

THE RELATION BETWEEN GREEK AND ISLAMIC MATERIA MEDICA.

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ABSTRACT

Many studies have been made on the exact date of the introduction of Greek sciences to the Arabic culture. During the 8th and 9th centuries A.D. A big progress was done in the Arab-Islamic sciences, when the Caliphs of the Omayad and Abbasid dynasties invited many scientists, researchers and translators for translation of all sciences into Arabic. The Arabs paid special attention to the Greek natural sciences such as botany and pharmacy. Greek materia medica was a major common basis for Arab-Islamic medicine and pharmacy which in turn paved the way to the modern pharmaceutical therapy.

No wonder that people every where get interested day by day in medicine and physicians who left valuable heritage in medical knowledge from ancient Egypt, ancient Greece, India, Persia, Arabia.. etc., so diversified and scattered communities, but having a common goal ... the relief of human pain and diseases that attacks them. So medical sciences were the earliest civilised culture that translators were urged to accomplish, crossing that enormous barrier ... the language barrier.

Arab-Islamic sciences could impose their influence on Europe for nearly five centuries, since its peak was attained before the end of the 12th century A.D., when a strong and rich scientific wave rouse in the Islamic world, making the Arab scientists of the 10th and 11th centuries A.D. the greatest scientists and philosophers of their time. So,

during the 13th century A.D., the Europeans took from them the greater part of their knowledge.

The Arab-Islamic medicine was far more developed, compared with the scanty bits of medical informations of western Europe. But soon, during the 16th and 17th centuries A.D., the Arab physicians stopped to develop more of their medical researches owing to the great opposition of some fanatic groups of religious moslem leaders to the craft of anatomy and dissection of human bodies. The Europeans went on and continued with their anatomical discoveries and could find more about the human organs and diseases..

Many studies have been made on the exact date of the introduction of Greek sciences to the Arabic culture. During the first quarter of the 7th century A.D., up to the beginning of the 8th

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century A.D., the Arab-Islamic conquests covered a vast area of Asia, Africa and Europe, coupled from the first beginning with the preservation of all the heritage of the previous civilisations in the invaded countries.

During the 8th and 9th centuries A.D., a big progress was done in the Arab-Islamic sciences, when the Caliphs of the Omayyad and Abbasid dynasties invited many scientists, researchers and translators to stay at their palaces in order to give them ample time and care so as to encourage them in their historic and important task.. the translation of all sciences into Arabic.

In the 10th century A.D, the very rich development of the Islamic civilisation was completed from the Indian borders up to the Atlantic ocean, with the Arabic language as the supreme language for sciences, culture, literature, arts, trade..etc.

In Egypt, the Alexandrian Mauseion was still existing at the time of the Arabic invasion in 639 A.D, and could participate in the translation of the Egyptian and Greek sciences to the Arabs in to the Arabic language from the preserved manuscripts. The Arab rulers were very respectful to those remaining philosophers, scientists and physicians who helped greatly in the translation of the manuscripts which could survive from the destruction by the Romans. Few academies and scientific schools were still active in the 6th and 7th centuries A.D. In Egypt.

In Baghdad, round the second half of the 8th century A.D, there lived many Indian physicians who could translate many Indian medical books from the

Sanskrit language into the Arabic, such as Saleh ibn Bahla Al-Hindi (during the reign of the Caliph Harûn Al-Rashid), Menka Al-Hindi, ibn Dahn Al-Hindi (who was the director of the Bimarestan of Baghdad in 802 A.D.), Tomshel Al-Hindi (who wrote a book entitled "Al-Tawahhoum fil Amraad wal Elal", and also a book entitled "Fi Ma' a Dar wa Ma 'a Dawa 'a". The Indian influence was so great that every pharmacist in Iraq had an Indian assistant who was specialised in preparing drugs.

Also, many Persian philosophers were engaged in Baghdad in translating hundreds of Persian scientific books into Arabic. Of these translators were; Abdullah ibn Al-Mokaffa, Gabalah ibn Salem, Ishaq ibn Yazid, Mohammad ibn Al-Gahm Al-Barmaki, Omar ibn Al-Azqan... and others. Of the medical books that they translated, the one which was highly appreciated.. the medical text of Thiodorus the Christian.

The Arabs got also much benefit from the Syrian medical schools that were forced to cease action such as the Nestorian school of Al-Roha in Northern Syria in 479 A.D., after being persecuted by the Romans, and its scientists, who knew very well the Syriac and Greek languages, moved to the city of Naseebaen, then later to Gundi-shapur city in Persia... thus were hired to translate many scientific books from Syriac and Greek into Arabic.

Also, many intellectual Christian scientists from the cities of Antioch, Al-Haera, Gundi-Shapur and other cities of Syria, Iraq, Persia were engaged, by orders from the Caliphs, to translate scientific books from different languages

into Arabic. Gundi-Shapur city became very renowned and famous specially after the new Platonic school of Athens was closed in 529 A.D. By the order of the Roman Emperor Justianianus, and many of its philosophers fled to Gundi-Shapur and continued their activities on a wider scale, specially after the Arab invasion of Persia.

Many of Gundi-Shapur physicians became very famous such as Gergius ibn Bakhtaisho'a .. the head physician of Gundi - Shapur school, Yohanna ibn Masawaeh.. the private physician of the Caliphs. Of the famous Syriac-Arabic translators were; Bergis Al-Rohawi, Sergius Al-Ras Aini, Ahroun Al-Qess, Theodosius the Patriarch, Athanasius.. the Arabic Archbishop, becoming essential intermediators between the Greeks and the Arabs.

One of the most important translators was Hunain ibn Ishaq, born in the city of Al-Haera, became the pupil of Yohanna ibn Masawaeh (Masawaeh the father, was a pharmacist, working in Gundi-shapur Bimarestan's pharmacy, later on, migrated with his son Yohanna to Baghdad. Yohanna (777-857 A.D.), became very famous as the private physician of the Caliphs Al-Rashid up to Al-Mutawakkel. Yohanna wrote many important medical books besides teaching medicine in Baghdad.). Hunain became excelled in the Greek, Syriac and Arabic languages, together with some Persian. He translated many medical books from the Greek and Syriac into Arabic.

Hunain became the head of the school of translators at Dar-Al Hekma in Baghdad, with many pupils under his service as assistants. Of the famous

assistants who knew very well Greek, Syriac and Arabic were.. Stephan ibn Basil, who translated the important book "De Materia Medica" by the Greek Botanist Dioscorides. Others are Issa ibn Yahia, Abu Yacoub Ishaq ibn Hunain (Hunain's son), Hubaish ibn Al-A 'asum (Hunain's nephew), Abu Othman Said ibn Yacoub Al-Damashqi.

Hunain used to revise and correct those translated medical books of his assistants; books such as those of Hippocrates, Galen, Paulus Aginata. He was highly esteemed by the Caliph Al-Mutawakkel, and no other translator could reach the skill of Hunain since he was very keen in choosing the right words in translations from Greek to Arabic.

This flourished movement of translation enabled the Arabs to master and get benefit from the diverse varieties of knowledge from different past and present cultures, with the Greek civilisation on top, resulting in that the ancient Greek medicine affected greatly the Arab-Islamic medicine rising high to its golden age, using the books of Hippocrates, Galen Dioscorides and many others.

The Arabs added a lot to the ancient Greek medicine, in that they reorganised its theoretical information, made plenty of remarks and corrections, described several diseases unknown at the time of the Greeks. Of the very first Greek groups of books which were translated into Arabic were the "Collection" by Hippocrates, son of Heracles.. head of physicians and the student of Asclepias II.

The Arabs paid special attention to the Greek natural sciences such as botany and pharmacy. The Greeks

described many medicinal plants that were used in therapy. The Arabs excelled the Greeks in pharmacognosy, pharmacology, but depended mostly on the famous book of "De Materia Medica" of Dioscorides, born in 65 A.D. in the city of Anazarbe in Asia Minor, during the reign of the Roman Emperors Claudius and Nero (41 - 68 A.D), later joined the Roman army as a physician, visited many countries of the mediterranean sea. He investigated several earlier books on Materia Medica, added to it much from his personal remarks and observations and corrected some of its mistakes.

This famous book contained seven chapters on vegetables, animals, minerals, poisons with over 600 medicinal plants and more than 1000 drugs. The book became the main text book for many centuries and replaced other former medical volumes to both eastern and western countries. The Arabs called this book "Kitab Al-Hashaesh." (The Book of the Herbs) or "Men Hioli Al-Tibb."

The best Arabic translation of this book was done by Hunain ibn Ishaq, and was revised by Stephan ibn Basil.. the translation was done directly from the Greek into Arabic. In this book, many of the drug names were left in its original pronunciations, in Arabic letters, due to the lack of the appropriate Arabic words.

After the elapse of a century from the first translation of Dioscorides book, the Emperor of Constantinopolis gave a Greek copy of this book as a gift to the Andalusian Caliph Abdul Rahman Al-Naser, who in turn, ordered the Jew-

ish physician Hasday ibn Sabrou to translate it into Arabic, with the help of the monk Nicoladis (who was sent by the Emperor accompanied with the book for that purpose), and assisted by Mohammad Al-Shaggar, Al-Bisbasi, Abu Othman Al-Gazzar known as Al-Yabsi, Mohammad ibn said Abu Abdullah Al-Saqilli.

This new Arabic translation of the book was also incomplete, but had a great effect on the medical life in Andalusia. This book was quoted by many physicians and pharmacists of the Islamic Empire, specially those at the time of the Arabic renaissance who studied it carefully through its various translations, added many comments from their vast experience.. of them as ibn Sina (Avicenna) who corrected many of its misleading names of plants.

Of the famous Islamic scientists who quoted much from Dioscorides "De Materia Medica" in its Arabic version were:

1 - Sabour ibn Sahl; a Christian physician from Gundi Shapur and a contemporary of Hunain ibn Ishaq. He wrote a famous book "The Great Aqrabazin" which became the Pharmacoepia of the pharmacists for many centuries (this book comprises 22 chapters). In the 12th century A.D, another book replaced it, written by ibn Al-Telmiz. Sabour died in 869 A.D.

2 - Ali Abbas Al-Majusi (Haly Abbas to the Latins); wrote a famous book called "Kamel Al-Sena' a Al-Tibbiya" or "Al-Kunash Al-Malaki" (later translated into Latin entitled "Liber Regius" by Constantinus Africanus in the 11th century A.D, then retranslated by

Stephanus of Antioch in 1492 A.D, with an annex of a glossary in Greek-Latin and Arabic languages).

3 - Al-Zahrawi (Abul Qassim ibn Abbas Al-Zahrawi) (936-1013 A.D.), known as Abulcasis to the Latins. He became a famous physician and surgeon, wrote a famous book "Al-Tasrif."

4 - Ali Al-Tabari (Abul Hasan Ali ibn Sahl Al-Tabari); a Christian physician from Tabarestan, reverted later to Islam in 840 A.D., became famous in 850 A.D. He wrote a book "Firdous Al-Hikmat" (Paradise of Wisdom) ... one of the earliest Arabic compendiums on medicine and pharmacy, quoted much from Dioscorides and various Indian books on drugs.

5 - Al-Dinawari (Abu Hanifa Ahmad Dawud ibn Wandad Al-Dinawari), wrote a book entitled "Kitab Al-Nabaat" (Book on the Plants), died in 895 A.D.

6 - Ibn Juljul (Abu Dawud Soliman ibn Hasan ibn Juljul), (943 - 1005 A.D.), lived in Cordova, Spain. He wrote a book in 982 A.D. on Materia Medica called "Tafsir Asma 'a Al-Adwiya Al-Mufrada min Kitab Dioscorides" (Explanation of the names of simple drugs from the book of Dioscorides).

7 - Al-Razi (Abu Bakr Mohammad ibn Zakariya Al-Razi), known as Rhazes to the Latins. He wrote a book called "Al-Hawi fil Tibb" (translated into Latin and named "The Continens"). It was quoted from Dioscorides book, other Greek, Syriac, Persian, Indian and Arabic books on drugs.

8 - Ibn Sina (Abu Ali Al-Hussein ibn Abdullah ibn Sina); known as Avicenna to the Latins, (980 - 1037 A.D.), wrote his famous book " Al-Qanun fil Tibb",

having the 2nd part quoted entirely from Dioscorides book.

9- Ibn Wafid Al-Lakhmi : spent 20 years in writing his book "Fil Adwiya Al-Mufrada" (on Simple Drugs), translated later to Latin under the name "Medicamentus Simplicibus," mostly quoted from Dioscorides and Galen.

10 - Al - Ghafiqi (Abu Ga 'afar Ahmad ibn Mohammed ibn Al-Sayyed Al-Ghafiqi), born near Cordova, Spain, and died in 1165 A.D. He wrote his famous book "Kitab Al-Adwiya Al-Mufrada" (Book on Simple Drugs, entirely quoted from Dioscorides, with additions made by him comprising the description of new plants and drugs unknown to the ancient Greeks. This book was abridged later on by ibn Al-Abri (Abul Farag Ghreghorius) known as Barhebraeus (1226 - 1286 A.D).

11 - Ali ibn Radwan, (998 - 1061 A.D); an Egyptian pharmacist, wrote many medical books based on the works of Hippocrates" The Collection," Galen, Dioscorides, Rufus (a Greek physician who lived in the 2nd century B.C), Oribasius (a Roman physician, lived in the 4th century A.D), Paulus Aeginata (lived in the 7th century A.D and was known to the Arabs as Al-Qawably (the Midwifer), wrote a famous book in seven parts on gynaecology and midwifery, with the 7th part on drugs).

12 - Al - Sharif Al-Idreesi (Abu Abdullah Mohammad ibn Mohammed ibn Abdullah ibn Idress); (1100 - 1166 A.D), of Andalusian origin, wrote most of works in Sicily, specially his famous book "Al-Game ' a Lisifat Ashta'at Al- Nabaat" (The Collection of Plant description), mentioning many trees, fruits, herbs,

flowers, animals, minerals...with their names in Syriac, Greek, Persian, Latin and Berber languages. He wrote that; ... he found many physicians get mixed up with several names of simple drugs, different from what Dioscorides wrote, so he described which of which were mentioned by Dioscorides.

13 - Ibn Al - Biytar (Abu Mohammad ibn Abdullah ibn Ahmad ibn Al-Biytar Al-Malqi), (1197 - 1248 A.D), recognised as one of the greatest Islamic botanists and pharmacists, he wrote his famous book "A-Game'a Fi Mufradat Al-Adwiya wal Aghzia", comprising more than 1400 drugs, 300 of them were not mentioned in any book before. He quoted much

from Dioscorides materia medica, also from Al-Razi, Al-Zahrawi, ibn Wafid, ibn Samgoun, Al-Ghafiqi and others. This book of Al-Biytar was quoted by later pharmacists such as Youssif ibn Ismail Al-Kotbi Al-Baghdadi in his volume "Ma La Yas'a Al-Tabib Gahloh", also by Abu Al- Mona (Kohen Al- Attar) in his book :Menhag Al-Dokkan by Dawud Al- Antaki in his book" Tazkerat ulu Al-Albab"... and others.

To conclude, Greek materia medica was a major common base for Arab-Islamic medicine and pharmacy which in turn, paved the way to the modern pharmaceutical therapy.

सारांश

यूनानी तथा इस्लामी औषधद्रव्य विज्ञान के बीच सम्बन्ध

- समीर याह्या अल-गम्माल

अरबी संस्कृति से यूनानी विज्ञानों के परिचय के सम्बन्ध में वास्तविक समय निर्धारण के विषय में अनेक अध्ययन किये गये । आठवीं तथा नवीं शताब्दियों के मध्य में अरब-इस्लामी विज्ञान के विभिन्न क्षेत्रों में बहुत प्रगति हुई, जब कि उम्याद तथा अब्बासिद राजवंशज खलीफाओं ने बहुत से वैज्ञानिकों, शोधकर्ताओं और अनुवादकों को आमंत्रित किया था । यूनानीयों के प्राकृतिक विज्ञानों जैसे वनस्पति विज्ञान तथा औषधनिर्माण शास्त्र की ओर अरबों ने विशेष ध्यान दिया । यूनानीयों का औषध द्रव्य विज्ञान अरब-इस्लामी चिकित्सा तथा औषधनिर्माण विज्ञान के लिये प्रमुख उभयनिष्ट आधार था जो कि बाद में आधुनिक भेषजीय चिकित्सा के लिये मार्ग प्रशस्त किया ।