reveal the demarcations that existed between various fields in the learned medical tradition during the period in question. Burhān al-Dīn Sulaymān (d. n.d.) was oculist to Ṣalāḥ al-Dīn, a position he occupied until his death,⁵³ while al-Dakhwār worked as an oculist at the Nūrī hospital.⁵⁴ Describing the appointment of Badr al-Dīn al-Muẓaffar (d. 650/1253) to the post of chief physician in the year 637/1239, Ibn Abī Uṣaybi‘a states that he became the head of “all the physicians, oculists, and surgeons.”⁵⁵ These were presumably the major occupations and specializations in the learned medical world at the time even though the actual subjects

⁴⁵ Ibn Abī Uṣaybi‘a, *Uyūn al-anbāʾ*, 580.

⁴⁶ *Ibid.*, 586.

⁴⁷ *Ibid.*, 572.

⁴⁸ *Ibid.*, 597.

⁴⁹ Abū Rayḥān al-Birūnī (d. c. 440/1048) classified pharmacology as a subfield of medicine and defined it as “the knowledge of simple drugs according to their selected sorts, kinds and forms, as well as the knowledge of the mixture of medicaments composed in conformity with their written prescriptions or on the basis of what the trustworthy and righteous researcher strives for. The highest rank, however, is held by the knowledge of the effects of the simple medicaments and their specific qualities.”

⁵⁰ Ibn Abī Uṣaybi‘a, *Uyūn al-anbāʾ*, 584; Ullmann, *Die Medizin im Islam*, 309; Leigh Chipman, *The world of pharmacy and pharmacists in Mamlūk Cairo* (Leiden: Brill, 2010), 38–45.

⁵¹ Ibn Abī Uṣaybi‘a, *Uyūn al-anbāʾ*, 601.

⁵² *Ibid.*, 601.

⁵³ *Ibid.*, 660.

⁵⁴ Ibn Abī Uṣaybi‘a, *Uyūn al-anbāʾ*, 728; Ullmann, *Die Medizin im Islam*, 172

⁵⁵ Ibn Abī Uṣaybi‘a, *Uyūn al-anbāʾ*, 751–52.

analysed in medical discourse were much broader. As shall be seen below, these fields of specialization are also revealed in the medical literature produced by physicians.⁵⁶

Physicians & The Philosophical Sciences

Though medicine had its specializations, the Arab physician was a generalist more than a specialist and sought to elaborate an entire scheme of medical knowledge. This is vividly illustrated in many important early works of medicine that served as textbooks for the student of medicine. In the 3rd/9th century *Firdaws al-ḥikma*, ‘Alī ibn Rabbān al-Ṭabarī not only dealt with medicine proper, but also philosophy, meteorology, zoology, psychology, and astrology. Indeed, many physicians were famous for engaging with fields of knowledge that extended beyond the confines of medicine.

The philosophical sciences were of particular interest to learned physicians during the Ayyūbid period. Of the seventy physicians mentioned by Ibn Abī Uṣaybi‘a, twenty-six are mentioned as having studied *ḥikma* or *falsafa*. The actual number is likely higher for there are individuals whose engagement with the philosophical sciences is not mentioned in their own entries by Ibn Abī Uṣaybi‘a but in passing in the biographies of others as is the case with Ibn Abī al-Bayyān (d. 638/1240). Elsewhere, there are physicians not identified as students of the philosophical sciences but who authored philosophical works. Normally, the disciplines that a scholar engaged with are enumerated by Ibn Abī Uṣaybi‘a one after the other. As‘ad al-Dīn ibn Abī al-Ḥasan (d. 635/1237) is introduced as someone who “mastered the art of medicine and acquainted himself with the philosophical sciences.”⁵⁷ His patron was al-Malik al-Mas‘ūd, the ruler of Yemen and the son of al-Malik al-Kāmil. Shams al-Dīn ibn al-Labūdī (d. 621/1224) was described as “peerless in the philosophical sciences and medicine” having studied the latter under Muḥammad al-Ilāqī (d. 536/1141) and the former with Najīb al-Dīn al-Hamadānī (d. n.d.).⁵⁸ He not only taught medicine and the sciences but was also in the service of al-Malik al-Zāhir in Aleppo and following his death moved to Damascus to work and teach at the Nūrī hospital.⁵⁹ Sadīd al-Dīn Abū Maṣṣūr (d. n.d.), the son of the famous Ya‘qūb ibn Siqlāb (d. 626/1229), was another “outstanding physician... [who] also studied a great number of philosophical sciences” and served al-Malik al-Nāṣir.⁶⁰ His father, Ibn Siqlāb, was even more famous in this regard. Ibn al-Qiftī mentions that he studied philosophy and medicine in Jerusalem with a person known as “the Antioch philosopher”.⁶¹ Al-Malik al-Mu‘azzam relied on his judgement not only in medical matters but also in other subjects.

It was not unusual for a physician to be interested in the philosophical sciences. Indeed, it has been suggested that the word used for physician in Arabic, namely *al-ḥakīm*,

⁵⁶ In an earlier work, Ibn Buṭlān lists the main specialized medical practitioners: pharmacists, oculists, phlebotomists, and surgeons. See Abū al-Ḥasan ibn Buṭlān, *Kitāb Da‘wa al-aṭibbā’* (Alexandria: al-Maktabat al-Khadiwiyya, 1901). That the big hospitals had a pharmacist on the staff is also inferred from al-Bīrūnī.

⁵⁷ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 600.

⁵⁸ *Ibid.*, 662.

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*, 699.

⁶¹ *Ibid.*, 697.

revealed the connection between medicine and philosophy, or *ḥikma*. The influence of earlier scholars whose discourse often involved an entanglement between medicine, philosophy, and theology certainly impacted later generations of physicians. Ibn Sīnā was perhaps the most prominent of these earlier scholars whose *Qanūn* represented the preeminent medical text in the Islamic world and sought to adapt Galenic theories to accommodate the Aristotelian philosophical system.⁶² Later, ‘Alī ibn Riḍwān (d. 453/1061), arguably one of the most influential and prolific physicians from late Fāṭimid Egypt, defended the Galenic model of physician/philosopher, which was based on three main points: the need for the student to learn the philosophical disciplines, the role of logic in the demonstration of medical truths, and the ethical implications of the profession.⁶³ This entanglement of medicine with philosophy had its roots in the formative period of Islam and is unsurprising given the Hellenistic roots of Arab medical practice and theory, which was embraced by many: al-Rāzī, al-Birūnī, Ibn al-Haytham, and others. Indeed, Galen himself was said have intensely engaged with Aristotle and the Peripatetic tradition and authored a text on the ideal fusion between Hippocratic physician and philosopher.⁶⁴

The position of Ibn Sīnā as a leading physician and scholar of the medical sciences made it only natural that his philosophical discourse would impact those studying the medical sciences. Philosophy in the Ayyūbid era was in fact mainly the study of Ibn Sīnā’s body of texts and the commentaries available on it. The work that attracted most attention in this realm was his *Kitāb al-ishārāt wa-l-tanbihāt*. Ibn Abī Uṣaybi‘a studied this text with Rafī‘ al-Dīn al-Jīlī (d. after 637/1240) who authored a commentary on it in dedication of the Ayyūbid ruler, Taqī al-Dīn ‘Umar. Other works of Ibn Sīnā studied by physicians in Ayyūbid cities were his medical and philosophical encyclopaedias, such as *Kitāb al-Shifā’*. Shams al-Dīn Khusrawshāhī (d. 652/1254) wrote an epitome of this work,⁶⁵ while Muwaffaq al-Dīn Ya‘qūb imitated it in when composing his own introduction to the sciences of logic, natural philosophy, and metaphysics.⁶⁶ One of the most renowned and influential physicians during this period, al-Dakhwār, is said to have reaffirmed the dominance in medicine of Ibn Sīnā and al-Rāzī considering the writings of the former in particular as the most important source for the study of philosophy and theoretical medicine.⁶⁷

⁶² Raphaela Veit, “The Small Canon of Medicine (*al-Qānūn al-ṣaḡīr fī l-ṭibb*) Ascribed to Avicenna”, *Philosophy and Medicine in the Formative Period of Islam*, ed. Peter Adamson and Peter Pormann (London: Warburg Institute, 2018), 269–81.

⁶³ Hans Hinrich Biesterfeldt, “‘Alī ibn Riḍwān on the Philosophical Distinction of Medicine”, *Philosophy and Medicine in the Formative Period of Islam*, ed. Peter Adamson and Peter Pormann (London: Warburg Institute, 2018), 281–95.

⁶⁴ Ullmann, *Die Medizin im Islam*, 38; P. van der Eijk, “Aristotle! What a thing for you to say! Galen’s Engagement with Aristotle and Aristotelians”, *Galen and the World of Knowledge*, ed. C. Gill, T. Whitmarsh, J. Wilkins (Cambridge: Cambridge University Press, 2009), 261–81; P. De Lacy, “Galen’s Platonism”, *American Journal of Philology* 93 (1972), 27–39.

⁶⁵ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 649.

⁶⁶ *Ibid.*, 767.

⁶⁷ Ahmed Ragab, *The medieval Islamic hospital: Medicine, religion, and charity* (Cambridge: Cambridge University Press, 2015), 172–75.

Physicians active during this period also studied the works of Aristotle. The uncle of Ibn Abī Uṣaybi‘a, Rashīd al-Dīn ‘Alī ibn Khalīfa (d. 616/1219), for example, studied several Aristotelian texts under al-Muwaffaq al-Dīn ‘Abd al-Laṭīf ibn Yūsuf al-Baghdādī (d. 629/1231).⁶⁸ ‘Abd al-Laṭīf al-Baghdādī was himself the author of several philosophical texts including an important commentary on Aristotle’s *Metaphysics*, titled *Kitāb fi ‘ilm mā ba‘d al-ṭabī‘a*, and *Kitāb al-Naṣīhatayn* which contained a defence of philosophy. While urging physicians and philosophers in his time to abandon the medicine and philosophy of Ibn Sīnā, ‘Abd al-Laṭīf al-Baghdādī instead recommended turning to the Greek original, namely Hippocrates and Galen for medicine, and Plato and Aristotle for philosophy.⁶⁹ Both Rashīd al-Dīn and ‘Abd al-Laṭīf al-Baghdādī were closely associated with the ruling elite and benefitted from their patronage.

Ibn Abī Uṣaybi‘a clearly felt no hesitation in disclosing the interest a physician may have had in the philosophical sciences and neither did he feel any need to explain or justify his inclusion of these sciences in his biographical dictionary. Indeed, in addition to what has already been mentioned, there were several scholars he includes in his work who possessed only basic familiarity with medicine and were primarily known for their contribution to the rational and philosophical sciences: Shihāb al-Dīn al-Suhrawardī (d. 587/1191), Ṣayf al-Dīn al-Āmidī (d. 631/1233), Afḍal al-Dīn al-Khūnjī (d. 640/1243), and Rafī‘ al-Dīn al-Jīlī, among others. Importantly, the biographical entries presented by Ibn Abī Uṣaybi‘a puts into question the claim that philosophy and related disciplines were in disrepute during the Ayyūbid period. The execution of al-Suhrawardī has often been cited as indicative of this. While there are certainly hints of an undercurrent of change in the cultural role of the ancient sciences during the late Ayyūbid period, Ayyūbid princes overwhelmingly supported physicians who were trained in the philosophical sciences. There is little suggestion that they viewed this in a negative light, nor that they reprimanded their clients for teaching and engaging in philosophical disciplines. Sonja Brentjes has noted that “all viziers who came from the medical profession except for one either taught or wrote about philosophical subjects [and] that several head judges appointed by Ayyubid princes were deeply involved with the philosophical sciences.”⁷⁰

⁶⁸ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 737.

⁶⁹ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 683–96; al-Muwaffaq al-Dīn ‘Abd al-Laṭīf ibn Yūsuf al-Baghdādī, *The physician as a rebellious intellectual. The Book of the two pieces of advice, or, Kitāb al-naṣīhatayn by ‘Abd al-Laṭīf ibn Yūsuf al-Baghdādī (1162–1231). Introduction, edition and translation of the medical section*, trans. N. Peter Joosse (Frankfurt am Main and Bern, 2014); N. Peter Joosse and Peter E. Pormann, “Decline and decadence in Iraq and Syria after the age of Avicenna? ‘Abd al-Laṭīf al-Baghdādī (1162–1231) between myth and history”, *Bulletin of the History of Medicine* 84 (2010), 1–29.

⁷⁰ Sonja Brentjes, “Ayyubid princes and their scholarly clients from the ancient sciences”, 345. According to Dimitri Gutas, the Ayyūbid period fell within golden age of Arabic philosophy. Furthermore, Fancy suggests that specialized biographical dictionaries, such as Ibn Abī Uṣaybi‘a’s *Uyūn* and al-Qifṭī’s *Tārīkh al-ḥukamā’*, demonstrate “that the pursuit of medicine and related rational sciences was deemed prestigious and honourable.” See Dimitri Gutas, “The Heritage of Avicenna: The Golden Age of Arabic Philosophy, 1000–ca. 1350,” in *Avicenna and His Heritage: Acts of the International Colloquium* (1999), ed. Jules Janssens and Daniel De Smet (Leuven: Leuven

Physicians & The Religious Sciences

A. I. Sabra has proposed an alternative thesis to the idea that the philosophical sciences were marginalized due to indifference or rejection by understanding this phenomenon as part of an assimilative process that saw various ancient sciences being completely naturalized in Muslim soil.⁷¹ Sabra identifies multiple stages in this process of assimilation with the first comprising the transmission of the ancient sciences, the second a thoroughgoing commitment to a comprehensive Hellenistic worldview, and the third in which the philosophical sciences began to be practiced within the context of theology (*kalām*) and mingled with traditional learning.⁷² While the question of decline is not the focus of this article, the noticeable change in medicine was the replacement of the philosopher-physician by the jurist-physician.⁷³

This shift is discernible in the Ayyūbid period. The physician-philosopher continued to be very prominent as the previous section demonstrated, but physicians who were Muslims and took a strong interest in traditional learning were increasingly conspicuous. Shams al-Dīn Khusrawshāhī, who was earlier mentioned as authoring and epitome on *al-Shifā* of Ibn Sīnā, was not only a physician and philosopher but “possessed perfect knowledge of the religious sciences (*‘ulūm shar‘iyya*)” and summarized *al-Muhadhdhab* of Abū Ishāq al-Shirāzī (d. 476/1083) in Shāfi‘ī law.⁷⁴ Afdal al-Dīn al-Khūnjī also acquired extensive knowledge in various religious disciplines and was appointed Chief Judge in Cairo towards the end of his life. Ibn Abī Uṣaybi‘a studied sections of *al-Qānūn* under his supervision.⁷⁵ Badr al-Dīn al-Muẓaffar spent considerable time at the *Madrasa Qilījiyya* where he “devoted himself to the study of Islamic law... and memorized the Qur’an and came to know its commentaries and variant readings so well that he was recognized as an authority in the field.”⁷⁶ ‘Imād al-Dīn al-Dunaysirī (d. 686/1287-88) not only distinguished himself from all of his contemporaries in the field of medicine, he was acknowledged as the “leader of his generation and standard of his

University Press, 2002), pp. 81–97; Nahyan Fancy, *Science and Religion in Mamluk Egypt: Ibn al-Nafīs, Pulmonary Transit and Bodily Resurrection* (New York: Routledge, 2013), 19.

⁷¹ A. I. Sabra, “The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam: A Preliminary Statement”, *History of Science* 25 (1987), 236.

⁷² *Ibid.*, 237. Sonja Brentjes came to a similar conclusion. Rather than marginalizing the sciences, including medicine, new alliances were formed between the ancient rational sciences and the religious sciences. These new alliances are reflected in changing terminology, such as *al-‘ulūm al-‘aqliyya* (the rational sciences) replacing the term *al-‘ulūm al-awā’il* (the ancient sciences) and the rational sciences extending to include *uṣūl ad-dīn* (the principles of the faith). See Fancy, *Science and Religion*, 19.

⁷³ Leigh Chipman also speaks of “the decline of the philosopher physician and the rise of the *faqīh* physician from the middle of the seventh/thirteenth century.” See Leigh Chipman, “*Minhāj al-dukkān* by Abu L-Munā al-Kuhin al-Attar: Aspects of pharmacy and pharmacists in Mamluk Cairo” (PhD Diss., Hebrew University).

⁷⁴ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 650.

⁷⁵ *Ibid.*, 586-87.

⁷⁶ *Ibid.*, 751.

time in Islamic law according to the Shāfi‘ī school.”⁷⁷ There were other scholars who engaged with prophetic traditions (*ḥadīth*), such Najm al-Dīn ibn al-Minfāḥ (d. 652/1254) and Ibn Raqīqa.⁷⁸ ‘Abd al-Laṭīf al-Baghdādī in his autobiography stated about his initial studies that “most of my time was devoted to lessons in *ḥadīth*... [and] I had received authorizations (*ijāza*) from scholars in Baghdad, Khurasan, Syria, and Egypt.”⁷⁹

The work of Ibn Abī Uṣaybi‘a omits some influential physicians recognized for their expertise in the religious sciences. Ibn al-Nafīs is the most glaring example. A contemporary of Ibn Abī Uṣaybi‘a, Ibn al-Nafīs studied medicine under al-Dakhwār and was given the important post of Chief Physician of Egypt after moving to the city from Damascus. He presumably worked at the Nāṣirī hospital and trained a number of pupils. He also excelled in grammar, logic, and the religious sciences. In the last of these, Ibn al-Nafīs authored several texts: a commentary on *al-Tanbīh* of al-Shirāzī in Shāfi‘ī law; *al-Mukhtaṣar fī ‘ilm uṣūl al-ḥadīth* on the science of prophetic traditions; and *al-Risāla al-Kāmiliyya fī’l-sīra al-nabawiyya*, a biography of the Prophet. In his *Kitāb al-Wurayqāt*, a summary of Aristotle’s *Organon* and *Rhetoric*, the section summarizing the *Analytica Priora* includes a discussion of the legal proofs in Islamic law and the value of analogy (*qiyās*) from the point of view of logic. In addition to this, Ibn al-Nafīs was highly engaged with the philosophical systems that preceded him writing responses to Ibn Sīnā, Ibn Ṭufayl, and others on the themes of revelation and reason.⁸⁰

One is left to wonder how many additional names were omitted by Ibn Abī Uṣaybi‘a. Though it is not possible here to analyse whether a similar shift occurred in other regions, it is evident that there was an increase in the number of Egyptian and Syrian physicians who were engaged with the Islamic sciences. This may be viewed as part of a broader cultural shift that some have termed the Islamization of medical practice, which arose in part due to policies that prevented non-Muslims from learning the medical discipline. The most prominent examples cited to justify this in the Ayyūbid period are that of Raḍī al-Dīn al-Raḥbī and al-Dakhwār. The biographical sources mention that the former was unwilling to teach non-Muslims, and Ibn Abī Uṣaybi‘a stated that the majority of physicians in the Levant in his time were students of al-Raḥbī or students of those who read with him. The reluctance of al-Raḥbī to teach non-Muslims had, therefore, likely spread throughout the Levant and Egypt with his numerous students, which occasioned a decline in the number of non-Muslim physicians. Similarly, al-Dakhwār was the founder of the first *madrasa* dedicated to teaching medicine and its doors were only open to Muslim students. Indeed, the attitudes displayed by al-Raḥbī and al-Dakhwār were partly in response to increased frustration by some in the religious class to non-Muslim dominance of the medical field.⁸¹

⁷⁷ Ibid., 761.

⁷⁸ Ibid., 703.

⁷⁹ Ibid., 683.

⁸⁰ Nahyan Fancy, “The Virtuous Son of the Rational: A Traditionalist’s Response to the *Falāsifa*,” *Avicenna and His Legacy: A Golden Age of Science and Philosophy*, ed. Y. Tzvi Langermann (Turnhout, Belgium: Brepols Publishers, 2009), 219–247. Also see “Ibn al-Nafīs”, *EI2*.

⁸¹ Paulina Lewicka, “Medicine for Muslims? Islamic Theologians, Non-Muslim Physicians and the Medical Culture of the Mamluk Near East”, *Bonn Annemarie Schimmel Kolleg - History and Society during the Mamluk Era* (2012), 83-106.

Though some of these arguments have been put into question,⁸² this process of Islamization and the broader cultural shift it reflected cannot be completely disregarded. Developments during the Ayyūbid period should be viewed as reflecting the initial stages of the fruition of this process. Certainly, religious scholars from the time of al-Jāhiz complained about the presence and dominance of non-Muslims in fields like medicine. Max Meyerhof compiled a statistic of the doctors mentioned by Ibn Abī Uṣaybi‘a and found that of the ones he lists for the 3rd/9th century one-hundred and thirty are Christian, three are Jewish, three are pagan, and only five are Muslim physicians.⁸³ In one report by al-Jāhiz (d. 255/869), the stereotypical perception that non-Muslims excelled in medicine in contrast to their Muslim counterparts is vividly illustrated. Abū al-Ḥārith Asad ibn Jānī is asked about his slow business despite being a knowledgeable physician in a time wherein disease is rampant. He explains, “For one thing, people know me to be a Muslim, and they have held the belief, even before I began to practise medicine, no indeed even before I was born, that Muslims are not successful in medicine.”⁸⁴

The success of Jewish and Christian physicians occasioned intense polemics, anxiety, and jealousy from certain quarters. By the time Ibn Abī Uṣaybi‘a was writing, the number of physicians identified as Muslims had radically altered. While the 3rd/9th century was overwhelmingly dominated by non-Muslim physicians, Meyerhof counts four Christian, seven Jewish, and a great majority of Muslim physicians for the 5th/11th century.⁸⁵ Even if we allow for a large margin of error, the figure appears to confirm a significant change in the religious makeup of the physician class. This at least held true for Ayyūbid Syria, as well, where of the fifty-six physicians mentioned by Ibn Abī Uṣaybi‘a, seventeen are identified as non-Muslims and the rest as Muslims. In this increasingly intense religious environment where the ancient sciences were naturalized and assimilated within Islamic society, exclusionary and sectarian tendencies began to surface even more as seen in the figures of al-Raḥbī and to a lesser degree

⁸² For example, the historical sources do not lend much support to the high-rank and influence ascribed to al-Raḥbī by Ibn Abī Uṣaybi‘a. While the latter asserts that most physicians in the Levant were students of the former, the actual identities of most of these students remains unknown. Ibn Abī Uṣaybi‘a only names three: ‘Imrān al-Isrā‘īlī (d. 637/1240), Kamāl al-Dīn al-Ḥimṣī (d. n.d.), and Fakhr al-Dīn ibn al-Sā‘atī (d. 627/1230). The former was one of only two non-Muslim students whom al-Raḥbī conceded to teaching, while the latter two were actually more closely associated with other teachers in medicine. Furthermore, there are aspects of the career of al-Raḥbī that do not reflect a physician of great stature with a significant following. His salary, for example, during the later stages of his career was significantly lower than what a prominent physician received at the beginning of his career. In all likelihood, al-Raḥbī was a known yet modest physician who could hardly have significantly influenced the Islamization of the medical sciences as has been claimed. See Ragab, *The medieval Islamic hospital*, 165-67.

⁸³ Max Meyerhof, “Notes sur quelques médecins juifs égyptiens qui se sont illustrés à l’époque arabe,” *ISIS* 2 (1929), 116-17.

⁸⁴ Peter E. Pormann, “The Physician and the Other: Images of the Charlatan in Medieval Islam,” *Bulletin of the History of Medicine* 79 (2) (2005), 214.

⁸⁵ Meyerhof, “Notes sur quelques médecins juifs égyptiens qui se sont illustrés à l’époque arabe”, 116.

al-Dakhwār. The first *sultanic* expression of this would come after the Ayyūbid era with the inauguration of the Maṣṣūrī hospital by al-Manṣūr Qalawūn (d. 689/1290). Its endowment deed dated 12th Ṣafar 685/9th April 1286 forbade the employment or even the treatment of non-Muslims at the hospital and stipulated that the hospital was to function as a centre of medical learning, education, and treatment for Muslims alone.⁸⁶ These stipulations also applied to the position of *raʿīs al-ṭibb*, or head physician, which occasioned the conversion of high-ranking non-Muslims physicians to Islam before assuming the role.⁸⁷ Diplomas establishing official teaching posts at the hospital spell out explicitly the intent to Islamize the medical profession: “so that tomorrow there will be twice as many Muslim specialists as there are today.”⁸⁸ The endowment of the hospital interestingly was framed as a *jihad* that would see the religion of God “victorious over other faiths.”⁸⁹

While such moves may not have initially had a serious effect on the ground in general or in relation to medicine, its effect on attitudes and the general social and scientific climate were significant in the long run.⁹⁰ For much of their own history, the Ayyūbids continued to have close associations with physicians of various religious denominations. Ṣalāḥ al-Dīn, for example, had an almost equal amount of Muslim, Christian, and Jewish physicians in his court between Syria and Egypt.⁹¹ Ayyūbid Egypt did not follow Syria in its ratio of Muslim to non-Muslim physicians. Nearly two-thirds of physicians in Ayyūbid Egypt were non-Muslims – perhaps a legacy of the strong position they had cultivated during the Fāṭimid period.⁹²

⁸⁶ Ibn Ḥabīb, *Tadhkhirat al-nabīh*, ed. Saʿīd ʿAshūr (Cairo: al-Hayāt al-Miṣriyya al-ʿĀmma lil-Kitāb 1976), 367; Linda Northrup, “Qalawūn’s Patronage of the Medical Sciences”, *Mamluk Studies Review* 5 (2001), 119-40.

⁸⁷ Such as Ibn Abī Hulayqa.

⁸⁸ Nāṣir ad-Dīn ibn al-Furāt, *Tārīkh Ibn al-Furāt*, ed. Costi K. Zurayk and Nejla Izzedin, (Beirut: American Press, 1936-1942), 8:27.

⁸⁹ *Ibid.*, 8:25. Around the same time, calls were being made from some quarters to remove non-Muslims from the military and financial *diwāns*, while Ibn al-Ukhuwwa (d. 729/1328) complained that medicine was “among the duties for which the community is responsible and yet there is no Muslim to fulfil it... Many a town has no physician who is not a *dhimmī*...” See Ḍiyāʿ ad-Dīn Muḥammad ibn Muḥammad, *Maʿālim al-qurba fī aḥkām al-ḥisba*, ed. Reuben Levy (London: Luzac 1938), 56.

⁹⁰ It should be noted that it was also during this time that increased attention was given to *al-ṭibb al-nabawī*, or prophetic medicine. In other words, the formulation of *al-ṭibb al-nabawī* as a system and the move to Islamize the medical profession paralleled each other. For the origins and evolution of prophetic medicine see Irmeli Perhlo, *The prophet’s medicine: A creation of the Muslim traditionalist scholars* (Helsinki: Finish Oriental Society, 1995).

⁹¹ Max Meyerhof, “Sultan Saladin’s Physicians on the Transmission of Greek Medicine to the Arabs”, *Bulletin of the History of Medicine* 18 (1945), 169-178.

⁹² This is reflected in the physicians at the court of Ṣalāḥ al-Dīn. In Damascus, he employed seven Muslim physicians (Ibn al-Muṭrān, ʿAbd al-Laṭīf al-Baghdādī, Ibn al-Naqqāsh, Raḍī ad-Dīn al-Raḥbī, Abū Saʿīd, Yaḥyā al-Bayyāsī, and Aḥmad ibn al-Ḥājjib), three Christian physicians, (Abū Maṣṣūr, Abū al-Najm, and Abū al-Faraj), and one Samaritan physician (Ibrāhīm ibn Khalaf). In Cairo, there were two Muslim physicians (al-Shaykh al-Sadīd and Ibn al-Qudāʿī) and five Jewish physicians (Ibn Jumayʿ, Maimonides, Ibn Tamām, Ibn Shūʿa, and Abū al-Bayān).

Amongst physicians themselves, relations seem to have been cordial with the occasional vying for recognition and influence common between contemporaries. Religious sentiment did not seem to feature in decisions regarding who one studied under, taught, or recognized for his scholarship in the field of medicine. Ibn Abī Uṣaybi‘a, in fact, relates several poetic eulogies delivered by Muslim physicians for their non-Muslim counterparts. Undoubtedly, Jewish and Christian physicians continued to be prominently engaged in medical practice in the streets and markets despite their increased absence from the top of the medical hierarchy in later periods.⁹³ The reign of the Ayyūbids hinted at some of these later developments, but they had not fully embraced them. They lay at the cusp of significant cultural shifts.⁹⁴

Physicians as Mathematicians, Musicians, & More

Philosophy and religious sciences were not the only disciplines that physicians during this period took an interest in. There were several other ancient sciences that became the subject of study by those involved in the medical field. This assists in revealing the ancient sciences that the Ayyūbids cultured, or at least tolerated, and those that the learned physician class viewed as important and worth pursuing.

Yaḥyā al-Bayāsī (n.d.) was a distinguished physician who not only excelled in the art of medicine but also the mathematical sciences. A student of Ibn al-Naqqāsh, al-Bayāsī was a carpenter who is said to have built many geometrical tools for his teacher and took a particular interest in music and playing the lute. According to Ibn Abī Uṣaybi‘a, he not only served Ṣalāḥ al-Dīn and taught medicine till the end of his life, he also had students in music.⁹⁵

⁹³ Ragab, *The medieval Islamic hospital*, 169.

⁹⁴ There are several theories regarding the stimulus for these developments. Some have argued that the intensification of the religious atmosphere was in part due to the proliferation of the *madrassa* and other related institutions, such as *dār al-ḥadīth* and Sufi lodges/*zāwīyas* from the time of Niẓām al-Mulk. This resulted in so many scholars being trained in the religious sciences that the institutionalization of Muslim scholarship and the professionalization of the ‘*ulamā*’ class was realized in this period. Others have framed the Islamizing tendency as a reaction to the Crusader and Mongol invasions. Nahyan Fancy concluded that the Mongol and Crusader catastrophes were attributed to the failure of Muslims to live by the *sunna* and “given the turbulent nature of the period, these scholars regularly attacked groups that they deemed to be deviating from the *sunna*. The group that bore the brunt of their attacks were those affiliated with the ‘ancient sciences’ (*‘ulūm al-awā’il*), particularly *falsafa*.” Finally, some have suggested the possibility that these exclusionary tendencies may have been introduced into Syria and Egypt by travellers from the East. Even before al-Dakhwār and his medical *madrassa* in Damascus, a hospital had been founded in 5th/11th century Samarqand during the reign of Ibrāhīm ibn Naṣr (ca. 444/1052 - 460/1068) whose mission was to assist sick Muslims. See Fancy, *Science and Religion*, ; Gary Leiser, “The *Madrassa* and the Islamization of the Middle East: The Case of Egypt,” *Journal of the American Research Center in Egypt* 22 (1985), 29-47; Mohamed Khadr, “Deux actes de waqf d’un qarāḥānide d’Asie Centrale,” *Journal Asiatique* XLV (1967), 305-34; Joan Gilbert, “Institutionalization of Muslim Scholarship and Professionalization of the ‘*Ulama*’ in Medieval Damascus,” *Studia Islamica* 52 (1980), 105-34.

⁹⁵ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 637.

Music and mathematics seem to have been somewhat popular amongst the ruling elite and the learned physician class as well. Muḥadhdhab al-Dīn ibn al-Ḥāḥib (d. *after* 583/1193) was a physician who initially studied geometry and became an authority in the field. He would go on to work in the Nūrī hospital and served three Ayyūbid rulers: Ṣalāḥ al-Dīn, Taqī al-Dīn ‘Umar, and al-Malik al-Manṣūr ibn Taqī al-Dīn.⁹⁶ Abū al-Faḍl ibn ‘Abd al-Karīm (d. 599/1201) studied medicine under Ibn Abī al-Ḥakam and accompanied him for a lengthy period. However, he was so skilled in geometry that his nickname became “the Geometer”. Ibn Abī Uṣaybi‘a said that he was eagerly sought after, and most of the doors of the Nūrī hospital were his handiwork. Carpentry was, in fact, his initial career path, and Abū al-Faḍl was also responsible for repairing the clocks of the Mosque of Damascus. He supervised and maintained them for which he received a regular salary. He was also provided another salary for his work as a physician at the Nūrī hospital, a role he served until his death.⁹⁷

The uncle of Ibn Abī Uṣaybi‘a provides an example of another scholar engaged in various sciences and arts. Detailing his study of the musical art, Ibn Abī Uṣaybi‘a stated:

My uncle studied the art of music under the guidance of Ibn al-Dayjūr and Safī al-Dīn Abū ‘Alī ibn al-Tabbān. He also knew the elite in this field, such as al-Bahā’; the great composer, Shihāb al-Dīn al-Naqjūnī; Shujā’ al-Dīn ibn al-Ḥasan and their like, from whom he learnt many Arabic and foreign melodies.⁹⁸

Rashīd al-Dīn, the uncle of Ibn Abī Uṣaybi‘a, also studied mathematics under a certain Abu al-Taqī ibn Aḥmad (d. n.d.). It was only after studying the Quran and mathematics that Rashīd al-Dīn proceeded to take classes in medicine. Indeed, he would not only have numerous students in medicine for which he was renowned, but also taught arithmetic to some of the Ayyūbid princes, such as al-Malik al-Amjad, the governor of Baalbek, for whom he compiled a textbook in the science.⁹⁹

Astrology was closely related to mathematics and there were several prominent Ayyūbid physicians who studied this craft. Rashīd al-Dīn was one of them, and he studied it under Ibn al-Ja‘dī;¹⁰⁰ Ibn al-Naqqāsh, the teacher of Ibn Abī Uṣaybi‘a, was another.¹⁰¹ Fakhr al-Dīn al-Sā‘atī (d. n.d.) learnt astrology from his father, a migrant from Khurasan.¹⁰² Abu Sulaymān Dāwūd ibn Abī al-Munā also possessed extensive knowledge of astrology. Him and his sons would go on to serve Ṣalāḥ al-Dīn.¹⁰³ This was also the case with Yūsuf al-Isrā‘īlī (d. n.d.), a student of Maimonides in medicine and client of al-Malik al-Zāhir and Maymūn al-Qasrī (d. n.d.) in Aleppo.¹⁰⁴ Ibn Abī Uṣaybi‘a relates that Ibn Siqlāb befriended an ascetic

⁹⁶ Ibid., 659.

⁹⁷ Ibid., 669.

⁹⁸ Ibid., 736.

⁹⁹ Ibid.

¹⁰⁰ Ibid., 737.

¹⁰¹ Ibid., 635.

¹⁰² Ibid., 661.

¹⁰³ Ibid., 587-90.

¹⁰⁴ Ibid., 696.

philosopher of the Eastern Orthodox Mār Sābā monastery overlooking the Kidron Valley—who had a broad knowledge of the natural sciences, geometry, arithmetic, and astrology. Presumably, he studied some of these sciences and crafts under him.¹⁰⁵ Sadīd al-Dīn ibn Raqīqa (d. 635/1238) also concerned himself with astrology having studied the works of the Banū Shākīr. He was in the service of several Ayyūbid princes.¹⁰⁶ The position of astrology among the Ayyūbids is also seen in the reception of Ṣalāḥ al-Dīn to Ibn al-Dahhān (d. 590/1194), a famous astrologer, when he entered Damascus. He not only honoured him but settled a monthly stipend for him. Later, an unnamed patron would establish a lodge for the astrologer.¹⁰⁷

Three sub-themes emerge in these accounts provided by Ibn Abī Uṣaybi‘a. The first is the professions that physicians engaged in before they switched to medicine. A second theme are the skills physicians possessed in addition to their knowledge of medicine. The third relates to the type of people physicians associated with, who they were related to in friendship, and those they were willing to take knowledge from outside the field of medicine.¹⁰⁸ Though there is not much in the text of Ibn Abī Uṣaybi‘a regarding actual patronage of these non-medical sciences, it is clear that the Ayyūbids did not look upon mathematics, astrology, and even music in an unfavourable manner. This is confirmed in other sources where scholars of the mathematical sciences, for example, are shown in patronage relationships with Ayyūbid princes, such as Mu‘ayyad al-Dīn al-Urdī (d. 660/1260) and Ibn Abī Shukr (d. 681/1282).¹⁰⁹ Astrology does not seem to stand out in the same manner, though this may be due to the nature of the sources. Certainly, the Ayyūbids had no trouble extending patronage to physicians who were experts in astrology, and nor were they averse to embracing the advice and glad tidings given to them by astrologers.¹¹⁰ Importantly, patronage relationships went beyond mere professional services for it operated on a personal and private level where clients were viewed as people a ruler could trust and confide in. As Brentjes notes, beyond professional expertise “clients were also tapped for their additional skills in the mathematical sciences, as a companion in sessions of conviviality, and as politics or financial advisors and managers.”¹¹¹

Medical Literature

¹⁰⁵ Ibid., 697.

¹⁰⁶ Ibid., 703-4.

¹⁰⁷ Ibid., 659.

¹⁰⁸ Sonja Brentjes, “Ayyubid princes and their scholarly clients from the ancient sciences”, 342.

¹⁰⁹ Ibid., 344.

¹¹⁰ As seen in the case of Ṣalāḥ al-Dīn and Abū Sulaymān seeing his victory in the stars, or Bahrām Shāh with Ibn Fahd, a Jewish astrologer.

¹¹¹ Sonja Brentjes, “Ayyubid princes and their scholarly clients from the ancient sciences”, 337-38.

The 3rd/9th century translation movements created a continuity of ideas between Greco-Roman and Byzantine medicine on the one hand and that of the Islamic world on the other.¹¹² However, as Savage-Smith expressed, Islamic culture did not simply provide custodial care for classical medicine, but Islamic physicians produced a vast quantity of medical literature “in which they imposed a logical and coherent structure on earlier Greek medicine, while developing a more precise scientific vocabulary.”¹¹³ These scholars also added an extensive pharmacology, knowledge of new diseases and disorders, new treatments and therapies, and more. Some of these contributions came about during the period of translation itself, which extended from the middle of the 2nd/8th century to the turn of the 4th/10th century.

Original texts authored during this period were written as individual treatises and tracts, formularies, compendia, and textbooks. For example, the foremost translator of Greek and Syrian texts during this period, Ḥunayn ibn Ishāq, had numerous writings of his own.¹¹⁴ These included *al-Mudkhal fī'l-ṭibb* ('Introduction to medicine') and *Kitāb masā'il fī'l-'ayn* ('Questions on the eye'). Another influential physician during this period was Ṣābūr ibn Sahl (d. 255/869). Considered an expert in medicine and pharmacology, he authored a handbook on the preparation and application of compound drugs, which was recognized as the major pharmacological work relied upon in hospitals and medical dispensaries until Ibn al-Tilmīdh (d. 560/1165) authored a text of a similar title.¹¹⁵ Yūḥannā ibn Māsawayh (d. 243/857) composed “a considerable number of Arabic medical monographs on topics including fevers, leprosy, melancholy, dietetics, eye diseases, and medical aphorisms”,¹¹⁶ while 'Īsā ibn Māssa (d. c. 275/888) wrote on obstetrics, dietetics, and cupping.¹¹⁷

The centuries following this accumulation of medical material through translation projects was an important and critical period where physicians displayed a conspicuous activity in the learning, teaching, and writing of medicine. According to Savage-Smith, “the organization of this knowledge into a logical and accessible format became a primary

¹¹² For the translation movement see Dimitri Gutas, *Greek thought, Arabic culture: The Graeco-Arabic translation movement in Baghdad and early 'Abbāsīd society (2nd–4th/8th–10th centuries)* (New York and London: Routledge, 1998).

¹¹³ Savage-Smith, “Medicine in Medieval Islam”, 167.

¹¹⁴ Ibn al-Nadīm, *Fihrist*, 289-91; Ibn Abī Uṣaybi'a, *'Uyūn al-anbā'*, 258-71; Ullmann, *Die Medizin im Islam*, 156; Michael Cooperson (trans.), “The autobiography of Ḥunayn ibn Ishāq”, *Interpreting the Self. Autobiography in the Arabic literary tradition*, ed. Dwight F. Reynolds (Berkeley: University of California Press, 2001), 107–18.

¹¹⁵ Ibn al-Nadīm, *Fihrist*, 2:300; Ibn Abī Uṣaybi'a, *'Uyūn al-anbā'*, 230; Ullmann, *Die Medizin im Islam*, 300; Oliver Kuhl, “A Note on Ṣābūr ibn Sahl,” in *Journal of Semitic Studies* (1999), 245-49; Jochem Kahl, *Ṣābūr ibn Sahl's Dispensatory in the Recension of the 'Aḍudī Hospital* (Leiden: Brill, 2008).

¹¹⁶ Savage-Smith, “Medicine in Medieval Islam”, 145. For more on Ibn Māsawayh see Ibn al-Nadīm, *Fihrist*, 3:294-95; Ibn Abī Uṣaybi'a, *'Uyūn al-anbā'*, 246-55.

¹¹⁷ Ibn al-Nadīm, *Fihrist*, 3:297; Ibn Abī Uṣaybi'a, *'Uyūn al-anbā'*, 257; Ullmann, *Die Medizin im Islam*, 122, 194, 200, 228, 319. For a comprehensive list of physicians who authored literature during this period see Fuat Sezgin, *Geschichte des arabischen Schrifttums*, vol. 3: Medizin – Pharmazie – Zoologie – Tierheilkunde bis ca. 430 H. (Leiden: Brill, 1970).

concern” during this period, which occasioned, in the 4th/10th and 5th/11th centuries, the composition of several medical encyclopaedias. Muḥammad ibn Zakariyyā’ al-Rāzī authored *al-Ḥāwī*, an enormous work assembled posthumously from his notes of readings and personal observations. ‘Alī ibn al-‘Abbās al-Majūsī (d. 384/994) wrote *Kāmil al-ṣinā‘a al-ṭibbiyya*. A comprehensive and well-organised medical compendium of early medical literature, it at least partly aimed to redress issues of lack of organisation and insufficient attention to anatomy and surgery in *al-Ḥāwī*. Its division into theoretical and practical knowledge established a format common to later mediaeval medical writings. Another medical encyclopaedia of fundamental importance was *al-Qānūn* of Ibn Sīnā, which consisted of five books: (1) general medical principles; (2) *materia medica*; (3) diseases occurring in a particular part of the body; (4) diseases such as fevers that are not specific to one bodily part; and (5) recipes for compound drugs.¹¹⁸ Slightly later, Ismā‘īl ibn al-Ḥusayn (d. 531/1136) authored *Dhakhīra-i Khwārizmshāhī*, probably the first medical encyclopaedia written in Persian, which dealt with the theoretical foundations of medicine and its practice.¹¹⁹ These attempts at collecting and systematising Hellenistic and Byzantine medical literature produced a coherent and orderly medical system. Individual monographs and treatises continued to be authored on a variety of subjects alongside this, but new types of medical literature also began to make an appearance: commentaries (*sharḥ*), concise works (*mūjiz*), didactic poems, synoptic literature, and popular manuals.

Specialized Literature: Ophthalmology & Pharmacology/Pharmacognosy

The fields of ophthalmology and pharmacology/pharmacognosy both generated extensive specialized treatises from an early period. In ophthalmology, medieval Islamic writers displayed considerable originality. Early in the 3rd/9th century, influential monographs were authored on the subject by Ibn Māsawayh and Ḥunayn ibn Isḥāq. Though based on Greek sources, they show a considerable advancement in knowledge including knowledge of previously unrecognized pathological conditions. ‘Ammār al-Mawṣilī (d. c. 400/1010) dedicated his *al-Muntakhab fi ‘ilāj al-‘ayn* to the Fāṭimid ruler of North Africa and Egypt, al-Ḥākim (996/1020). This work discussed the anatomy of the eye, various eye diseases and their symptoms, their treatment, and described operations that al-Mawṣilī himself performed,¹²⁰ such as treating soft cataract by suction through a hollow metal tube he invented.¹²¹ Perhaps the most important ophthalmological manual was written by ‘Alī ibn ‘Īsā who practiced in

¹¹⁸ One of the teachers of Ibn Sīnā, ‘Īsā b. Yaḥyā Abū Sahl (d. *after* 400/1010), wrote the *Kitāb al-Mi‘a*, a comprehensive medical encyclopaedia, arranged in a hundred sections, and probably the oldest work of its kind and a model for Ibn Sīnā’s *Qānūn*. See Ibn Abī Uṣaybi‘a, *‘Uyūn al-anbā’*, 436; Ullmann, *Die Medizin im Islam*, 151; Ghada al-Karmī, “A mediaeval compendium of Arabic medicine: Abū Sahl al-Masīḥī’s ‘Book of the Hundred’”, *Journal of Historic Arabic Science* 2 (1978), 270-90.

¹¹⁹ Ibn Abī Uṣaybi‘a, *‘Uyūn al-anbā’*, 368.

¹²⁰ Ibn Abī Uṣaybi‘a, *‘Uyūn al-anbā’*, 549; Ullmann, *Die Medizin im Islam*, 209-10.; Savage-Smith, *Medieval Islamic Medicine*, 131-34.

¹²¹ As Savage-Smith notes, “The customary method of operation prior to that time being displacement or ‘couching’ of the cataractous lens.”

Baghdad in the 4th/10th century. Titled *Tadhkhira al-kaḥḥālīn*, its various chapters covered the anatomy of the eye, diseases of the eye that were externally visible and their treatment, hidden diseases and their treatment, and an alphabetical treatment of over a hundred simple remedies and their effects on the eye.¹²² According to Ibn Abī Uṣaybi‘a, all oculists were reliant on this work in their own practice.¹²³

Several works were authored in the fields of pharmacology and pharmacognosy as well. Pharmacology dealt with the preparation and application of compound drugs (*adwiya murakkaba*), while pharmacognosy, or applied botany, was concerned with simple drugs (*adwiya mufrada*). Like medicine in general, Muslim pharmacology depended on Greek learning. The two major Greek sources for medicinal substances available through Arabic translations were Dioscorides’ treatise on *materia medica* and Galen’s treatise on simple remedies.¹²⁴ It was the latter specifically that set the format for most Arabic writing on the topic with its clear alphabetical listing of medicinal substances. Pharmacology rapidly developed in the Islamic world after the period of translation as seen in the hundred or so authors on *materia medica* listed in the bibliographical works of Ibn al-Nadīm, Ibn Abī Uṣaybi‘a and Ibn al-Qifṭī. The texts these scholars authored “quickly assumed a different form from that inherited from the Hellenistic world” due to the great influx of names of Arabic, Iranian, Greek and Indian names of plants and drugs that were unknown in the Greek world. This was partly due to the geographical horizons of the Islamic world, which exposed scholars to medicaments not found in Hellenistic medicine, such as camphor, musk, and sal-ammoniac. A class of literature also emerged that focused on pharmacological synonyms to explain unfamiliar foreign terms for drugs.

The name Sābūr ibn Sahl has previously been mentioned as an early author of an influential pharmacopoeia, or an *aqrābādihīn*, a generic term referring to that branch of pharmaceutical literature dealing with compound drugs. A century later, Abū Dāwūd ibn al-Juljul (d. *after* 384/994) would write several works on simple and compound drugs including a commentary Dioscorides’ treatise on *materia medica*. Among the most interesting works on pharmacological synonyms is that of al-Bīrūnī (361-440/972-1048), *al-Ṣaydana fi’l-ṭibb*, dealing with vegetable, animal and mineral simples with numerous remarks on their names in various languages, philological notes on the meaning of plant names and their synonyms used in Arabic poetry, and copious quotations from other works. Two more names worth mention are Ibn al-Tilmīdh and Aḥmad ibn Muḥammad al-Ghāfiqī (d. ca. 560/1165). The former wrote a

¹²² ‘Alī ibn ‘Īsā, *Tadhkirat al-kaḥḥālīn*, ed. al-Sayyid Ghawth Muḥyī al-Dīn al-Qādirī al-Sharafī (Hyderabad: 1964); Ibn Abī Uṣaybi‘a, *‘Uyūn al-anbā’*, 333; Ullmann, *Die Medizin im Islam*, 208-9.

¹²³ Ibn Abī Uṣaybi‘a, *‘Uyūn al-anbā’*, 333. For more on ‘Ammār al-Mawṣilī and ‘Alī ibn ‘Īsā also see Fuat Sezgin, *‘Ammār ibn ‘Alī al-Mawṣilī (4/10th cent.) and ‘Alī ibn ‘Īsā (5/11th cent.): texts and studies* (Frankfurt: Institute for the History of Arabic-Islamic Science at the Johann Wolfgang Goethe University, 1996).

¹²⁴ The first five *maqālāt* of the “Book of Simple Drugs” of Galen were translated into Syriac by Yūsuf al-Khūrī, then by Job of Edessa, and, finally, by Ḥunayn, who also made an Arabic translation of the text. Dioscorides’ *De materia medica* was first translated from Greek into Syriac by Ḥunayn and then from Greek into Arabic by Iṣṭifān ibn Bāsil (d. c. 245/860).

pharmacopoeia that replaced that of Sābūr in several hospitals, while the latter authored *Kitāb fi'l-adwiya al-mufrada*, a huge compilation of botanical and pharmacognostic information.

Other topics were subjects of monographs, but they did not generate a large specialist literature. These included anatomy, colic, haemorrhoids, skin diseases, headaches, melancholia, fevers, bloodletting, embryology, and care of children. Leprosy and malaria were discussed in encyclopaedias but were not themselves the subjects of monographs.

Ayyūbid Medical Literature

Medical literature during the Ayyūbid period did not significantly depart from earlier periods in terms of the genres that existed though there were several significant developments, rediscoveries, and contributions to medical knowledge. What follows is a general overview of three genres of literature produced by Ayyūbid physicians.

(a) Encyclopaedias & Pharmacopoeias

The period of transmission of the ancient sciences was proceeded by one wherein encyclopaedic works were produced that gathered, systematized, and refined medical knowledge in a comprehensive and accessible manner. As mentioned earlier, the 4th/10th and 5th/11th centuries were particularly prominent in this regard with the texts of Ibn Sīnā, al-Rāzī, and al-Mājūsī. During the Ayyūbid period, encyclopaedic works of medicine were not common, but neither were they entirely absent. The most famous encyclopaedic text was arguably the *Kitāb al-Shāmil fi'l-tibb* by Ibn al-Nafis which was to be three hundred volumes but of which only eighty volumes were completed by the author.

Though not an encyclopaedic work of medicine, the pharmacopoeia of Ibn al-Bayṭār was certainly an encyclopaedia in a specialized field of medical science. In this work, titled *al-Jāmi' li-mufradāt al-adwiya wa-l-aghdhīya*, the author listed in alphabetical order some fifteen-hundred plants, animal parts, and minerals along with their properties, uses, and names basing it on his own observations from his travels around the Islamic world and also based on over a hundred and fifty authorities including al-Rāzī, Ibn Sīnā, al-Idrīsī and al-Ghāfiqī. This work became the major reference on simple drugs in the Islamic world.¹²⁵

(b) Abridgments & Epitomes

If encyclopaedic works were uncommon, works of abridgments and epitomes were more popular in the Ayyūbid period. The popularization of this type of work was generally indicative of a more mature stage in the development of a science. Abridgments and epitomes served the function of providing an easily digestible text that could be taught, studied, and memorized. Instead of a plethora of discussions and minutiae, these texts presented their material in a summary fashion in order to provide a structural outline and synopsis of the topic it was presenting. Epitomes were sometimes concerned with practicality over detail in order to guide the reader in applying the science at hand either in the context of self-medication, as was the case with texts of popular medicine, or for the practicing physician who required a quick reference to address a case he was faced with. In other words, its purpose was to make ideas more accessible.

¹²⁵ Ibn Abī Uṣaybi'a, *Uyūn al-anbā'*, 601; J. Vernet, "Ibn al-Bayṭār", *El2*.

The most typical work in this genre was a summary of an earlier text: a *mūjaz* or *mukhtaṣar*. The summary could be of a complete text or a specific portion/topic of a text. Shams al-Dīn Khusrawshāhī wrote a *mukhtaṣar* on Ibn Sīnā's *al-Shifā'*,¹²⁶ while, Rafī' al-Dīn al-Jilī summarized the general principles of the *Qānūn*.¹²⁷ The former distilled the contents of a work in its entirety into an epitome, while the latter focussed on a select topic within a larger work and extracted it as a summary. Similarly, Maimonides summarized the sixteen works of Galen that constituted the core curriculum of Galenic studies. Langermann describes the work as essentially "literal extracts, preserving Galen's own words."¹²⁸

Some scholars stood out in the Ayyūbid period for being prolific authors of epitomes. One such figure was 'Abd al-Laṭīf al-Baghdādī. Author of over a hundred and fifty works, nearly a dozen of them are summaries of earlier medical texts. They include: an abridgment of Galen's commentary on Hippocrates' *Book of Acute Diseases*; an abridgment of *The Book on the Embryo*; an abridgment of *The Book on Respiratory Organs*; an abridgment of *The Book on Muscles*; an abridgment of *The Book of Fevers* by al-Isrā'īlī; and an abridgment of *The Book on the Pulse* by the same author, among others.¹²⁹ Interestingly, 'Abd al-Laṭīf al-Baghdādī criticised medical education in his time for not only putting too much faith in a restricted number of textbooks, such as the *Kulliyāt* of Ibn Sīnā, but also for excessive reliance on imperfect and badly written abridgments.¹³⁰

The concern expressed by 'Abd al-Laṭīf al-Baghdādī regarding the methods of medical education indicate the function of the epitome as a teaching text. Once again, this was an established feature of education in late antiquity and in early Islamic societies. The paraphrases of medical works by Galen and Hippocrates, Euclid's *Elements*, Porphyry's *Introduction* to Aristotelian logic, the mathematical texts of Autolycus of Pitane and Theon of Alexandria demonstrate the educational function of the epitome. The link between abridged texts and medical instruction became particularly prominent in the school of Alexandria, the most important centre for medical learning in late antiquity. Describing this, the 3rd/9th century physician, Ishāq ibn 'Alī al-Ruhāwī, remarks:

When the virtuous, learned physicians of Alexandria came together, gathering the students of medicine, they realized that the events of their time did not permit most of them to read all of those books, especially those which Galen composed. In order to bring the medical art to the students, they organized the books of Galen as sixteen books, and the collectors gathered them in order to abridge them.¹³¹

¹²⁶ Ibn Abī Uṣaybi'a, *Uyūn al-anbā'*, 649.

¹²⁷ *Ibid.*, 648.

¹²⁸ Y. Tzvi Langermann, "Maimonides and Galen", *Brill's Companion to the Reception of Galen*, ed. Petros Bouras-Vallianatos and Barbara Zipser (Leiden: Brill, 2019), 244.

¹²⁹ Ibn Abī Uṣaybi'a, *Uyūn al-anbā'*, 693-96;

¹³⁰ N. Peter Joosse and Peter E. Pormann, "Decline and decadence in Iraq and Syria after the age of Avicenna?", 21-23.

¹³¹ Martin Levey, *Medical ethics of medieval Islam: With special reference to al-Ruhāwī's Practical ethics of the physician* (Philadelphia: American Philosophical Society, 1967), 84a. Ibn Abī Uṣaybi'a also has a lengthy exposition in his *Uyūn* on the seven stages of study in the Alexandrian tradition

This continued into the Islamic period where the sixteen works of Galen continued to be studied as part of the core medical curriculum. The most popular summarization utilized was the Alexandrian Summaries or *Jawāmi*¹³², which covered not only the treatises that were considered part of the core Galenic corpus, but also a number of others works by Galen.¹³² These texts were the first to be studied by the beginner student in the Ayyūbid period. Describing the education of his uncle, Ibn Abī Uṣaybi‘a mentions that after he had memorized the Quran, “he started to study medicine under Jamāl al-Dīn ibn Abī al-Hawāfir, who was then chief physician of Egypt... He studied with him parts of Galen’s Sixteen Books, memorizing the whole of the first ones in the shortest time possible.”¹³³ According to Abū al-Faraj ibn Hindū (d. 410/1032), these sixteen books allowed for debate and the exchange of ideas between teacher and student, which equipped the latter with the ability to understand other Galenic works of medicine.¹³⁴ The comments by ‘Abd al-Laṭīf al-Baghdādī, however, show that there may have been other summary texts being studied as well that were not up to the Galenic standard.

Besides the Galenic corpus, the works of Ibn Sīnā were also subject to summaries. Two have been mentioned earlier, but there were several others. Najm al-Dīn ibn al-Labūdī (d. after 666/1266) authored a summary of the general principles, or *Kulliyāt*, in *al-Qānūn* of Ibn Sīnā; a summary of the *Masā’il* of Ḥunayn ibn Isḥāq; and a summary of Ibn Sīnā’s *Kitāb al-Ishārāt*, among other works.¹³⁵ Najm al-Dīn was one of the most prominent students of al-Dakhwār, a circle that was responsible for rediscovering in the Levant and Egypt the works of another popular physician: al-Rāzī. While al-Rāzī was not unpopular, it was the study-circle of al-Dakhwār that placed increased focus on his work through authoring summaries of his works and commentaries.

Another category of literature that was akin to an epitome was the medical catechism. One prominent example was the *Kitāb al-Iqtidab ‘ala tariq al-mas’ala wa-l-jawāb* (“Abridged Book Using the Method of Question and Answer”) by Abū Naṣr Sa‘īd al-Masīḥī (d. 589/1193).¹³⁶ Ibn Raqīqa also authored a work on fevers in question and answer format.¹³⁷ Such a work would have been a valuable aid for any student and could be consulted quickly by a young physician who needed to ensure that he had not overlooked something obvious in his diagnosis.

(c) Commentaries

covering Galen’s works. Here, he quotes Ibn Riḍwān’s *Kitāb al-Manāfi‘ fī kayfiyyat ta‘līm sinā‘at al-ṭibb*. See Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 151, 154-57.

¹³² Peter E. Pormann, “The Alexandrian Summary (Jawāmi) of Galen’s on the sects for beginners: Commentary or Abridgment?” *Bulletin of the Institute of Classical Studies* 47 (2004), 11-33; Ivan Garofalo, “Galen’s Legacy in Alexandrian Texts Written in Greek, Latin, and Arabic”, *Brill’s Companion to the Reception of Galen* (Leiden: Brill, 2019), 62-85.

¹³³ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 645.

¹³⁴

¹³⁵ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 668.

¹³⁶ *Ibid.*, 405.

¹³⁷ *Ibid.*, 717.

Commentary works were as popular as abridgments and epitomes among Ayyūbid physicians, if not more so. Like abridgments and epitomes, works of commentary had a long history in the pre-Islamic and Islamic world. Galen himself authored commentaries on the works of Hippocrates,¹³⁸ and the Galenic corpus received a significant amount of commentary as well. The genre of *sharḥ* properly arose in the 3rd/9th century in the Islamicate world and was applied to all major disciplines, such as law, language, medicine, and philosophy. It did not simply aim to explain a text, but justify specific positions, challenge and refine others, relate the material being discussed to broader principles and theories, rearrange material, introduce a second authorial voice, and more.

Commentators during the Ayyūbid period continued to show an interest in explaining the works of Galen, Hippocrates, and Dioscorides, as well as Ḥunayn and Ibn Sīnā. Among such medical commentaries were those written by Ibn al-Nafis. The most widely disseminated of them is on the Aphorisms, or *Fuṣūl*, of Hippocrates. He also authored commentaries on Hippocrates' *Prognostics*, *Epidemics*, and *De Natura Hominis* ("On Human Nature"). From the works of Ḥunayn, the *Masā'il fi'l-ṭibb* received a commentary from Ibn al-Nafis, which, as earlier mentioned, was abridged by other scholars. So did the *Qānūn* of Ibn Sīnā where Ibn al-Nafis improved the arrangement of the subject-matter and collected passages relating to anatomy from the first three sections of the work to comment on them in a separate section, which was often copied and circulated as an independent book itself. It was here that Ibn al-Nafis articulated a ground-breaking theory regarding pulmonary transit, which would soon enough overturn earlier Galenic notions on blood flow in the ventricles of the heart.¹³⁹

Ibn al-Nafis was not the first to author a commentary on the *Qānūn* though. This distinction belonged to an earlier Ayyūbid scholar, Ibn Jumay' al-Isrā'īlī (d. c. 594/1198), one of the most important Egyptian physicians of the 6th/12th century who was in the service of Ṣalāḥ al-Dīn. He authored *Kitāb al-taṣrīḥ bi-l-maknūn fī tanqīḥ al-Qānūn* ("Book on clarifying the concealed by correcting the Canon"), which stood at the head of a tradition of commentaries on the *Qānūn* that continued for more than five hundred years.¹⁴⁰ This work illustrates many of the features of commentary as a literary genre. Ibn Jumay' outlines his working methods, which focused on (i) consulting different copies of the original text in order to correct any "oversights, misspellings, or corruption through the author's transcription (*naql*) of the statements", (2) tracing the sources of the original text in order to determine their accuracy

¹³⁸ Véronique Boudon-Millot, "Galen's Hippocrates", *The Cambridge Companion to Hippocrates*, ed. Peter E. Pormann (Cambridge: Cambridge University Press, 2018); Savage-Smith, *Medieval Islamic Medicine*, 10.

¹³⁹ Nahyan Fancy, *Science and Religion in Mamluk Egypt: Ibn al-Nafis, Pulmonary Transit and Bodily Resurrection* (New York: Routledge, 2013).

¹⁴⁰ There were, however, glosses and marginal notes on the *Qānūn* authored by earlier figures, such as Ibn Tilmīdh. A contemporary of Ibn Jumay', 'Umar ibn 'Alī al-Qalā'ī, is also said to have written a *hawāshī* on the work. For a discussion on the difference between these types of writings see Daniel S. Nicolae, "A mediaeval court physician at work: Ibn Jumay's commentary on the Canon of Medicine" (PhD Diss., University of Oxford, 2012), 15-27.

and soundness, and (3) relying on the general principles of the medical art when attempting to ascertain errors and propose sound answers.¹⁴¹

To undertake this task, Ibn Jumay^ʿ not only had to gather several copies of the *Qānūn* itself, but he had to have access to a significant number of medical texts. Citations from his commentary show that he had access to the works of several Greek authors: twenty-five treatises authored by Galen, the most oft-referenced authority in the commentary; five of Hippocrates; Dioscorides' famous *al-Adwiya al-mufrada*; and works by Polonius, Aristotle, Paul of Aegineta, and Rufus. In addition to this, Ibn Jumay^ʿ made use of the works of at least thirty Arab medical scholars, such as Ibn Māsawayh, Ḥunayn, Ṣābūr ibn Sahl, al-Zahrāwī, al-Rāzī, Ibn al-Tilmīdh, and Ibn Riḏwān.¹⁴² Books were, of course, indispensable for scholars and physicians were no exception to this. Ibn Abī Uṣaybi^ʿah mentions that Ifrāʿīm ibn al-Zafān, a contemporary of Ibn Jumay^ʿ, had a collection of books comprising ten-thousand volumes, which was bought by al-Malik al-Afḍal. This number is not to be taken literally, but it suggests the existence of a relatively large personal library constituting a few hundred works. The library of Ibn Jumay^ʿ itself has been estimated to have had around two-hundred works.

There were several others from the learned physician class who authored commentaries. Afḍal al-Dīn al-Khūnjī wrote a commentary on what Ibn Sīnā had stated regarding the pulse.¹⁴³ ʿUmar ibn ʿAlī al-Qalaṣī (d. 575/1179-80) authored a commentary on Hippocrates' *Aphorisms* and his *Taqdima* ("Introduction to Medicine" or "Prognostics").¹⁴⁴ Sharaf al-Dīn al-Raḥbī wrote marginal notes on the *Qānūn* and on Ibn Abī Sādiq's commentary on the *Masā'il* of Ḥunayn.¹⁴⁵ ʿAbd al-Laṭīf al-Baḡhdādī, being the prolific author that he was, had commentaries on Hippocrates' *Aphorisms* and *Prognostics*,¹⁴⁶ while Yūsuf al-Isrāʿīlī, a physician in the service of al-Malik al-Zāhir and Amīr Fāris al-Dīn al-Qasrī (d. after 602/1206) in Aleppo, also wrote a commentary on the former work.¹⁴⁷ Sadīd al-Dīn ibn Raqīqa authored commentaries on some of his own works, such as *al-Farīda al-Shāhiyya*, a poem on sexual potency dedicated to al-Malik al-Ashraf, and also on an epitome of the *Qānūn* that he had produced.¹⁴⁸ Najm al-Dīn al-Munfākh (d. 652/1254) and Ibn Abī al-Bayān (d. c. 634/1236) both commented on the work of Galen *Kitāb al-ʿilal wa-l-a'rāḍ* ("Book on diseases and symptoms").¹⁴⁹

Commentaries served multiple purposes. They were used by students who required assistance in their learning and in understanding a text. Sometimes, commentaries were used by advanced scholars themselves to engage their predecessors and earlier traditions. They were also used in more advanced educational settings as illustrated in the case of Ibn Abī

¹⁴¹ For a detailed study of this commentary see Nicolae, "A mediaeval court physician at work: Ibn Jumay^ʿ's commentary on the Canon of Medicine" (PhD Diss., University of Oxford, 2012).

¹⁴² *Ibid.*, 74-86.

¹⁴³ Ibn Abī Uṣaybi^ʿa, *Uyūn al-anbā'*, 587.

¹⁴⁴ *Ibid.*, 595.

¹⁴⁵ *Ibid.*, 682.

¹⁴⁶ *Ibid.*, 694.

¹⁴⁷ *Ibid.*, 696-97.

¹⁴⁸ *Ibid.*, 717.

¹⁴⁹ *Ibid.*, 584.

Uṣaybi‘a who studied the commentary of Ibn al-Bayṭār on Dioscorides with the author himself.¹⁵⁰ Another function of commentary literature was for a scholar to demonstrate erudition and gain a degree of power and prestige by “attach[ing] his evanescent name to one of the central stars in the cultural constellations that matter in the society of his day.”¹⁵¹ In this way, the commentator not only affirmed the authority of the text he was commenting on but also constructed his own authority. Furthermore, he set a standard of discourse for the profession that he was engaged in. As G. Most states:

By writing commentaries, such professionals help regulate access to their institution and movement within them by reference to their own vision of the particular ideals of scholarship to which they, unlike some of their colleagues at least, subscribe, legitimated by appeal to the founding texts which authorize those institutions in the first place. And no doubt they simultaneously strengthen their own position within those institutions by advertising a peculiar access to those authoritative texts and thereby associating themselves with their prestige.¹⁵²

By authoring commentaries on the works of the ancients and individuals like Ibn Sīnā, scholars in the Ayyūbid period were effectively reinforcing and reaffirming the authority of these figures. This was particularly true of Ibn Sīnā who was not from the ancients but whose status in the medical tradition began to mirror that of Galen and others. The circle of al-Dakhwār played a similar role with al-Rāzī. One of its members, Rashīd al-Dīn Abū Sa‘īd (d. 646/1248) authored a commentary on the *Hāwī*. The rise of commentaries on these works affirmed the authority of these works and their writers, and through engaging these figures, scholars in the Ayyūbid period sought to add their own authorial voices to the field of medicine.

Teaching & Learning Platforms

Where did teaching and learning occur in the Ayyūbid period? Medical education could be acquired in a number of different settings – both formal and informal. The first was in the home and other private settings. Here, sons would learn the medical sciences from their fathers, uncles, or grandfathers. It was previously noted that physician-families were a widespread phenomenon in Islamic society from the 2nd/8th century, and this continued to be the case in the Ayyūbid era among the learned physician class. Private lectures in the homes of non-relative teachers were also common where students were invited to read texts and engage in discussion. Abū al-Bayān ibn al-Mudawwar (d. 580/1184), for example, practiced and taught medicine in his home until his death,¹⁵³ while Rashīd al-Dīn Abū Sa‘īd kept close

¹⁵⁰ Ibid., 601.

¹⁵¹ Nicolae, “A mediaeval court physician at work: Ibn Jumay’s commentary on the Canon of Medicine”, 25.

¹⁵² G. W. Most, *Commentaries = Kommentare* (Göttingen: Vandenhoeck & Ruprecht, 1999), ix.

¹⁵³ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 579.

company of his teacher “never leaving him at home or on journeys.”¹⁵⁴ This was also the case with several other physicians whose homes became essentially places of study for students.

Classes at private homes were very common throughout the early and medieval periods but there were other more peculiar settings as well. Speaking of his own studies, Ibn Abī Uṣaybi‘a mentions the classes he had with Ibn Siqlāb:

At the beginning of my medical studies, I read something of Hippocrates under his guidance in order to memorize it and receive explanations. At that time, we were staying in al-Malik al-Mu‘azzam’s military encampment where my father was employed in the service of al-Malik al-Mu‘azzam,. On that occasion, I was able to observe Muwaffaq al Dīn [ibn Siqlāb] provide such lucid explanations and interpret the subject matter so thoroughly and in such clear and concise language as no one else would have been able to do. Following this, he gave the gist of what he had said, so that he left nothing of the sayings of Hippocrates that he had not explained in the best way possible. In addition, he mentioned what Galen had said in his commentary with regard to the chapter in question, quoting it fluently from beginning to end.¹⁵⁵

This anecdote reveals the nature of private education, which was not restricted to any specific space but could occur almost anywhere. Even though the home was the obvious location, the focus on seeking knowledge so characteristic of Islamicate societies translated into personal teacher-student bonds that made virtually any place a venue for imparting knowledge.

Hospital (Bīmāristān)

When Ṣalāḥ al-Dīn was building his *bīmāristān*, the concept and the institution that it stood for was not a novelty. Rather, he was maintaining the tradition of previous rulers who had invested in similar projects: from the ‘Abbāsids to his own mentor, Nur al-Dīn Zengī.

Bīmāristāns were a notably physical, material presence in the Islamicate world: “they occupied the centres of many towns and cities, punctuated pilgrimage routes and travel itineraries, and provided needed care for the many sick and poor.”¹⁵⁶ The *bīmāristān* of Ṣalāḥ al-Dīn, like those built before and after it, was embedded in this rich history and formed part of a complex system of institutions that defined the philanthropic landscape and created a lasting memory of the individual who patronized it.¹⁵⁷

In the areas ruled by the Ayyūbids, the most prominent *bīmāristān* was the Nūrī hospital, which was founded in Damascus by Nūr al-Dīn Zengī. Ibn Jubayr describes how the staff kept lists of the patients’ names and the amounts of medicine and food that each required.¹⁵⁸ Ibn Abī Uṣaybi‘a provides a description of the day of one leading physician in the hospital:

¹⁵⁴ Ibid., 599.

¹⁵⁵ Ibid., 627.

¹⁵⁶ Ragab, *The medieval Islamic hospital*, 40.

¹⁵⁷ For a discussion on how the building of such structures was intended to legitimate the ruler and serve as a symbol of dominance see Ragab, *The medieval Islamic hospital*, 45-47.

¹⁵⁸ Muḥammad ibn Aḥmad ibn Jubayr, *Riḥlat Ibn Jubayr* (Cairo: Maktabat Miṣr, 1955), 272.

Shams al-Dīn Abū al-Faḍl ibn Abī al-Faraj, the oculist, may God have mercy upon him, told me that he had seen Abū al-Majd ibn Abī al-Ḥakam in the hospital, making the rounds of the patients' beds, asking about their condition and checking on their treatment. The inspectors and overseers of the wards accompanied him and promptly carried out everything he wrote down concerning each patient, his medicines and treatment. When he had finished, he would go to the palace and examine any indisposed state dignitaries; then he would go and sit in the great hall of the hospital, which was fully carpeted, and read medical books; for Nūr al-Dīn had acquired a large number of reference works for the hospital, which were kept in closets in that hall. A group of physicians would join him there to discuss professional matters. He also instructed his students there. Thus, he worked, debated and read for about three hours, after which he went home.¹⁵⁹

The *bīmāristān*, therefore, served as a setting for treating patients and educating a new generation of physicians.¹⁶⁰ The Nūrī hospital included a library and a space where lectures could be delivered. Lecturing, however, was not the only means of imparting medical education. Apprenticeship and practical training also occurred in the Nūrī hospital. In at least two places, Ibn Abī Uṣaybi'a mentions accompanying physicians on their hospital rounds to gain experience in the field.¹⁶¹ His uncle, Rashīd al-Dīn, also "joined the physicians in their consultations and their rounds of the patients in the hospital, learning about various maladies and appropriate prescriptions" after his initial period of study.¹⁶² This practice had been recommended by earlier authorities, such as 'Alī ibn al-'Abbās who urged students to join hospitals and care for the sick.¹⁶³ Presumably, this was in order to better learn the field. Ibn al-Tilmīdh also had students around him when with patients at the 'Aḍudī hospital.¹⁶⁴ There is also one instance where Ibn Abī Uṣaybi'a references a student appointment to the position of "chief of the students."¹⁶⁵

The Ayyūbids would build several *bīmāristāns* of their own. In Jerusalem, Ṣalāḥ al-Dīn established the Ṣalahīyya in 588/1192. Even during the Crusades, it was possible to receive a medical education in the city as seen in the case of Ibn Siqlāb who learned and practiced medicine inside a decade of the Battle of Ḥaṭṭīn (583/1187). Yet, there is not much information regarding the Ṣalahīyya itself except a few descriptions regarding the treatment of patients and the basic history of its building. This is also the case with other smaller hospitals, such as

¹⁵⁹ Ibn Abī Uṣaybi'a, *Uyūn al-anbā'*, 628.

¹⁶⁰ Lectures were also given at the 'Aḍudī hospital established by the Buwayhid ruler 'Aḍud al-Dawla in 372/982. When Ibn Jubayr visited Baghdad in 580/1184, he described the hospital as being like a great castle with all the appurtenances of royal palaces.

¹⁶¹ Ibn Abī Uṣaybi'a, *Uyūn al-anbā'*, 567.

¹⁶² *Ibid.*, 737.

¹⁶³ 'Alī ibn al-'Abbās, *Kāmil al-ṣinā'a al-tibbiyya* (Cairo: Bulāq, 1877), 1:9; Leiser, "Medical Education", 60.

¹⁶⁴ Ibn Abī Uṣaybi'a, *Uyūn al-anbā'*, 583.

¹⁶⁵ *Ibid.*, 634.

the *bīmāristān al-ṣaghīr* in Damascus, the *bīmāristān* in Raqqa, and others in Cairo. In all likelihood, some medical education occurred in these institutions as was common elsewhere, but nothing conclusive can be stated about what was taught. The more famous Nāṣirī hospital founded by Ṣalāḥ al-Dīn in Cairo in 567/1171, though, was similar to the Nūrī hospital in terms of its facilities and prestige since it was the central hospital in one of the major Muslim cities.

Medical Schools/Madrassa/Mosques

The leading figure in the teaching of learned medicine in Syria and Egypt in the 7th/13th century was arguably Muḥadhdhab al-Dīn ‘Abd al-Raḥīm b. ‘Alī, known as al-Dakhwār. He was a student of Ibn al-Muṭrān and in turn taught many students in Damascus, where he was associated with the Nūrī hospital. Initially, a *majlis* for teaching medicine was created for al-Dakhwār by al-Malik al-Ashraf. Where exactly this took place is unclear and such references to the holding of classes in unspecified places is fairly common in the historical literature. Nonetheless, al-Dakhwār would go on to establish a *madrassa* devoted solely to instruction in medicine, which opened in 628/1231 and was still apparently operating in in 820/1417 when it underwent repairs. The founder had decreed that the first professor of the *madrassa* should be Sharaf al-Dīn al-Raḥbī, and Sharaf al-Dīn was succeeded by Badr al-Dīn al-Muẓaffar, a student of al-Dakhwār himself.

The *madrassa* of al-Dakhwār was the most famous medical school in Ayyūbid Damascus. However, it was not the only school dedicated to medical instruction. Najm ad-Dīn al-Labūdī (d. 670/1271-72) founded a similar *madrassa* on the outskirts of Damascus in 664/1265-66.¹⁶⁶ A third *madrassa* at which medicine was taught was founded by ‘Imād ad-Dīn al-Dunaysirī.¹⁶⁷ It was located to the west of the Nūrī hospital in Damascus. He had come to Damascus to serve the ruling Ayyūbid family as a doctor at the citadel and was eventually appointed at the Nūrī hospital. Judging on the basis of al-Dunaysirī’s didactic poems on simple remedies, the theriac (a general cure-all and antidote to poison), and other works, it may be assumed that they were meant for teaching at the school. Such private *madrassas* were, however, the exception, and it was more typical, especially in later periods, to have endowments for official positions in medicine or dedicated schools. Furthermore, there is some hint in the Ayyūbid era that scholars taught medicine in existing *madrassas* as well. Rafī‘ al-Dīn al-Jīlī is said to have been a lecturer in law at the Adrawiyya *madrassa* and “held seminars for his students in different branches of sciences and medicine.”¹⁶⁸ It is unclear though whether these lessons actually occurred in the *madrassa* itself, a practice that was not unheard of and reflective of the shift from philosopher-physician to jurist-physician. As Brentjes notes, “Medicine could also be studied at *madrassas* without an appointed teacher for

¹⁶⁶ ‘Abd al-Qādir ibn Muḥammad Nu‘aymī, *al-Dāris fī tārikh al-madāris*, ed. Ibrāhīm Shams al-Dīn (Beirut: Dār al-Kutub al-‘Ilmiyya, 1990), 2:105.

¹⁶⁷ al-Dhahabī, *Tārikh*, 15:580; Nu‘aymī, *al-Dāris fī tārikh al-madāris*, 2:104-5.

¹⁶⁸ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 642.

medicine. This process of teaching medicine by teachers appointed for law broadened access to medical knowledge beyond the families of doctors.¹⁶⁹

Royal Courts

The royal court was also a place for learning and teaching. Tutoring of young princes was a common practice. There are also references to spaces in the palace where physicians could gather to discuss particular issues. Describing this, Ibn Abī Uṣaybi‘a says:

During his stay in Damascus, Muwaffaq al-Dīn ibn Siqlāb frequented Muhadhdhab al-Dīn ‘Abd al-Rahīm ibn ‘Alī in the area assigned to the physicians at the residence of the ruler, and the two would discuss various medical topics. Muhadhdhab al-Dīn had better diction, was brighter, and a more skilled debater, while Ibn Siqlāb was more deliberate, expressed himself more lucidly and had more traditional texts at his command. He was in the position of an interpreter who could always draw on what Galen had said about medicine in his various books.¹⁷⁰

While strictly not a teaching platform, this designated area of the palace was effectively a learning platform where peers could come together and discourse on various matters. In all likelihood, instruction to princes occurred in other areas of the palace, such as in libraries or private quarters.¹⁷¹

Patronage

Patronage has been recognized by historians as crucially important to the introduction, spread, and maintenance of the ancient sciences. Indeed, it has been suggested by some scholars that a major factor in the so-called decline of the ancient sciences was shifting patterns of patronage where the ruling elite no longer extended their support to these sciences.¹⁷² In the classical period, patronage was pervasive and took on several forms with the most common being a personal relationship between a patron and a client. This could either be formal clientage (*walā’*) or informal vertical alliances that bound a courtier to the ruling elite – caliphs, *amīrs*, *sultāns*, and viziers. In the latter context, the ruling elite often provided economic and financial benefits in exchange for cultural production. Extending such

¹⁶⁹ Sonja Brentjes, *Teaching and Learning the Sciences in Islamicate Societies (800-1700)* (Turnhout: Brepols Publishers, 2018), 95. For a detailed discussion on this phenomenon and the incorporation of medicine into religious *madrasas* see Ch. 4 of this work.

¹⁷⁰ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 668.

¹⁷¹ One more method of study was self-learning. However, none of the learned physician class in the Ayyūbid era engaged in this. This does not mean it did not occur for several manuals of popular medicine were authored for this purpose. The most famous self-taught physician was arguably Ibn Riḍwān who lived during the Fāṭimid era. For more on this see Leiser, “Medical Education in Islamic Lands from the Seventh to the Fourteenth Century”, 50-53.

¹⁷² See for example George Makdisi, *The Rise of Colleges: Institutions of Learning in Islam and the West* (Edinburgh: Edinburgh University Press, 1981), 77-78.

patronage was viewed as one of the unspoken obligations of rulership and resulted from particular cultural expectations and activities: providing benefits (*ni'ma*), fulfilling formal commitments (vows, oaths, guarantees of safety), and showing gratitude (*shukr al-ni'ma*).¹⁷³ The ruler would provide benefits to his subjects in order to cement his political legitimacy and create stable, loyal, and reciprocal ties. Generosity was expected on part of the ruler when granting these benefits. In turn, the one receiving these benefits was expected to show gratitude for receiving them as the social code of manliness (*muru'a*) demanded. His ties to a patron would ensure him a living, protection, and the ability to engage in his scholarly or professional activities. Benefits, in other words, created personal obligations on the part of the patron and client, which were sometimes ratified formally by vows and oaths.

Bonds of loyalty and patronage in the classical period were largely individual and not group or institutional. Scholars of the ancient sciences would enter into these reciprocal ties of patronage and often spend their lives in courtly service. They were expected to offer their expertise in casting horoscopes, observing planetary motions, building instruments, providing medical treatment, overseeing and partaking in infrastructure projects, accompanying their patron on trips, tutoring members of the ruling dynasty, and authoring books. There developed specialized idioms for patron-client relationships: *ittaṣala bi* (to be bound to, to be connected with), *ghulām* (boy, youth, military slave, servant), *ḥamala* (to carry), *'azzaza* (to elevate, to exalt, to make dear), *irtabaṭa* (to bind, to commit, to engage), *istakhdama* (to hire, to engage the service), *istaḥaḍra* (to summon, to fetch), *ishtāqa ilā* (to covet, to desire ardently), *ḥaḍiya 'inda* (to enjoy the favours, to be in the good graces) and *da'a* (to summon, to call, to urge, to invite).¹⁷⁴ Like all personal relationships, patronage ties were sometimes successful and sustained for long periods, while at other times it ended in conflict, discontinuation of favors, exile, or even execution. Nonetheless, it was due to the institution of patronage that the teaching, research, and production of the ancient sciences flourished in the classical period of Islam for centuries.

Patronage was not simply a phenomenon unique to courtly life. It has been demonstrated that such ties actually extended into “the circles of men and women of humbler rank” where “the modes and manners [ascribed] to courtly etiquette permeated other realms of relationships whose stability rested on the binding power of loyalty.”¹⁷⁵ Echoing this, Roy Mottahedeh remarked that patronage was “an important means of creating new ties on all levels of life” and “if we had more information on the lowest levels of life, we would see it at work in the relations of landlords to peasants and of grocers to sweepers.”¹⁷⁶ In other words, patronage was one of the main forms of social coherence that held society together in the absence of central and formal political and cultural institutions.

¹⁷³ Sonja Brentjes, “Courtly patronage of ancient sciences in the post-classical Islamic societies”, *Al-Qantara* XXIX (2008), 406.

¹⁷⁴ Sonja Brentjes, “Courtly patronage of ancient sciences in the post-classical Islamic societies”, 408.

¹⁷⁵ Marina Rustow, “Formal and informal Patronage among Jews in the Islamic East: evidence from the Cairo Geniza” in *Qantara* 29 (2008): 343.

¹⁷⁶ Roy Mottahedeh, *Loyalty and Leadership in an Early Islamic Society* (Princeton: Princeton University Press, 1980), 90.

Depending on the particular dynasty or ruler, the sciences that received patronage varied. Ayyūbid rulers surrounded themselves with several physicians. In many cases a court physician only moved to another Ayyūbid court after his first patron had died. This stands in contrast to astrologers whom the Ayyūbid princes did not see as a necessary scholarly group at their courts. Patronage to astrologers was provided by some Ayyūbid princes but not usually to more than one individual at a time though there were physicians who dabbled in astrology as well. Philosophy was another discipline that found a place in the Ayyūbid court where leading authorities would come to debate on issues, such as was the case at the court of Mu‘azzam Īsā. Once more, this was a field that physicians took an interest in. Other disciplines that Ayyūbids showed interest in were mechanics, mathematics, and natural history.¹⁷⁷

Sonja Brentjes provides detailed information regarding the general features of patronage under the Ayyūbid dynasty based mainly off of Ibn Abī Uṣaybi‘a. In many ways, the picture is one of continuity and uniformity between the Ayyūbids and their Zengid, Fāṭimid, and Artuqid predecessors. Each granted monetary and non-monetary remunerations to those they patronized. This came in the form of stipends (*jirāya*), tax farms (*iqṭā‘*), or robes of honor (*khil‘a*). The relationship between the patron and the client was expressed in the language of service (*khidma*), benefit (*ni‘ma*), honour (*ikrām*), respect (*iḥtirām*), and favour (*ḥuṣwa*) – a vocabulary that Ibn Abī Uṣaybi‘a uses in a stable manner in his text. Clients served their patrons, while the patron provided benefits and rewards. In recognition of his knowledge and expertise, the patron would honour and favour his client. However, not all patronage relationships were the same. Ibn Abī Uṣaybi‘a makes a distinction between service, or *khidma*, and companionship, or *suḥba*. The latter implied a higher set of emotional ties that bound patron and client together in “a more exclusive, personal bond.”¹⁷⁸ Thus, a companion often found himself as a travel-companion of his patron, but those simply in the service of the patron could refuse such companionship relationships as was the case with ‘Imrān al-Isrā‘īlī.

Another aspect of patronage relationship was the exchange of gifts. Physicians often wrote or dedicated texts to their patrons. Rashīd al-Dīn Abū Sa‘īd dedicated *The Essentials of Medicine* to al-Malik Najm al-Dīn Ayyūb,¹⁷⁹ while ‘Afif ibn Sukra (d. after 584/1188) wrote a treatise on colic for Ṣalāḥ al-Dīn.¹⁸⁰ Panegyrics were also commonly authored by clients to lavish praise on the ruler. In return, a patron would present his client with gold, silver, jewellery, land, and other luxury objects. Ḥakīm al-Zamān ‘Abd al-Mun‘im ibn al-Ḥasan (d. 600/1200) was honoured and favoured by Ṣalāḥ al-Dīn “for which he wrote many eulogies praising the ruler... and also wrote books dedicated to him for which he received numerous benefits.”¹⁸¹ Such gifts could also be given when a physician successfully treated the ruler or a member of his family. When al-Dakhwār successfully healed al-Malik al-Kāmil, he was given twelve thousand *dinārs*, fourteen mules, robes of honour, and other items.

¹⁷⁷ Brentjes, “Ayyūbid Princes”, 344.

¹⁷⁸ *Ibid.*, 330.

¹⁷⁹ Ibn Abī Uṣaybi‘a, *‘Uyūn al-anbā’*, 599.

¹⁸⁰ *Ibid.*, 638.

¹⁸¹ *Ibid.*, 630.

Loyalty was, of course, a necessary element of patronage. Usually, a client would serve his patron until the death of the latter. Sometimes, he would continue to serve his successor or other members of the ruling family. In fact, the system of distribution among the Ayyūbid family created more opportunities for patronage, which distinguished them from their predecessors.¹⁸² Several Ayyūbid physicians had multiple patrons by the time they passed away. Muwaffaq al-Dīn ‘Abd al-Salām (d. n.d.), for example, served al-Malik al-Nāṣir, the ruler of Aleppo and then Damascus, followed by al-Malik al-Manṣūr of Hamāt. Ibn Abī Uṣaybi‘a mentioned how he received “boundless favours and respect.”¹⁸³ Ibn Abī al-Ḥawāfir served al-Malik ‘Uthmān, the son of Ṣalāḥ al-Dīn, until his death and then al-Malik al-Kāmil. His son, Faṭḥ al-Dīn, also served al-Malik al-Kāmil and then his son, al-Malik al-Ṣāliḥ Najm al-Dīn.¹⁸⁴ Sons of rulers and of clients, therefore, regularly continued and maintained the relationships established by those before them.

Furthermore, a client was sometimes in the service of multiple members of the ruling family simultaneously: Abū Sa‘īd ibn Abī Sulaymān seemingly served Ṣalāḥ al-Dīn, al-‘Ādil, and al-Kāmil at the same time.¹⁸⁵ This was also the case with the family of Ibn Abī Uṣaybi‘a. This was part of the web-like quality in patron-client relationships that existed in the Ayyūbid context, which “reflects the practice of power sharing within the family on the one hand and of contesting power by military means on the other.”¹⁸⁶ In this context, mobility was important and often required. Not only was a physician expected to care for other members of the princely family – wives, concubines, children, and others -, the reality of military campaigns, relocation of the patron, pilgrimage, and more meant that clients often found themselves having to move with their patron. There are examples of physicians accompanying their patrons to military encampments, which was either to serve the patron himself, his soldiers, as part of their overall duties, for purposes of teaching, and even to fight.¹⁸⁷ Indeed, the desire of a patron to not have his client not separate from him was viewed as a great honour and indicative of the confidence the former put in the abilities of the latter. Ibn Abī Uṣaybi‘a mentions how some clients were rarely absent from their patrons (*lā yufāriquhu fi akthar awqātihī*) or how patrons wished to have their clients with them wherever they went (*fi’l-ḥadr wa-l-safar*).¹⁸⁸ Speaking of his father, Ibn Abī Uṣaybi‘a noted that when al-Malik al-‘Ādil heard of the effectiveness of his treatments, he remarked, “Such a man should accompany me wherever I go.”¹⁸⁹ His father refused but was pressured into joining the service of the ruler becoming a “favourite of his and of all his sons and successors.”¹⁹⁰

The preceding paragraphs have thus far focused on patronage as a personal relationship between a ruler and a client that largely occurred in the palace. There were others

¹⁸² Brentjes, “Ayyūbid Princes”, 330.

¹⁸³ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 755.

¹⁸⁴ *Ibid.*, 584-85.

¹⁸⁵ *Ibid.*, 589.

¹⁸⁶ Brentjes, “Ayyūbid Princes”, 336.

¹⁸⁷ *Ibid.*, 336-37.

¹⁸⁸ Ibn Abī Uṣaybi‘a, *Uyūn al-anbā’*, 663, 739.

¹⁸⁹ *Ibid.*, 738.

¹⁹⁰ *Ibid.*

forms of employment, however, that constituted a type of patronage relationship. Working at a hospital was one such form of employment for which physicians received salaries. Those who were employed at the hospitals, especially higher-ranking physicians, were often granted these positions at the prodding of the ruler. Sometimes, the patron would direct his physician client to work in the hospital alongside his work at the palace. Ibn Abī Uṣaybi‘a mentions al-Malik al-Ashraf as giving such a directive to one of his physicians.¹⁹¹ Being part of the *bīmāristān* was certainly viewed as a noble profession and an important part of the career of an Ayyūbid physician. Though personal service to a ruler was seen as the highest and most desirable professional career, there were physicians who preferred the hospital to personal patronage relationships. Furthermore, there were also physicians in a patronage relationship who were “fortress physicians”. The physician in this position was responsible for all the homes in the fortress.¹⁹² Another position an Ayyūbid prince could offer a physician was that of a military doctor.¹⁹³ In other words, the patronage relationship took on several forms during this period.¹⁹⁴

Finally, there are examples of patronage relationships that did not involve the ruling elite. Ibn al-Naqqāsh as a young physician was supported by al-Shaykh al-Sadīd. In a lengthy story related by Ibn Abī Uṣaybi‘a, the circumstances leading to this are detailed:

When al-Muhadhhab ibn al-Naqqāsh, an excellent physician, came to Syria from Baghdad, he settled in Damascus for a time but was unable to make a living there. Hearing of the generosity of the Egyptian caliphs and the favours they bestowed upon those who joined their court, especially scholars and professionals, he travelled to Egypt. On his arrival, he waited for a few days. He had heard of the merits, comfortable life, and virtues of al-Shaykh al-Sadīd, the physician of the caliphs. So, he went to his house, greeted him and told him what his occupation was. He said that the purpose of his coming was to visit him, entrust him with all his affairs, and draw from the sea of his knowledge. He promised that whatever he received from the caliphs would be considered a favour from him and al-Shaykh al-Sadīd. Al-Shaykh al-Sadīd received him as befits a person of his standing and honoured him greatly. Then he asked him, “How much would you like to be paid if you were to stay in Cairo?” Ibn al-Naqqāsh replied, “O my lord, whatever you think is appropriate and whatever you advise will suffice me.” “Speak clearly,” said al-Shaykh al-Sadīd. He replied, ‘By God, if a monthly allowance of ten Egyptian *dinars* were granted to me, I would consider it a great blessing.” “This sum will not ensure your proper upkeep. I shall instruct my manager to give you fifteen Egyptian *dinars* every month, a furnished room in my neighbourhood, and a beautiful slave girl.” Al-Shaykh al-Sadīd then took a sumptuous robe of honour and had Ibn al-Naqqāsh put it on. He then ordered his servant to fetch a mule from among his best mounts and presented him with it. Then he said to him, “The pay will reach you every month, and whatever you need, books or other things, will be supplied

¹⁹¹ Ibid., 709.

¹⁹² Ibid., 738.

¹⁹³ Ibid., 673, 697, 706.

¹⁹⁴ Brentjes, “Ayyūbid Princes”, 332-33.

to you according to your wishes. But I ask you not to stop visiting me and associating with me; and you should not seek any favours from the Caliph and not frequent any of the state dignitaries.”¹⁹⁵

This anecdote not only shows a form of patronage that did not involve the ruling class, it also shows the status and reputation of those who were in favour with rulers. Al-Shaykh al-Sadīd, who was himself a client of the Fāṭimids and Ayyūbids, was secure enough to extend patronage to younger physicians looking to establish themselves. The patronage of the rulers, therefore, created another tier of patronage between their subject class. Indeed, the physician client of an Ayyūbid prince had significant upward mobility; some went on to become chief judges, chief physicians, and even viziers and military, government, and financial advisors.

Conclusion

This article has provided an overview of some aspects of the medical sciences during the Ayyūbid period. Ayyūbid rulers extended generous patronage to numerous physicians during their rule and continued the trends set by their predecessors. These physicians generally came from established scholarly households and were provided generous compensation for their services and loyalty. They worked and taught at royal courts, hospitals, *madāris*, and in more private settings, such as the home. Indeed, it was during the Ayyūbid period where the earliest schools dedicated exclusively to teaching medicine were established by the likes of al-Dakhwār. Ayyūbid rulers also established hospitals where their clients were sometimes expected to tend to the sick, study and research, and teach the medical sciences. These institutions were meant to consolidate the legitimacy of the ruler and portray him as someone committed to charity and care of the wider community.

Though medicine covered a wide array of topics, specialization in the Ayyūbid period was restricted to a few fields, such as pharmacology, ophthalmology, and surgery. These specialized roles are visible in descriptions of the training individual physicians embarked upon, their appointments to specific posts in hospitals, and medical literature. Both pharmacology and ophthalmology generated specialized literature. This was true in the Ayyūbid period as it was in earlier ones. Epitomes, abridgments, commentaries, and individual treatises continued to be authored by Ayyūbid physicians with several important works produced by figures like Ibn al-Nafīs, Ibn al-Bayṭār, and Ibn Jumay‘. In addition to providing one’s own authorial voice on a subject, scholarly writings served educational purposes, created, affirmed, and consolidated notions of authority, and were used to win the favour of patrons.

Analysing the learned physician class during the Ayyūbid period also reveals the position of other ancient sciences. The philosophical sciences were pursued by several physicians who were close to the ruling elite. These physicians studied, summarized, and commented upon the philosophical texts of earlier scholars, particularly like Ibn Sīnā, without any obstacles being put in their way by Ayyūbid princes. Contrary to some claims, the philosophical sciences were hardly in disrepute during this period. Mathematics, astrology,

¹⁹⁵ Ibid., 573.

and music were other disciplines that members of the physician class studied and took an interest in. Indeed, the diverse learning of an individual associated with medicine was likely a factor in their selection by rulers as possible clients.

Finally, the Ayyūbid period reveals significant undercurrents of change in the status of some of the ancient sciences, a change that would become more vivid under subsequent dynasties. The model of the philosopher-physician began to be replaced by the jurist-physician with the assimilation and naturalization of the ancient sciences in Muslim soil. An increasing number of physicians studied the religious sciences, such as law and prophetic traditions. While non-Muslims continued to be prominent in medicine and associated with the ruling elite during the Ayyūbid period, the ratio of Muslims physicians to non-Muslim physicians began to close, and there were growing sentiments amongst some that the latter played too dominant a role in fields like medicine, which played some part in the Islamization of the medical sciences. The Ayyūbid era did not see this process come to full fruition as it related to the medical sciences, but the shift in the make-up of the physician class, the attitudes of some leading figures like al-Raḥbī, and the rise of the jurist-physician were all harbingers of the changes to come under the Mamlūks.