

HEALTH SCIENCES IN EARLY ISLAM

Volume II



Collected Papers By Sami K. Hamarneh
Edited By Munawar A. Anees

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HEALTH SCIENCES IN EARLY ISLAM

COLLECTED PAPERS BY SAMI K. HAMARNEH

EDITED BY MUNAWAR A. ANEES

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Publisher's Note

HEALTH SCIENCES IN EARLY ISLAM was published in 1983 by Zahra Publications and Noor Health Foundation. This book is based on the collected papers of the eminent Dr. Sami Khalaf Hamarneh. This collection was a ground breaking project commissioned by Shaykh Fadhlalla Haeri and undertaken by Dr. Munawar Ahmed Anees.

Dr. Hamarneh was born on February 2, 1925 in Madaba, Jordan. He did his B.Sc. in Pharmacy in 1948 from Syria and his Masters in Pharmacology and Pharmaceutical Biochemistry in 1959. He was awarded a PhD from the University of Wisconsin. He retired as Curator Emeritus from the Division of Medical Sciences at The Smithsonian Institution in 1979. Dr. Hamarneh subsequently set up the Institute for the History of Arabic Sciences in Aleppo, Syria and then worked with the Faculty of Medical Sciences, Yarmouk University in Jordan. In his extensive research to collect the papers in this book, Dr. Hamarneh pursued original Arabic manuscripts in libraries throughout the world during a period of nearly thirty years. He passed away in Washington, D.C. on December 3, 2010.

Dr. Anees is an eminent academician who undertook this onerous commission of producing HEALTH SCIENCES IN EARLY ISLAM. Dr. Anees was born in Pakistan and undertook his initial education from Lahore. During his career he has acted as a consultant to the John Templeton Foundation, Personal Advisor to the Deputy Prime Minister of Malaysia, and was nominated for the Nobel Peace Prize in 2002. He founded the premier journal on Islam and the Muslim world, *Periodica Islamica*. He has advised the U.N. in various capacities on reproductive health in the Muslim World. Dr. Anees has been a prolific writer and contributor to major academic journals. He has published a number of seminal works a full list of which is available at <http://www.islamicresourcebank.org/bios/aneesmuna.pdf>.

The huge effort to bring this groundbreaking work, HEALTH SCIENCES IN EARLY ISLAM, into the digital realm has been made possible through the diligent work undertaken by Mr. Anjum Jaleel. Mr. Jaleel is responsible for bringing the entire Zahra Publications library into eBook format. His incredible dedication and hard work has made this work possible.

HEALTH SCIENCES IN EARLY ISLAM is a pioneering study of Islamic medicine that for the first time made available new chapters of knowledge in the history of healing sciences. This work was published in two volumes in 1983 and, with the publication of this second volume, we

have now completed this eBook project. This book project covers the development of Islamic Medicine between the 6th and 12th centuries A.D. Transcending mere medical historiography, this publication offers a unique and authoritative account of the philosophy, history, methodology and practice of the Islamic health sciences.

This work provides an exceptional opportunity to scholars, researchers and students in such diverse areas as Islamic Studies, Middle Eastern Affairs, History of Medicine and Biomedical Education. It offers unique insight into the history of Islamic medical education, Arab medical historiography, biographies of eminent physicians, pharmacology, surgery, surgical instrumentation, therapeutics and preventive medicine.

This major academic work on the medieval Islamic world, which produced some of the greatest medical thinkers in history and made major advances in surgery, is a necessary text for all interested in understanding the great contributions made during the 6th to the 12th centuries A.D. This work must be a necessary part of any major academic institution or library interested in the contribution of Islam to Health Sciences.

Zahra Publications looks forward to receiving feedback from the readers of this text and hopes to continue publishing major works on Islam digitally.

Book Description

HEALTH SCIENCES IN EARLY ISLAM is a pioneering study of Islamic medicine that opens up new chapters of knowledge in the history of the healing sciences. This two volume work covers the development of Islamic medicine between the 6th and 12th centuries A.D. Transcending mere medical historiography, this publication offers a unique and authoritative account of the philosophy, history, methodology and practice of the Islamic health sciences.

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About Sami K. Hamarneh

Dr. Hamarneh was born on February 2, 1925 in Madaba, Jordan. He did his B.Sc. in Pharmacy in 1948 from Syria and his Masters in Pharmacology and Pharmaceutical Biochemistry in 1959. He was awarded a PhD from the University of Wisconsin. He retired as Curator Emeritus from the Division of Medical Sciences at The Smithsonian Institution in 1979. Dr. Hamarneh subsequently set up the Institute for the History of Arabic Sciences in Aleppo, Syria and then worked with the Faculty of Medical Sciences, Yarmouk University in Jordan. In his extensive research to collect the papers in this book, Dr. Hamarneh pursued original Arabic manuscripts in libraries throughout the world during a period of nearly thirty years. He passed away in Washington, D.C. on December 3, 2010.

FOREWORD

A Discourse on Health by Shaykh Fadhlalla Haeri

Man always seeks his own well-being. From the moment he is conscious of his existence he strives towards this end, attempting to improve his condition along a path of many diverse actions and circumstances. However, in order to attain ultimate well-being man must recognize that all these diverse occurrences must converge upon one state – a state of positive neutral consciousness.

In the same way as there is a direction in time moving from moment to moment, along a seemingly certain pattern, so there is a direction in the pursuit of this state of neutrality. Man's direction in the pursuit of health generally begins outwardly and moves inwardly. There is a parallel improvement in either condition. The less concern one has with outer physical health, the more one is free to attend to inner spiritual health; and that can only be achieved if one is fit and healthy.

We want to be free. Freedom, in fact, is another definition of this state of positive neutrality. Material freedom is sought by man so that he may survive and exist as a biological entity that has a prevailing influence over everything else. It is necessary for him to have outer well-being, but that alone is not sufficient in his quest for neutrality, because he is seeking something that is beyond his own horizon. How can he look at that horizon, let alone beyond it, if he is too preoccupied with his own immediate situation?

We are able to recognize the constant shifting from one extreme to another, from illness to wellness, yet we know there is a foundation of neutrality beyond this duality. In fact, the more we are in a state of stable neutrality, the more we see the extreme ends of the scale of duality. It is for this reason that the more the man of *tawhid* (divine unity) gains materially, the more he recognizes the necessity to debase himself in order to maintain a healthy balance. The man of wisdom also recognizes that the more he has genuinely debased himself, the more he will rise. This is the ecological reality.

Searching for longevity is a proof of the echo of everlastingness within man. But often this is misinterpreted and translated into a desire for perpetual youth. There is a contradiction in man's aspirations; he wants to have complete neutrality, yet he knows that every moment is

based on turmoil, for time arises out of dynamic movement and flux. It is through the light of his own consciousness that he may recognize the folly of this desire.

The man of wisdom recognizes that the solid foundation within him is beyond turmoil, because it is based on timelessness, on a cause that is unchanging. Our fixation with the outside is an indication that we are seeking the changeless, but this search lies in the wrong direction for the outside will always change. Our desire for perpetual life is a proof that we contain in us the essence of immortality. This desire, however, is perverted because it is impossible to preserve our bodies forever. Whether we like it or not, they exist in dynamic flux along the direction of time, from the womb to the tomb.

We have no choice but to seek health, and we should recognize that the purpose of outer health is to produce inner health, which cannot be maintained unless the immediate environment is in ecological balance with it. We would then realize that our immediate environment is not separate from the outer environment around us, from the overall environment, from the whole earth and from the whole universe. Hence we must recognize a universal health. If we start from the microcosmic health, we end up with the macrocosmic health. Therefore, if we want to be healthy we must want to heal those around us. Balanced outer health will eventually lead to inner health. If we maintain full outer health, we increase the possibility of inner health. For the inner self, conviction is its health, vigilance its wakefulness, indifference its slumber. Self-knowledge is its life, and self-ignorance its death. If we feed and nourish the self-knowledge, which is already ingrained in each individual, ignorance will vanish. The result will be complete harmony between the outer and the inner.

We find throughout history that a high degree of respect was always shown both to men of inner and outer knowledge. They were often combined in the same men, for those of inner knowledge were also endowed with much outer knowledge, including the knowledge of outer health. They were men who could nourish people's hearts and reassure them that this transitory existence is only an aspect of the endless existence of Reality, that there is One Cause behind all of these effects – Allah, from Whom everything emanates, by Whose Grace everything is supported, and to Whom everything will eventually be returned. This knowledge is connected with the state of equilibrium and neutrality which was mentioned earlier.

Islamic Medicine takes you into that state of neutrality. It is all based on the Qur'an, on that which is real and permanent, because we are all seeking permanency. Islamic Medicine is the

medicine that is going to cure us. The man of submission recognizes that this world is a laboratory into which we have come in order to learn the meaning of purity. It is another stage of growth within us. First there is growth in the womb of which we are unconscious, then there is growth outside the womb of which we are conscious. What we are conscious of is the problem; we may, for example, be conscious of nothing other than confusion. We cannot be separate from our cause. The effect has come from that cause. The cause permeates all and is closer to us than our jugular vein.

The seeker of reality views this world as a hospital in which he is a patient. Whether we like it or not, we are here to achieve ultimate well-being, which is to drown in the well of Oneness so that we see nothing other than the One Cause behind what appears to be confusion. The real *hakims* were seekers of Reality. They believed that life is from the Most Beneficent, the Most Glorious Creator, and that if we say there is nothing other than His generosity and His all-encompassing mercy, then we take wisdom wherever it comes so long as it is recognizable along the path of *Shari`ah*. They therefore collected outer knowledge from many lands – from Egypt, Greece, Rome, India, China – and unified it to obtain the best prescriptions.

These great men of Islamic Medicine had the strongest spiritual motivation for their work – they themselves wanted to be cured. They were striving for that state of equilibrium and they recognized that the only way they could reach their goal was by abandoning the so-called ‘self’ in the path of service. Their work was for them a vocation and an aspect of worship, rather than a profession. They wanted health for themselves, so they also wanted it for others. They were the instruments of the divine justice and love of the Creator, for by bringing people into outer health they enabled their patients to recognize that there is nothing higher than the Health-Giver.

The hearts of these practitioners were motivated by generosity and by the joy of serving others. They were not archivists who wanted to collect what everybody said and categorize it for the sole purpose of creating books. Their books served either to gather the information they themselves needed for their work or else to disseminate the knowledge to their students. Their knowledge and information was an integrated part of their life, unlike we today who talk about Islamic Studies yet do not live the teachings of Islam. We merely pretend to be the followers of the blessed Prophet, who prayed that Allah give him usable knowledge. Islam is about practicality. Islam is about living fully and joyfully here and now, while retaining that recognition that this existence is temporary and there is a next experience that is beyond time.

If we start from the premise that we, in this world, are moving along a unified direction towards a state of positive equilibrium, we can only be horrified by the current state of medical practice. We find that over the last few decades our doctors have moved more into the area of suppressing symptoms rather than treating the cause of our maladies. The use of ‘wonder drugs’ minimizes the human contact between doctor and patient, reducing the former’s role to little more than a dispenser. The arrogance of our medical profession has caused there to be a false emphasis on outer appearance. Everything looks beautiful – the teeth gleam, the hair shines, but if we touch them they fall to pieces because they are not real.

The reason for this movement towards suppression of the symptoms rather than treating the cause is that modern men of medicine do not see the ecological inter-connectedness of everything. This is why they fragment medicine into small individual disciplines. Furthermore, once the profit motive enters medicine it ceases to heal, for the patient’s overall cure can only come from those who recognize that they want to be cured themselves. The doctor must recognize that inherently he is sick and that his own and others’ ultimate objective must be the knowledge and recognition of the one and only Reality.

At all times man is at a loss. His lower tendencies are always there, dragging him down towards the animalistic levels within him, but he also knows that he contains a higher, divine consciousness which he wishes to reach. The way to that higher self is through the path of service. In the service of others he himself is spontaneously elevated; he moves into the realm of abandonment, into that positive neutrality. He recognizes experientially that the more he gives, the more will come to him. The more he is generous, the more the one and only generous Creator will shower him with blessings.

Allah in His Mercy wants to unify what is in us with what is outside us. If we say we believe in Allah, then Allah will afflict us to allow us to witness ourselves, to see whether we truly mean what we say and do what we say we will do. If a person claims to be adhering to the basic tenets of Islamic healing, he must himself profess the abandonment of Islam. If he is in that abandonment he will have total trust in Allah. If he is worried or unhappy, that is his own doing, for at that moment of concern, worry or unhappiness, he is not in a state of full abandonment.

The great *hakims* would often find the medicine close to where the illness lay. They believed that where there is the action there is also the reaction. There is always a solution close to every problem. These *hakims* went to the source of the problem, transforming it, rather than treating its

outer effect as happens more and more in our system of medicine today. Islamic Medicine is far more difficult to practice. It takes inspiration, perspiration and abandonment to reach the root of the problem and unify the cause with the effect.

Through the publication of *'Health Sciences in Early Islam'*, Noor Health Foundation hopes to increase the breadth of the platform from which it will serve. It is a platform based on the belief that no one in this creation is separate from the cause of their existence – every effect is a manifestation of its cause. We are all from the one and only Cause. We are all created by one Creator. We are all sustained by His mercy through diverse ways. The more we can share together on that platform of service and abandonment, under the umbrella of true submission and following in the footsteps of the blessed Prophet, the more we will have a safer and healthier path through this life. Those of us who are endowed with better health and more time and energy will be given more and more of these delights, provided we adhere to the path of abandonment and service.

We hope that this book will help lead to the practical revitalization of our heritage. This will only happen if we claim the knowledge of our forefathers in the correct way. If we inherit something whose value we do not fully comprehend we will end up only talking about it and relegating it to museums. This has hitherto been the fate of the Islamic Sciences, which is a contradiction of the spirit in which they first evolved. They were part of a unified approach to knowledge, derived from the inspirations of men of abandonment. They did not come about in the usual, acquisitive, categorizing manner. There is nothing wrong in categorization provided it is used as an instrument through which a desired objective may be achieved. Nowadays, however, the business of writing and researching has become an end in itself. This is why we find such a big difference between the academic arena and the field of action.

This book supports the ultimate goal of man, which is to live a life of spirituality, a life which is in every sense healthy. With this book, Noor Health Foundation hopes to create interest in a unified approach to the healing arts, and to move hearts to recognize the bad situation into which we have inadvertently fallen by ignorantly renouncing the path of those who knew, the path of the seekers of Reality who went before us.

May Allah bless all those who will benefit from our attempts. May Allah purify our intentions and those of our publishers, who have worked with us. May Allah increase the strength of all of those who will be involved in this endeavor along the one and only path of safe

conduct. May Allah show them that the knowledge of the way lies from within and that its boundaries are the most glorious. May Allah give us the protection so that we recognize the one and only Reality behind everything.

INTRODUCTION

History of Islamic Medicine – An Introduction

The explication of conceptual and methodological basis of Islamic Medicine as the record of its past achievements constitute a challenge to the historians of biomedical sciences. For nearly one thousand years, the form and the content of this medical system have been vigorously pursued, imbibed and practiced in the West – ranging from outright plagiarism of the original Arabic texts in the pre-Renaissance period to the late eighteenth-century studies of Muslim masters across the Western medical institutions. However, when it comes to Islamic Medicine, a curious mixture of silence or a grudging acknowledgement of the historical debt is all that is offered by the historians. Whether this fallacy is a manifestation of the prejudice against things Saracenic or a later attempt for the maintenance of cultural hegemony, intellectual fairness demands that historical justice should prevail.

Beginning with the early twelfth century *Hijra* (eighteenth century C.E.), Islamic Medicine showed a decline in much of the Muslim world, perhaps as a corollary of the colonial rule. The modern medical system, based on mechanistic models and characterized by divisive and fragmented strategies, gradually started taking roots. For a while, the modern medical technology appeared to be outshining the time-honored holistic healing approaches of Islamic Medicine. It must be remembered, however, that in spite of two long centuries of colonial rule with a concomitant sway of the modern biomedical technology, Islamic Medicine could not be wiped out from Muslim lands. In greater part of the rural settings, it still holds the prominence and is beginning to stage a comeback at conceptual and thematic levels, as adjudged by a bibliographical survey of the recent Muslim literature (see [A Select Bibliography on Islamic Medicine](#), this volume). Needless to say that a tremendous amount of intellectual groundwork, that spans from a redefinition of epistemological and methodological approaches to the development of appropriate biomedical technologies, is called for if Islamic Medicine is to resume its role as the greatest unifier of human knowledge.

Noor Health Foundation

In an attempt to find ways and means to revitalize interest in the historical role and futuristic applications of Islamic Medicine, the Foundation was incepted in the year 1402/1982. The

Foundation has sponsored a few modest projects, including the establishment of health clinics in the Muslim world, publication of preventive medical education material in vernacular languages, and the development of a depository of rare medical manuscripts for future research and reference. To further the cause of Muslim biomedical scholarship, the Foundation has sponsored publication of present work in the hope of making a contribution towards this great arena of Muslim endeavor.

NHF Monographs

The foundation has established a network of prominent Muslim biomedical who act in an editorial advisory capacity for the development of its program of scholarly publications. A list of members of the Editorial Board appears elsewhere in this volume. The present two-volume work, *Health Sciences in Early Islam*, is based on the collected papers of Sami Khalaf Hamarneh, Curator Emeritus, Division of Medical Sciences, The Smithsonian Institution, Washington, DC. The interest in publishing the present collection developed when this author learnt of Hamarneh's rather premature retirement from the Smithsonian Institution in 1979. First in Washington, DC, and later in Los Angeles, several meetings paved the way for this project. Hamarneh's preoccupation with the newly-founded Institute for the History of Arabic Science in Aleppo, Syria, delayed this project. However, once the Institute and its *Journal* got off the ground and the work was resumed, we realized that our search for a publisher was a futile one. Even Hamarneh's impeccable credentials for scholarly publishing did not do the trick! It was through Shaykh Fadhlalla Haeri's enthusiastic support that an agreement was reached to publish this collection as the premier volumes of *NHF Monographs*.

The papers included in the present collection were published over a period of more than two decades in various international journals. For the sake of uniformity of style, these papers underwent a long and tedious process of editing that involved extensive revisions, deletion of repetitious statements, and many appropriate additions. It must be pointed out that unlike other volumes of 'Collected Papers' that are no more than photo-mechanical reproductions of the original, these papers are distinguished by the following features:

1. Inclusion of *Hijra* dates (approximate) for quick comparison with the Common Era dates.
2. A standardized and uniform phonetic transliteration of Arabic words.

3. A total of eight subject groups with four groups to a volume, followed by the relevant papers in chronological order of original publication.
4. Individualized format with complete bibliographical and copyright information, constituting self-contained papers.
5. The use of standardized Arabic names of authors, i.e., instead of using an-Nafis for Ibn an-Nafis, a major linguistic fallacy, otherwise so prevalent in the Orientalistic literature, has been avoided.
6. Non-cumulative text citations to facilitate individual references for source material.
7. A uniform citation system with little or no abbreviations.

Those who cherish the fruits of human labor and are receptive to a shared cultural heritage, would find an immense wealth of information that has become available to us through Hamarneh's pioneering study of the original Arabic manuscripts. As an index of his life-long meticulous endeavor to dispel the common Western notions, these papers offer a refreshing view of Islamic Medicine. May Allah guide us all to the right path.

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A Select Bibliography on Islamic Medicine

Islamic Medicine appears to be gaining more patrons than ever before. Over the last three years, at least three international conferences were held: two in Kuwait, and one in the United States. The First International Conference on Islamic Medicine in Kuwait led to the formulation of the *Kuwait Document*, that was to serve as an equivalent to the Hippocratic Oath for Muslim medical professionals. In order that the recommendations of the First Conference are implemented, the International Organization of Islamic Medicine was incepted and the following year, in 1982, the second conference was held in Kuwait. A comparative study of the two conference proceedings indicates that the euphoria at the time of the first conference did fade away. It is yet to be seen what happens at the third conference scheduled to be held later this year¹ in Turkey. The American conference sponsored by the Islamic Medical Association of the United States and Canada too appeared to be euphoric as noted by the outcome reflected in the conference proceedings. The *Kuwait Document* fails to incorporate the norms of current medical practice in their entirety and hence, is far removed from meeting the challenge, say, posed by modern advances in molecular biology, recombinant research and reproductive biology. Instead of attempting to update the code of medical ethics in contemporary terms, it remains an outdated archival work – in that sense truly an equivalent of the Hippocratic Oath.

On the publishing scene, especially in the West, *Journal of Islamic Medical Association* (USA) has been able to sustain itself for more than a decade, though with irregular frequency and unpredictable quality. A proposed in-depth study of the history of Islamic Medicine is yet to see the light of day. Recently, Islamic Press Agency started a monthly from its London office: *Islamic World Medical Journal*. It differs from the latter only in the sense that a far greater number of papers are authored by the Western medical professionals, mostly British. Like its predecessor, *JIMA* (USA), what makes it ‘Islamic’ is the inclusion of one or two short papers on the history of Islamic Medicine or interpretation of the modern biomedical phenomenon in the light of the Qur’an and the Hadith. National medical associations such as those in Britain, Pakistan, or South Africa have not yet advanced beyond the level of in-house newsletters – ‘for members only.’

¹ i.e., 1983.

Recent history records a far greater success for the institutionalized work carried out single-handedly by Hamdard National Foundation in Pakistan. Through a vast network of clinics and a regular system of publications, the Foundation has played a major role in retaining some of the original flavor of Islamic Medicine. Pakistan is perhaps the only country where it is an officially recognized profession that enjoys support from the masses as well. A sister organization in India, Institute for the History of Medicine and Medical Research, has been engaged in similar activities.

The current interest to ‘patronize’ Islamic Medicine has inevitably given way to a greater volume of papers, proceedings and other publications. A recent bibliographical compilation by Z.M. Agha incorporates a number of works in Muslim-majority languages such as Arabic, Urdu, Turkish etc., which were left out in the previous works of either Hamarneh (1964) or Ebied (1971). Given the consolation of a renewed numerical ‘strength,’ what are the substantial gains over the last three or four decades of publishing that the said compilation attempts to cover?

In the course of present compilation, the bulk of citations were left out, not for reasons of space or time, but for demands of sanity. It became obvious that the majority of works were either fanciful attachment to the ‘glorious’ past of Islamic Medicine, or half-heartedly written ‘rejoinders’ for the attention of orientalist or philologists, like Manfred Ullmann, whose competence for medical writing is not documented by their training. The present compilation is, therefore, limited to Muslim authors who have either remained safe from these ‘pitfalls’ or have somehow attempted to construct a thematic or conceptual framework for Islamic Medicine in rather contemporary terms. Not that our opinion constitutes a denial of historical validity of the role of Islamic Medicine but the fact is that over-emphasis on the ‘bygone glory’ without well-documented studies on hundreds of thousands of Muslim medical manuscripts becomes self-defeating.

The present compilation strongly points to a dire scarcity of the material objectively elaborating the conceptual basis of Islamic Medicine that is there with its uniqueness and at once compatible with the medical realities of the day. Islamic Medicine is not limited to the rules for ablution or prohibition of pork. It goes far beyond that. In our quest for a viable system for the practice of Islamic Medicine, we must go to its theory – the Qur’an and the Sunnah. It is of little help to seek medical ‘facts’ from these two sources; what is to be sought are the normative guidelines and a way for their application. In a sense Islamic Medicine sums up the totality of

our way of life, an index of our quality of life. Its fabric is enmeshed in the Muslim society and culture. The future of Islamic Medicine rests with our abilities to evolve a balanced and harmonious framework – something that nourished it fourteen hundred years ago.

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- `Abdel-Halim, Rabie` E. (1981) 'Some Urological Aspects of *al-Tibb al-Nabawy*.' In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 17.
- `Abdullah, Tariq and Elkadi, Ahmed (1981) 'The Need for an Islamic Medical Teaching Institution.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 363-366.
- `Abdul Hameed, Hakim (1977) *The Holy Prophet as a Healer*, New Delhi: Institute of History of Medicine and Medical Research, 27 pp.
- `Abdul Hameed, Hakim (1978) 'Medical Ethics in Medieval Islam,' *Hamdard* 21 (7-12): 3-16.
- `Abdur Rauf, Muhammad (1978) 'History of Medical Ethics: Contemporary Muslim Perspective.' In: *Encyclopedia of Bioethics*, Reich, W.T. (Ed.), New York: The Free Press, vol. 2, pp. 892-895.
- Abouleish, `Ezzat (1979) 'Contributions of Islam to Medicine.' *Journal of Islamic Medical Association (USA)* 10(3-4): 28-45.
- Abu Gheda, `Abdul Sattar (1981) 'The Physician's Ethics and Knowledge of Islamic *Fiqh*.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 433-438.
- Abu Saud, Mahmoud (1980) 'The Role of the Muslim Doctor.' *Journal of Islamic Medical Association (USA)* 11(1 -2): 8-11.
- Agha, Zuhair M. (1983) *Bibliography of Islamic Medicine and Pharmacy*, Leiden: Brill, xii+108 pp.
- Ahmad, Mohammad and Ahmad, Nikhat (1981) 'Islam and Psychosomatic Medicine.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 487-490.
- Ahmad, Nazir (1982) 'Some Problems of Research and Teaching of Islamic Medicine in Modern Times.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 127.
-

- Ahmad, Wahaj D. (1982) 'On *Wahy* and Epilepsy.' *Journal of Islamic Medical Association (USA)* 14 (1-2): 23-26.
- Ahmad, Yusuf (1982) 'Contributions of Islamic Medicine: Its Present Status, and Future Prospects.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 124.
- Ahmed, Basheer (1981) 'Islamic Values and Ethics in Prevention and Treatment of Emotional Disorders.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 464-469.
- Ahmed, S. Sultan (1982) 'Muslim Contribution to Modern Medicine, A Paragon of Achievements – A Colossus of Neglect.' *Journal of Islamic Medical Association (USA)* 14 (1-2): 18-20.
- Albar, Mohammed `Ali (1983) 'Embryology as Revealed in the Qur'an and Hadith.' *Islamic World Medical Journal* 1(1): 52-53.
- Alfi, `Omar (1982) 'Islamic Health System in U.S. An Integrated Approach – Educational Options and Research Challenges.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p, 114.
- `Ali, Zeyd Ahmad; Hussain, Sadiq H., and Sakr, Ahmad H. (1981) 'Natural Therapeutics of Medicine in Islam.' *Journal of Islamic Medical Association (USA)* 13 (April): 54-61.
- Always, Mohiaddin (1973) 'The Conception of Life in Islam.' *Majallatu'l Azhar* (English) 45 (March): 1-5.
- Amine, `Abdul Rahman C., and Elkadi, Ahmed (1981) 'Islamic Code of Medical Professional Ethics.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 386-392.
- Anees, Munawar A, (1983) 'History of Islamic Medicine and Pharmacy – Contribution of Sami Hamarneh.' *Hamdard Medicus* 26(2): 67-75.
- `Aroua, Ahmed (1982) 'Islamic Perspectives on Philosophy and Policy of Health.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 128.
-

- Ashour, Saeed A. (1982) 'The Place of Islam in the Curricula of the Medical Faculties.' *Ibid.*, pp. 110-111.
- `Askari, S.H. (1957) 'Medicines and Hospitals in Muslim India.' *Journal of Bihar Research Society* 43: 7-21.
- Assad, Dawud (1981) 'Islam and Spiritual Well-being of Man.' In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 19.
- `Ata-ur-Rahim, M. (1980) 'The Contribution of Muslim Medical Scientists during British Period in India – A Bibliography.' *Journal of Pakistan Medical Association* 30(1): 17-21;30(3): 74-76;30(4): 102-105.
- `Ata-ur-Rehman, Hakim (1959) 'Tibb-e-Nabawi.' *Hamdard* 3(1-2): 101-119.
- `Aziz, M.A. and `Abdul Hameed, Hakim (1977) *Arab Medicine and its Relevance to Modern Medicine*, New Delhi: Institute of History of Medicine and Medical Research, 23 pp.
- Bahar, `Abdul Ahad (1981) 'Islamic Philosophy of Well-being.' In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 20.
- Basalamah, A.H. (1981) 'Tibbi Nabawi.' *Ibid.*, p. 17.
- Basalamah, A.H. (1982) 'The Philosophy in Tibb Nabawi.' *Journal of Islamic Medical Association (USA)* 14 (1-2): 21-22.
- Bassess, M. al-Taieb (1981) 'Rules and Ethics of Medical Practices as Mentioned in Islamic Medical Heritage,' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 411-413.
- Boolaky, Ibrahim (1982) 'The Feasibility of an Islamic Medical Model for the Modern World.' In: *The Second International Islamic Medicine Conference Abstracts*, – Kuwait: International Organization of Islamic Medicine, p. 133.
- Chandpuri, Hakim Kausar (1959) 'Medical Developments in the Mughal Period.' *Hamdard* 3(1-2): 177-190.

- Chaudhry, Noor H. (1981) 'Islamic *Tib* Excellences and How to Reorganize and Acquire them.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 77-86.
- Chishti, Hakim Moinuddin (Robert Thomson) (1980) 'Applications of *Tebb-i-Nabi* to Modern Medical Practice.' *Journal of Islamic Medical Association (USA)* 11(1-2): 18-25.
- Demerdash, `Adel M. (1982) 'Islam and Behavior Therapy: Some Theoretical and Practical Applications.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 8.
- Dogramaci, Ihsan (1982) 'The Future of Islamic Medicine.' *Ibid.*, p. 123.
- Elkadi, Ahmed (1981) 'Correlation between Islamic Values and the Incidence of Cancer.' In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 19.
- Elkadi, Ahmed (1981) 'What is Islamic Medicine?' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 19-24.
- El-Sayyad, Ibrahim (1981) 'The Islamic View of Medicine.' *Ibid.*, pp. 25-41.
- al-Fangary, Ahmed (1980) 'Preventive Medicine in Islam.' *Journal of Islamic Medical Association (USA)* 12(3-4): 35-36.
- al-Fangary, Ahmed (1981) 'Islam's Influence on Medicine.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 500-502.
- al-Fanjari, Ahmed (1982) 'A Scheme of Teaching Islamic Medicine in the Faculties of Medicine.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 115.
- Farooqi, Hakim M. Qutbuddin (1982) 'Spiritual and Religious Aspects of Therapy.' *Ibid.*, p. 10.
- Farsy, M.S. (1964) 'Islam and Hygiene.' *Janus* 51:81-124.
-

- al-Farooqi, Isma`il R. (1977) 'Moral Values in Medicine and Science.' *Journal of Islamic Medical Association (USA)* 8(1-2): 22-23.
- Fatimi, S.Q. (1981) 'A Tenth Century Appraisal of Medicine in Pakistan: A Study in the Cultural Relations of Pakistan with the Balkan Region.' *Journal of Central Asia* 4(1) 75-107.
- Fazlur Rahman (1982) 'Islam and Health. Some Theological, Historical, and Sociological Perspectives.' *Hamdard Islamicus* 5(4): 75-88.
- Gareebo, Hassan (1981) 'An Islamic Code of Medical Ethics.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 406-410.
- Ghaznawi, Hasan (1978) 'Islam and Medicine.' *Journal of Islamic Medical Association (USA)* 9(2-3): 21-24.
- Guraya, M.Y. (1971) 'The Importance of Health in Islam and Islamic Countries.' *Hamdard* 14(3-4): 103-122.
- Hamdi, Tariq Y., and al-Jadiry, A.M.H. (1980) 'The Holy Qur'an and the Psyche.' *Journal of Islamic Medical Association (USA)* 12(3-4): 31-34.
- Hathout, Hassan (1982) 'The Role of Islam in the Programmes of the Faculties of Medicine.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 117.
- Hijazi, `Abdul Rahim (1981) 'The Islamic Medicine: Its Role in the Western Renaissance.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I., (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 57-63.
- Hijazi, `Abdul Rahim (1982) 'Present State and Future Prospects of Islamic Medicine.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 125.
- Hikmet, `Abdul Hakim (1907) 'La Medecine en Turquie,' *Revue du Monde Musulman* 3:38-72.
- Hussain, Iskandar (1980) 'The Clot (*al-`Alaq*).' *Islamic Quarterly* 24(3-4): 107-110.
-

- Hussaini, Mohammad M. (1982) 'Food and Nutrition in Islam.' *Journal of Islamic Medical Association (USA)* 14(4): 115-119.
- Hussein, Suad (1981) 'Rufida al-Asalmia – First Nurse in Islam.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 199-200.
- International Organization of Islamic Medicine (1981) *Islamic Code of Medical Ethics (Kuwait Document)*, Kuwait: International Organization of Islamic Medicine, 93+85 pp.
- Igram, Cassim (1981) *Roots of the Natural Sciences*, Cedar Rapids (Iowa): Laurence Press, 27 pp.
- Imarnuddin, S.M. (1978) 'Maristan (Hospitals) in Medieval Spain.' *Islamic Studies* 17(1): 45-55.
- `Inayatullah, Sheikh (1944) 'Contribution to the Historical Study of Hospitals in Medieval Islam.' *Islamic Culture* 18(1): 1-14.
- Iqbal, `Allama Muhammad (1929) 'A Plea for the Deeper Study of the Muslim Scientists.' *Ibid.*, 3(2): 201-209.
- Iqbal, Sheikh M. (1981) 'Mental Health in an Islamic Society.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 470-477.
- Jaleel A. (1977) 'The Contribution of Arabs to the Development of Medical Art.' *Studies in History of Medicine* 1 (3): 202-207.
- Jaljuli, `Adnan (1982) 'The Islamic Hospital: A Practical Example of Social Solidarity in Islam'. *Journal of Islamic Medical Association (USA)* 14 (1-2): 48-50.
- Jurnalisuddin, H. (1981) 'Medical Ethics and Education.' *Ibid.*, pp. 430-431.
- Kamal, Hassan (1975) *Encyclopaedia of Islamic Medicine*, Cairo: General Egyptian Book Organization, 864 pp.
- Kamel, `Abdul `Aziz (1982) 'Faith and Cure.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, pp. 4-5.
-

- Karaagae, Ihsan A. (1981) 'The Preliminary Report for Groundwork for the Foundation of a Code of Islamic Medical Ethics.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 421-429.
- Karim, Goolam M. (1982) 'Present Status and Future Prospects of Islamic Medicine.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 126.
- Kasule, `Omar H. (1981) 'Some Islamic Reflections on Medicine and Science.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 503-508.
- Khan, A.J. (1981) 'A Survey of the Concepts and Measures Developed by the Greco-Arab Physicians Related with the Prevention and Treatment of the Infectious and Epidemic Diseases.' *Indian Journal of History of Science* 16(2): 139-144.
- Khan, Amanullah (1978) 'Islamic Philosophy of Medicine.' *Journal of Islamic Medical Association (USA)* 9(2-3): 26-28.
- Khan, G.M. (1981) 'Islamic Way of Living – A Preventive Component of Islamic Medicine.' In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 18.
- Khan, Habibur Rahman (1982) 'Contributions of Muslims to Medicine and Science up to the Middle of Thirteenth Century.' *Journal of Islamic Medical Association (USA)* 14(4): 111-114.
- Khan, Majid `Ali (1976) 'Nature of Life in Biology and in Islam.' *Islam and the Modern Age* 7(2): 42-63.
- Khan, Majid `Ali (1978) *Islam on Origin and Evolution of Life*, Delhi: Idarah-i-Adabiyat-i Delli, xix+223 pp.
- Kharofa, `Ala Eddin (1982) 'Islamic View of the Well-being of Man.' *Journal of Islamic Medical Association (USA)* 14 (1-2): 27-29.
- Mahmood, Mustafa (1981) 'Qur'anic Psychology.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 483-486.
-

- al-Marzougi, Mouncef (1981) 'Islamic Medicine and Galen.' *Ibid.*, pp. 51-56.
- Maswani, `Aijaz Muhammad Khan (1938) 'Islam's Contribution to Zoology and Natural History.' *Islamic Culture* 12(3): 328-333.
- el-Milady, `Abdel Moneem A. (1982) 'The Mercy Prophet (PBUH) Cures Mankind.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 11.
- Misirlioglu, Yusuf I. (1976) *The Holy Qur'an and Medical Science*, London: Real Science Limited.
- Mohiuddin, Ahmed (1981) 'Muslim Contribution to Biology.' *Pakistan Pictorial* 5(1-2): 65-69.
- Molly, Aminah (1979) 'Attitudes to Medical Ethics among British Muslim Medical Practitioners.' *Centre for the Study of Islam and Christian-Muslim Relations Research Papers*, Number 3, Birmingham: The Center, 22 pp.
- Moosa, Allie (1982) 'Islamic Medical Education.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 116.
- Muftu, Yunus (1981) 'Preliminary View of Medical Ethics in Islam.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 414-415.
- Mujahid, Hakim `Abdul Malik (1982) 'Present Situation and Future Prospects of Islamic Medicine.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, pp. 130-131.
- Nabavi, M.H. (1967) *Hygiene und Medizin im Koran*, Stuttgart: Enke, 104 pp.
- Nadvi, Syed Habibul Haq (1983) *Medical Philosophy in Islam and the Contributions of Muslims to the Advancement of Medical Science*, Durban: Academia, viii+45 PP.
- Najati, M. `Usman (1982) 'Holy Qur'an and Psychological Treatment.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, pp. 6-7.
-

- el-Neseemy, M.N. (1981) 'Rules and Ethics of Practicing Medicine in Islamic Heritage.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 402-405.
- Qadiri, M.A.H. (1971) 'A Review of History of Biological and Related Sciences in the Middle East during the Ninth to Thirteenth Century.' *Islamic Studies* 10(2): 137-143.
- Qaiser, Ihsan J. (1982) 'Ethical, Religious, and Spiritual Aspects of Islamic Medicine: Problems and Dilemmas.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 12.
- Qutbuddin, M. (1981) 'An Ethical Code for Islamic Medical Practice.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 416-420.
- al-Rawi, H. Hussam (1979) 'The Great Healers.' *Ur* (Special Autumn Issue): 26-28.
- Saad, Saad A. (1981) 'Chryptorchism – Its Origin and Holy Qur'an.' In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 17.
- Sa'id, Hakim Mohammed (Ed.) (1976) '*Al-Tibb al-Islami*.' *Hamdard* 19(1-6): 1-119.
- Samaraie, Kamal (1981) 'Medical Education in Islamic Ages.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 258-260.
- Sayili, A.M. (1936) 'Turkish Medicine.' *Isis* 26: 403-414.
- Sayili, Aydin (1980) 'The Emergence of the Prototype of the Modern Hospital in Medieval Islam.' *Studies in History of Medicine* 4 (2): 112-118.
- Shahin, Y.A. (1976) *The Arab Contributions to Medicine*, London: Longman Group Limited, 14 pp.
- Sharaf El-Deen, Ahmed (1981) 'Modern Medical Procedures in the Light of Islamic Jurisprudence.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 393-401.
-

- Sharafuddin, Ahmad (1982) 'Islam's Concern for Medical Education and Practice.' In: *The Second International Islamic Medicine Conference Abstracts*, Kuwait: International Organization of Islamic Medicine, p. 112.
- Siddiqi, M.Z. (1955) 'The Medicine of the Arabs in the pre-Islamic Period.' In: *Shafi' Presentation Volume*, `Abdullah, S.M. (Ed.), Lahore: Majlis-e-Armughan-e-`Ilmi, pp. 217-220.
- Siddiqi, M.Z. (1957) 'Indian Medical Science among the Ancient Arabs.' *Indo-Asian Culture* 5: 374-386.
- Siddiqi, M.Z. (1959) *Studies in Arabic Medical Literature*, Calcutta: Calcutta University Press, xliii+173 pp.
- Siddiqi, M.Z. (1971) 'Arabian Medicine in India.' *Journal of Ganganatha Jha Kendriya Sanskrit Vidyapeetha* 27: 151-166.
- Siddiqi, Tamizuddin (1979) 'Ghalib and Unani Medicine.' *Studies in History of Medicine* 3(3): 181-198.
- Suheyl Unver, A. (1959) 'The Origins of History of Turkish Medicine.' *Hamdard* 3(1-2): 121-138.
- Syed, Ibrahim B. (1981) 'Islamic Medicine – 1000 Years Ahead of its Times.' *Journal of Islamic Medical Association (USA)* 13(1): 6-13.
- Syed, K.A. (1981) 'Islamic Medicine – Its Integration with Modern Medicine.' In: *Papers Presented to the First International Conference on Islamic Medicine*, El-Sayyad, I. (Ed.), Kuwait: International Organization of Islamic Medicine, pp. 69-76.
- Tajuddin, M., and Razzakh, M.A. (1981) 'Scientific Basis of Humors in Islamic Medicine.' In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 20.
- Tajuddin, Syed (1956) 'Arabian Medicine.' *Indian Journal for the History of Medicine* 1: 26-35.
- Thokan, S.A., Moosa, A., and Gardee, M.R. (1982) 'Role of a Muslim Physician – A Symposium.' *Journal of Islamic Medical Association (USA)* 14(4): 121-126.
-

— Tirmizi, S.V.M., and Tirmizi, B.M. (1970) ‘Contribution of Muslims to the Science of Biology.’ *Hamdard* 13(3-4): 56-62.

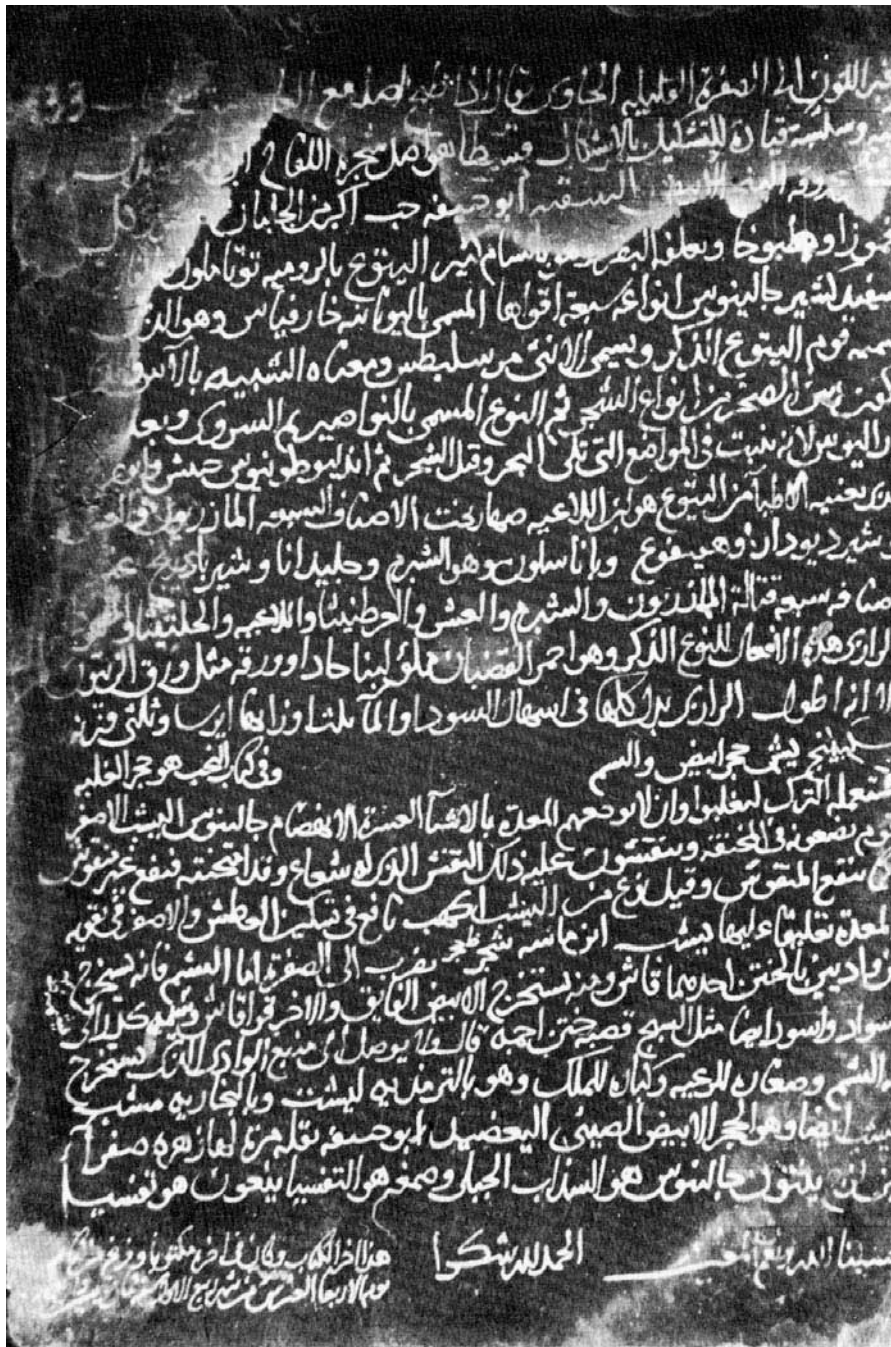
— Wasti, Nayyar (1962) *Muslim Contributions to Medicine – The Evolution of a Great Science*, Lahore: Avicenna Society (Malik Sirajuddin and Sons Publishers), 16 pp.

— Yahya, Hakim Mohammad (1959) ‘Ancient Medical Colleges under Muslim Rule.’ *Hamdard* 3(1-2): 191-198.

— Zikria, Bashir A. (1981) ‘Institute of Islamic Health Sciences.’ In: *Convention Bulletin 14th Annual Convention of IMA of North America*, Trenton (NJ): Islamic Medical Association, p. 20.

MUNAWAR A. ANEES

PHARMACY AND PHARMACOLOGY



The last page of al-Biruni's *Kitab as-Saydanah fit-Tibb*.

Early Muslim Pharmaceutical Instruments*

Abu al-Qasim az-Zahrawi,¹ the renowned Muslim physician-surgeon, flourished during the last part of the fourth/tenth century in Muslim Spain.² He was born in or after 324/936 – the founding year of the royal city of az-Zahra near Cordova, which gives him his nickname – and died about 403/1013. At this period, Spain reached its golden age under the Umayyah caliphate and enjoyed a remarkable increase in cultural productivity.

The fame of az-Zahrawi rests upon his encyclopedic work of *at-Tasrif*.^{3,4} This accomplishment in the health field was probably the first of its kind – with such a wide scope and outlook ever to be undertaken in Muslim Spain. *At-Tasrif* contains originality, and personal, thoughtful observations. As a comprehensive textbook, it presents a manual for instruction and consultation by students and practitioners alike. A fascinating feature of this work lies in the instructional drawings (originally made by the author himself) depicting pharmaceutical equipment.

Pharmaceutical Illustrations

In comparison with other parts of *at-Tasrif*, the treatises to which Western literature most often refers are the 30th treatise on surgery and the 28th, in Latin mainly known under the title, *Liber Servitoris*.⁵

Three drawings displayed in the manuscript versions of the 28th treatise are strictly related to pharmacy. Their significance lies in the fact that they were intended more as illustrations of pharmaceutical pieces than as ornamentation of the manuscript.

¹ The full name of this celebrated figure is Abu al-Qasim Khalaf Ibn `Abbas az-Zahrawi, who is generally known in the West under the distorted, translated name of *Abulcasis*.

² Spain, or al-Andalus as known in Arabic literature, is the part of the Iberian peninsula that was under Muslim rule. At az-Zahrawi's time this part constituted the largest portion of the whole peninsula.

³ The full title of this encyclopedic work is *at-Tasrif liman `Ajiza `an at-Talif*, which embraced 30 treatises. In size, two of these treatises (including the surgical) are approximately as large as a 350-page book, while the smallest in size does not exceed the length of a 15-page article; the rest lie in between.

⁴ The University of Wisconsin bought microfilms of these Arabic manuscripts primarily for post-graduate research in the history of pharmacy. In the tedious preparation of this paper the following manuscripts were consulted: Eli Emiri Arabi No. 2854, Veliyuddin No. 2491, and Besir Aga Nos. 502 and 503, all of which are housed at the Suleymaniye Umumi Kutuphanesi in Istanbul, Turkey. Here I wish to extend my deep appreciation to the above-mentioned library for allowing the microfilming of these manuscripts for research and publication.

⁵ *Liber Servitoris* was the first Latin translation among the treatises of *at-Tasrif* to appear in print. It was published at Venice in 875/1471.

The first two are drawings of molds – made of ebony or other kinds of wood, of ivory or of grinding stone – for making tablets. The chosen piece of wood, for example, two fingers in thickness (as suggested by az-Zahrawi), is cut vertically in two halves. Then, circles equal to the size of the desired tablets are drawn upon both halves and each circled area is engraved to half the height of the tablet. A mirror image of the name of the manufactured tablets may be inscribed into one side of the mold, so it will be imprinted on each finished tablet. These engravings are painted with a convenient *duhn*,⁶ similar or supplementary to the manufactured medication, which probably was used also as a lubricant to prevent sticking in the molds.

In finishing the molds to make the tablets of an exact weight, az-Zahrawi recommends the following procedure: Press a small portion of the kneaded material into the mold while soft, and then weigh it. If it is lighter than the required weight, continue to widen the engravings in the wood until the pressed tablet reaches the required weight.

The third and last pharmaceutical drawing comes under the title: ‘How to Strain Decoctions and the Illustration of the Strainers *al-Marawiq*.’ It includes three strainers. The first, the smallest in size, is made of thin, porous cloth. The second is larger than the first and is made of less porous cloth; while the third, the largest, is made of thick, cohesive cloth.

The triple strainer was used in this way – the medication was first cooked into a decoction and macerated, then strained through a sieve made of hair. Meanwhile, the strainers were arranged so that one would be suspended over the other, with the coarsest on the top and the finest at the bottom. Then, into the top strainer, a fluffy (carded) piece of washed palm fibers or horse hair was placed. Thereafter, the decoction was poured in and strained from the first to the second to the third. From this last strainer the filtrate was collected in a receiving vessel underneath. The lees was then discarded while the clear filtrate was taken for use either alone or mixed with certain syrups.

⁶ The *duhn* is not only the oil of a medicinal plant, as generally accepted, but is the potent fatness of the oily essence that could be extracted by pharmaceutical processes from substances of plant, animal or mineral origin, for internal or external medication.

Surgical Illustrations

In the West, the name of az-Zahrawi reached its highest renown a little while after the translation of the 30th treatise of *at-Tasrif* into Latin in the second half of sixth/twelfth century.⁷

Besides its clear description of surgical operations and technique, this last treatise of *at-Tasrif* displays more than 200 beautiful illustrations of the surgical instruments that were used in the various surgical manipulations, drawn by the author himself (as stated in the introduction).⁸ These instrumental drawings – the earliest of their kind we know to have survived – together with the informative text attached to each for the purpose of instruction⁹ represent the notable advance in surgery attained by az-Zahrawi.

Although other parts of *at-Tasrif* were translated and favorably considered in the West; nevertheless, the surgical treatise held the greatest attention.¹⁰ As a result of its popularity among Western surgeons it played an appreciable role in the development of rational surgery in that field throughout the late Middle Ages.¹¹

The first part of the 30th treatise contains 56 chapters concerning the curing virtues of ‘fire’ used in cauterization and its advantages and disadvantages.¹² Several simple drawings of instruments are described, together with the method and kind of operation as well as place where cautery is to be applied. The treatise often refers to the need for marking the area to be cauterized with ink so it can be identified easily at the time of the operation. In addition, az-Zahrawi frequently mentions the medication recommended for use after the operation.

Chapters 12 to 16 display a number of crescent-like, olive-shaped, and nail-like cauteries. The ‘nail’ type may have one thin, pointed end, one straight or concave edge, or have two extended (branching) prongs. These instruments are designed for operations on eye ailments.

⁷ The translation of the 30th treatise was carried out by Gerard of Cremona, at Toledo, Spain, This translation was the basis of others in Latin and in the Provençal languages.

⁸ Veliyuddin manuscript No. 2491, fol. 105 v.

⁹ Ernest F. Gurlt, *Geschichte der Chirurgie und Ihrer Ausübung Volkschirurgie-Alttertum-Mittelalter-Renaissance*, Berlin, 1, 621 (1898).

¹⁰ Heinrich Haeser, ‘Lehrbuch der Geschichte der Medicin und der Epidemischen Krankheiten,’ *Jena*, 1, 587 (1875).

¹¹ Lucien Leclerc, *Histoire de la Medecine Arabe*, Paris, 1, 437, (1876).

¹² Johannis Channing, *Albucasis de Chirurgia Arabica et Latine*, Oxford, 1,x,8 (1778).

Others are used in sciatica (chapter 41) and a variety of ailments of the whole body ‘form head to foot.’¹³

In reference to small surgery, az-Zahrawi gives a valuable account on circumcision in the second part of this treatise (chapter 57). He criticizes certain errors commonly perpetrated in such surgery, and recommends the use of the scissors and thread (sutures), which, ‘through personal experience I found to be of advantage’. ‘The two blades of the scissors being equal,’ the author explains, ‘make a straight cut (in the skin) at one time,’ and the thread helps to tie up the wound.

Of interest also is the warning by az-Zahrawi against allowing the child (especially when he is old enough to be frightened of surgery) to see the surgical instruments. Such discernment in handling the patient suggests a psychological, rational approach important to the success of the operation.

In chapter 58 there is a discussion of retention of urine in the bladder, caused (according to az-Zahrawi) by a stone, blood clot, an opening, or a growth of the flesh (tumor). The operation is carried out by a hollow, smooth silver catheter with the thinness of a probe ending with a small funnel. The figure of the instrument is beautifully displayed in the text.

In the following chapter the author describes a syringe for injecting liquid into the bladder. Although the illustration is primitive, it indicates a step toward our modern syringes.

Conclusion

The illustrations explain in part the character of *at-Tasrif* as a textbook and the interest the author shows in regard to surgery and pharmacy. His minute, detailed description of pharmaceutical processes and equipment is a proof of his concern and appreciation for their significance.

It can be easily shown from the contents of the entire work of az-Zahrawi that no matter how interesting the 28th treatise (*Liber Servitoris*) may be, it represents only a fraction of what the author had to say about pharmaceutical techniques, forms and equipments, and about the therapy and *materia medica* of the time. These studies, it seems clear, occupy a primary place in a majority of the treatises contained in *at-Tasrif*.

¹³ *Ibid.*, 6.

After a close examination of the three purely pharmaceutical illustrations from az-Zahrawi, the question immediately arises as to whether these drawings were the earliest of the kind to have survived, as seems to be the case with his surgical illustrations intended for the promotion of efficiency and skill in pharmaceutical practice.

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The Rise of Professional Pharmacy in Islam

The emergence of professional pharmacy in Islam as a separate entity from medicine has followed almost the same pattern of development as that which modeled other branches of the health field. However, there was no clear governmental legislation to prohibit the pharmacist from diagnosing and giving medical treatment to his customers or to restrict the physician from compounding and dispensing drugs to his patients. The charlatan and uncultured from both professions,¹ not only in rural areas but also in cities, prevented pharmacy from attaining professional status. Nevertheless, in larger hospitals and centers close to governmental supervision, retail pharmacists as well as those in hospital and government service enjoyed recognition and prestige.

The first/seventh century saw the institution and the expansion of the Muslim world. In the early second/eighth century, Muslim military power reached its climax under the Umayyah dynasty in Damascus. Then the `Abbasiyah rulers took over (123-655/750-1258), and the center of activity moved from Syria to Iraq, where a new era of cultural progress shortly started.

Under caliph al-Mansur (136-158/754-775), medicine as well as other fields of learning had a strong impetus to develop. With no discrimination for reasons of race or faith, the caliph encouraged physicians, astronomers, mathematicians, architects, and other learned men to cultivate their talents and help to advance intellectual pursuits. Notwithstanding, the first eight years of al-Mansur's reign were spent in laboring to stabilize and consolidate the empire. Meanwhile, he accumulated enough riches to launch, in 144/762, the building of his new capital city Baghdad, which he called *Madinat as-Salam* (the city of peace).² It took over four years to complete this magnificent city,³ which was destined to become not only the seat of a great

¹ In his *Kitab `Uyun al-Akhbar*, 2, Cairo ed., 1925, pp. 100-104, `Abd Allah Ibn Qutaybah ad-Dinawari (d. 276/890) ridicules the irrational approach of untrained practitioners of the time. Ar-Razi (d. 312/925), in the introduction to his treatise *Fil-Adwiyyah al-Mawjudah fi Kuli Makan*, mentions how uneducated physicians of Iraq prided themselves in memorizing the names of a variety of drugs in order to impress their customers by their 'comprehensive' learning. For this reference I wish here to express my gratitude to the library of Yale University for allowing me to consult the Arabic manuscript No. 21052, item 2, of the work mentioned above. For further information on the part played by charlatans during the Middle Ages, see Heinrich Schipperges 'Der Scharlatan im Arabischen und Lateinischen Mittelalter,' in *Zur Geschichte der Pharmazie*, 12, No. 2 (1960), 9-13.

² Details regarding the establishment and description of this celebrated round city is to be found in Isma`il ad-Dimashqi, *al-Bidayah wan-Nihayah* (10, Cairo, 1933), 96-97; and Ahmad al-Baghdadi, *Tarikh Baghdad* (Cairo, 1931), 66-82.

³ Hitti, Philip K., *History of the Arabs* (6th ed., London, 1958), 292-293.

empire, but also the center of tremendous cultural activity which kept the torch of learning shining brightly for centuries.

The establishing of the first privately owned apothecary shop, marking the beginning of pharmacy's independence from medicine, has been discussed by a number of eminent historians of the health profession. Many reported⁴ Baghdad to have been the site in 136/754 or about 132/750 of the first pharmacy shop as the precursor of our modern drug store.⁵ But one need not emphasize the inaccuracy of such dating; for, as we have explained, Baghdad was founded and completed only a little over a decade later. These dates were presumably reported because one coincides with the rise of the `Abbasiyyah dynasty and the other was al-Mansur's inaugural year. We see, therefore, the need for a fresh study of the incentives to, and the nature of, the rise of this profession and its consequent development in each particular area of the Islamic world. The present paper is an attempt to throw light on this issue which is so vital to the history of pharmacy.

Early Arabic sources mention the existence of privately owned pharmacy shops (*Dakakin as-Sayadilah*) during the reign of al-Mansur's son, caliph al-Mahdi (158-168/775-785), not very far from the area where the royal palace was located in Baghdad.⁶ But a careful study of the records shows that these shops were owned and operated by drug-sellers with no real academic training. They owed their knowledge of the profession rather to wide experience in drug compounding and dispensing. In addition, they practiced the organoleptic method of urine analysis for diagnosis, a practice followed by practitioners until early modern times.

⁴ For some insight into this phase of historical investigation I am indebted to Professor Glenn Sonnedecker of the University of Wisconsin, who encouraged me to consult original sources related to the history of Arabic pharmacy. I also wish to thank Dr. Ernst Stieb for checking with me the major works of the nineteenth and twentieth centuries which discuss the rise of professional pharmacy.

⁵ See, for example, C.J.S. Thompson, *The Mystery and Art of the Apothecary* (London, 1929), 80; Giulio Conci, *Pagine di Storia della Farmacia* (Milan, 1934), 351; L. Reutter de Rosemont, *Histoire de la Pharmacie a Travers les Ages* (I, Paris, 1931), 123; J. Berendes, *Die Pharmacie bei den Alten Kulturvolkern* (Halle, 1891), 120-122; and Maurice Bouvet, *Histoire de la Pharmacie en France* (Paris, 1937), 29-30.

⁶ Wuestenfeld, Ferdinand, *Geschichte der Arabischen Aerzte und Naturforscher* (Gottingen, 1840), 12, Wuestenfeld apparently relied mainly on the report by Ibn Abi Usaybi'ah (599-668/1203-1270), *Uyun al-Anba fi Tabaqat al-Atibba* (see 2, Beirut ed., 1957), 79-84, and probably on `Ali b. Yusuf al-Qifti (567-645/1172-1248), *Ikhbar al-Ulama bi Akhbar al-Hukama* (see Cairo ed., 1908), 280-283.

Among this class of uneducated pharmacists (*Sayadilah*) was `Isa Abu Quraysh, who, in examining a bottle of urine one day, predicted the birth of a male child,⁷ an early unscientific method for diagnosing pregnancy and determining the sex of the embryo through the analysis of urine. Mention is also made of other contemporaries of `Isa such as Masawayh,⁸ the father of the famous physician Yuhanna b. Masawayh (Mesue the elder); Ishaq,⁹ the father of Hunayn; and Sahl,¹⁰ the father of Sabur, the author of the first known Arabic formulary for the use of pharmacists in hospitals and retail drug stores.¹¹ All of them, we are told, were pharmacists, but we are sure they had no academic training in the profession. The reports of at least two of them show that their knowledge of drugs was only through practical experience.¹²

The ambitious beginning under the Eastern Caliphate in Iraq led, in the first half of the sixth/ninth century, to the rise of a new class of true pioneers of educated pharmacists fully alert to the ethical and technical responsibilities of their calling. It is no surprise, for the expansion of the drug and spice trade, the acceleration in the translation of a great number of invaluable medical works into Arabic, and the vigorous intellectual endeavor then cultivated and promoted in Islam, had brought new challenges and opened new avenues of cultural achievements. It also gave rise to a precise and improved synthesis of ancient learning and to the accumulation of new knowledge which made specialization, particularly in the health field, inevitable.¹³ Oculists,¹⁴

⁷ Leclerc, Lucien, *Histoire de la Medecine Arabe* (I, Paris, 1876), 121.

⁸ Sarton, George, *Introduction to the History of Science* (Baltimore, Md., 1927), 574; and Khair Allah, Amin A., *Outline of Arabic Contribution to Medicine* (Beirut, 1946), 105.

⁹ Brockelmann, Carl, *Geschichte der Arabischen Litteratur* (I, Leiden, 1943), 224.

¹⁰ Ibn Abi Usaybi`ah, *Uyun*, 2, 98-100; and Bar Hebraeus, *Tarikh Mukhtasar ad-Duwal*, ed. Antun Salihani (Beirut, 1890), 239, 250.

¹¹ Ibn an-Nadim, *al-Fihrist* (Cairo ed., 1930), 427.

¹² See Leclerc, *Histoire*, I, 103-104, 111.

¹³ M. Boubaker Ben Yahia, 'Apercu sur la 'Periode Arabe' de l'Histoire de la Medecine,' *Les Conferences du Palais de la Decouverte*, Series D, No. 19 (Paris, 1952), 35.

¹⁴ Ibn Abi Usaybi`ah, *Uyun*, 2, 116-117, reports that the well favored Jabra'il al-Kahhal, the oculist of al-Mamun (reigned 197-217/813-833), was equipped with the necessary tools of the oculist to perform his work efficiently. However, charlatans known as the highway oculists (*Kahhalu at-Turuqat*) were numerous and eloquent in advertising their skill and products. They prepared eye-salves from starch and gum Arabic (acacia) colored with red by the addition of minium (red oxide of lead), green by curcuma (kurkum) and yellow by saffron. They also made other eye remedies from the Egyptian ban dissolved in gum mucilage or from the burned seeds of myrobalan mixed with pepper for spraying into the eye. Ahrnad `Isa, *al-Bimaristanat fil-Islam* (Damascus, 1939), 54.

surgeons,¹⁵ alchemists,¹⁶ and educated pharmacists,¹⁷ besides skilled physicians, are reported to have been active in their respective fields. Thus, Castiglioni states¹⁸ that pharmacy ‘began its scientific existence with the Arabians because of their special inclination to chemical studies and the great abundance of valuable drugs’ pouring into the markets of Islamic cities from countries of the Middle East and the Orient. During the reign of al-Mu`tasim (217-230/833-845) it was reported¹⁹ that educated and morally responsible pharmacists (*Sayadilah*) were granted licenses to operate their own drug stores near army camps, while uncultured drug sellers and quacks were forbidden such privileges. It must be immediately stated, however, that throughout this whole period the two classes existed side by side in all branches of the healing arts.²⁰ As a result, many eminent physicians preferred to compound their own medicines, or had assistants to do the job under their supervision, rather than write them on prescriptions to be prepared in privately owned pharmacy shops in which they were not always sure of the man in charge. Moreover, the great prestige attained by learned physicians from the rulers and the upper class enticed the ambitious students to seek specialization in the healing art without limiting their career to the practice of pharmacy alone.²¹ Therefore, whatever experience they had in the compounding of simples they used in the preparation of medicines for their patients, except for the larger variety of *materia*

¹⁵ Hunayn b. Ishaq translated the surgical writings of Galen and wrote some of his own on the eye. Others as `Isa b. Masih and Ibn Masawayh wrote on minor surgical manipulations. See Sarton, *Introduction*, I, 611; Ibn Abi Usaybi`ah, *Uyun*, 2, 136-141; and al-Qifti, *Ikhbar*, 249.

¹⁶ No doubt alchemy was widely practiced in Iraq during the third/ninth century. An alchemist who is said to have worked for al-Mamun (197-217/813-833) was Yusuf b. Laqwah, al-Qifti, *Ikhbar*, 129. We also read of Ya`qub al-Kindi (d. 259/873) who criticized in his writings those who believed in the possibility of transmuting lesser metals into gold or silver. See Hajji Khalifah, *Kashf az-Zunun `an Asma al-Kutub wal-Funun* (2, Cairo ed., 1858), 196.

¹⁷ Al-Qifti, *Ikhbar*, 129; in his treatise on *al-Adwiyah al-Mawjudah* (see note 1), ar-Razi refers to the pharmacist (*as-Sayadilah*) who specialized in the knowledge and compounding of various drugs. Also Vida, G. Levi Della in his article ‘A Druggist Account on Papyrus,’ *Archaeological Orientalia in Memoriam Ernest Herzfeld*, ed. George C. Miles (New York, 1952), 150-151, studied a record of purchase or sale written on this papyrus of a third/ninth-century educated pharmacist; several pharmaceutical preparations are mentioned.

¹⁸ Castiglioni, Arturo, *A History of Medicine*, tr., E.B. Krumbhaar (New York, 1941), 281.

¹⁹ Ibn Abi Usaybi`ah, *Uyun*, 2, 92-93; and Bar Hebraeus, *Tarikh*, 244.

²⁰ This is why *al-Muhtasib*, the government officer authorized to inspect shops and markets against all kinds of fraud and adulteration, included in his varied responsibilities the inspection of the shops of pharmacist, and *attarin*. He was also supposed to instruct and admonish practitioners in all branches of healing to perform their services to the best of their ability and to punish any misconduct. See Muhammad b. al-Ukhuwwah, *Ma`alim al-Qurbah fi Ahkam al-Hisbah*, ed. Reuben Levy (Cambridge, 1938), 7, 80-86, 115-123, 150-169; and `Isa, *al-Bimaristanat*, 57-58.

²¹ Many started their careers in the apothecary shop before turning to the practice of medicine. The celebrated poet Abu Nuwas (139-197/757-813) was sent by his widowed mother first to work as an apprentice in an apothecary shop at al-Basrah, Iraq. Then young Abu Nuwas turned to literature and poetry and deserted pharmacy. See Ahmad al-Iskandari, *et al.*, *al-Mufassal fi Tarikh al-Adab al-`Arabi* (I, Cairo, 1934), 197.

medica and those popular pharmaceutical preparations which were normally sought at the apothecary shop.

During the third/ninth century, nevertheless, pharmaceutical literature reached a high standard of adequacy. Ibn an-Nadim mentions²² a certain Riwaq as-Saydanani (the pharmacist) who wrote one of the earliest Arabic works on pharmacy, *Kitab as-Saydanah (Book of the Apothecary Art)*, which apparently is lost. Yuhanna b. Masawayh (d. 242/857)²³ as well as Ya`qub al-Kindi (d. 259/873) wrote²⁴ treatises closely related to the art of pharmacy. But unlike *al-Aqrabadhin al-Kabir* of Sabur (d. 255/869), theirs could hardly be classified technically as formularies. Yet such works demonstrate the authors' acquaintance with, and interest in, pharmaceutical and chemical techniques. Of great importance to pharmacy in particular, however, was the translation of Dioscorides' *Materia Medica*²⁵ about the middle of the century. It enriched and enhanced the scientific approach to this art throughout the period. Then about the turn of the century Muhammad Ibn Zakariyya ar-Razi (d. 312/925), the greatest clinician of Islam and a pioneer chemist, wrote²⁶ several chemical and pharmaceutical treatises of great value to the profession which he acknowledged as separate from medicine. This was over a century before Abu ar-Rayhan al-Biruni (362-439/973-1048) wrote his monumental *Kitab as-Saydanah fit-Tibb*.²⁷

In this investigation so far we have been using the words apothecary and pharmacy and their derivatives interchangeably both for learned and untrained pharmacists (*Sayadilah*) as the case might be. However, the *`attarin* (perfumers and spicers, also sellers of drugs, mainly medicinal

²² Ibn an-Nadim, *al-Fihrist*, 454.

²³ Ibn an-Nadim, *al-Fihrist*, 375, 425-426; and al-Qifti, *Ikhbar*, 245-246.

²⁴ One of these works by Ya`qub al-Kindi was edited, translated and annotated by Karl Garbers, *Kitab Kimiyya al-Ytr wat-Tas`idat*, Leipzig, 1948.

²⁵ This translation by Istifan b. Basil, corrected by Hunayn b. Ishaq, was edited, translated and annotated by Cesar E. Dubler, and Elias Teres, *La Materia Medica de Dioscorides*, 5 vols., Tetuan and Barcelona, 1952-1957.

²⁶ Part seven of *Kitab al-Hawi fit-Tibb* by ar-Razi discusses pharmacy in the medical art (*Saydalat at-Tibb*); Ibn an-Nadim, *al-Fihrist*, 431-433.

²⁷ The introduction to this work has been edited, translated and annotated by Max Meyerhof, 'Das Vorwort zur Drogen Kunde des Beruni,' in *Quellen und Studien zur Geschichte der Naturwissensch. und der Med.*, 3 (1933), Arabic text 1-18 and German translation and annotation, pp. 1-52. Of interest to our topic here are pp. 7-8 of the Arabic text wherein al-Biruni regrets that many in his time did not differentiate between the learned pharmacist (*an-Natasi*) and the uncultured *`attar*. Recently, Dr. Bedi N. Sehsuvaroglu published a study of this work in an article, 'Abu Rayhan Biruni ve *Kitab al-Saydala*,' *Istanbul University Tip Fak. Mec.*, (1959), 1010-1030 based on the manuscript No. 149 at Bursa Library, Turkey.

herbs) in Iraq were specialized in extracting sesame and other oils (*adhan*) from seeds of plants, as well as the making of butter out of milk,²⁸ besides distilling aromatic waters.

These developments no doubt influenced other areas of the Islamic world. In Syria and Egypt, for example, the shops of the *'attarin* continued to operate throughout this period of Islamic history and up to modern times.²⁹ Meanwhile, a new class of qualified pharmacists was gradually rising to acquire high recognition after the fifth/eleventh century, both inside and outside the hospitals and government service. Yet in the first half of the sixth/twelfth century, physicians were still reported to have owned and operated pharmacy shops,³⁰ which reminds us of similar cases in the history of American pharmacy during the seventeenth to the nineteenth centuries. However, eminent physicians associated with an-Nuri hospital at Damascus, which contained a well-equipped pharmacy (*Khizanat al-Adwiyyah*)³¹ did not compound medicines for their patients. Instead, they wrote prescriptions to be dispensed by pharmacists. Names of physicians mentioned in this regard include the one-time hospital director 'Abd ar-Rahim ad-Dakhwar, and his associate Radi ad-Din ar-Rahbi.³²

At this time, when the apothecary's art became recognized in Egypt, the output of pharmaceutical literature reached a high standard. In the late sixth/twelfth century, Musa b. Maymun (Maimonides. 529-600/1135-1204) wrote a glossary of drug synonyms and a manual on poison.³³ Then at the beginning of the seventh/thirteenth century *ad-Dustur al-Bimaristani (Hospital Formulary)* was completed by Ibn Abi al-Bayan.³⁴ A more popular work written in Egypt during this period as a manual for the apothecary was *al-Minhaj ad-Dukkan wa Dustur al-'Ayan* by Abu al-Muna Kohen b. al-'Attar in 657/1259. The last three doctors who flourished in Egypt were of the Jewish faith but they wrote their works in Arabic.

²⁸ Khayr ad-Din az-Zarkali, ed. *Rasa'il Ikhwan as-Safa* (2, Cairo, 1928), 330.

²⁹ Meyerhof, Max, 'Pharmacology During the Golden Age of Arabian Medicine,' *Ciba Symposia*, 6 (1944), 1866-1867.

³⁰ Ibn Abi Usaybi'ah, *'Uyun*, 3, 240-257.

³¹ 'Isa, *Bimaristanat*, and Ahmad al-Maqrizi, *Kitab al-Khitat*, (I, Cairo, 1853), 406. A similar pharmacy section for storing, manufacturing and compounding drugs was also instituted in the great al-Mansuri hospital of Cairo. *Ibid.*

³² Ibn Abi Usaybi'ah, *'Uyun*, 3, 396-397.

³³ Meyerhof, *Ciba Symposia*, 6, 1863; and *Un Glossaire de Matière Medicale de Maimonide*, ed. and translated into French by Meyerhof, Cairo, 1940.

³⁴ This work has been edited by Paul Sbath, 'Le Formulaire des Hopitaux d'Ibn Abil-Bayan, Medecin du Bimaristan Annacery au Caire au XIIIe Siecle,' *Bulletin de l'Institut d'Egypte*, 15 (1933), (13) -78. See also Martin Levey, 'Arabic Dental Pharmacotherapy at the Turn of the 12th Century', *Janus*, 49 (1961), 101-103.

In 'Ifriqiyya', Tunisia of today, Ishaq b. 'Imran (f. 286/900), who gained much popularity 'in the knowledge of drugs and the treatment of disease', wrote prescriptions for his patients³⁵ to secure their medicines from privately owned apothecary shops. However, Ahmad al-Jazzar (d. 399/1009) of al-Qayrawan appointed an assistant to prepare the necessary medicines for his patients, under his supervisions.³⁶ This was probably either because of fear that his prescriptions would fall into the hands of unqualified *'attarin*, or due to the fact that physicians who sold their own prepared drugs amassed much wealth, especially if their drugs proved successful. For these reasons, many physicians owned pharmacies or had special sections at their 'clinics' for this purpose.

The development of pharmacy in Morocco was similar to that of al-Andalus (the part of the Iberian peninsula under Islamic rule). In both countries physicians throughout the third/ninth to the fifth/eleventh centuries compounded their own drugs.³⁷ We are also told³⁸ that Ahmad b. Yunis established, by order of caliph al-Hakam II (reigned 349-365/961-976), a pharmacy shop (called then *al-Khizanah* or *Khizanat al-Adwiyyah*) in a room at the palace. Up to the end of the fourth/tenth century, this shop was never surpassed in contents and elegance, in al-Andalus. Ahmad had therein twelve young men working under his supervision to prepare remedies, many of which were dispensed free to the poor. Az-Zahrawi (d. 403/1013) refers to the *'attarin* repeatedly in his *at-Tasrif*, with no mention of the educated pharmacists. In the 25th treatise of his work he also reports that the *'attarin* were engaged in the preparation of water and oil-of-roses and other *adhan* of plants for medicinal use. Later on, the *'attar*, depending on his previous education and training, occupied the position of the pharmacist in Morocco and Muslim Spain (al-Andalus). By the second half of the sixth/twelfth century we read of the physician Abu Bakr az-Zuhri of Seville³⁹ who depended on apothecary shops for his orders. He wrote prescriptions

³⁵ Ishaq was also the author of the medical work *Nuzhat an-Nafs*. See Sulayman Ibn Juljul, *Tabaqat al-Atibba wal-Hukama*, ed. Fuad Sayyid (Cairo, 1955), 84.

³⁶ See Sulayman Ibn Juljul, *Tabaqat al-Atibba wal-Hukama*, ed. Fuad Sayyid (Cairo, 1955), 88-89.

³⁷ Sa'id b. Ahmad al-Andalusi, *Tabaqat al-Umam*, ed. Louis Cheikho (Beirut, 1912), 78, 80; and Ibn Juljul, *Atibba*, 93-97.

³⁸ Ibn Juljul, *Atibba*, 112-114.

³⁹ Ibn Abi Usaybi'ah, *Uyun*, 3, 128-129.

for his patients to obtain the drugs they needed. Thereafter, Ahmad al-Qurtubi (of Cordova) wrote a book concerning the shop of the *`attar* entitled *Hanut al-`Attar*.⁴⁰

In the great hospital founded about 585/1190 in Marrakesh, then the capital city of Morocco, there was a section designed as a pharmacy shop. The manufacturing, compounding and dispensing of drugs were the specialty of trained pharmacists (*Sayadilah*) appointed to the medical staff.⁴¹ Herbs were cultivated in the hospital's garden for medical consumption. Up to modern times, writings of that period which pertain to pharmacy and the identification and 'virtues' of drugs⁴² continued to be followed uninfluenced by the later Western scientific accomplishments in this field.

In regard to the West, these developments have played a significant role. The Muslims brought from their homelands new impetus to progress into Sicily during its occupation from the middle of the third/ninth century to the fifth/eleventh. The advanced knowledge embodied in a growing medical literature no doubt became accessible in the island. At that time, therefore, the stage was set for the edict of the Emperor Frederick II in 637/1240 in which he gave official recognition to pharmacy in the West as a profession separate from medicine.⁴³ From the late fourth/tenth century al-Andalus became increasingly a center of great cultural activity. The emergence of professional pharmacy in the sixth/twelfth century under Islam led to its further development and maturity in Spain from the seventh/thirteenth century onwards.⁴⁴

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Editor's Note:-

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⁴⁰ Khalifah, *Kashf*, I, 318.

⁴¹ `Abd al-Wahid al-Marrakushi, *al-Mu`jib fit-Talkhis Akhbar al-Maghrrib*, ed. R. Dozy (2nd ed., Leiden, 1881), 208-210.

⁴² A work entitled *Tuhfat al-Ahbab: Glossaire de la Matiere Medicale Marocaine*, edited by H.P.J. Renaud and Georges S. Colin, Paris, 1934, shows a sample of this continued tradition.

⁴³ For more detail on the significance of this 1240 edict, see Kremers, Edward and Urdang, George, *History of Pharmacy: A Guide and a Survey* (2nd rev. ed., Philadelphia, 1951), 49-50.

⁴⁴ For the development of professional pharmacy in Spain, see Rafael Folch Andrea, 'L'Enseignement Pharmaceutique en Espagne du Moyen Age a nos Jours', *Revue d'Histoire de la Pharmacie*, 48, No. 167 (1961), 425-426.

‘Pharmacy in Islam from the Eighth through the Thirteenth Century,’ in *Radovi sa Odrzanog Prigodom Proslaves 700 Obljetnice Spomena Ljekarne u Trogiru*. Zagreb, pp. 165-172, 1973.

Translations:-

1. German, by Georg Dan in *Zur Geschichte der Pharmazie* 14:10-13, 1962.
2. Italian, by G. Nebbia in *Quaderni di Merceologia* 4(11):1-11, 1965.

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