Intellectual Life during the Reign of the two Fatimid Caliphs: al-ʾĀmir bi-ʾĀhkām Allāh and al-Ḥāfiẓ li-Dīn Allāh

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Abstract
The present paper sheds light on the intellectual life in Egypt in the time of the two Fatimid Caliphs: al-ʾĀmir bi-ʾĀhkām Allāh (1101-1130 AD) and al-Ḥāfiẓ li-Dīn Allāh (1130-1149 AD). The findings suggest that the Fatimid caliphs were eager to support scientific research and scholarship in Egypt. The caliphs built and took mosques as platforms to advocate the Fatimid beliefs and encourage research and intellectual life. They were also interested in the Arabic language and literature, and so they built schools and libraries and printed thousands of books. Under the Fatimid caliphs, Egypt made impressive strides in the field of medicine, and physicians from the East and the West were brought in by the Fatimid caliphs and were allocated monthly salaries. At the same time, the Fatimid caliphs renovated existing hospitals and built new ones. Finally, the paper found remarkable astronomical achievements, well-evidenced by astronomical observatories built at that time.

Keywords: Fatimids, Egypt, Intellectual Life, Mosques, Schools, Physicians, Arabic, Astronomy.

1. Introduction
The Shiʿah Fatimids were a major Ismaʿili Shiʿah dynasty, the Fatimids founded their own caliphate in rivalry with the ʿAbbasids, and ruled over different parts of the Islamic world, from North Africa and Sicily to Palestine and Syria. The Fatimid period was also the golden age of Ismaʿili thought and literature. Established in 297/909 in ʾIfrīqiyya (Africa), the seat of the Fatimids was later transferred to Egypt in 362/973, and the dynasty was finally overthrown by Ṣalāḥ-al-Dīn al-ʾAyyūbī (Saladin) in 567 AH/1171 AD, when the fourteenth and last Fatimid caliph, al-ʾĀzīzd li-Dīn Allāh (555-67 AH/1160-71 AD), lay dying in Cairo (Encyclopaedia Iranica, 2006). They got their name from their acceptance of Ismāʿīl bin Jaʿfar al-Ṣādiq as the divinely appointed spiritual successor to Jaʿfar al-Ṣādiq. They were also named Fatimids because of their claim to be descendants of Fāṭima, daughter of Prophet Muḥammad, and wife of the fourth Caliph ʿAlī bin ʿAbī Ṭālib and first Shiʿa ʿImām.1

1. Literally, ʿImām is a leader, and means to lead. Whereas the Sunni Islamic literature regard imamate as a vicegerency of the Prophet to handle the worldly and religious affairs of the Muslims. Imamate in the Shiʿa literature refers to an empire in terms of the vicegerency of Prophet [s], for the affairs that pertain to the world and religion. al-Taftazānī, 1989, Vol. 5., 232. The major political reference which the Ismāʿīlīs recline on is the ʿimāms’ existence, possessed of supernatural knowledge, authority and free from any error and sin. Ramdane & Souad, 2014, 138. The ʿImām who is also the inheritor of Mohammad’s secret knowledge, is endowed by God with special ʿilm (knowledge), and has perfect understanding of the onward or exoteric (zāhir) and the inward or esoteric (bātin) aspects and meanings of the Qurʾān and the sacred law of Islam. Indeed, the world cannot exist for a moment without an ʿImam, the proof (Hujjah) of God on earth. Even if only two men were left upon the face of the earth, one of them would be the ʿImam. And there can only be one ʿImam at one and same time, though there may be a silent one (ṣāmit), his successor, beside him. Daftary, 1992, 86.
They have also been called ‘Ubaydis, in reference to the founder of the Fatimid dynasty ’Ubayd Allāh al-Mahdī Billāh (Ramdane & Souad, 2014, 136). The Fatimid Egypt assumed a prominent place among its contemporary nations and witnessed an intellectual, scientific and cultural movement. The advocacy of the Ismā‘īlīsm and the promotion of intellectual activity were some of the cultural manifestations of the Fatimid era (Goitein, 1955:80-82). The Fatimids were eager to build educational institutions and libraries. The caliphs encouraged literary, scientific and philosophical research, thus creating a renaissance-like Egypt. Moreover, the Fatimid caliphs supported librarians, scribes, grammarians, linguists, chemists and physicists (al-Maqrīzī, 1998, Vol. I., 178). At the spiritual level, the caliphs promoted jurisprudence forums and supported scholars of Ḥadīth. Thanks to the intellectual forums, which were instituted to teach preaching and jurisprudence, al-ʿAzhar Mosque came to play a key role in the promotion of the cultural life in Egypt (al-Juwaynī, 1958: 719).

1. Mosques

The Islamic tradition that mosques were extraordinary centers for religious, political, social, judicial, and intellectual functions have been maintained in the Middle Ages (Ramdane & Souad, 2014, 144). The Fatimid caliphs in Egypt, al-ʿĀmir bi-ʿAḥkām Allāh and al-Ḥāfiz li-Dīn Allāh in particular, were very much interested in constructing and renovating mosques, including:

1.1. al-ʿAzhar Mosque (The Luminous Mosque)

Jawhar al-Ṣiqīlī commissioned its construction in 970 AD and it was opened in 971 AD. Its architectural design is modeled after Ibn Ṭūlūn Mosque. al-ʿAzhar was an important center for teaching religion, Shari‘a and Fiqh (Islamic Law) and was instrumental for the esoteric and public face of the Ismā‘īlī da wa (propaganda). It is just fair to say that al-ʿAzhar was regarded as powerful symbol of the Fatimid religious and political legitimacy and a decisive tool to severe spiritual relations with the previous Abbasid proxy rule, and ensure the loyalty of the Egyptians, severe spiritual relations with the previous Abbasid proxy rule, and ensure the loyalty of the Egyptians to the Fatimid Imāms. Khuṭbas (sermons) were closely monitored by the Fatimid caliphs themselves. The early education system in al-ʿAzhar was mainly in the form of Ḥalaqa (circle) which encompassed the classes of fiqh according to the Ismā‘īlī creed and Shī‘a knowledge of religion, philosophy and monotheism. The management of these Ḥalaqas was the prerogative of the teaching sheikhs (professors) in al-ʿAzhar.

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2. For more details about the history of Fatimid khalifate and Ismaili Doctrine, see Encyclopaedia Iranica, Fatimids, 2006; Oleary Dd 2010; Walker 2008.

3. Some historians believes that the Fatimid caliphs’ support for scholars and scientific research contributed to the development of Egypt in all areas, because due to the scientific and cultural progress of Cairo during the Tulunid and Ikhshidid dynasties in rivalry with or imitation of Abbasid Caliphate, this city was capable of competing with Baghdad and Cordova. Dehqan & Chelongar, 2014, 137.

4. According to Tahraoui Ramdane and Merah Souad, The significance of education for the Fatimids in Egypt originated from the purpose of establishing their state in Egypt. The Ismā‘īlī Imāms were not after wealth and personal glory. They aimed to establish a theocratic Ismā‘īlī orthodoxy which can displace the Abbasid Sunni caliphate and rule the entire Muslim world. To reach that aim, the Fatimids invested immense efforts in disseminating knowledge, arts, literature, and the Ismā‘īlī culture in Egypt. Ramdane & Souad, 2014, 140. Some historians attributed the flourishing of intellectual activities in Egypt during the Fatimid rule to another factor that is directly related to the geographical and social milieu in which they created their state, namely Egypt. al-Majma‘ al-Malaki libubūth al-Ḥadāra al-ʿIslāmiyya, 1989, 65-68.

5. The system of governance and all of its apparatus was centered on the ‘Imām. The Fatimid Caliphs were in full control of their state’s administration. Isma’ilism recognizes the authority of the ‘Imām, who after the Prophet Muḥammad is the representative of God on Earth. The ‘Imām is both the spiritual and the political leader of the community, he is appointed either by the prophet (as in the case of ‘All) or by the preceding ‘Imām. He has to be male, pious and of specific descent. He is infallible and the only official interpreter of scriptures. Calderini, 1996. Tahraoui Ramdane and Merah Souad noticed that the Fatimids engaged into intensive administrative reforms in order to tend to the affairs of their subjects, though they retained some institutions inherited from the conquered Ikhshidids, meanwhile, they adopted many forms of governing from their old foes, the Aghlabids. Some historical sources, particularly Ismā‘īlī ones, stressed that the Fatimids did not hesitate to turn to former officers from the old Ikhshidi and Aghlabi regimes and employed them in their dīwāns (offices) Ramdane & Souad, 2014, 140.

6. Heinz Halm sees that the Cairo mosque al-ʿAzhar acted as a multipurpose institution in the service of the Ismā‘īliyya. It was built as a symbol for the Fatimid Isma‘īlī rule and a place to be used by the Fatimids and their adherents for conducting the Isma‘īlī religious rituals, so as to prevent friction with Egyptian Sunni devotees. Halm argues that since it was built, al-ʿAzhar functioned exclusively as an educational institution. Halm, 1997, 41.
The Fatimids used several names for al-ʿAzhar, such as Cairo Mosque, al-ʿAnwar Mosque, al-ʿAqmar Mosque and al-ʿAfkar Mosque (al-Maqrizi, 1998, Vol. 2., 276; Ramdane & Souad, 2014, 144).

1.2. The Mosque of ʿAmr bin al-ʿĀs

It was the first mosque ever constructed in Egypt and Africa. The Mosque was built in the city of Fusṭāṭ, which was also founded by Muslims. The mosque had other names, such as Masjid al-Fath, al-Masjid al-ʿAṭiqa and Tāj al-jawāmiʿ (the crown of mosques). The Mosque of ʿAmr bin al-ʿĀs is located on the eastern side of the Nile (al-Qalqashandī, 1987, Vol. 3, 838).

When it was built, the Mosque had an area of 50x30 cubits, and it had six gates. It remained so until 672 AH, when Maslama bin Mukhallad al-ʿAnsārī, the governor of Egypt during the Omayyad’s reign, made some extensions and built four minarets. The mosque, then, underwent other restorations and expansions by the rulers of Egypt, increasing its space to about twenty-four thousand cubits. Its minaret was built during the reign of Caliph al-ʿĀmir bi-ʿAḥkām Allāh at the time of Minister al-ʿAḍīl bin Badr al-Jamālī (al-Maqrizī, 1998, Vol. 2., 273).7

1.3. The mosque of Aḥmad bin ʿUqlūn

It is the most important mosque in Cairo. Unlike the mosque of ʿAmr bin al-ʿĀs, whose original features were completely wiped out, the mosque of ʿAḥmad bin ʿUqlūn is arguably the oldest mosque in the city that retained its original structure, except for some Mamluki extensions. It was established by Prince ʿAḥmad bin ʿUqlūn between 876-878 AD on an area of six acres and a half. The minaret of the mosque has a unique Islamic architecture, being Cairo’s only minaret with a cylindrical base and a spiraling external staircase which is 90 cm wide. This mosque was designed by Saʿīd bin Kātib al-Farghānī, a Coptic Engineer. In the era of al-Ḥākim bi-ʿAmr Allāh and al-Ḥāfiz li-Dīn Allāh, this mosque played an important religious and social role (al-Maqrizī, 1967-73, Vol. 3, 77; Ibn Maysır, 1981, 91).

1.4. The seven mosques (516 AH / 1122 AD)

They are also known as the ‘seven scenes’ and Quraysh graves. They were built by Caliph al-Ḥākim bi-ʿAmr Allāh in Fusṭāṭ (al-Maqrizī, 1998, Vol. 2., 442). During the reign of Caliph al-ʿĀmir bi-ʿAḥkām Allāh, and specifically in 1122 AD, Minister al-Maʿmūn al-ʿAtāʾiḥi ordered his agent ʿAbi al-Barakāt Muḥammad bin ʿOthmān to renovate the seven mosques, located between al-Muqṭtam Mountain and al-Qirrāfa. He also instructed him to inscribe the caliph’s name and the renovation date on various marble plates in the seven mosques. The first was the Mosque of Sayyida Zaynab bint ʿAlī bin ʿAbī ʿṬalib, which is located in Qanṭarat al-Sibā’. The last was the Mosque of Sayyida Kulthūm bint al-Qāsim al-Ṭayyib bint Jaʿfar al-Ṣādiq (Ibn Daqmān,1960, 91; Māhir, 1971, Vol. 1, 97, Vol. 2, 112-123).

1.5. Monia Ziftī Mosque (516 AH / 1122 AD)

Monia Ziftī is located near Fusṭāṭ on the Nile bank. During the reign of Caliph al-ʿĀmir bi-ʿAḥkām Allāh, Minister al-Maʿmūn al-ʿAtāʾiḥi ordered the construction of the mosque. After completing the construction, he appointed an orator, imam and two prayer-callers who were paid from the charitable Endowment funds (al-Maqrizī, 1967-1973, Vol. 2, 199).

1.6. Queensn Island Mosque (516 AH / 1122 AD)

This island is located between Cairo and Alexandria. The mosque was built during the reign of Caliph al-ʿĀmir bi-ʿAḥkām Allāh in the month of Shawwal (516 AH / 1122 AD), following an instruction by Minister al-Maʿmūn al-ʿAtāʾiḥi (al-Maqrizī, 1967-1973, Vol. 2, 199).

1.7. Albihnā Oases Mosque (517 AH / 1123 AD)

During the reign of Caliph al-ʿĀmir bi-ʿAḥkām Allāh, Minister al-Maʿmūn al-ʿAtāʾiḥi ordered the construction of this mosque in the month of Shawwal (517 AH / 1123 AD). After completing the construction, an orator, imam and two prayer-callers were appointed and paid like other workers in the mosques (Ibn Daqmān, 1960, 14).

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7. The system of governance was centered on the Caliphs. Meanwhile, the office of the wazzīr (minister) managed the day to day business and looked after the affairs of the raʿiyya (people). Ramdane & Souad, 2014, 137-138.
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1.8. al-Jāmiʿ al-ʿAqmar (519 AH / 1125 AD)

It was built in Marjūsh market which is very close to Bāb al-Futūḥ, opposite to the North Palace (Sayyid, 2000, 172; al-Musabbihī, 1978-84, 48). Its construction was completed during the reign of Caliph al-ʿĀmir bi-ʿĀhkām Allāh (1125 AD). al-ʿĀmir bi-ʿĀhkām Allāh bought a steam bath and a caravanserai and endowed their revenues to the mosque to cover its expenses and lighten its lamps (Ibn Zūlāq, 1935, 101). In the Fatimid religious ceremonies, both the orators of al-ʿAzhar and al-ʿAqmar mosques used to deliver their sermons in the presence of the Caliph al-ʿĀmir bi-ʿĀhkām Allāh (al-Maqrīzī, 1998, Vol. 2., 290; al-Maqrīzī, 1967-73, Vol. 2., 191) al-ʿAqmar mosque is one of the magnificent landmarks of the Fatimid Era. It is an example of the engineering art, architectural decorations and inscriptions engraved in stone (Muḥaṣsib, 1981, 257), Some read: “There is no God but Allāh, Muḥammad is the Messenger of Allāh”, and “ʿAlī is the viceroy of Allāh”. The mosque has an open square courtyard, surrounded by a wide wall (Māhir, 1971, Vol. 1, 324).

1.9. Masjid al-Tārīkh (522 AH / 1128 AD)

It is located between al-Rasd and al-Qirāfā al-Kubrā overlooking al-Ḥabash Lake. It was built during the reign of Caliph al-ʿĀmir bi-ʿĀhkām Allāh, and under the supervision of senior statesmen and ministers, at a cost of 1200 dinars (al-Maqrīzī, 1998, Vol. 2., 446; Ibn al-Ṣayrāfi, 1924, 63-64).

1.10. Masjīd al-Andalus (526 AH / 1132 AD)

It is located in the Baqʿa area next to al-Fatḥ Mosque. ʿAbū Turāb had supervised its construction (al-Maqrīzī, 1998, Vol. 2., 446).

1.11. Mashhad al-Sayyida Ruqayya – Shrine of al-Sayyida Ruqayya (527 AH / 1133 AD)

It is situated next to Shajarat al-Dur mosque. The shrine was built during the reign of Caliph al-Ḥāfiz li-Dīn Allāh by ʿAbū Tamīm Turāb the agent of al-Sayyida ʿAlam al-ʿAmīriyya. Over the shrine, there is a wooden compartment inlaid with ivory and shells. The niche of the shrine is an architectural masterpiece in Egypt. Also, it has a conch with the name of Muḥammad and ʿAlī engraved inside (Māhir, 1971, Vol. 2, 126-129).

2. Schools

The Fatimid Caliphs were significantly renowned for building educational institutions and public libraries. They also supported scientific research and intellectual/scholarship activity. The Caliph’s library had more than half a million books.8

2.1. Madrasat Dār al-Ḥikma (Dār al-ʿIlm)

It was founded by Caliph al-Ḥāfiz li-Dīn Allāh in 1139 AD. Teachers included Chief Justice Hibat Allāh bin Ḥasan al-ʿAnṣārī al-ʿAwsī, known as Ibn al-ʿAṣraq, Abu al- Ḥasan ʿAlī bin ʿĪsmāʿīl and ʿAbū al-Ṭāhir ʿĪsmāʿīl bin Salāma al-ʿAnsārī, nicknamed al-Muwaqqaf ʿĪ al-Dīn, who continued to teach there until 1140. The latter’s monthly salary was 40 dinars (Ibn Maysar, 1981, 132; al-Maqrīzī, 1967-73, Vol. 2., 251-252). Dār al-Ḥikma was founded to serve as a center of learning and to facilitate the working of the Ismāʿīlī mission as well.9 It rapidly became a cultural center, attracting students from all over the Muslim world. It was a venue to teach and learn sciences such as astronomy, logic, philosophy, mathematics, history, theology, languages and medicine. The Shiʿī Ismāʿīlī esoteric interpretation was propagated in Dār al-Ḥikma by organizing majālis al-Ḥikma attended by the ʿImām himself, he took part in debates sometimes and granted generous gifts to the participants (Ramdane & Souad, 2014, 145).

8. According to some historians, Egypt has already occupied a substantial position in Islam, after the conversion of the majority of its people to the new religion and their adoption of the Arab character. Such circumstances were accompanied by a dynamic Islamic educational movement which promoted Arabic as a chief instrument for the Islamic culture. That movement attained great scientific and Islamic advancement in the first capital of al-Fustāṭ, which eventually became a gathering point for leading scholars. Thus, it is appropriate to say that the Fatimids have not destroyed the existing learning tradition, rather, they brought further advancement which involved public and military education for youngsters and adults, as well as offering religious education of the Shiʿī Ismāʿīlī and Fatimid school. al-Majmaʿ al-Malakī Ḳibūḥūṯ al-Ḥaḍāra al-ʿIslāmiyya, 1989, 65-70.

9. For Ismāʿīlī Fatimids, educational curriculum and policies shall primarily protect the Ismāʿīlī teachings and ensure their dissemination. Ramdane & Souad, 2014, 141.
2.2. al-Madrasa al-Ḥāfiẓiyya

It was built by Minister Raḍwān bin Walakhshī in Alexandria in 1138 AD to teach religious studies. The school was named after the Shi'ite Caliph al-Ḥāfiz, who allowed his Sunni minister to build the school in the Sunni stronghold of Alexandria. The school included dormitories for all of the students. al-Ḥāfiẓiyya was also known as al-ʿAwfiyya School, after ʿAbī Tāhir bin ʿAwf, the first Maliki scholar. The school mainly taught Islamic Sharia 'Sharīʿa' (al-Shayyāl, 1957, 3).¹⁰

3. Libraries and Houses of Knowledge

The Fatimids were obsessed of collecting books, especially rare ones in both art and science. Very often, they paid high prices to obtain copies of various manuscripts originally handwritten by their authors. To facilitate finding a reference, those books were categorized in accordance with a very precise system (Ibn al-ʿAthūr, 1997, Vol. 3, 119-121).

The Fatimid Caliph al-ʿAzīz bi-Allāh (975-996 AD) was very fond of books. He took Jacob bin Kalas as a state minister. Bin Kalas established a huge library, known as Khizānat al-Kutub, and spent a lot of money to provide it with important works in the fields of history, literature and jurisprudence. It is believed that the library had more than thirty copies of Kitāb al-ʿAyn for Khalīl bin ʿAḥmad al-Farāḥīdī, including a copy of his own handwriting. The library had twenty copies of al-Ṭabarī’s book and a hundred copies of Kitāb al-Janharah for Ibn Durayd. al-ʿAzīz bi-Allāh instilled the love of books in his son al-Ḥākim bi-ʿAmr Allāh (996-1020 AD).

Al-Ḥākim bi-ʿAmr Allāh established Dār al-ʿIlm (house of knowledge) which used to host linguists, grammarians, literate men and doctors. For more encouragement, the caliph paid them money and provided the library with the needed paper and ink. Later, the public were allowed to use the library, which had more than one hundred thousand books. The number of book copies in the Fatimid library steadily increased. For example, when Shālāh al-Dīn captured Egypt, there were 1200 copies of the book Tārīkh al-Ṭabarī and 2400 gold-adorned copies of the Qurān. According to al-Maqrīzī, there were more than one million and six hundred thousand books in the fields of Fiqh, grammar, language, Hadith, history, astrology, spirituality and chemistry, including eighteen thousand old science books, and six thousand and five hundred books on stars, engineering, philosophy and astronomy, suggesting that the number of books in the library had doubled sixty times during the reign of Caliph al-ʿAzīz bi-Allāh (al-Maqrīzī, 1998, Vol. 2., 1, 163).

The Fatimid palace was home for a second-to-none library, with valuable books, dictionaries and encyclopedias. However, following the internal turmoil under Caliph al-Mustanṣīr bi-Allāh (1036-1094 AD), the library lost a lot of its holdings. The remains of the library, during the period of al-ʿĀmir bi-ʿAḥkām Allāh and al-Ḥāfiz li-Dīn Allāh, were kept in a caliphate palace, which was turned into a hospital after the fall of the Fatimids in 1171 AD (Ibn al-ʿAthūr, Vol. 5, 105; Ḥasan, 1991, Vol. 4, 195-197).

The library of the Old Hospital had more than 200,000 books on jurisprudence, Hadith, grammar, language, history, astrology, spirituality and chemistry. This library was regarded as one of the wonders of the world (al-Maqrīzī, 1998, Vol. 1., 408-409; al-Maqrīzī, 1967-73, Vol. 1., 309, Vol. 2., 126-127; ʿĪsā, 1981, 70). The books were classified in groups by subject and kept in labeled bookcases. The library hired a librarian, scribes and attendants (al-Maqrīzī, 1998, Vol. 1., 409). When the caliphs visited the library for reading, the librarian would suggest some readings and he was also responsible for lending books to caliphs and scholars (Ibn al-Ṭawfīr, 1992, 130-131).

Libraries, however, experienced hardship, especially under the reign of al-Mustanṣīr bi-Allāh, when the books were taken from the Fatimid palaces in payment of debts. During the process, some were robbed and others were burned (al-Maqrīzī, 1998, Vol. 2., 164).

3.1. Dār al-ʿIlm/ Dār al-Ḥikma (House of Knowledge/ House of Wisdom)

Dār al-ʿIlm was within the premises of the House of Wisdom. It was built by Caliph al-Ḥākim bi-ʿAmr Allāh in 1004 AD near the small west palace in the Darb al-Ṭabābāin. Dār al-ʿIlm was directly supervised by a custodian (Ibn Maysar, 1981, 95; al-Maqrīzī, 1967-73, Vol. 2., 126-127; Muḥāmmād, 2001, 82).¹⁰

¹⁰ Tahraoui Ramdane and Merah Souad noticed that in Fatimid Egypt two systems of education co-existed, an official that was adopted, sponsored, and propagated by the state, and un-official, that was advocated and preserved by Sunni intellectual elite (scholars). Ramdane & Souad, 2014, 147. For more details about the Fatimid and their traditions of learning. see Halm 1997.
The House was home for scholars, readers, grammarians, physicians, philosophers and mathematicians. The House of Wisdom was furnished, decorated and supplied with paper and ink; curtains covered all the doors and corridors (al-Maqrízī, 1998, Vol. 1., 408-409; Ibn, al-Zubayr, 1959, 262). The library continued to prosper throughout the Fatimid era. Yānis, the book scribe from the Levant, arrived to Egypt in 1112 and was appointed in the library for a monthly salary of 10 dinars and 3 annual livery packages (al-Maqrízī, 1967-73, Vol. 2., 174). In 1122 AD, Minister al-'Afdal had to close down the library following the emergence of the al-Badī‘ iyya sect, with two proponents (Barakāt, and Ḥamīd bin Makki al-‘Atfīhī al-Qassār) claiming to be gods (al-Qalqashandī, 1987, Vol. 3., 362). The two apostates practiced witchcraft and sorcery and deluded many people before they were killed by al-Ma‘mūn in 1123 AD. Then, in 1124, the House of Knowledge moved next to the Eastern Grand Palace behind the Khizānat al-Dār. Since then, 'Abū Muḥammad bin ‘Ādam11 became in charge of its management (Ibn Maysar, 1981, 95-96, 99).

3.2. Al-‘Azhar Library

al-‘Azhar Library was vibrant during the reign of Caliph al-‘Āmir bi-‘Akhām Allāh. In 1123 AD, al-‘Āmir bi-‘Akhām Allāh appointed Minister al-Ma‘mūn (who was the son of scholar Ibn al-Nu‘mān) as the librarian (Ibn Maysar, 1981, 96). The library, which lasted until the fall of the Fatimid caliphate, had holdings of literature, sciences, religion, history and humanities (al-Maqrízī, 1967-73, Vol. 3., 106).

3.3. The Eastern Grand Palace Library

There were 40 small libraries in the Palace premises and yards, with 1800 ancient science books and 2400 copies of the Holy Qurān adorned with gold and silver. In 1068, the libraries in the yards were looted, while those in the premises survived until the fall of the Fatimid caliphate (Ibn Maysar, 1981, 96; Ibn, al-Zubayr, 1959, 262).

4. Bimaristans (Hospitals)

Bimaristan is a Persian word meaning “hospital”, with Bimar- meaning “sick” and Stan- meaning “place”. In the Fatimid era, the word “Bimaristan” was used to refer to a hospital where the ill people were welcomed and cared for by the healthcare staff (al-Khafājī, 1998, 49; Shīr, 1972, 33). The bimaristans served as public hospitals where all diseases were treated. When those bimaristans were hit by natural disasters, all patients left them, except the insane, and so the word was later used to refer to psychiatric hospitals. Historical sources indicate that until the end of the Abbasid period, Muslims had not used any word other than Bimaristan (Ibn Twawr, 1992, 132).

The Fatimid caliphs in Egypt sponsored medical sciences and healthcare. When they came to Egypt, they found many hospitals.12 According to Ibn al-Qalānsī, there were a number of hospitals, namely al-‘Aṭūq (the Old Hospital), the Small Hospital which is located south of the Umayyad Mosque and the Hospital which is located beside Bab al-Barīd. The hospitals provided healthcare, especially before establishing the Norī Bimaristan. These hospitals helped attenuate the public suffering following the spread of epidemics and diseases in the era of the Fatimid state. The Fatimid caliphs allocated generous funds to existing hospitals and constructed new ones as needed (Ibn al-Qalānsī, 1908, 142).

The Fatimids enabled the physicians to regularly attend the palaces in order to give medication services to the caliphs and to all those in power. The hospitals were administered by the scientific institutes that produced physicians and surgeons. 'Imād al-Dīn Bin ‘Alī al-Mūṣulī, who lived in the era of Caliph al-Ḥākim bi-‘Āmr Allāh was an ophthalmologist who conducted major operations in the hospitals. Al-Mūṣulī wrote many books on eye medicine. Sources say he performed six eye white-water operations. In 994 AD, the then sitting Caliph al-Ḥākim bi-‘Āmr Allāh used to reward physicians with plenty of gifts (Ibn ‘Abī ‘Aṣyahbi‘a, 2010, 155).

The Old Hospital (874-1481 AD), which was built beside the University on Mount Yashkur (Ibn Daqmān, 1960, 122) was one of the most important hospitals during the reign of 'Aḥmad Bin Ṭūlūn. The magnificent hospital was constructed under the western minaret of the Umayyad Mosque (Ibn al-Qalānsī, 1908, 142-143). Throughout the Fatimid period and until the death of the historian al-Qalqashandī (1418 AD), the hospital continued to provide medical services to the public, except soldiers (Ṭūsā, 1981, 67-72).

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11 ‘Abū Muḥammad bin ‘Ādam was Dā‘ī al-Du‘āt (Chief Commissioner) in charge of supervising and managing the Dār al-Ḥikma (House of Wisdom) in the late days of Caliph al-‘Āmir bi-‘Akhām Allāh. Ibn Maysar, 1981, 74.

12 Masoumeh Dehqan and Mohammad Ali Chelongar noticed that during the Fatimid period, both hospitals, which had been constructed during the Tulunid and Ikhsheidid periods, were still actively providing services. Much attention had been given to the hospitals and they had been sufficiently equipped. Dehqan & Chelongar, 2014, 147.
The hospital had an award for patients with mental disorder (al-Musabbih, 1978-84, 35; Rama’dan, 1994, Vol. 2, 258-259). It also contained two restrooms for ablution and washing the dead (al-Khafajj, 1998, 198). The hospital had two water closets for men and women. There was also a pharmacy which the Fatimid caliphs used to visit. Apart from medicine, the pharmacy sold ointments and creams in Chinese Sakarij (Ibn Daqmân, 1960, 99). Among those who worked at the hospital were the caliph’s private doctors who were in charge of checking drugs and writing prescriptions. The pharmacist was a senior professor who had a direct relationship with the Fatimid Caliph. After preparing, triturating and diluting the medicine, the senior pharmacist would be ordered to taste the drug before the Caliph. Having proved proper for human use, the drugs were then prescribed to patients in the hospital (Ibn al-Ṭuwayr, 1992, 130-131). al-‘Atilq hospital was also known as the Upper, as opposed to a latter hospital in the center of the city called the Lower. Caliphs equipped that hospital sufficiently and allocated many resources to it so that it would properly fulfill its duty of serving the poor and the rich equally. With an excellent furnished library and two bathhouses for men and women, this hospital continued to give health and educational services to society for four centuries until the Mamluk era (Dahqan & Chelongar, 2014, 147).

The management of the hospital was the job of the comptroller, who would compel practitioners to make the Hippocratic Oath after being examined by a team that the comptroller nominates for this task (al-Musabbih, 1978-84, 107; al-Maqrizi, 1967-73, Vol. 2, 214; Tsä, 1981, 52-53). The surgeons in the hospital were responsible for performing surgeries and treating blood vessels, wounds and hemorrhoid using scalpels of different shapes and sizes (al-Sharbini, 1980, 30). There were also official ophthalmologists and untrustworthy street ophthalmologists, while orthopedists were responsible for treating bone fractures (Tsä, 1981, 45-55). It had been observed that the caliph’s private doctor was from the Dhimmis (non-Muslim citizens: Christians or Jews). An example of those was Doctor Ya’qub bin Nasṭas al-Nusrâni, who was a private doctor for Caliph al-Hâkim bi-‘Amr Allâh (al-Maqrizi, 1967-73, 368).

5. Educational subjects

5.1. Religion

al-‘Azhar was a center of religious sciences and an educational institution for the Ismailism. Ya’qub bin Kalas was the first minister who in 988 established a center for teaching jurisprudence. On Fridays, Ismaili scholars used to gather at al-‘Azhar to promote Ismailism. Some lectures known as Majalis al-Hikma (wisdom lectures) were also delivered inside the Palace of the Caliph. At the end of the lectures, money was raised for the poor ‘Zakat’ (al-Maqrizi, 1998, Vol. 1, 227; Halm, 1999, 74-77).

Minister Ya’qub bin Kalas used to hold meetings in his house for scholars and preachers. There, he also used to read the al-Risâla al-Waziriyya (ministerial letter) which was considered as a constitution for the Ismaili jurisprudence which he received from Caliph al-Mu’izz li-Dîn Allâh and his son al-‘Aziz li- Allâh. In 1123, the House of Knowledge became the center of the Ismaili Da’wa (propaganda), during the term of Minister Ma’mûn al-Ba’tahâ. According to Ibn al-Ṭawârî, knowing the Ismaeli teachings was a condition for becoming a jurist.


14. Masoumeh Dehghan and Mohammad Ali Chelongar sees that the Fatimids abandoned the policy of converting Egyptian Muslims to Ismaili religion and established friendly relations with Egyptian Dhimmis. The policy they pursued in Egypt was policy of religious tolerance of the Dhimmis. However, the reign of al-‘Aḥâkim bi ‘Amr Allâh was an exception, because he severely persecuted and tortured the Dhimmis. Yet, it was this tolerance which facilitated the political integration of Egypt. In fact, Dhimmis benefited the most from tolerance in this period, because the Sunnis did not benefit from this tolerance. Dehghan & Chelongar, 2014, 139. Another researchers generally agree that Muslims, Copts, Jews and Christians were economically and politically equal and this equality led to scientific and artistic flourishing of the Fatimid Egypt. Due to this tolerance, not only did Egyptian Jews influence the economic growth of the Fatimids, but also Jewish immigrants of the western and eastern regions came to Egypt to participate in economic activities and signed commercial contracts with the Fatimids. al-‘Abâd, 1971, 260-262; al-Qufi, 1992, 11-13.

15. Isma’ili doctrine stressed the dual nature of Qur’anic interpretation, exoteric (zāhir) and esoteric (ba’tin), and made a distinction between the ordinary Muslim and the initiated Isma’ili. The secret wisdom of the Isma’ili was accessible only through a hierarchical organization headed by the ‘Imam and was disseminated by Du’ât (missionaries), who introduced believers into the elite through carefully graded levels. Encyclopedia Britannica, 2016.

16. As a reflection of their religio-political ideals, the Fatimids divided the world into twelve jâzâ’ir (singular: jâzîra, island) for the purposes of their da’wa activities; each jâzîra representing a separate and somewhat independent region for the penetration of the Fatimid da’wa. Encyclopaedia Iranica, 2016. For more details about Isma’ili Da’wa. see Mahamid 2006.
This tradition continued to exist until the fall of the Fatimid state (Ibn al-Šayrafi, 1924, 50; Ibn al-Ṭuwayr, 1992, 115; Sayyid, 2000, 385).

5.2. Arabic

Arabic language, literature, grammar and rhetoric took center stage during the reign of the Fatimid caliphs, who hosted roundtables and meetings in their palaces. Historian ʿAbu al-Qāsim al-Šayrafi was a prominent figure in rhetoric and poetry in the time of both al-ʾĀmir bi-ʾAḥkām Allāh and al-Ḥāfiẓ li-Dīn Allāh. al-Šayrafi excelled in calligraphy and composition. Both Caliphs and their ministers were generous with creative poets and writers (Halm, 1999, 189; al-Ṣafadī, 1979, Vol. 12., 23). The Fatimid libraries contained 30 copies of al-Khalīl bin ʿAḥmad al-Farāhīdī’s Qāmūs al-ʿAyn, in addition to a copies of books by the linguist Ibn Durayd (Halm, 1999, 141; al-Nūmān, 1978, 132).

5.3. Medical Sciences

The term ‘Islamic medicine’ (or Arab medicine) is used to describe medical works produced in Arabic in the Golden Age of Islam. The Islamic medical sciences were innovative, but they were also influenced by the legacy of other nations. The first translations of medical texts were considered a key factor in the establishment of Islamic medicine. Similarly, the Latin translations of Arabic works had a great influence on the development of medicine in the late Middle Ages and early Renaissance (Ibn Daqmān, 1960, Vol. 5., 46).

At a time when the Western church criminalized the medical sciences, claiming that the disease is a punishment from God and should not be prevented, the Muslims began, in the nineteenth century, developing a medical treatment system that depended on scientific analysis. Over time, people began to understand the importance of health sciences. In the Middle Ages, Islam had known some great doctors who developed hospitals, and practiced surgery on a large scale. Some medical files reported female physicians, midwives, wet nurses including two women who served in the court of Caliph al-Muwāḥidī ʿAbū Yūsuf Yaʿqūb al-Mansūr in the 12th century (Ibn Daqmān, 1960, Vol. 5, 48).

The Fatimid Egypt witnessed a tremendous medical progress, thus becoming a destination for doctors from the East and the West. That situation helped in enriching the field (Ibn Daqmān, 1960, Vol. 5, 45). A large number of Muslim, Coptic and Jewish physicians were known in that time. Though those physicians were not as famous as other contemporary physicians like Ibn Sīnā, al-Rāzī and al-Zahrāwī, they had excelled in enriching the medical library with many important works. The Egyptian doctors were not famous probably as the majority of them were practitioners (Ibn ʿAbī ʿAuṣaybiʿa, 2010, 567). At a time when Muslims, influenced by the ideas of Aristotle and Galenos, considered medicine as a branch of natural philosophy. The people in that age were lucky having ophthalmologists, surgeons, phlebotomists, gynecologists and cupping specialists. al-Rāzī and Ibn Sīnā were the greatest of those doctors, in that their books continued to be taught at Islamic medical schools for a long time. Besides, those doctors, in general, and Ibn Sīnā, in particular, had a great influence on medical sciences in Medieval Europe (al-Maqrīzī, 1998, Vol. 1., 487).

6. Physicians and surgeons during the Reign of al-ʾĀmir bi-ʾAḥkām Allāh

The Fatimids made great efforts to advance medical sciences and generously gave a lot of property to the physicians. The physicians enjoyed these properties and received numerous gifts from benevolent caliphs. Caliphs also appointed these physicians to high government positions, to the extent that they gained a lofty status in Egypt. Several hospitals were founded so that along with theoretical medical courses at scientific centers, students gain practical experience in these hospitals (Dehqan & Chelongar, 2014, 141). A number of Muslim, Christian and Jewish physicians were well-known in Egypt during the reign of Caliph al-ʾĀmir bi-ʾAḥkām Allāh, namely:

6.1. Sharaf al-Dīn ʿAbdullāh bin ʿAlī

He was nicknamed as the rational Sheikh. His father was the private physician for the Fatimid caliphs, especially al-ʾĀmir bi-ʾAḥkām Allāh. Bin ʿAlī was brilliant and erudite. He lived to see the fall of the Fatimid state (al-Ḥamawī, 1995, Vol. 2., 250)
6.2. ‘Abū Ja’far Yūsuf bin ‘Aḥmad bin Ḥasdiyya bin Yūsuf al-’Irṣālī

In 1122, he left al-’Andalus and headed to Egypt where he received a standing ovation and given a monthly salary, livery, bonus, and a house in Cairo. The Fatimid caliph was interested in bringing in ‘Abū Ja’far because the caliph thought he would add a contribution to the intellectual life of Egypt. ‘Abū Ja’far dedicated two days of the week to see the patients and the rest of the days were devoted to writing and research, helped by two scribes appointed by the Caliph. He interpreted several books written by Hippocrates and Galenos (Hamāda, 1985, 1973-1974; Ibn al-Ṣayrafī, 1924, 11; Ibn ‘Abī ‘Aṣaybi’a, 2010, 499-500; al-Maqrīzī, 1967-73, Vol. 2., 204).

6.3. ‘Abū Naṣr ‘Adnān bin Naṣr ‘Abū Manṣūr Zarbī

He came straight from Baghdad to Egypt and died in 1153. ‘Abū Manṣūr Zarbī was influential in logic, mathematics, astrology, prose writing and poetry. Zarbī trained a number of physicians who excelled in medicine. He wrote several books, including al-Kāfī fī al-Ṭīb, which he began to write in 1117 and completed in 1152, Sharḥ al-Šīnā a al-Ṣaghīra (by Galenos), Muyrayāt fī al-Ṭīb ‘Alā Jihat al-Kindūisī. Zarbī also wrote articles, including al-Ḥasā wa-‘Ilājihū, Risāla fī Ta’athur al-Ṭabīb al-’Ujlīl wa-Niṣāqq al-Jāhil, al-Risāla al-Muqni’ā fī al-Manṭiq and Risāla fī al-Siyāsa. In astrology, he wrote Mā Yaḥtājuhu al-Ṭabīb fī ‘Ilm al-Nujūm. Zarbī adopted a scientific, experimental approach based on induction, trial and error. Zarbī was also well-versed in Arabic; and he had an impressive handwriting style (Ibn ‘Abī ‘Aṣaybi’a, 2010, 570-571; Ḥamārūm, 1986, 306-309).

6.4. Physicians during the Reign of Caliph al-Ḥaḍīf li-Dīn Allāh

In that period, two Jewish physicians were well-known, namely ‘Abū Manṣūr al-Yahūdī and ‘Abū Sa’īd bin Qariqa al-Ḥakim, who had abundant knowledge of medicine, architecture and other ancient sciences. ‘Abū Sa’īd made a fatal poison which the Caliph used to poison his son who rebelled against him. Then, the Caliph captured the doctor, confiscated all his property, killed him in 1130, and appointed in his place ‘Abū Manṣūr al-Yahūdī as the chief doctor in the palace (al-Maqrīzī, 1976-73, Vol. 2., 240-241; Sayyid, 2000, 192; Qāsim, 2003, 53).

7. Drugs / Medicinal Herbs

The Fatimid physicians used many drugs and medicinal herbs, including:

7.1. Balsān Lotion

It is a perennial plant that has yellow, white or pink flowers with the smell of almonds. The herb is known by several names, such as elderberry, Mecca balsam and Israel balsam. It is abundantly grown in al-Maṭariyya area near Cairo. It is believed to be the best type of Balsān as it is a female plant. The oil is extracted from the Balsān in July (al-Zāhirī, 1997, 29; Ibn Daqmān, 1960, 43-44; Hāw, 1975, 16, 143). The oil has several medicinal usages, including brain activation, maintaining dead bodies from rotting and as a diuretic drug. It is also analgesic for joint pain, toothache, headache, and it is anti-inflammatory of skin sores. The Balsān has religious connotations for Coptic Christians. Its oil is mixed with baptism water as a form of religious ritual. The water is taken from the Balsān well in al-Maṭariyya garden 'holy water' (Ibn al-Ḥājī, 2000. Vol. 2., 58-60; Ibn Zūlāq, 1935, 19). The legend says that when Virgin Mary together with her Child, Jesus Christ, escaped from the tyranny of Herod (the Roman governor of Jerusalem), she sat down to rest as they were tired and thirsty. The Child moved his feet and as his heel touched the ground, a stream of water flowed. His mother drank and washed his clothes. At that moment, some seeds from the Balsān tree fell down and grew. Thus, the garden has become a place of pilgrimage for Christians who seek blessing after returning from Jerusalem. As a result of the medical benefits and uses of Balsān oil, the officials in the Fatimid Caliphate were interested in harvesting it. Due to its heavy demand, and lack of production, it was very expensive. The kings of Europe used to pay a lot of money to get it (Hāw, 1975, 16-17; al-Maqrīzī, 1998, Vol. 2., 162; Fahmī, 1973, 209, 211).

7.2. Khiyār Shanbar/ Cassia Fistula

It is a perennial plant that has a pleasant smell. It grows in Egypt and is used in medical drug industry to treat constipation, mummify the dead, kill visceral and joint pain, and remove phlegm from the body.

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17. It should be emphasized that, under the patronage of the Fatimid court and Mu’izz the Fatimid caliph, scholars from other countries were encouraged to immigrate to Egypt in order to escape misfortunes in their own lands. Dehqān & Chelongar, 2014, 139.

18. For more details about Balsān Lotion, see al-Muqaddasī, 2003, 206; al-Ḥawājī, 2016. 230
It has other uses, such as leather tanning and preparation of gum. Cassia Fistula was abundantly found in Cairo, Alexandria and Damietta (Fahmî, 1973, 201, 214-215).

8. Astronomy

Under the Fatimid rule, Egypt enjoyed great achievements in astronomy, culminated by building astronomical observatories, including al-Jayyûshi observatory which was established above al-Jayyûshi Mosque in al-Muqattâm mountain to the east of Cairo and al-Ma’mûn’s observatory in Bâb al-Naṣr. Both were named after the ministers who built them (al-Maqrîzî, 1976-73, Vol. 2., 100, Halm, 1999, 137). In 1006, a Muslim Arab astronomer named ‘Alî bin Radwân reported that he observed a supernova and recorded his observation in details in his book al-ʿArbāʾ (Quarters) which was translated into Latin in the Middle Ages. The book was the most important astronomical reference in Europe (Ibn Daqmân, 1960, Vol. 4., 58). Equally influential were Ibn Yûnis al-Miṣrî who was an astrolgist and mathematician at the same time Ibn Yûnis built an observatory on al-Muqattâm Mountain to observe the moon, the sun and the planets, and al-Hasan bin al-Haytham who was a prominent figure in astronomy and history. Ibn al-Haytham is considered by some as the real founder of modern optics (al-Maqrîzî, 1998, Vol. 1., 128).

The Fatimid caliphs were interested in astrology– knowledge of the orbit forces and their effects. Caliph al-Ḥâkim bi’-ʾAmr Allâh built an astronomical observatory on al-Muqattâm Mountain in order to observe the stars from there. At night, he would isolate himself from the people’s company to practice that hobby. Despite the decision that prohibited astrology in Egypt in 1013, this observatory remained functional in the reign of Caliph al-ʿĀmir bi- ʿAḥkâm Allâh. However, in 1123, Minister al-Ma’mûn ordered to move the observatory to Bâb al-Naṣr in Cairo. Its construction was supervised by some astronomers, namely ʿAbû ʿAbdullâh al-Ḥalabî, Ibn al-ʿAythâmî, ʿAbû Jaʿfar bin Ḥâsâdî, Ibn Sanâd, poet ʿAḥmad bin Miţrij, and Ibn Qaraqa. Another new observatory was also constructed at that time (Ibn Khalîlân, 1981, Vol. 3., 1217-1223; Ibn al-Muqaffa’, 1974, Vol. 2., 124; al-Maqrîzî, 1976-73, Vol. 1., 397).


In a nutshell, Muslims had significant contributions to astronomy, particularly:

1. Muslims translated ancient astronomical books from Greek, Persian, Roman and Assyrian languages. They also corrected some inaccuracies in those books. The original books were lost, while their translations into Arabic survived; and that is why the Europeans depended on Muslims for certain scientific issues.
2. Muslim additions and important discoveries advanced the science of astronomy.
3. They approached astronomy inductively, rather than theoretically, as the ancient Greeks did.

Conclusion

The Fatimid period was one of the most brilliant historical periods due to its intellectual and cultural achievements. The Fatimid period was also the golden age of Isma’îlî thought and literature.

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19 For more details about Cassia Fistula, see al-Ţib al-Badîl, 2016.
20 ʿAbû ʿAbdullâh al-Ḥalabî was one of the most influential astronomers during the reign of al-ʿĀmir bi- ʿAḥkâm Allâh. He was a co-founder of the astronomical observatory in Cairo in 1123 AD. al-Maqrîzî, 1998, Vol. 1., 425.
22 ʿAbû Jaʿfar bin Ḥâsâdî was doctor who read Hippocrates works enthusiastically. He emigrated from al-ʿAndalus to Egypt. During the reign of al-ʿĀmir bi- ʿAḥkâm Allâh, he excelled in science, philosophy and medicine. al-Hamawî, Vol. 4., 205.
23 Shaykh ʿUthmân bin Sanâd bin Râshîd bin ʿAbd Allâh bin Râshîd al-Wâʿilî was a writer, historian and a poet. He was born in the village of Dasht, Filka Island in 1766 and died in 1826. al-Maqrîzî, 1998, Vol. 1., 227.
The Fatimid caliphs built mosques to advocate the Fatimid beliefs. They also built schools, libraries and astronomical observatory and made great efforts to advance medical sciences.

References


