

Progress and Development in Europe through Islamic Arabic Medicine in Andalusia

Dr. Sekkakou Houria ¹, Dr. Maaziz Abdelkader ², Dr. Hacini Abdelkader ³ & Dr. Bensefia Mohamed ⁴

1,2. University Center of Al Bayadh, Algeria.

3. University-Centre of El Bayadh, Algeria.

4. Université of Ahmed Draia - Adrar, Algeria.

Email: ¹h.sekkakou@cu-elbayadh.dz, ²a.maaziz@cu-elbayadh.dz,
³a.hacini@cu-elbayadh.dz, ⁴bensefia.mohamed@univ-adrar.edu.dz

Abstract

Before the advent of Islam, Arabs; like other nations obtained several therapeutic practices for their human needs; aiming to get rid of all the diseases that affected the human body. This had been achieved through several steps including explanations and the understandings of the main reasons leading to this. As well benefiting from the elements that existed in nature then ending with the diagnosis for the right treatment. Resulting in a very unique treatment with all its types. When Islam arrived; Quran and prophetic Sunna were considered the best treatment tools and the ones that protect humans' health and wellbeing. Where there was a complete rejection of any types of treatment that may distract humans from their creator, alongside with the representation of actual logical explanations of those diseases. Allowing the spread of Islamic medicine universally; both in the south and the west this mainly happened through adding and developing and also through benefiting from other nations expertise and knowledge in this field. This in turn helped in the spread of this globally through the frictions of nations through crossings including Sicily and Andalusia, or even in wars like the crusades; this helped in encouraging others to try it and benefit from it. The current study focuses on the "Iberian peninsula", "Muslim Spain", "Andalusia" or "Lost Muslim Paradise" including their contributions in the beginning of the Islamic civilization for the humanity in all the domains. Taking the example of medicine development; in which the west got a lot advantages from it. And for the sake of addressing this, we tried to focus on the following main points: to touch on the overview of Arab-Islamic medicine, then the Arabs moved to Andalusia, and their transfer of Arab-Islamic medical expertise and their most important medical achievements in Andalusia, with mention of the brightest Muslim scientists and the role of their journey in the development of Medicine in Andalusia, With reference to some manifestations of Europe benefiting from this in Andalusia.

INTRODUCTION

Arab-Islamic medicine emanates from the Arab-Islamic civilization, and the distinctive of this civilization after the advent of Islam, and its isolation from human civilizations by deriving its images from the Holy Quran and the Sunnah of the Holy Prophet¹, and Arab-Islamic medicine is all that was derived from what is an ancient Arab medicine², where medicine was known in the earliest times of ignorance on the method of with spells and scientific experiments³, and with fortune-tellers, doctors specialized in treatment, and it seems that the long occupation of the Arabs with herding cattle has separated them from medicine However, this medicine is still practiced in some Arab countries by those people who are called wise⁴.

Arab Islamic medicine is also defined as everything related to health, illness and treatment, medical information, and health guidelines in the Quranic verses and the hadiths of the noble Prophet⁵; after the advent of Islam, it eliminated fortune-telling and opened the door to natural medicine wide open, because it abolished magic and sorcery healing and there was no new layer in the place of fortune-telling to undertake treatment in the name of religion⁶.

In this regard, there was a great interest and great care in medicine from Muslims as one of the important doors of pure Islamic sciences, they studied and benefited from the experiences and experiences of the civilizations of ancient nations and peoples, and added to them, thanks to the Arabs with their experiments and scientific research in developing what they took from the raw material of the Greeks, to form a new formation, ⁷"the Arabs, in fact, are the ones who invented the method of scientific research based on experience⁸".

This scientific Arab-Islamic experience was transferred to the lands of the world, including the country of Andalusia, which is considered one of the most important crossings through which knowledge and science were transferred to the West, which built on it, reaching what it has reached in the present time.

Moreover, "Islam, which had created a harmony and fusion between two opposing civilizations based on its universal idea and the quality of tolerance for its religious concept, and relying on its enormous ability in representation and creativity and its distinct tendency to experiment and test, has given great fruits in the country of Andalusia, which witnessed the most important ethnic and civilizational fusion between East and West⁹...".

The science of Medicine flourished greatly among the Muslims of Andalusia¹⁰, and reached its peak in the era of the Andalusian caliphate (300-400 Ah/912-1009 ad) since Abd al-Rahman Al-Nasser (III) took over the rule in Andalusia in [(300-350 Ah) (912-961 ad)] and his son caliph Al-Hakam Al-Mustansir by Allah (350-366 Ah/961-976 AD), who are credited with creating the first a well-developed University in Cordoba¹¹.

The science of Medicine and other sciences that follow it is one of the most prominent Sciences that have received the attention and attention of the Andalusians, and even comes at the forefront of experimental sciences in terms of activity and abundance of scientific production in Andalusia, and the Andalusians relied in their study of Medicine issues on a translated book from the Christian books, it is said: "Al-ebrishim" i.e. "the collector" and they had no insight into the medical industry¹².

That prosperity would not have been without the efforts of the finest scholars of Andalusia, Muslims, Jews, Christians, and expatriates, who also made their trips to the Orient, and deepened their medical studies, until they reached that high degree, thanks to their experimental scientific method recognized by the West, in this regard, the German Orientalist "Sigrid Honke" stated that: "The Arabs not only saved the Greek civilization from extinction, organized and arranged it and then gave it to the West, they are the founders of Experimental Methods in chemistry, nature, arithmetic, algebra, geology, trigonometry and sociology, and in addition to countless individual discoveries and inventions in various branches of science, most of which were stolen and attributed to others, the Arabs gave the most precious gift, which is a way to learn the secrets of nature and shed light on it today ..."¹³.

One of the famous among those scholars in the country of Andalusia:

- Ibn al-Samah: he is Abu Al-Qasim asbag bin Muhammad Bin Al-Samah al-gharnati engineer "he had medical care"¹⁴.
- Al-Karmani Abu al-Hakam Amr bin Abdul Rahman bin Ahmed bin Ali al-Karmani from the people of Cordoba "he has a care for medicine and virtuous experiments in it, and a famous influence in cauterization, cutting, incision and other works of the medical industry, he left for the home of the Mashreq, and finished it in Harran from the island country, and there he taught me Science of engineering and medicine, then returned to Andalusia, and settled the city of Zaragoza¹⁵.
- Hamdeen bin Aban: he was in the middle age¹⁶ of Prince Mohammed bin Abdulrahman, and he was a skilled and experienced doctor...".
- Jawad the Christian doctor (207 Ah-822 ad/272 Ah-886 ad): it was the days of Prince Mohammed.
- Khalid ibn Yazid ibn Roman Al-Nasrani: who was proficient in medicine in his time and was in Cordoba, earned a considerable amount of money and real estate in medicine, he was a manufacturer and a scientist of tree medicines, and benefits and books appeared from him in the country, which followed a son named Yazid, and did not excel in medicine by the ingenuity of his father¹⁷.
- The son of Maluka Al-Nasrani, who was in the days of Prince Abdullah, and the first state of Prince Abdul Rahman Al-Nasser.
- Imran ibn Abi AMR "was a noble doctor who served Prince Abdul Rahman with medicine¹⁸".
- Yunus bin Ahmed Al-Harani, who came to Al-Andalus from the Levant in the emirate of Muhammad Bin Abdul Rahman (237 Ah-852 ad/272 Ah-886 ad), and settled there "he had a good course in medicine, famous for Cordoba, in addition to his sons "Ahmed" and "Omar".
- Isaac the physician, the father of the minister, the son of Isaac Christian the Bee, was a resident of Cordoba, "he was a maker by his own hand".
- Yahya Ibn Ishaq: he was an intelligent doctor, a scientist with insight into the treatment made by his own hand, and he was in the bosom of the state of Abdul Rahman Al-Nasser for the religion of Allah, he wrote a book in medicine that includes five books in which he went to the doctrine of rum.
- Al-Zahrawi: Abu Al-Qasim Khalaf Ibn Abbas Al-Zahrawi, known in Latin (Abulcasia), was born in the city of Al-Zahra in Cordoba in 325 Ah/937 ad¹⁹.
- Suleiman Abu Bakr Ibn Taj, was in the state of Nasser and served him with medicine, and he was a noble doctor and "treated the Prince of the believers Nasser from his cataract, and treated the owner of the post from shortness of breath".²⁰
- Said ibn Abd Rabbo was a "famous doctor" who was known in Al-Andalus around the year 300 Ah/921 ad as one of the glorious in medicine, astronomy and poetry²¹.
- Umar ibn Hafs Ibn bartiq, was a virtuous doctor and a reader of the Holy Quran, studied in Kairouan on the son of the butcher Abu Jafar Ahmad ibn Ibrahim ibn Abi Khalid al-kairouani (during the first half of BC 10 Ah/16 AD), and took from him the book "Zad Al-

Musafir" in the treatment of diseases, which is his main book and he introduced him to Andalusia²².

- Ben Yahya painted the doctor, who was advanced in the medical industry, and served Nasser and composed for him "the love of Anison".
- Muhammad ibn Abdun Al-gamli Al-Azri, left for Egypt, visited Bimaristan, and was endowed with medicine, and he was noble in it, and he ruled a lot of his origins²³.
- Abd al-Rahman Ibn Ishaq Ibn Al-Haytham, one of the prominent doctors of Al-Andalus and its virtues, was from the people of Cordoba, he had books: The Book of perfection and perfection in laxative and emetic medicines, the book of economy and finding in error Ibn al-Jazzar, the book of sufficiency in medicine from the properties of things, was born and died in Cordoba in the fourth century Hijri tenth ad²⁴.
- Ibn jaljal: he is Abu Dawood Suleiman bin Hassan knows that jaljal, was a virtuous doctor, an expert in treatments, well-behaved in the medical industry, and he was in the days of Hisham the supporter of Allah and served him in medicine, and he has insight and care for the powers of individual medicines, and he interpreted the names of individual medicines from the book of digorides²⁵ Al-erzabi and disclosed their components²⁶, as his book Single medicines remained the greatest guide to the properties of medicinal herbs, and has scientific value despite medical progress until the present.

It was translated in Baghdad during the reign of Caliph al-Mutawakkil Al-Abbas (232-247 Ah), by "Asif" or "Stephen Ibn Basil", the two translators from the Greek language to the Arabic language, and he revised the translation "Hunayn ibn Ishaq", where Stephen put Arabic names for plants in the interview of Greek words, but some of the names remained in their Greek form to count his knowledge of them, and here it was the turn of Al-Andalus to supplement that, as Nasser, when he received a copy of this book, commissioned his own doctor "Hasdai Ibn Hamad Al-Nabati, Abdul Rahman Bin Al-Haytham and Abu Abdullah Al-saqli, had knowledge of drugs and plants by looking at it and translating it, but they did not have knowledge of Greek, so he sent to the emperor asking He explained the names of unknown drugs, and many people interested in studying medicine and herbs studied under his hands, and this had an impact on the turnout of many Andalusians to study medicine and drugs, taking this book as their main source²⁷.

Ibn Zuhr: where his family followed the profession of Medicine, one of the brightest Andalusian families in the sciences of Medicine, the scientist Muhammad ibn Zuhr, his son Abdul Malik was the first doctors of this family and then succeeded by his son Zuhr, he surpassed his father and joined the court of Al-Mu'tamid ibn Abbad, where this family left a Scientific Library in the science of Medicine and medicaments²⁸.

The most famous of these doctors are a large number of them, Abu Ja'far Ahmad ibn Khamis Ibn Amer from the people of Toledo, one of the caretakers of the science of geometry, stars and medicine, Muhammad ibn Fatah Talmon, was the sire of Imran ibn Abi AMR, and excelled in medicine with the ingenuity of those who were in his time, Muhammad ibn Naya, Abu al-Walid Ibn al-Kattani, Abu Abdullah ibn al-Kattani, Ahmad ibn Hakam Ibn hafsun, was a "well-read, well-versed and a virtuous Sheikh in medicine", and "Abu Abdullah Al-Thaqafi had anecdotes in medicine", and Abu al-Arab Yusuf ibn Muhammad was one of the investigators in the medical industry, and Ibn al-dhahabi Abu Muhammad Abdullah ibn Muhammad al-azdi was one of the caretakers of the medical industry, and Ishaq Ibn kastar, and Hasdai Ibn Ishaq, Abu al-Fadl Hasdai ibn Yusuf ibn Hasdai, Abu Ja'far Yusuf ibn Ahmad ibn

Hasdai are some of the best in the medical industry, and Abu Ubayd Abdullah ibn Abd al-Aziz Al-Bakri from Mursi is one of the notables of the people of Al-Andalus and the largest of them, who excelled in knowing the individual medicines, their powers, benefits and names.

Abu Ja'far: Ahmad ibn Muhammad ibn Ahmad among Sayyid Al-Ghafiqi, and Abu al-Walid Ibn Rushd is the judge Abu al-Walid Muhammad ibn Ahmad ibn Muhammad Ibn Rushd, and Ibn baklarsh was a Jew who was one of the greatest scholars of Al-Andalusia...²⁹, And other medical scientists in Andalusia the best.

And what helped these scientists in the development of the field of Medicine in Andalusia was their solution and their departure in order to gain more from Science, for example, Yahya Ibn Yahya, known as Ibn al-Samina (d: 315 Ah/927 ad), were doctors Cordoba, who was "a seer of arithmetic, the stars, medicine and Science," left for the east, read the books of the speakers, then returned to Andalusia and died there³⁰.

One of the late Andalusian doctors of the Levant, Muhammad ibn Abdun Al-Jabali (died in 347 Ah/958 ad), entered Egypt and Basra, and was skilled in medicine, and much wiser than his origins, and then returned to Andalus in (360 Ah / 971 ad), so he served al-Mustansir by Allah and Al-Mu'ayyad by Allah in medicine.³¹

Among them were Ahmad Ibn Yunus and his brother Umar Ibn Yunus Ibn Ahmad Al-harrani, who left for the Levant in the state of Nasser, stayed for ten years, entered Baghdad, practiced medicine, and then entered Al-Andalus in the days of Al-Mustansir by Allah in 351³²ah, and among them was also the son of Zuhr Abu Marwan Abdul Malik (d. 470 Ah/1077 ad), Hasdai Ibn Ishaq, and Abu al-Salat Umayya ibn Abd al-Aziz ibn Abi Al-Salat ..., And others.

It is no exaggeration to say that without these efforts, the science of medicine would have been lost, and what increased the value of the achievements of medicine among Muslims in Europe and their need for it, was the denial of the Western Church from the medicine industry, because illness is a punishment from God, a person should not distract him from who he deserved and medicine remained one of the most important reasons for the European tradition of Muslims in seeking knowledge of Medical Sciences was the domination of the church³³.

The Andalusians were fond of and interested in composing in various sciences, which led to the emergence of a prosperous Arab-Islamic civilization on the Andalusian Peninsula, which included all kinds of Sciences in the Middle Ages, where Europeans from all over the world flocked to it, taking from its ancient in their studies and research to leave clear and influential effects in the fields of science, especially medicine³⁴.

Admittedly, many European thinkers have done justice to this civilization, including Bernard Shaw, who said, "I believe that a man like Muhammad –peace and blessings of Allaah be upon him - if he took over the reins of government in the whole world, his rule would be successful, lead him to good, and solve his problems in such a way as to ensure peace, tranquility and the desired happiness ³⁵in the world today," considering the Holy Prophet – peace and blessings of Allaah be upon him - the first doctor in Islam, through his medical advice and guidance, science is still discovering its secrets, and the Prophet (peace and blessings of Allaah be upon him) introduced it since the advent of Islam.

It was one of the encyclopaedias of Islamic medicine unless it was given an analogue in the magnitude and scrutiny, and it was all translated into Latin, and transferred among the doctors of Europe, to read Arabic books to benefit from them in the practice of industry, where

the book of the law was translated by Avicenna in Q12/6H, and it is an encyclopedia that collected the summary of what medicine reached the Arabs, Greeks, Indians, Syriacs, and Nabataeans, and translated the book of Razi in 1279, and it has emerged from the preserved programs of the University of Louvain that the books of Al-Razi and Ibn Sina were the reliable reference among the professors of that university to the early 17th century.

Returning to Andalusia, she had provided Europe with its greatest reference in surgery and orthopedics with the book "definition of those who are unable to drain" by Abu Al-Qasim Khalaf Ibn al-Abbas, where it was printed in Latin in 15 A.D.³⁶, and many cities were famous for providing medical services that were only in Andalusian cities, including Cordoba, the great destination of the Levant and Morocco, and a large number of princes, clerics, thought and science flocked to Tota (Tota) for the recovery of excessive obesity", where he was cured and treated, from the doctors of Cordoba in the days of Abdul Rahman Al-Nasser.³⁷

And one of the diseases that the Arabs were credited with curing, madness, like other natural diseases, which the Frenchmen called the divine disease, or the demonic disease because they counted it from the injuries of spirits or demons, and the Arabs 'research in medicine was combined with their research in chemistry, which the Europeans benefited a lot, and perhaps their benefit from the Arabs' chemical lessons was greater than them³⁸.

It is recognized that the country of Andalusia formed an important scientific crossing, many of the finest scientists and the educated class of Western society have recognized this, where the Europeans built their scientific edifice with the first building block provided by the Arabs in general, and the Arabs of Andalusia in particular, that country in which the Muslim civilization bloomed and reached its peak, and then lost again, and her solid scientific edifice is back.

"The Europeans took the torch of Science from the hands of the Arabs and lit up with it after darkness and after that they reached what they reached from this profound light through which the latest science was revealed, and if the Arabs had not carried that torch East and West, it would have been difficult for the Europeans to light it again³⁹...".

Footnotes

- 1) Abdelkader Maaziz, prophetic medicine: representations and practices-Ruqayya as a model, thesis submitted for the degree of Doctor of Science in folk arts, Tlemcen, 1437-1438 Ah/2016-2017, P.: 65, quoting Muhammad Hamza Ismail al-Hadar, summary in antiquities and Islamic Civilization, Zahra Al-Sharq library, Cairo, 1979, p.: 23.
- 2) Abdelkader Maaziz, Ibid, p. 66; quoted from: Mokhtar Salem, Islamic medicine between faith and creativity, Maarif Foundation, Beirut, 1988, p.52.
- 3) Abbas Mahmoud Al-Akkad, the impact of the Arabs on European civilization, the renaissance of Egypt for printing, publishing and distribution, Egypt, (B.T), P.: 33,34.
- 4) Abdelkader Maaziz, Ibid, p. 66.
- 5) Abdelkader Maaziz, Ibid, p. 66.
- 6) Abbas Mahmoud Akkad, ibid, pp. 33, 34.
- 7) Mohammed Bishr Hassan Rady Amiri, chapters on the innovations of Medicine and pharmacy in Andalusia, House of scientific books, Lebanon, 1971, p.: 10.

- 8) Sigrid Honke, the sun of Arabia shines on the West (the impact of Arab civilization in Europe), TR: Farouk Baydoun and Kamal Desouki, Dar El-Gil-Dar New Horizons, Beirut, Vol. 8, 1993, p.: 401
- 9) Margaret Lopez Gomez, "civilizational contributions of the Islamic world in Europe through Andalusia", in the book: Arab-Islamic civilization in Andalusia, Center for Arab unity studies, Lebanon, 1998, p.2, p.: 1478.
- 10) Angel Third Palencia, history of Andalusian thought, TR: Hussein Mo'ness, library of religious culture, Egypt, (B.T), P.: 461.
- 11) - Mohammed Bashir Hassan Rady al-Amiri, *ibid*, pp. 12, 13.
- 12) Mohammed Bashir Hassan Rady al-Amiri, *Ibid*, p. 56.
- 13) Previous reference, P.: 401, 402
- 14) - Ibn Abi asaiba Al-Khazraji, the eyes of the news in the layers of doctors, Al-Wahbi press, 1883, P.: 39.
- 15) Ibn Abi asaiba Al-Khazraji, the same source, P. 40.
- 16) The same, P.41, Angel Third Palencia, *Ibid*, p. 461.
- 17) Angel III Palencia, *Ibid*, p. 462.
- 18) Ibn Abi asaiba Al-Khazraji, previous source, P. 41.
- 19) Ibn Abi asaiba Al-Khazraji, the same source, P. 43; Mohammed Bashir Hassan Rady al-Amiri, *op. cit.*, p. 17; Angel Third Palencia, *op. cit.*, p. 463.
- 20) The same, P.: 43.
- 21) The same P.: 44; Mohammed Bashir Hassan Rady al-Amiri, *Ibid*, p.: 21, 22
- 22) The same, P.: 45.
- 23) The same, P.: 46.
- 24) The same, P.: 46; Mohammed Bashri Hassan Rady al-Amiri, *Ibid*, p.: 23.
- 25) Discorides: a Greek physician and herbalist, born in the town of Ain Zarba near Tarsus in the south of Asia Minor and therefore named in European sources (Discorides – Ain Zarbio), i.e. destourides ain Zarba, lived in the first century AD, and was famous for his writings on medicinal compounds from herbs; see: Hussein Youssef doirar, Andalusian society in the Umayyad era (138 Ah-422 Ah/755 ad-1030 ad), al-Hussein Islamic press, the Egypt, 1994, p.433.
- 26) Ibn Abi asabah, previous source, pp. 46, 47.
- 27) Ibn Abi asaiba, the same source, pp. 47 et seq.; Husayn Yusuf duwayrar, *ibid.*, pp. 435, 436; ankhel genthath balensia, *ibid.*, pp. 460.
- 28) Abdul Karim bin Ibrahim al-Samak, "medicine and doctors in the Islamic Civilization – A Reading in the book" the eyes of the news in the layers of doctors for ibn Abi asaiba", in the journal: conditions of knowledge, P.76-P. 19, issued by the King Abdul Aziz Public Library, 1436 Ah/2014g, P: 57.

- 29) Ibn Abi asaiba, previous source, pp. 47, 48 and beyond; Muhammad Bashir Rady al-Amiri, previous reference, pp. 16 and beyond.
- 30) Ibn Abi asaiba, the previous source, P. 39; Muhammad Bashir Hassan Radi al-Amiri, the previous reference, P.74.
- 31) Angel Third Palencia, op. cit., P461.
- 32) Mohammed Bashir Rady al-Amiri, Ibid, p. 76.
- 33) Abbas Mahmoud Akkad, op. cit., p. 35.
- 34) Abdul Karim bin Ibrahim al-Samak, Ibid, p. 58.
- 35) Mohammed Bashir Rady al-Amiri, op. cit., p. 10.
- 36) Abdul Karim bin Ibrahim al-Samak, Ibid, p. 58.
- 37) Abbas Mahmoud Al-Akkad, op. cit., p. 37; Angel Third Palencia, op. cit., p. 464.
- 38) According to Bashir Rady al-Amiri, Ibid, p. 10
- 39) Abbas Mahmoud Akkad, ibid, pp. 39, 40.

References

- 1) Abbas Mahmoud al Akkad, the impact of Arabs on European civilization, Nahdat Misr for printing, publishing, and distributing, Egypt.
- 2) Abdelkader maziz, prophetic medicine: representations and practices-Ruqayya as a model, thesis submitted for the degree of Doctor of Science in folk arts, Tlemcen, 1437-1438 Ah / 2016-2017 ad
- 3) Abdelkarim Bin Ibrahim al Samk, "Medicine and Doctors in Islamic civilization, reading in the book of Eyes of news in the classes of doctors" of Ibn Abi Ousaibiya in the Journal of Knowledge conditions, N 76, P 19, Published from the public library of Abdulaziz, 1436 H, 2014.
- 4) Ángel González Palencia, The History of the Andalusian thought, Hussain Munis, The Library of the religious culture. Egypt, B, T.
- 5) Hussain Youssef Dwairar, Andalusian Society in the Umayyad (138H, 433 H, 755 H, 1030 M).
- 6) Ibn Abi Ousaibiya al Khazraji, Eyes of news in the classes of doctors. Al Wahbia press, 1883.
- 7) Margaret Lopez Gomez, "Cultural contributions to the Muslim world in Europe via Andalusia", In the book: Arab-Islamic Civilization in Andalusia, the Centre for Arab Unity Studies, Lebanon, 1998 part 2, P 1478.
- 8) Mohammed Hamza Ismail al-Radar, Al-majmal in antiquities and Islamic Civilization, Zahra Al-Sharq library, Cairo, 1979.
- 9) Mokhtar Salem, Islamic medicine between creed and creativity, the institution of Al Maarif, Beirut, 1988.
- 10) Mokhtar Salem, Islamic medicine between faith and creativity, Maarif Foundation, Beirut, 1988.

- 11) Muhammed Bachar Hassan Radi Al Amiri, chapters in in Medicine and Pharmacy Creations in Andalusia.
- 12) Muhammed Humza Ismail al Haddar, the Outline of Islamic antiquities and Civilization, the library of Zahrat al Chark, Cairo 1979.
- 13) Sigrid Hunke, the Arab sun shines in the west (the impact of Arab civilization in Europe): Farouk Baydoun and Kamel Dasouki, Dar el Jeil, Dar al Afak publishers, Beirut, Volume 8, 1993.