Medicine, Public Health and the Qājār State

PATTERNS OF MEDICAL MODERNIZATION IN NINETEENTH-CENTURY IRAN

BY

HORMOZ EBRAHIMNEJAD

BRILL SIR HENRY WELLCOME ASIAN SERIES

MEDICINE, PUBLIC HEALTH AND THE QĀJĀR STATE

SIR HENRY WELLCOME ASIAN STUDIES

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VOLUME 4

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BRILL
LEIDEN · BOSTON
2004

Published with financial support from the Wellcome Centre for the History of Medicine, London, UK.

This book is printed on acid-free paper.

Library of Congress Cataloging-in-Publication Data

Ebrahimnejad, Hormoz.
Medicine, public health and the Qājār state : patterns of medical modernization in nineteenth-century Iran / by Hormoz Ebrahimnejad.
p. cm. — (Sir Henry Wellcome Asian studies ; v. 4)
Includes bibliographical references and index.
ISBN 90-04-14015-8 (alk. paper)
1. Public health—Iran—History—19th century. 2. Medicine—Iran—History—19th century. I. Title. II. Series.

RA533.E25 2004
362.1'0955'09034—dc22

2004050324

ISSN 1570-1484
ISBN 90 04 13911 7

PRINTED IN THE NETHERLANDS

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ACKNOWLEDGEMENTS

My first research into the history of epidemics and medicine was undertaken in Tehran during the Summer and Autumn of 1996 with the support of the *Institut Français de Recherche en Iran*. I gratefully recall the friendly and stimulating atmosphere in that Institute, mainly due to the endeavours of Rémy Boucharlat, its former Director, to whom are due my sincere thanks. Since then, I have been able to continue my research thanks to the funding of the Wellcome Trust, without which this book could not have been written. Its Travel Grant in the summer of 1997 allowed me to carry out an initial survey in the Persian manuscript collection preserved in the Wellcome Library. Encouraged by Lawrence I. Conrad, the late Roy Porter and Vivian Nutton, then the Head of the Academic Unit in the Wellcome Institute for the History of Medicine, I submitted a research project on the "Transition from Traditional to Modern Medicine in nineteenth-century Iran" and was awarded a three-year Wellcome Fellowship. The extent of my research and the new findings during these three years necessitated further investigation. I am indebted to Harold J. Cook, the Director of the Wellcome Trust Centre for the History of Medicine at UCL (previously the Academic Unit of the Wellcome Institute) for his encouragement in submitting a new project for wellcome funding that was generously granted.

Throughout my work within the Wellcome family, my colleagues have provided wonderful support in turn intellectual, professional and personal and I would like to warmly thank all of them. I have benefited not only from the rich collections of the Wellcome Library but also from the friendly collaboration of its Librarians and staff, especially Nigel Allan, the Curator of the Oriental collection in the Wellcome Library, who has always been ready to help.

I must also warmly thank the staff of various libraries where I found invaluable manuscripts: in Iran (Tehran University, *Ketābkhāneh-ye markazi*, the National Library, *Ketābkhāneh-ye melli*, the Malek Library, the Majles (Parliament) Library and the Library of Qods in Mashhad); in Russia (the National Library and the Oriental Institute Library in St Petersburg); and in North America (the Medical Library of UCLA). I thank particularly ʿAbdol-Hoseyn-e Hā'eri, Senior Curator of the Majles Library in Tehran, who permitted me to reproduce the manu-

script 505, which appears for the first time translated into English and edited in this volume. Emilie Savage-Smith and Lawrence Conrad have read an early version of my English translation and gave very helpful advice. Additionally, Emilie Savage-Smith and Willem Floor read the final drafts of my study (Part One) and provided further criticism and suggestions. I would like to extend to all of them my heartfelt thanks. I am grateful to the anonymous referee, whose thorough remarks and criticism on the first draft of Part One of this book were most useful. My gratitude goes particularly to Charles Burnett, who carefully read the whole text and suggested improvements. I would like to thank Lois Reynold who read the draft of Part One and Fiona Macdonald who read the entire draft of the book. I am also grateful to Alex McKay, Roger Cooter and Anne-Marie Moulin who read drafts and chapters. I thank them all for having saved me from a host of errors and for sharing their insights and information. It goes without saying that I am responsible for any shortcomings in this volume. I am also obliged to Chris Carter, Senior Photographer at the Wellcome Trust, who helped me to prepare the illustrations for the book.

Last, but not least, my special thanks are owing to Sylwia Wekwert Ebrahimnejad for helping me to prepare the index of the book. I would like also to extend my gratitude to Parviz (ʿAbbās) Rafiʿi, as well as Bozorgmehr and Behzād Ebrahimnejad whose assistance greatly facilitated my access to some rare sources and manuscripts in Iran.

SYSTEM OF TRANSLITERATION

Many terms or names used in Persian are of Arabic origin and this has led some institutions, such as the Library of Congress (L.C.) or the *Encyclopaedia of Islam*, to choose similar transliteration systems for Arabic and Persian. However, since pronunciation is an integral part of a language and the Arabic names or terms that have been incorporated into Persian are pronounced by the Iranians differently from their Arab neighbours, the system used here is to render the Persian pronunciation, as described below, except when the names or terms are cited from other sources or are used in an Arabic context. For example an Iranian would not pronounce Ibn Sinā as such but as Ebn-e Sinā, Mushir al-Dawlah as Moshir od-Dowleh or *izāfah* as *ezāfeh*. Nevertheless, for the "al" in names such as Moshir al-Dowleh, we use the Arabic form of spelling. Thus, for the Persian transliteration of اعتماد السلطنه or ناصرالدین شاه, in which ال is dropped and they are usually pronounced as E'temād os-Saltaneh and Nāser od-Din-Shāh, we write E'temād al-Saltaneh and Nāser al-Din-Shāh.

Persian names are usually composed of several parts joined by a letter called *ezāfeh* that usually has the same significance and function as "de" in French. In the Library of Congress system this is shown by 'i', but in Persian this annexing letter sounds like 'e' as in English "ethnic" or "empire". Even though the Library of Congress system distinguishes the "long ī" from 'i', for native Iranian speakers this distinction leads to confusion between, for example, Nasir and Nāser [L.C. Nāsir] (proper names) or between *nazir* (similar) and *nāzer* [L.C. Nāzir] (superviser).

In the transliteration used here, the *ezāfeh* is represented by 'e' when it is annexed to a consonant (such as in Mirzā Mohammad-e tabib), and by "ye" when it is added to a vowel (such as in Mirzā Mohammad-Vali-ye tabib). There is, however, an exception for the Arabic letter (ʿ) ع that is annexed to other words by 'e' because of the hard articulation of ع.

For the short vowel *zamma* (ُ) we have chosen 'o' and for the long vowel (و) we use 'u'. Thus Moshir al-Dowleh or Mohammad, but Mahmud محمود or Moluk ملوک . For "long ā" آ, pronounced as in English "far" or "bar", we use 'ā'. Thus we write *Atebbā* (plural of *tabib*, physician).

As in Arabic, several letters such as س, ث, ص, or ذ, ز, ظ, or ط, ت, or ها and ح are pronounced differently, but in Persian they have the unique sounds of S for the first, Z for the second, T for the third and H for the fourth group, they are simply transliterated respectively by S, Z, T and H.

Another typical example is the hard and guttural letter ع that does not exist in Persian. In Persian, ع sounds like الف in الله or "A" in English. However, we make an exception for the letter ع because when it is placed at the end of a word, such as in جامع jāmeʿ, or when it comes, for instance, after الف such as in اعلم Aʿlam, we need to distinguish ع from الف. Therefore, in order to be consistent, we will show ع by a single inverted comma (ʿ) even when it is placed at the beginning of a word such as in ʿAbbās.

Other diacritic letters for Persian are as follows: q = ق, gh = غ, sh = ش, ch = چ, kh = خ, j = ج. In rare cases, however, when each of these combined letters, is written together but pronounced separately such as 's' and 'h' in *ashāb*, اصحاب we separate them by an apostrophe. We will therefore write *as'hāb* and *Is'hāq*. Finally, when a letter is *moshaddad* (pronounced hard), it will be written twice, such as in *sehhat* (health), or *tebb-e sonnati* (traditional medicine).

PREFACE

This work is part of the project on "The Transition from Traditional to Modern Medicine in Nineteenth-Century Iran" that received Wellcome Trust funding in 1998. The initial plan has been modified due to new findings. Exchange of ideas with colleagues has revealed a lack of knowledge of what nineteenth-century Persian medical literature consisted. To contribute to closing this gap required the translation of one of the texts that not only represented traditional Persian medicine but also the nature of development and change in medical knowledge in nineteenth-century Iran. The manuscript included in this volume is a booklet written in ca. 1865 by an anonymous author on the establishment of hospitals in Qājār Iran (1797–1925).[1] It contains not only a theoretical discussion of medicine as seen in classical traditional literature, but also historical data and provides a lively description of the public health system of the time, which is rare for nineteenth-century medical texts in Iran.

Initially a short introduction to the text and its English translation was envisaged. Later it seemed necessary to provide an extended essay, one that went beyond the mere presentation of the translated text. Nevertheless, this essay is not a comprehensive history of medical modernization in nineteenth-century Iran; it is rather a study of its institutional aspects, the point of connection between medicine and power. This change of plan seemed appropriate after finding the manuscript in question, which illustrated the crucial importance of the institutional dimension in the process of medical modernization.

This book is divided in two Parts. The focus of the first Part is on the institutional and theoretical aspects of medical modernization while touching on other issues such as hospital institutions, the military, medical education, and so on. But these questions are mentioned for their instrumental or analytical role and therefore are not examined here in depth. Although the first Part, especially its first and third Chapters, frequently refers to manuscript 505, it is not an introduction to this manuscript but rather an independent account of modernization of

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[1] Anonymous manuscript, Tehran, Majles Library, no. 505 (undated).

medicine in nineteenth-century Iran. The second part of this book is devoted to the edition of the Persian text and its English translation, extensively commented in the footnotes.

PART ONE

The Institutional and Theoretical Change in Traditional Medicine

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INTRODUCTION

The historiography of medicine in Iran has usually focused on what is termed the Golden Age of Persian medicine (c.a. ninth to fourteenth centuries) and upon such renowned physicians as Rāzi (850–932) and Avicenna (980–1037).[1] The nineteenth century, however, has only been studied scantily.[2] This lack of interest reflects the general weakness

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[1] See for example, Sleïm Ammar, *Ibn Sina, Avicenne: La vie et l'oeuvre* (Paris: L'Or du Temps, 1992); Mahmud Najmābādi, *Tārikh-e tebb dar Iran pas az eslām: az zohur-e eslam tā hamleh-ye moghol* (History of medicine in Iran after Islam: from the rise of Islam till the Mongol invasion) (Tehran: Tehran University Press, 1366/1986); Mazhar H. Shāh, *The General Principles of Avicenna's Canon of Medicine* (Karachi: Naveed Clinic, 1966); Jules Janssens and Daniel De Smet (eds), *Avicenna and his heritage*, Acts of the International Colloquium Leuven—Louvain-la-Neuve September 8 - September 11, 1999 (Leuven: Leuven University Press, 2002); Nancy G. Siaisi, *Avicenna in Renaissance Italy: The Canon and medical teaching in Italian universities after 1500* (NJ: Princeton University Press, 1987); Danielle Jacquart, "Quelques réflexions sur la traduction du "Kitab-al-Mansuri" de Rhazes par Gérard de Crémone", in *XXVII Congreso Internacional de Historia de la Medicina*: 31 agosto–6 septiembre 1980 (Barcelona: Académia de Ciències Médiques de Catalunya i Balears, 1981).

It should, however, be remembered that the historiography of science in general in Islamic countries (and not only the history of medicine) has often focused on the medieval period. This might be explained by the fact that the modern Western sciences developed in eighteenth- and nineteenth-century Europe became dominant in non-European countries while those countries did not develop their own system of knowledge or "science". For a comprehensive study on the development and decline of sciences in different countries and on the question of "why the scientific revolution did not occur outside Europe" see Floris Cohen, *The Scientific Revolution: A Historiographical Inquiry* (Chicago and London: The University of Chicago Press, 1994), cf. especially Chapter Six.

[2] After a few articles by Mahmud Najmābādi (Nadjmabadi) and others in the 1970s, interest in the study of nineteenth-century medicine and public health in Iran has been more substantially awakened over the last ten years. See Willem Floor, "Securité, Circulation et Hygiène dans les rues de Téhéran à l'époque Qajar," in Adle, Chahryar et Hourcade, Bernard (eds.), *Téhéran Capital bicentenaire* (Paris, Tehran: Institut Français de Recherche en Iran, 1992), pp. 173-198; Laurence D. Kotobi, "L'émergence d'une politique de la santé publique en Perse Qajar, XIX^{e}- XX^{e} siècles: Un apperçu historique de la vaccination," *Studia Iranica*, 24 (1995): 261-284; Ahmad Seyf, "Iran and Cholera in the Nineteenth century," *Middle Eastern Studies*, 38 (2002): 169-78); Amir-Arsalan Afkhami, "Iran in the Age of Visitations: Cholera

of historical research in Iran, compared with Europe or even with other neighbouring countries.[3] Nineteenth-century Iranian medicine also lacked celebrities of Avicenna or Rāzi's calibre, and therefore was considered without intellectual and historical interest—doomed to be replaced by modern Western medicine. As soon as Western medicine was introduced into Iran in the nineteenth century, the "modern–traditional" or "Western–Iranian" dichotomy characterized the medical discourses of both European and Iranian physicians and this naturally influenced modern historiography.[4]

No study has been made of the actual evolution of medical knowledge in Iran, nor the continuities between traditional and modern approaches.[5] Such a categorization is symptomatic of the erroneous perceptions of Iran's traditional medicine and of the modern medicine that replaced it. Joseph Désiré Tholozan, one of the main architects

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and the Politics of Public Health 1889-1911," unpublished PhD dissertation, Yale University, 2002; Firuzeh Kashani-Sabet, "Hallmarks of Humanism: Hygiene and Love of Homeland in Qajar Iran," *The American Historical Review,* vol. 105, no. 4, Oct. 2000; Willem Floor, *Public Health in Qajar Persia* (Washington DC: MAGE, 2004) (forthcoming).

[3] The historiography of modern medicine in other Islamic or non-European countries has a better record than in Iran. See for example Nancy Gallagher, *Medicine and Power in Tunisia, 1780–1900* (Cambridge, London: Cambridge University Press, 1983); Daniel Panzac, La peste dans l'Empire ottoman, 1700-1850 (Leuven: Éditions Peeters, 1985). See also works of Sylvia Chiffoleau including: *Médecines et médecins en Egypt* (Paris: L'Harmattan, Lyon: Maison de l'Orient méditerranéen, 1997); "La formation des médecins égyptiens," in Elisabeth Longuenesse (ed.), *Santé, médecine et société dans le monde arabe* (Paris: L'Harmattan, Lyon: Maison de l'Orient méditerranéen, 1995)**;** Several works of Anne-Marie Moulin, including: "Les Instituts Pasteur de la méditerranée arabe: Une religion scientifique en pays d'Islam," in Elisabeth Longuenesse (ed.), *Santé, médecine et société*, pp. 129-164; "L'hygiène dans la ville: la médecine ottomane à l'heure pastorienne (1887-1908)," in Paul Dumont et F. Georgeon, (eds.), *Les villes ottomanes la fin de l'Empire* (Paris: L'Harmattan, 1992); "La profession médicale dans les pays arabes: vues historiques long et court termes" (Beyrouth-Amman: *Cahiers du CERMOC*, 1993); "Révolutions médicales et politiques en Egypte (1865-1917)," *Revue de l'Occident musulman et de la Méditerranée*, 52 (1989): 111-123.

[4] Such a perception is even more present in the historiography of other countries such as Egypt. See for example, Sylvia Chiffoleau, *Médecines et médecins en Egypt*, pp. 116-17.

[5] This is the case for most non-European countries. The link between alternative and modern-official medicine in Western countries, however, has been studied in a significant amount of publications by Charles Rosenberg, Roy Porter, Roger Cooter, William Bynum, and others. For a general appreciation on this subject see several articles in *Medical History* vol. 43, no. 3, July 1999, that deal with alternative medicine in Europe since 1800.

of modern medicine in Iran, delineated a clear-cut division between modern and "Avicennian" medicine.[6] Dr Mirzā ʿAli, ex-pupil of Tholozan and instructor in modern medicine at the Dār al-Fonun, also advocated the complete abandonment of traditional medicine and adoption of modern anatomy and pathology.[7] Contrary to Tholozan, who advocated the total abandonment of traditional theories in order to introduce modern medicine, Johan Schlimmer proposed a dialogue between the two so that European physicians could understand traditional terms. The latter he regarded as indispensable for a better introduction to, or education in, modern medicine in Iran.[8]

Despite the received idea, nineteenth-century Persian medicine was not a homogeneous or fixed system. It covered a wide range of medical knowledge including orthodox traditional medicine, a mixture of modern and traditional theories, as well as texts that clearly displayed the seeds of modern medicine.[9] By the same token, the modern medicine that was introduced into nineteenth-century Iran was not a uniform and definitive corpus of knowledge based on modern pathology or microbiology, but also contained elements of Neo-Hippocratic or even humoral medicine.[10]

The rich variety of medical literature mentioned above indicates the process of transition from traditional to modern medicine. The above-mentioned anonymous manuscript 505 on the establishment and development of public hospitals illustrates the breadth of this literature.

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[6] See for example: Désiré Tholozan, *Prophylaxie du cholera en Orient: L'hygiène et la réforme sanitaire en Perse* (Paris: Victor Masson et Fils, 1869).

[7] *Javāher al-Tashrih* (Tehran: lithographic edition, 1306/1889), pp. 3–4.

[8] Johan Schlimmer, *Terminologies médico-pharmaceutique et anthropologique française-persane* (Tehran: Lithographie d'Ali GouliKhan, 1874), *Préface*. For more details, see Chapter Four below.

[9] Joseph Désiré Tholozan believed that all Persian physicians repeated the writings of Avicenna on epidemic fevers without any reference to specific clinical observation: *Histoire de la peste bubonique en Perse* (Paris: G. Masson, 1874), pp. 5–9. Elgood, on the other hand, provided a more discriminating view and singled out physicians, such as Bahā' al-Dowleh (d. 1507), who based their writing on their clinical observations. Cf. Cyril Elgood, *Safavid Medical Practice, or The Practice of Medicine, Surgery and Gynaecology in Persia between 1500 A.D. and 1750* (London: A.D. Luzac, 1970), pp. xiii–xiv.

[10] Humoral theories did not disappear with Koch's microbiological findings that opened a new area in the treatment of cholera. Even at the end of the nineteenth century the miasmatic theory prevailed in Europe for explaining the spread of cholera, for example, in Hamburg during the cholera epidemic of 1894. See Richard J. Evans, *Death in Hamburg: Society and Politics in the Cholera Years 1830–1910* (Oxford and New York: Oxford University Press, 1987).

This manuscript sets up regulations for the first state hospital under the Qājārs (1794–1925), built in 1852. It was described as *dowlati* (state) or *shāhi* (royal) hospital, which can also be translated as "public" firstly, because any establishment of public interest in nineteenth-century Iran was created by the order of the Shāh. Secondly, the term *dowlati* (of government) that was increasingly used for hospitals under the Qājārs denotes more the public dimension of the state than the private character of royal household. This indicates a major difference between the Qājār hospitals and those of earlier centuries in Iran.

The manuscript also provides some details about hospitals in ancient and "medieval" Iran.[11] The search for reform by reference to the past has characterized many modernization attempts in Iran,[12] such as those proposed by Seyyed Jamāl al-Din Afghāni (or Asadābādi) who, in the late nineteenth century, advocated the adoption of modern Western sciences but at the same time wanted to unite the Islamic country under one political leadership almost on the model of the caliphate.[13] Thus, manuscript 505 describes the creation of a modern hospital in terms of the restoration of the traditions of the past rulers of Iran. It contains passages that deal with theoretical issues but mainly it emphasizes institutional reform within a traditional medical framework.

The author of manuscript 505 frequently refers to "medieval" hos-

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[11] The use of the term "medieval" for Iran or for other Islamic countries is rhetorical and does not have the same specific socio-political connotation as in Europe. To use "Middle Ages" or "medieval" within the same time frame as in Europe for Iran and other Islamic countries is inappropriate, since they did not experience the socio-political, religious and economic upheaval experienced by European countries in the same period. Nineteenth-century Iran remained much the same as it was in the tenth century, while profound changes occurred in Europe at this time. David Morgan extends the "medieval" period in Persia to the end of the eighteenth century. See David Morgan, *Medieval Persia 1040-1797* (London and New York: Longman, 1988). For a critical study on this question see: Thomas Ricks, "Towards a Social and Economic History of Eighteenth-Century Iran," *Iranian Studies,* 6 (1973), pp. 10-26.

[12] For a similar view see Marshall Hodgson, *The Venture of Islam: Conscience and History in a World Civilization,* 3 vols., vol. 3: *The Gunpowdre Empire and Modern Times* (Chicago, London: The University of Chicago Press, 1974), pp. 303 and 306-8.

[13] About Seyyed Jamāl al-Din, see Niki Keddie, *Sayyid Jamal ad-Din al-Afghani: A Political Biography* (Berkeley: University of California Press, 1972); Elie Kedouri, *Afghani and ʿAbduh: an Essay on Religious Unbelief and Political Activism in Modern Islam* (London: Frank Cass, 1997). For a survey of reform projects in education in nineteenth-century Iran see Monica Ringer, *Education, Religion, and the Discourse of Cultural Reform in Qajar Iran* (Costa Mesa, California, Mazda Publishers, 2001), especially pp. 221 ff.

pitals and their organization, both as a guideline for, and justification of, the construction of the hospital in question. The first Chapter of the present study reviews the history of "medieval" hospitals in Iran and other Islamic countries based on available secondary sources. It is included in order to understand the creation of the public hospital in mid-nineteenth-century Iran in the light of the history of hospitals in Islamic countries in general and in Iran in particular since antiquity. Since manuscript 505 provides some details about "medieval" Islamic hospitals, a general picture of these hospitals is needed against which the reading of this document might become clearer.

Chapter Two examines the socio-political factors that brought about the need for the hospital. As a result of its frequent campaigns against rebellious local powers and its military defeats by the Russians in the Caucasus, the Qājār state undertook to establish a disciplined and modern army in the second decade of the nineteenth century. The fact that modernization in Qājār Iran was primarily implemented for the use of the military marked the subsequent Qājār modernization process so that any other reform became a by-product of military reform. The hospital described in manuscript 505, for instance, was destined to serve the army though it received also the civilians. But with the increasing recruitment for the expanding army, the Qājārs became aware of the importance of the health of the population to increase its longevity. Poor public health, they perceived, cost them twice: the main source of the state income was a poll tax and the strength of the army depended on the troops recruited as a proportion of each region's population. But despite the importance of the demographic factor for their military strength, the Qājār statesmen were inconsistent in their attempts to improve the material conditions of their subjects. Moreover, any reform faced opposition from the traditional forces and was slowed down by factional rivalry among the statesmen. This chapter will explain that the reform in public health, in terms of the creation of hospitals and sanitary councils in the second part of the nineteenth century, experienced long periods of lassitude and failure. *Ad hoc* sanitary councils had existed since the early 1850s but have been largely ignored by modern history. We contend that there is no apparent social or structural reason for the 1868 and 1876 sanitary councils (according to the current view, concurrently the first ones in Qājār Iran), to be fundamentally different from those earlier *ad hoc* committees. It is not surprising therefore, that this sanitary council closed after two sessions and reconvened only in 1877 to respond to

the pressure of cholera and plague epidemics. Its only concrete result, however, was a higher tariff for quarantine operation.[14]

Chapter Three sheds light on the identity of the author of manuscript 505 and the approximate date of its writing. This is followed by a section on the hospital. The hospital project was held back by delays similar to those experienced by the sanitary councils (or *majles-e hefz al-sehheh*). A detailed discussion on the hospital described in manuscript 505 enables us to reconstruct a history that is barely mentioned in other sources. The manuscript evokes many questions relating to various aspects of medicine and society, but their discussion goes beyond the scope of this study. These issues are therefore, taken up in the extensive footnotes provided in the English translation of manuscript 505. A thorough examination of the manuscript is not the aim of this volume and constitutes the object of a separate study. Although manuscript 505 is one of the major sources for our study, both the First part, i.e. the study, and the Second part, i.e. manuscript 505, can be read independently.

The last two chapters explore the institutional and theoretical mechanisms of medical change. One thread of this process is the "professionalisation" of medicine in the sense of its redefinition or reorganization within the framework of the development of the Qājār state. Faith healing, magic, and folk or "household" medicine were widely practised at this time, mainly because they were more accessible, cheaper and a part of local culture. They are as important in medical history[15] as the official or orthodox medicine. Nevertheless, this category of medicine and its practitioners are not examined here primarily because they were not involved in the nineteenth-century

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[14] Willem Floor, *Public Health in Qājār Persia* (Washington DC: MAGE, 2004), forthcoming.

[15] The new medical history is more interested in the social relationships determining healing, illness or health and is therefore less concerned with the distinction between modern/orthodox and traditional/alternative medicines. See for example: Dorothy Porter (ed.), *The History of Public Health and the Modern State,* Amsterdam: Rodopi, 1994); Roy Porter (ed.), *Patients and Practitioners: Lay Perceptions of Medicine in Pre-industrial Society* (Cambridge: Cambridge University Press, 1985); Charles Rosenberg and Janet Golden (eds), *Framing Diseases: Studies in Cultural History* (New Brunswick, *NJ*: Rutgers University Press, 1991); Willem de Blécourt and Cornelle Usborne "Women's Medicine, Women's Culture: Abortion and Fortune-Telling in early Twentieth-Century Germany and the Netherlands", *Medical History*, 43 (1999): 376–392.

process of modernization. The focus here is on that part of medical profession that, due to its relation to the state administration at various levels, played a major role in the institutionalization process explained in Chapter Four. This chapter will argue that the embryo of modernization of medicine in nineteenth-century Iran resided in the institutionalization of traditional medicine within the framework of the development of the Qājār state.

In order to clarify this process further, Chapter Five examines the theoretical or epistemological aspects of modernization in relation to political and institutional context. Some evidence is given to illustrate the proposition that institutional modernization preceded the radical theoretical transformation. Modernization did not occur to the Qājār elite once traditional medicine had been abandoned and modern techniques fully integrated. Rather it was proposed and implemented at various levels by those who still believed in traditional theories. Overall, Chapter Five has a twofold purpose. Firstly, it shows that the intellectual areas of medical change are less obvious than is conventionally thought and therefore referring to them as landmarks or turning points in the history of medicine is misleading. Secondly, it aims at providing an introduction to further study of the epistemology of medical modernization, which can contribute to the wider question of the mechanisms of the transmission of knowledge.

A final remark is necessary here: this study does not constitute a comprehensive picture of medicine and public health under the Qājārs. One might contend that the primary task of the historian is to provide a comprehensive and descriptive history before explaining how modern medicine developed. But no comprehensive and descriptive history, however detailed, would be able to paint the whole picture and therefore we cannot wait until such a "utopian" picture is drawn before trying to understand how modernization occurred. Moreover, in many cases the historical reality is not exposed to the observation of the historian without an "explanatory" effort or theoretical tool.[16]

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[16] Richard Evans discusses at length various historical schools including those of G. Elton who rejected all theory that would subject historians to "predetermined explanatory schemes" and Edward H. Carr, who, by contrast, believed that a "past event did not become a historical fact until it was accepted as such by historians" or, in other words, "explained" by them. Cf. Richard Evans, *In Defence of History* (London: Granta publications, 1997), p. 75–76. This view is close to Max Weber's idea of "ideal type"; cf. *Essais sur la théorie de la science*, translated from German by

Accordingly, the method in use in this study is to provide description and explanation in a form that they are meaningful for each other.

Julien Freund (Paris: Editions Plon, 1992). For an analytical study of the evolution of historiography, see Guy Bourdé, Hervé Martin, *Les écoles historiques* (Paris: Editions du Seuil, 1983).

CHAPTER ONE

A CURSORY REVIEW OF HOSPITALS

Our knowledge about "medieval" Islamic hospitals is limited because very few contemporary sources have survived. Most of the primary sources informing us about these hospitals are biographical dictionaries of physicians or chronicles and it is only through their reports about physicians, or princes and military chiefs that fragmentary data on "medieval" Islamic hospitals are provided.[1] Consequently, as the authors of these sources were not witnesses of the creation of the hospitals they describe, but only heard or read about them, no accurate description of their architecture and organization is available other than vague and sometimes exaggerated information. Nevertheless, these narratives about hospitals reflect some historical facts. For example, a part of a discourse illustrating the strength or justice of a king might contain a statement about a hospital. This indicates the relationship between political power and the building of charitable (public) institutions, including hospitals, inasmuch as these public monuments rose with the power of the king or dynasty and fell into ruins after their demise. In the large "medieval" Islamic cities, such as Baghdad and Rayy, mosques, *madrasa* (schools mainly for theological studies), caravanserais (inns for travellers) or hospitals were part of the polis. But hospitals, partly due to the endowment system discussed in Chapter Three, did not receive attention and financial support from the government and civil society as much as other charitable

[1] Among the most important authorities we can refer to are Mohammad b. Is'hāq al-Nadim, *Kītāb al-Fihrist*, edited by Rezā Tajaddod (Tehran: Tehran University Press, 1971). For a critical edition and English translation of Ibn Nadim's book see Bayard Dodge (editor and translator), *The Fihrist of al-Nadim. A tenth-century Survey of Muslim Culture,* 2 vols. (New York and London: Columbia University Press, 1970). (Ibn Nadim completed his *al-Fihrist* in 988, ten years before his death); Jamāl al-Din al-Qifti, *Tārikh al-hokamā*, Persian translation of 1688, edited by Behin Dārāyee (Tehran: Tehran University Press, 1371/1992); Ibn Abi Usaybi'ah, *'Uyun al-anbā' fi tabaqāt al-atibbā',* edited by August Müller (Königsberg: Selbstverlag, 1884); Sulayman ibn Juljul (*Tabaqāt al-Atibbā wal-Hokamā,* edited by F. Sayyid (Cairo: Institut Français d'Archéologie Orientale, 1955); Mostafā b. 'Abdollāh Hāji Khalifa, *Kashf al-zonun 'an asāmi al-kotob wal-fonun,* with an introduction by Āyatollā Najafi Mar'ashi (Tehran: *al-maktabat al-eslāmiah*, 1387/1967).

institutions and therefore their existence was more exposed to the vicissitude of political events. But this situation was not ubiquitous in all Islamic countries.

Hospitals in the Prehistoric era and Antiquity

The anonymous author of manuscript 505 claimed that "the Iranian kings[2] were the first architects of hospitals since the Ancient times… and that it was the imitation of this tradition that had adorned and refined Europe."[3] As proof of this assertion, the Persian word *bimārestān* (*bimār,* sick, and *stān,* location, house) is highlighted, which was the term in use in foreign countries for "hospital". The author continued:

> In addition to the (fixed) small and large hospitals that were constructed during the Pishdādiyān dynasty (circa 1000–550 B.C.) until Alexander's domination (ca. 330 B.C.), there were also mobile hospitals that accompanied the army in campaigns.[4]

The Iranians (a branch of the Arian tribes who emigrated from Central Asia southward during the second millennium B.C.), continued their nomadic life in the first half of the first millennium B.C. when the semi-mythical Pishdādiyān dynasty emerged. It is therefore plausible that the mobile hospitals, described by the author of manuscript 505 were tents, which accompanied these nomads in their seasonal movements or military campaigns, but one can hardly believe that the Pishdādiyān constructed fixed hospital buildings. Even after the socio-political changes that took place around the sixth and fifth centuries B.C. that resulted in the creation of the central power of the Achaemenids (sixth–third centuries B.C.), there is no evidence of fixed hospitals during this period, but there continue to be indications about the mobile ones. Manuscript 505 quoted the twelfth-century Iranian epic poet, Ferdowsi, as saying: "during the campaign of Darius III (ca. 321 B.C.), the last king of the Achaemenids, against Alexander,[5]

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[2] The term used is *dowlat-e ʿelliyeh-ye Iran* (Iranian state).
[3] MS 505, pp. 4, 9.
[4] Ibid.
[5] Alexander's invasion of Iran took place between 334 and 321 B.C.

366 mobile hospitals accompanied the army."[6] One cannot, however, be certain about the reliability of Ferdowsi's statement inasmuch as it is not sustained by any other Persian source. It is nevertheless conceivable that soldiers were provided with drugs as well as food, with physicians and surgeons who could administer them, dress injuries or set broken bones. Medieval authors such as Ibn Khallikān and Ibn al-Qifti also record the use of such mobile hospitals in later periods. For example, a mobile hospital with the army of Soltān Mahmud Seljuqid[7] was transported by forty camels.[8]

As to the Sasanid period (224–651), there are several post-Sasanid accounts about the hospital of Gundishāpur (or Jundishāpur)[9] in southwest Iran, but there is no Sasanid contemporary source to confirm its existence. The only contemporary source from which we could expect information on Sasanid medicine or hospitals might be the Dēnkard (or Dinkard), an encyclopaedia of the Zoroastrian religion that comprises extensive quotes from materials thousands of years older, as well as from those of the Sasanid period. According to some scholars the Dēnkard was first composed under the reign of Khosrow I Anushirvān (531-579), but was destroyed during the Arab invasion and later, under the ʿAbbāsid Caliph al-Ma'mun (813-833), Āzar Faranbagh, a Zoroastrian scholar, compiled it again from scattered sources.[10] According to others, however, it was composed for the first time in the ninth century.[11] Whatever the case may be, the passages of the Dēnkard cited from Sasanid sources do not mention

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[6] Cited in MS 505, p. 5.

[7] The Soltān in question must be either Mughith al-Din Mahmud (1118–1131) of the branch of the Seljuqs reigning in Western Persia or Nāser-al-Din Mahmud (1092–94). See Bosworth, *The Islamic Dynasties* (Edinburgh: Edinburgh University Press, 1967), p. 115.

[8] Cited by Ahmed Issa Bey, *Histoire des Bimaristans (hôpitaux) à l'époque Islamique* (Cairo: Imprimerie Paul Barbey, 1928), p. 89.

[9] The Persian word is Gundishāpur but as in Arabic there is no G (گ), it is replaced by J (ج).

[10] Hāshem Razi, *Ganjineh-ye Avestā* (Tehran: Publishers Foruhar, 2537/1978), pp. 215-216 and 225; See also Dimitri Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early ʿAbbādid Society (2nd-4th/8th-10th centuries)* (London and New York: Routledge, 1998), p. 26.

[11] ʿAli-Akbar Dehkhodā, *Loghatnāmeh*, 15 vols., 2nd edition, edited by: Mohammad Moʿin and Seyyed Jaʿfar Shahidi (Tehran: Tehran University Press, 1377/1998), vol. 8, p. 11428; Zabihollāh Safā *Tārikh-e ʿolum-e ʿaqli dar tamaddon-e eslāmi tā avāset-e qarn-e panjom* (History of rational sciences in Islamic civilization until the mid-fifth century), 2 vols, 2nd edition (Tehran: Tehran University press, 1336/1957), vol. 1, pp. 18-26.

a hospital in Jundishāpur, but discuss only medicine and science in general. According to this source, the Sasanid king,

> Shāpur the First (240–270), had collected books on medicine, astronomy, motion, time, space, substance, creation, genesis, passing away, change and growth, as well as on arts and crafts from India, the Byzantine Empire and other countries.[12]

The only contemporary source talking about a hospital in Jundishāpur is a passage from a Syriac chronicler, Zachariah of Mitylene, writing in A.D. 569 about the events between 553 and 556:

> Out of kindness towards the captives [East Romans] and the holy men he [the Shāh—Khosrow I (531–79)] has now by the advice of the Christian physicians attached to him made a hospital, a thing not previously known, and has given 100 mules and 50 camels laden with goods from the royal stores, and 12 physicians and whatever is required is given….[13]

We should, however, be cautious about Zachariah's account since the term he used for hospital is "xenodocheion" (an inn for travellers). According to Timothy Miller the xoenodocheia in the Byzantine Empire, especially those developed between sixth and twelfth centuries, were the first hospital establishments in modern sense.[14] But all historians do not share such analysis. At the same time, we should bear in mind that a "hospital" in sixth-century Sasanian or Byzantine Empires should not be necessarily similar to modern hospitals, but it had its own meaning and organization determined within historical, geographical and social contexts of the time.

The earliest Islamic sources referring to a hospital in Jundishāpur date from the ninth and tenth centuries, but are without any reference to their source of information or description of the building and its organisation. According to Lawrence Conrad, "there is no evidence that any academy ever existed at Jundishāpur. The hospital there was a foundation of early Islamic times, and all of the medieval material

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[12] Owsei Temkin, *Galenism, Rise and Decline of Medical Philosophy* (Ithaca, N.Y: Cornell University Press, 1973), p. 62, cited by M. Ullman, *Islamic Medicine*, p. 16. See also: Safā, *Tārikh-e ʿolum-e ʿaqli*, vol. 1, p. 18.

[13] Timothy Miller, *The Birth of the Hospital in the Byzantine Empire* (Baltimore, London: Johns Hopkins University Press, 1997), p. 252; Nigel Allan, "Hospice to Hospital in the near East: An instance of continuity and change in late Antiquity," *Bulletin of the History of Medicine*, 64 (1990): 446–462, p. 460.

[14] Miller, *The Birth of the Hospital*, see chapters 6 and 8, especially.

on the ancient glories of the town is late in origin and may best be interpreted as baseless literary invention inspired by the eminence of the Bokhtishuʿ family…".[15] If this supposition is right the question is why was such a hospital built in the early Islamic period, after the fall of the Sasanians?[16] It might also be assumed that the construction of a hospital at Jundishāpur, as it was understood in sixth-century Sasanid Iran, could be linked to the political and economic importance of Jundishāpur during the hey-day of the Sasanians and/or to court academic activity that, according to Dimitri Gutas, was responsible for building up an "imperial ideology".[17]

In southwest Iran, in a place called Shāhābād in the nineteenth century[18] and situated 48 km. From Shushtar and 12 km. From Dezful, Ardeshir (226–240), the first Sasanid king, built a city in circular plan and named it Firuzābād. His son, Shāpur the First,[19] reconstructed it on the model of Antioch in a rectangle after his victory over Aurelian

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[15] Lawrence I. Conrad, "Arab-Islamic Medicine," in William Bynum & Roy Porter (eds), *Companion Encyclopaedia of the History of Medicine*, 2 vols. (London: Routledge, 1993), vol. 1, pp. 676-727, p. 688.

[16] To the question of why there should have been a hospital in Jundishāpur in ʿAbbāsid times but not in Sasanid, Lawrence Conrad answered, in a recent correspondence (October 2003), as follows: "The Islamic era witnessed an enormous expansion of urbanism, in which the Sasanid model of middle-sized cities supported by many small agricultural villages was replaced by a pattern of a few enormous cities and other middle-sized to large ones, all supported by far fewer but larger villages. Hospitals were private initiatives sustained by *waqf*, and all it would have taken to create a hospital in Jundishāpur, as in any other Islamic city, would have been an act of will by a wealthy individual. This can perhaps be compared to the role of wealthy individuals in late antique Syria, who built churches in their villages and towns not because they were needed, but as acts of individual piety, even if, for example, a town already had far more churches than its people could really use, much less fill."

[17] Dimitri Gutas, *Greek Thaugth, Arabic Culture*, pp. 44 ff and 107 ff.

[18] Henry Rawlinson who visited the village of Shāhābād in March 1836, had no hesitation to identify it with Jundishāpur. Cf. Henry Creswick Rawlinson, "Notes on a March from Zohāb, at the foot of Zagros, along the mountains of Khuzistān (Susiana), and from thence through the province of Luristan to Kirmānshāh, in the year 1836," *Journal of the Royal Geographical Society*, 9 (1839): 26-116, p. 72.

[19] Ardeshir was the second son of Pāpak, son of Sāsān, a high dignitary of the temple of Anahita (the goddess of water, fertility and procreation in Estakhr (Persepolis), in southwest Iran.) After the accidental death of Shāpur I, Pāpak's heir apparent and his elder son, Ardeshir, the Shāpur's brother, became king. See Roman Ghirshman, *L'Iran des origines à l'Islam*, first edn. Payot, 1951 (Paris: Albin Michel, 1976), pp. 281ff. See also W. Barthold, *An Historical Geography of Iran*, translated by Svat Soucek, edited by C.E. Bosworth Princeton (New Jersey: Princeton University Press, 1984), p. 202; Cyril Elgood, "Jundishāpur A Sassanian University," *Proceedings of the Royal Society of Medicine* 32, no. 7 (1989): 57–61, p. 57.

and called it Jundishāpur. He installed there the Roman soldiers and prisoners, including a number of artists and physicians that he brought with him. Jundishāpur "was enlarged into a great city by Shāpur II (309-379) and about 350 became the see of a bishop of the Nestorian church, which had been instituted in Susiana a century before; and when it rose to be the chief city of the province, the seat of the metropolitan, which had formerly been fixed at Ahwāz, or, as it is called by the Syrians, Beth Lapet, was transferred to it".[20] Ibn al Faqih al Hamedāni, on the other hand, maintained that when Kesrā (Khosrow) Anushirvān conquered Antioch, among other Roman cities such as Damascus, Aleppo and Jerusalem, he found Antioch's buildings very beautiful and, when he arrived in Iran, he built a city modelled on Antioch and named it Zandkhusra, while the Arabs called it Rumiya. Anushirvān ordered the captives of Antioch to be transferred into this city.[21] Throughout their reign of more than four centuries, the Sasanians worked for the expansion and embellishment of the Khuzestān region, constructing dams and irrigation systems.[22] Although their centre of power was transferred to Ctesiphon (or Tēspōn, or Tisphun), the Khuzestān region and Jundishāpur did not lose their importance. The socio-political importance of Jundishāpur as one of the headquarters of the Sasanian administration might have encouraged the construction of a hospital or a learning centre. Nevertheless, if such a hospital was indeed built under Anushirvān, as Zachariah reported, its reputation might not reflect its actual importance under the Sasanians but was mainly based on the idea that Jundishāpur's academy was the cornerstone of (Galenico-) Islamic medicine and hospitals;[23] but

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[20] Rawlinson, "Notes on a March," p. 72.

[21] Ibn al Faqih al Hamedāni, *Kītāb al Buldān,* edition and abridged translation in French (*Abrégé du Livre des Pays*), by Henri Massé and revised by Charles Pellat (Damascus: Institut Français du Damas, 1973), pp. 140–141.

[22] Richard N. Frye, "The Political History of Iran under the Sasanians," *Cambridge History of Iran*, 7 vols. Edited by Ehsan Yar Shater (Cambridge, London and New York: Cambridge University Press, 1983), vol. 3, pp. 131–32 and 723–24.

[23] About such an idea, see for example, Lucien Leclerc, *Histoire de la médecine arabe. Exposé complet des traductions du Grec, les sciences en Orient, leur transmission à l'Occident par les traductions latines,* 2 vols. (Paris: Ernest Lereux, 1876), vol. 1, p. 92; Edward G. Browne, *Arabian Medicine* (Cambridge: Cambridge University Press, 1921); Max Meyerhof, "Science and Medicine," in T. Arnold and A. Guillaume (eds.) *The Legacy of Islam*, (Oxford: Oxford University Press, 1952); Donald Campbell, *Arabian Medicine and its Influence on the Middle Ages* (London: K. Paul, Trench, Trubner & co. ltd, 1926), pp. 45–48; M. Ullmann, *Islamic Medicine*, translated by J. Watt (Edinburgh: Edinburgh University Press, 1978); Sami Hamarneh, "Development of Hospitals in Islam," *Journal of the History of Medicine and Allied Sciences*, 17 (1962), pp. 97–111.

these were, in fact, developed far more during the Islamic period than under the Sasanians, as will be seen in the next section.

Islamic period

According to the account of Ibn al-Qifti (b. 548 H. /1153) Jabril (Gabriel) Bokhtishuʿ was personal physician to the Shāh Khosrow Anushirvān and in the twentieth year of Anushirvān's reign he headed an assembly of medical experts that debated the merits of different methods of treatment. Al-Qifti maintained that Jabril was the director of the hospital of Jundishāpur and that his son Jurjis assisted him, until, after establishing Baghdad, the Caliph al-Mansur summoned Jurjis b. (Jabril) Bokhtishuʿ from Jundishāpur to become his personal physician [in 766]. Again in 175/792, Jaʿfar Barmaki, the Persian minister of Hārun al-Rashid, took Jabril, son of Jurjis, as his personal physician, and so forth.[24] The account, according to which Jundishāpur was the cornerstone of Greco-Islamic medicine and hospital organization, implies that Greek medicine prevailed under the Sasanians. There are indeed several reports that corroborate Greek influence in pre-Islamic Iran, such as the hire of the first renowned Greek physician Democedes by Darius the Great (AD 500–450). Greek influence might also have continued after the conquest of Iran by Alexander. Furthermore, when Shāpur I (240–270) defeated Aurealius, in 242, among his prisoners were Greek or Roman artists and physicians.

Another identified source of Greek influence in Sasanid Iran is the expatriation of Nestorian Christians by the Byzantine emperor on grounds of heresy. When the school of Odessa was closed in 489 the Nestorian scholars came to Iran under the protection of the Sasanians and some went to Jundishāpur.[25] However, the immigration of the Christians was not limited to Iran; some Nestorian Christians also immigrated to China and India.[26] Even though Christianity offered a

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[24] Jamāl al-din al-Qifti, *Tārikh al-hokamā'*, Persian translation of 1688, edited by Behin Dārāyee (Tehran: Tehran University Press, 1371), pp. 141–2 and 185.

[25] Nigel Allan, "Christian Mesopotamia and Greek Medicine," *Hermathena—A Trinity College Dublin Review*, no.145 (1988): 39–58. According to Michael Dols, however, there is no evidence that the academics of the School of Odessa went to Jundishāpur at the end of the fifth century. Cf. "The Origins of the Islamic Hospitals: Myth and Reality," *Bulletin of the History of Medicine*, 61 (1987): 367-390, p. 369.

[26] P. Yoshiro Saeki, *The Nestorian Documents and Relics in China* (Tokyo: The Academy of Oriental Culture, 1937); A. Mingana, "The Early Spread of Christianity in

potential vehicle for Greek science under the Sasanians, there is no evidence that Greek science was dominant in Iran during that period. Shāpur I and Khosrow I Anushirvān (531-79), among other Sasanid kings, had scientific texts of several disciplines, including medicine, translated from various languages, including Greek and Sanskrit. Dimitri Gutas maintains that the "royal library" was an institution that developed a "culture of translation" as many foreign books, mainly in Greek, were translated into Pahlavi Persian. After the downfall of the Sasanians, this "culture of translation" was transmitted to the ʿAbbāsid Caliphate. The resulting "translation movement" of the eighth, ninth and tenth centuries explains the integration of the Greek sciences into Islamic philosophy,[27] thus providing Islamic scholars with theoretical tools for defending and propagating their religion.

However accurate Gutas' argument might be for the Islamic period, it cannot be taken for granted that Greek medicine and philosophy were predominant under the Sasanians. Despite the collection of some books of science from Byzantium under Shāpur I, in the third century, the Sasanid elite appeared sceptical of Greek knowledge by the end of the sixth century, as the following cases indicate. Khosrow I Anushirvān sent one of his subjects to the Byzantine Empire to learn about its sciences. On the return of his envoy, Anushirvān asked, "what is their competence in medicine"? The envoy replied:

> They [the Greeks] know the humours and substances, treatment of inflammation and cooling [of the humours], excess of bile or putrid matters with the assistance of drugs, which they know. However, excepting this, they know nothing of the treasure of India [lit. know nothing of what Indians are renowned for]: treatment of the vital spirits, grave maladies, incantation…[28]

India," *Bulletin of the John Rylands Library*, 10 (1926): 435–514; Farokh Erach Udwadia, *Man and Medicine, A History*, 2nd impression 2001 (India: Oxford University Press, 2000), p. 62.

[27] Dimitri Gutas, *Greek Thought, Arabic Culture*, pp. 28 ff. As to the causes of the assimilation of the Greek sciences by Islam there are other explanations, such as the role of the Arabic language or the state patronage. See for example: A. I. Sabra, "The Appropriation and Subsequent Naturalization of Greek Science in Medieval Islam: A Preliminary statement," *History of Science*, 25 (1987): 223-243; Aydin Sayili, "Islam and the Rise of the Seventeenth Century Science," *Belleten* 22, 85-88 (1958): 353-368; J.J. Saunders, "The Problem of Islamic Decadence," *Journal of World History* 7 (1963): 701-720; Seyyed H. Nasr, *Science and Civilization in Islam* (Cambridge, Mass: Harvard University Press, 1968).

[28] Ibn al Faqih al-Hamedāni, *Kītāb al Buldān*, p. 173.

Anushirvān also sent "secretly his minister and chief physician, Perzoes or Borzoe (c. 579), a Zoroastrian, to India. Perzoes travelled to India where he stayed for some years. On his return he brought with him rare Sanskrit manuscripts on medicine and other sciences, which were translated into Pahlavi."[29] But the only known book linked with his name is the fable of *Kalila va Demna*.[30] It is not clear if Borzoe himself translated the *Kalila va Demna* or had it translated, but he certainly added an introduction to the Pahalvi translation. Here he gave details of his own medical background: "his father was in the military and his mother was from a high-ranking Zoroastrian clerical family. He was privileged among his siblings and at the age of seven, was encouraged to study medicine, the noblest science among the Persians... [He] treated those among the sick whose illness was curable." Borzoe continued:

> After practising medicine, I left it since I did not find in it any clear argument or explanation. My work reached the stage where I gave myself up to providence, and speculated on eternity and in this way I passed my life until I found the chance to go to India and there also I continued my work in the same way; on my return home I took with me several books including the *Kalila va Demna*.[31]

Some two centuries later, under the Caliphate of Hārun al-Rashid, the translation of Sanskrit books like *Charaka, Susruta, Nidāna* and *Astagahrdāya* was instigated by the Barmakid viziers of the Caliph.[32] *Ferdows al-hekmah,* written by ʿAli b. Rabbān-e Tabari around 850, was the first great compendium in medicine that used Hippocratic as well as Indian and Persian medical knowledge.[33] This indicated that more than two centuries after the fall of the Sasanians, Greek medicine still did not have a monopoly on medical knowledge in Iran.

These accounts suggest that Hippocratic and Galenic medical knowledge was not prevalent in Iran under the Sasanians, probably due to

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[29] Farokh Erach Udwadia, *Man and Medicine,* p. 45.

[30] Richard Freye, "The political history of Iran under the Sasanianss," *Cambridge History of Iran*, 7 vols. edited by Ehsan Yar Shater (Cambridge, London, New York: Cambridge University Press, 1983), vol. 3, p. 161.

[31] Mojtabā Minavi (ed.), *Kalila va demna,* the version of Abol ma'āli Nasrollāh Monshi, 8th edition (Tehran: Tehran University Press, 1367/1988), pp. 47,48,58.

[32] Heinz Herbert Schöffler, mit einem Geleitwort von Friedrich Hiebel, *Die Akademie von Gondischapur: Aristoteles auf d. Wege in d. Orient*; (Stuttgart: Verlag Freies Geistesleben, 1979), pp. 33–34.

[33] Conrad, "Arab-Islamic Medicine," p. 600.

the dominance of *Zoroastrianism*, which would have opposed the influence of the Greek sciences for both political and ideological reasons. The presence of the Greek sciences in pre-Islamic Iran was certainly partly related to both the emigrant and native Christian populations in southwest Iran. Before the rise of Islam, Christianity was established along the coast of the Persian Gulf, including Khuzestān.[34] However, the Christian elites in Sasanid Iran were not dominant at the court, or at least, their influence there should not be exaggerated. It is not surprising therefore that Anushirvān's envoy to Byzantium, whose task was to collect information about the Greeks' medical practice, despised humoral medicine and favoured the spiritual methods of Indians, and that Borzoe, Anushirvān's chief physician and minister, also emphasised the metaphysical element in his practice of medicine. The influence of Greek medicine, science and philosophy, in general, developed in Iran during the Islamic period.

Jundishāpur was conquered by Abu Musā Ashʿari, the general of Caliph ʿOmar, in 638. If we believe Ibn al-Nadim in his *Al-Fihrist*, the Jundishāpur hospital was still operational during the second half of the ninth century. According to Ibn al-Nadim, Shāpur b. Sahl, the author of *al-qarābādin al-kabir*, a book on pharmacy, was the director of the hospital of Jundishāpur until his death on 30 November 869.[35] None the less, Jundishāpur's decline seemed inevitable two centuries after the fall of the Sasanians, which worked to the benefit of the new centre of power: Baghdad.

There is no evidence that hospitals developed under the Umayyads (661–750). Al-Maqrizi (1364–1442) indicated that the Umayyad Caliph of Damascus, al-Walid (705–15), constructed a lazar house in order to keep lepers isolated from society in 706.[36] It was not, however, until the ʿAbbāsid caliphate was established in 750, reaching the apex of its power under Hārun al-Rashid (786–809), that permanent hospitals were established in Baghdad. Previous experience during

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[34] Fred M. Donner, "Muhammad and the Caliphate: Political History of the Islamic Empire up to the Mongol Conquest" in John L. Esposito (ed.), *The Oxford History of Islam* (Oxord, New York, etc.: Oxford University Press, 1999), p. 4. See also William Cleveland, *A History of Modern Middle East* (Boulder, San Francisco, Oxford: Westview Press, 1994), pp. 6-7.

[35] Ibn Nadim, *Kītāb al-fihrist*, p. 355. See also ʿAli-Asghar Faqihi, *āl-e buyeh va owzā-e zamān-e ishān* (The Buyids and Their Time) (Guilan: Sabā, 1357/1977), p. 745.

[36] Ahmad ʿIssā Bek, *Tārikh al-bimāristānāt fi al-Islam* (Beirut: Dār al-rāʿed al-ʿarabi, 1981), p. 10.

the Byzantine Empire (and probably in the Sasanid Empire) must have given an example (or precedence) for their creation under the ʿAbbāsid Caliphate. It is likely that the first "Islamic" hospital was built at the instigation of Yahyā b. Khāled-e Barmaki, the Iranian tutor and vizier of Hārun al-Rashid. Later on, other Barmaki viziers of the ʿAbbāsid Caliphs also constructed hospitals in Baghdad under their names. After the downfall of the Sasanians, some members of the Iranian elite, such as Jaʿfar-e Barmaki of the Zoroastrian faith, served the Islamic Caliphs. According to Abol-Qāsem Mohammad-e Tāyefi, Jaʿfar-e Barmaki excelled in poetry, prose and writing. He was an ambitious man and his vast knowledge and expertise in administration (*dabiri*), led him to the court of the Umayyad ʿAbd al-Mālek b. Marvān (685–705) in Damascus where he converted to Islam. His son Khāled was born there and grew up under al-Walid and, like his father, he also excelled in sciences. Khāled shifted his allegiance after the fall of the Umayyads to the ʿAbbāsid Caliphs and became the adviser to al-Mansur (754–75).[37] The successive ʿAbbāsid Caliphs, al-Moʿtazed (892–902) and al-Moqtadar (908–32) built four more hospitals in Baghdad.[38] Another Bagdad hospital was the ʿAzodi Hospital attributed to (or named after) ʿAzod al-Dowleh Fanā Khosrow, who reigned in western Persia and Mesopotamia (949–83) and was the most powerful of the Deylamid (Buyid) dynasty (932–1055). Some scholars believe that ʿAzod al-Dowleh had renovated the Rashidi hospital, originally constructed a century before under Hārun al-Rashid. After renovation, this hospital was inaugurated in early 982, seven months before the death of ʿAzod al-Dowleh. Further damage followed the flood of the Tigris in 1174 and after its reconstruction, the hospital continued to function until the end of the sixth century of Hegira (early thirteenth century).[39]

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[37] Abol-Qāsem Mohammad-e Tāyefi maintained that "when Khāled-e Barmaki came into the service of al-Mansur, he decided to build the city of Baghdad" [a Persian word meaning given (*dād*) by God (*bag*)]. See *"Akhbār-e Barmakiyān,"* translated from Arabic to Persian by Ziāʾal-Din Barni from the book of Abol-Qāsem Mohammad Tāyefi, manuscript dated 1261/1845 and dedicated to Soltān Firuz-Shāh, the Mughal emperor of India, National Library, St Petersburg, ПНС 284, ff. 16–17. S. Hamarneh, referring to Ismāʿil al Dimashqi, *al-Bidāyah wa al-Nihāyah* and Ahmad al-Baghdādi, *Tārikh Baghdād*, however, states that al-Mansur named his new capital *Madinat al-Salām* (the city of peace). See "The Rise of Professional Pharmacy in Islam," *Medical History*, 6, no. 1 (1962): 59-66, p. 59.

[38] Najmābādi, *Tārikh- tebb*, pp. 769–774.

[39] Al-Montazam, vol. 7, p. 112, cited by ʿAli-Asghar Faqihi, *āl-e buyeh va owzāʿ-e zamān-e ishān*, p. 746; Najmābādi, *Tārikh- tebb*, p. 779.

As far as Iran is concerned, there are few indications of the existence of hospitals during the Islamic period until the nineteenth century.[40] Following ʿAzod al-Dowleh, other Buyid princes continued to build hospitals, including those in Espahan and Rayy. Ahmed Issa Bey mentions the hospitals of Rayy (tenth–eleventh century), Espahan (under the Deylamids: eleventh century), Shirāz (624/1227), Neyshābur (407/1017), Zarand (ninth century), Tabriz (710/1310), Marw (ninth century) and Khwārazm (date unknown).[41] However, no vestiges of these buildings remain and furthermore the sources only indirectly describe them, for example: "Ibn Manduya, the famous physician of Espahan served at the hospital of this city".[42] Or Ibn Baytār in his book *al-jāmeʿ al-mofradāt* mentioned ʿIsā b. Māsah, the physician of the ninth century used Haramel (or Haoma) at the bimārestān of Marw.[43] But regretfully they stop short of giving further details about either their function or organization.

The dearth of records about hospitals in Iran can be explained by their rarity, compared with those in other Islamic lands. For example, the Seljuqs, who settled in Anatolia in the twelfth and thirteenth centuries, built hospitals in Kaseri in 1205, Sivas in 1217, Amaysa in 1308 and Manisa in 1530,[44] whereas the Seljuqs in Iran are not known for such works. According to some records, Tamerlane (1369–1404),

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[40] See, for example, Sami Hamarneh, "Development of Hospitals in Islam," *Journal of the History of Medicine and Allied Sciences*, 17 (1962): 366–384; Ahmed Issa Bey, *Histoire des Bimāristāns*; Ehsan-ul-Haq, "Hospitals in the Islamic World with Reference to the Eastern and Western Caliphates" in: Susono-Shi and Shikuoka (eds), *History of Hospitals: The Evolution of Health care Facilities, Proceedings of the 11th International Symposium on the Comparative History of Medicine—East and West* (Japan: Division of Medical History, Taniguchi Foundation, 1989). These works are characterized by a lack of critical analysis and often project a modern concept of hospital institutions onto the past. For a critical view of Islamic hospitals, see Dols, "The Origins of the Islamic Hospitals: Myth and Reality"; Conrad, "The Institution of the Hospital in Medieval Islam: Ideals and Realities," unpublished typescript, Wellcome Institute for the History of Medicine, 1985.

[41] Ahmed ʿIssā Bek, *Tārikh al-bimāristānāt fi al-Islām*, pp. 266–269.

[42] According to Ibn al-Kathir and al-Qifti, Manduya also served the ʿAzodi hospital in Baghdad. Cf. Najmābādi, *Tārikh-e tebb*, p. 777.

[43] Najmābādi, *Tārikh-e tebb*, p. 769. For *Haoma* or *Harmaline* see: David Stophlet Flattery and Martin Schwartz, *Haoma and Harmaline: the Botanical Identity of the Indo-Iranian Sacred Hallucinogen "soma" and its Legacy in Religion, Language, and Middle-Eastern Folklore*, Near Eastern Studies series, vol. 21 (Berkeley: University of California Press, 1989).

[44] Laurie Gluckman, "Seljuq and Ottoman madrasa and hospitals," *Scalpel and Tongs*, 39 (1995): 66–67.

the Mongol conqueror, decreed that each city in his realm should be provided with at least one mosque, one school, one caravanserai (guest house) and one hospital called *dār al-shafā*.[45] Even if such a decree was indeed issued, one needs to see whether it was an isolated case or whether it represented a more constant pattern under the Timurids. If the latter case is true, it suggests that by and large Tamerlane's decree reflected the consequences of a revival of agriculture and trade following the Mongol conquest.[46]

Even under the relatively stable government of the Safavids (1501–1722), hospital development was slow. Records about hospitals are scarce for this period and indicate that those still in operation were not properly used or financed.[47] In contrast, the Ottoman Empire, which enjoyed greater political stability, paid far more attention to the establishment of hospitals. During the last decade of the eighteenth century when Iran was continually pestered by civil wars, the Ottomans built three military hospitals in Istanbul. This trend toward hospital construction accelerated rapidly in the Ottoman Empire in the nineteenth century. From 1828 to the end of the nineteenth century, twenty-seven military hospitals and no less than eight civilian hospitals were constructed in Istanbul.[48] During five centuries, the Turks established nearly seventy hospitals in Istanbul alone.[49] Nevertheless, other parts of the Ottoman Empire remained almost deprived of medical services. This difference between Iran and the Ottoman Empire might indicate the extent to which the development of hospitals depended on the political situation. Except for a few missions and diplomatic visits between Europe and Iran during the Safavid period, Iran generally remained isolated from Europe. While mid-nineteenth-century Iran did

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[45] Cyril Elgood, *A Medical Hitory of Persia and the Eastern Caliphate*, (Cambridge: Cambridge University Press, 1951; reprinted Amsterdam: APA-Pjilo Press, 1979), p. 173. It should be born in mind that sometimes these dār al-shafās, especially when they were part of a mosque or a *madrasa*, consisted only in outpatient dispensaries or pharmacies. Cf. Isā Sadiq, Tārikh-e farhang-e Iran (Tehran: Sāzmān-etarbiyat-e moʿallem, 1342/1963), p. 385.

[46] E. Ashtor, *A Social and Economic History of the Near East in the Middle Ages* (London, Glasgow, Sydney, Toronto, Johannesburg: William Collins Sons & Co Ltd, 1976), pp. 261, 263, 264

[47] See Mirzā Rafiʿ Jāberi Ansāri, *Dastur al-Moluk*, translated by Willem Floor and Mohammad Faghoory with commentary by Willem Floor, forthcoming (Costa Mesa: Mazda).

[48] Esin Kahya and Demirhan Erdemir, *Medicine in the Ottoman Empire (And Other Scientific Developments)* (Istanbul: Nobel Medical publication, 1997), pp. 119–122.

[49] Bedi N. Sehsuvargolu, "Bimāristān" (in Turkey), *Encyclopaedia of Islam,* I (Leiden: E. J. Brill, 1960), pp. 1225-6.

not have even one hospital, Henry Christy, a traveller to the Ottoman Empire in 1850, put in his diary: "All here [i.e. in Istanbul] is very far behind the darkest and hindmost state in Christian Europe except the grand Military hospital which is a pattern for any nation".[50]

A similar situation could be found in India. The Portuguese first built a hospital in Goa in 1510. Between 1664 and 1772 the English built four hospitals in the Madras Presidency. The French also established another hospital in Pondicherry on the east coast in 1701. This trend towards Western endowment continued and the British built four more hospitals in Calcutta from 1708 to the end of the eighteenth century and a growth in hospital construction further accelerated in India in the nineteenth century.[51] When the author of our manuscript complained that there were, in the middle of the nineteenth century, "at least 50,000 hospitals in the world … but none of them was in Iran",[52] he referred also to hospitals in the Ottoman Empire and India. Moreover, Moslem rulers in India began constructing hospitals at least since early fourteenth century and the Mughal emperors continued this policy. It is reported that "there were seventy hospitals during the reign of Mohammad b. Tughluq (1325-51)… and Firuz-Shāh Tughluq (1351-88), built five hospitals".[53] ʿAbd al-Razzāq, in his treatise on anatomy mentioned that he "had worked in the royal *dār al-shafā*, established by the late Soltān." There is no indication of a date in the manuscript, but it was probably written in the mid-eighteenth century.[54]

Organization and administration

The Islamic hospitals have generally been characterised by their well organized administration, in which separate wards were assigned to different medical specialities: internal diseases, fevers, ophthalmology,

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[50] Henry Christy to his mother Anna Christy, Constantinople, 5 August 1850. Stockport Library and Information Service. For a secondary study on the history of medicine and hospitals in Ottoman Empire see: Esin Kahya & Demirhan Erdemir, *Medicine in the Ottoman Empire*.

[51] Udwadia, *Man and Medicine*, pp. 375–78.

[52] MS 505, p. 9.

[53] Muhammad Zubayr Siddiqi, *Studies in Arabic and Persian Medical Literature* (Calcutta: Calcutta University Press, 1959), p. xxxiii.

[54] ʿAbd al-Razzāq, *Kholāsat al-tashrih* (gist of anatomy), St Petersburg, National Library, хан 154, fol. 3. Also see another copy of this work, held at the Wellcome Library, WMS.Per.517 (B).

surgery, psychiatry, and each was supervised by physicians. In the major hospitals the director, who was sometimes an eminent military man called *atābek* (Turkic term meaning generalissimo), was appointed by the ruler.[55] At other times, the director was called *nāzer* (supervisor) and was chosen from among the physicians and men of letters.[56] The director was also called at times *sā'ur*, a Syriac term meaning "leader of Christians in medical art",[57] or *motawalli*, who was sometimes a medical man. The *motawalli* was assisted by two junior officers, known as *moshref* (superintendent) and *qawām* (administrator).[58] The term *motawalli* for director might indicate that the hospital under his direction was endowed by a *waqf*, insofar as the word *motawalli* was usually used for the administrator of a *waqf*.

According to Ibn al-Jawzi, 'Azod al-Dowleh (r. 949-83) appointed a number of physicians, a manager, treasurers, a supervisor, and several guards to the hospital he had built.[59] The major hospitals of the "medieval" period, such as Bimārestān El 'Atiq, Bimārestān El Mansuri, or Bimārestān El Nuri in Damascus had a *sharbatkhāneh* (Persian term meaning "house for syrups" or pharmacy). A chief pharmacist or *mehtar* (Persian term for 'senior') was head of the pharmacy. The *mehtar* supervised the other pharmacists called *sharābdār* (keeper of syrups). The chief pharmacist was also called *Saydalāni*, (Arabic term from *saydalat*, meaning pharmacy).[60]

To some extent similar functions or organizations could be found in the Byzantine hospitals of the twelfth and thirteenth centuries. For example, the *nosokomos* governed the hospital, assisted by the *epistekon* (or supervisor). An accountant also advised the *nosokomos*. In addition, there were pharmacists, medical assistants, cooks and washerwomen and servants for the sick.[61] The controversy and subsequent debate among historians as to whether the Islamic organization had inspired the Byzantine hospital institutions or vice versa, partly results from these

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[55] Issa Bey, *Histoire des Bimāristāns*, p. 91.

[56] Najmābādi, *Tārikh-e tebb*, pp. 793–4.

[57] Issa Bey, *Histoire des Bimāristāns*, p. 84. The Syriac term for the director of a hospital could indicate the influence of Christian institution.

[58] Elgood, *A Medical History of Persia*, p. 182.

[59] Al-Montazam, vol. 7, p. 112, cited by Faqihi, *āl-e buyeh*, p. 746.

[60] Hamarneh, p. 376. See also Najmābādi, *Tārikh-e tebb*, p. 790. For a description of the Bimārestān El-Nuri in Damascus, see Françoise Cloarec, *Bimāristāns, lieux de folie et de sagesse. La folie et ses traitements dans les hôpitaux médiévaux au Moyen-Orient* (Paris, Monréal: L'Harmattan, 1998), pp. 83-96.

[61] Miller, *The Birth of the Hospital*, pp. 201–203.

similarities. Whether or not the Islamic hospitals were more developed than the Christian ones, it seems obvious, as we will discuss in Chapter Three, that the lay nature of the organization of the Islamic hospitals distinguished them from the Church-oriented Christian hospices. Obedience to the five commandments of Christ: give meat and drink to the hungry and thirsty, entertain the stranger, clothe the naked, and visit the sick and imprisoned,[62] was certainly fundamental to the role of nuns in Western hospitals. Due to this fact, the Christian hospitals were characterized by a duty of care[63] and the Islamic hospitals by a duty of cure, whether or not it was effective.

A cursory review of the Islamic hospitals since the eighth century indicates that they flourished under the ʿAbbāsid Caliphate in Baghdad and declined under the Mongols and experienced some revival under the Timurids. Geographically they received more attention and were better developed in the western parts of the Islamic countries—especially under the Ayyubids, twelfth to fifteenth centuries, and the Mamluks, thirteenth to sixteenth centuries, in Syria and Egypt—than in the east. Whether the importance of hospital establishment under the ʿAbbāsid Caliphate has been overestimated by later historians, or whether such establishments were of crucial importance to the Islamic empire, is difficult to ascertain at this stage of our study. If the latter is correct, why was hospital building so important for the ʿAbbāsids Caliphs and their successive dynasties in the Islamic countries? It might be suggested that the construction of hospitals throughout the ʿAbbāsid Caliphate in Baghdad was the natural result of the expansion of this city, which could then replace the capitals of the overthrown Sasanians. Generally speaking, the waxing and waning of hospital institutions must be understood within the political and economic contexts of a given period. As the *bimārestān* or *dār al-shafā* were usually endowed either by private or religious charity it would be appropriate to examine these in relation to the *waqf* (charitable endowment) system. This question will be discussed in Chapter Three.

It is of significance that in setting up a guideline for the state hospital

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[62] Matthew, Ch. 25: 34-46.

[63] In Europe the change occurred by the end of the eighteenth century. On the old and new types of hospitals in Europe, see Lindsay Granshaw and Roy Porter (eds), *The Hospital in History* (London and New York: Routledge, 1990); Lindsay Granshaw "The development of hospitals in Britain since 1700 and their changing role in health care" in Susono-Shi/Shikuoka (eds), *History of hospitals: the evolution of health care facilities*, pp. 43-66.

(*marizkhāneh-ye dowlati*) in the mid-nineteenth century, manuscript 505 frequently referred to the organization of "medieval" Islamic hospitals. Unlike the Ottoman Empire, where modern hospitals were built and organized entirely according to a modern European model,[64] the first "modern" public hospital in mid-nineteenth-century Iran adopted aspects of both "medieval" and modern hospitals. The historical interest of manuscript 505 is twofold. Firstly, it is the only contemporary source informing us about the mid-nineteenth-century Qājār hospital as well as giving some details of the organization of pre-Islamic and Islamic hospitals in Iran. Secondly, inasmuch as the establishment of the first public hospital was undertaken within the framework of medical modernization, its reliance on "medieval" Islamic hospitals for its organization illustrates the nature of the process of the modernization of medicine adopted in Qājār Iran that will be portrayed in the following chapters.

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[64] C. P. Silver, "Brunel's Crimean War Hospital: Renkioi revisited," *Journal of Medical Biography*, 6 (1998): 234–39.

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CHAPTER TWO

PUBLIC HEALTH AND SOCIO-POLITICAL CHANGES

The modernization movement in the nineteenth century

The process of modernization in Iran has usually been credited to Western influence.[1] Such a view originated in the colonial era in countries where Western domination was more intense and direct. Qājār Iran also experienced Western influence in the political, economic and military spheres, but for many reasons this influence was not of a colonial nature.[2] Although European influence played a major role in the modernization of both colonized and non-colonized countries, the local and historical roots of socio-political reform should not be overlooked. In any case, compared to its neighbouring countries, Iran was less influenced by the West. During the second half of the eighteenth century, when a modern army as well as modern sciences were introduced into the Ottoman Empire and its Levantine and North African Provinces, the Europeans deserted Iran because it was in midst of the turmoil of civil war. Later on in the nineteenth century, due to its geopolitical position, Iran became virtually a buffer zone between Great Britain and Russia, neither of which could, consequently, impose its unrivalled domination.

In the absence of an intrusive colonial administration, any project of modernization was to be, at least partially, carried out by the Iranian themselves, relying on their own intellectual, cultural and material resources, even though they borrowed the idea from outside. This pattern of reform had a far-reaching impact in the history of modern Iran and influenced the Constitutional Revolution in 1905–09[3] and

[1] See for example, Guity Nashāt, *The Origins of Modern Reform in Iran, 1870-80* (Urbana, Chicago, London: University of Illinois Press, 18982). Shaul Bakhash, on the other hand, does emphasize the role of local factors but he addresses them within the context of outside Western influence. See Shaul Bakhash, *Iran: Monarchy, Bureaucracy and Reform under the Qājārs: 1858-1896*, St Antony's Middle East Monographs, no 8 (London: Ithaca Press, 1978). None of these authors, however, examine the changes or reforms in connection with the internal dynamism of the local factors.

[2] For a comparative study of the economic and industrial impact of Western influence in Iran and in other Middle and Near Eastern countries during early nineteenth century, see Charles Issawi, *The Economic History of Iran 1800–1914* (Chicago and London: The University of Chicago Press, 1971), pp. 14 ff.

[3] For a best contemporary account on the Constitutional Revolution see Edward G. Browne, *The Persian Revolution of 1905-1909* (London: Frank Cass, 1966).

more recently the Revolution of 1979.[4] These movements were driven by traditional forces, permeated by democratic or modern ideas. During the second part of the twentieth century, many Islamic modernist scholars or political activists tried to adopt and justify sociological and philosophical theories developed in Europe since the eighteenth century by arguing that they were already embodied in the Koran or in the sayings and traditions of the Prophet and the Imams.[5] Such a view naturally entailed the reassessment or reinterpretation of Islamic tenets in an attempt to adapt them to modern society. A parallel phenomenon might be the process of the assimilation of modern medicine by traditional physicians through theoretical and institutional changes of the prevailing medical system.

The first steps towards social and political change in modern Iran can be sought in the eighteenth century. After the disintegration of the Safavid Empire, civil war between different tribes broke out and further dismantled the Safavid political and social structure, so that by the end of the eighteenth century the centralization of power sought by the Qājār could not be realized by restoring the Safavid system. The geographically dispersed Qājār clans became politically united under the elective and symbolic authority of the *Ilkhāni*.[6] As the Qājār clans overcame internal strife, they succeeded in conquering the throne. With their advent to the throne the Qājār princes systematically proceeded to secure central power through two processes: the distribution of the provinces among the members of the royal tribe, especially the royal family; and the manipulation of other tribes in the country by politically uniting them under the authority of an *Ilkhān*, who was responsible to the central government.[7]

The changes implemented in military organization also offer another

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[4] We use the term "revolution" here rhetorically, but these revolutions could also be classified as "movements" inasmuch as none of them brought about a significant and immediate change in the socio-political structure. Rather they should be considered as the main episodes in the long process of socio-political change.

[5] The works of ʿAli Shariʿati, who is considered by some to be "the ideological father of the Islamic Revolution" illustrate this. See for example the following: *On the Sociology of Islam*, translated by Hamid Algar (Berkeley: Mizan Press, 1979); *Man and Islam*, translated by F. Marjani (Houston: Filinc, 1981); *Marxism and other Western Fallacies: An Islamic Critique*, translated by R. Campbell, preface by H. Algar (Berkeley: Mizan Press, 1980).

[6] *Il* = tribe and *khān* = chief.

[7] On the establishment of the Qājār power, see Hormoz Ebrahimnejad, *Pouvoir et succession en Iran: Les premiers Qājār 1726–1834* (Paris: L'Harmattan, 1999).

case where traditional elements persisted throughout the modernization process. After suffering heavy defeats at the hands of the Russians in the Caucasus from 1803, ʿAbbās-Mirzā, the crown prince and governor of Azarbāijān (1800–1833), realized the necessity of modernizing the army. However, ʿAbbās-Mirzā himself was aware, as he confided to the Frenchman Amédé Jaubert, that the traditional forces in the existing system were too entrenched to be easily eliminated.[8] The facts that, despite the establishment of a modern army (*nezām-e jadid*), the tribal structure of the army remained unchanged and sociologically the troops remained more loyal to their tribal chief than to the central state, illustrate ʿAbbās-Mirzā's concerns. As late as 1869, the annual or seasonal recruitment of the country's regiments could be made quickly from ethnic or confederated tribes such as the Afshārs, the Shāhsavan and the Kurds. For instance, the twenty-eight regiments of Azarbāijān could be recruited from different tribes within three weeks.[9] This would explain why the Qājārs were lackadaisical in creating a national standing army. The change consisted, however, in larger and more frequent enrolment drives and in calling up the regiments more often. Each year divisions from several provinces were called up to replace those who left for home. The soldiers were stationed in the suburbs of Tehran ready for annual or seasonal campaigns or for an emergency war against foreign intruders or civil uprisings. In the first part of the nineteenth century, no proper barracks or accommodation were built by the government to house the agglomeration of soldiers in Tehran, while the material conditions of soldiers, who usually remained unpaid for several months, worsened and this increased the risks of outbreaks of disease. Under Mirzā Taqi-Khān-e Farāhāni, better known as Amir-Kabir, Nāser al-Din-Shāh's first prime minister (1849-1851) and his successors, some barracks were built, but their number was neither sufficient nor their architecture adequately designed to meet basic hygiene requirements. Johan Schlimmer reported in 1874 that at the end of winter and the beginning of the spring, typhus spread amongst

[8] Pierre Amédé Jaubert, *Voyage en Arménie et en Perse fait dans les années 1805 et 1806* (Paris: Ducrocq, 1821), pp. 175 ff.

[9] Archive du ministère des affaires étrangères, Correspondance politiques et consulaires de Perse, vol. 1, n° 20, Tauris, 7 juin 1869, Quai d'Orsay, Paris. For a more detailed account of the organization of and the number of regiments in the Qājār army in the second half of the nineteenth century, see Mohammad Hassan-Khān-e Eʿtemād al-Saltaneh, *Tārikh-e montazam-e nāseri*, 3 vols., edited by Mohammad-Esmā'il Rezvāni (Tehran: *Donyā-ye ketāb*, 1367/1988), vol. 2, pp. 1236 ff., and vol. 3, pp. 2081 ff.

the army because the soldiers were badly housed (*mal casernés*).[10]

Calling up a soldier meant that a labourer was removed from the farm and this resulted in less income for the state. By establishing a direct link between the population and agricultural production, the author of manuscript 505 argued that:

> If the hospital functions properly and the physicians are appropriately trained to treat soldiers efficiently, the mortality among the soldiers will fall and the population will increase and in this way the subjects (*raʿyat*, farmers or tribesmen) will not suffer from a shortage of labour by providing soldiers.[11]

The founding of the hospital, establishment of sanitary councils and the introduction of vaccination against smallpox indicate that the Qājārs, who ruled over a rural country with an agricultural economy, became anxious that their soldiers remained healthy during military service and returned safely to their farms.

Influenced by his progressive minister, Mirzā Bozorg-e Farāhāni, ʿAbbās Mirzā, heir apparent to the throne (1789–1833), was the first Qājār prince to be aware of the importance of public health to the state and he instigated preventive measures against epidemics. Although the Qājār princes continued the old practice of overtaxing their subjects,[12] at the same time there appeared a glimmer of concern about their health and numbers, a trend which was underpinned by the new socio-political context and epidemics rather than dictated by a clear and conscious policy of public health. Under ʿAbbās-Mirzā inoculation against smallpox was undertaken in some districts of Azarbāijān from the second decade of the nineteenth century. Among the first books published on his order was a treatise on smallpox, entitled *Smallpox Inoculation and the Need for its Universal Use* translated from English in 1829.[13] The author of this book was Dr John Cormick of the British East India Company, who went to Iran as a surgeon on Sir John Malcolm's diplomatic mis-

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[10] Johan Schlimmer, *Terminologie médico-pharmaceutique et anthropologique française-persane* (Tehran: Lithographie d'Ali GouliKhan, 1874), pp. 196–97.

[11] MS 505, pp. 30, 38 and 39.

[12] For relationship between overtaxation of the peasantry and the patriarchal structure of Qājār power, see Ali- Reza Sheikholeslami, *The Structure of Central Authority in Qajar Iran: 1871-1896* (Atlanta, Georgia: Scholars Press, 1997).

[13] Nadjmabadi [Najmābādi], Mahmud, "Les relations médicales entre la Grande-Bretagne et l'Iran et les médecins anglais serviteurs de la médecine contemporaine de l'Iran, *Proceedings of the XXIII International Congress of the History of Medicine, 1972* (London: Wellcome Institute, 1974), pp. 704-8, p. 705.

sion in 1809. At the same time, he became the physician of Prince ʿAbbās-Mirzā, but died of cholera in September 1833. Two months later, in November, ʿAbbās Mirzā himself died of chronic gout.[14]

Some isolated gestures towards public health were made that were not particularly significant in themselves but can be related to a process of medical reform that took clearer shape in the following decades. Under the reign of ʿAbbās-Mirzā's son, Mohammad-Shāh (1834–1848), the Qājār administration in the capital showed little enthusiasm for reform. But in Azarbāijān the seeds of reform continued to sprout, due to its closer contact with the Western world. The prince-governor of Azarbāijān, Nāser al-Din-Mirzā, was being tutored by his minister, Mirzā Taqi-Khān, who on the prince's succession to the throne became prime minister. In addition to undergoing a traditional education, Nāser al-Din-Mirzā read and learned about the history and geography of the world from Edward Burgess, an English merchant turned translator and tutor.[15] This broad education might explain the intellectual receptiveness of this prince when he reigned during the latter part of the nineteenth century and this was not without effect on the reform movement. Nāser al-Din-Shāh underwrote the translation of several scholarly books from European languages and commissioned others, and was himself the author of six travel accounts.[16] The political stability during the reign of Nāser al-Din-Shāh allowed an increase in literary work and research in history, geography, demography, and so forth.[17]

Prime minister Mirzā Taqi-Khān-e Amir-Kabir marked his rise to high office with a series of reforms in the army and in the education and the judiciary systems, but only with moderate success. Reform of the education system and the judiciary, which were controlled by the religious establishment, aimed at bringing them under the full control of the state by reducing clerical influence. The school of the Dār al-Fonun was created in 1851 to train skilled officers for the army as well

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[14] Hormoz Ebrahimnejad, "L'Introduction de la médecine européenne en Iran," *Sciences socials et Santé* 16, no. 4 (1999): 69-96.

[15] Abbas Amanat, *Pivot of the Universe: Nasir al-Din Shāh Qajar and the Iranian Monarchy, 1831–1896* (London, New York: I.B.Tauris Publishers), 1997, pp. 70–78.

[16] See Nāser al-Din-Shāh, *Safarnāmeh-ye ʿatabāt,* edited by Iraj Afshar (Tehran: Ferdowsi Publishers, 1362/1983), see the Introduction of I. Afshār, pp. 2-3.

[17] Iraj Afshar, Introduction to the edition of ʿAbdolkarim Kalāntar Zarrābi, *Tārikh-e Kāshān* (1288/1871) (Tehran: *Enteshārāt-e farhang-e Iran-zamin,* 3rd edition, 1978), p. iv.

as statesmen for the government. Of the first group of graduates of the Dār al-Fonun in 1858, 75 per cent were in military or associated disciplines, and 20 per cent in medicine.[18] Likewise, the establishment of the public hospital (*marizkhāneh-ye dowlati*) in the same period was conceived within the framework of the modernization of the army and was meant to provide treatment to soldiers who fell prey to various contagious and epidemic diseases in the filthy barracks around Tehran, as well as treatment for the sick poor. This hospital did not revolutionize public health, inasmuch as it had a chequered career according to manuscript 505, and covered only a very small section of the Tehrāni population. However, it was significant inasmuch as it constituted a turning point in the long process that resulted in the construction of other hospitals towards the end of the century,[19] and the multiplication of sanitary councils in the first two decades of the twentieth century.

Towards the creation of public health

The notion of public health was unknown in nineteenth-century Iran, but some basic hygienic measures could be found inside households or implemented on an individual basis according to religious or cultural codes. Whatever belonged to the public domain was ignored by both government and civil society. At the end of the eighteenth century, Tehran was a small town, which became the capital of Āghā Mohammad-Khān-e Qājār when he conquered the kingdom in 1794. In addition to its political importance, Tehran was situated at the crossroads leading to Tabriz, the largest city in the West, to the holy city of Mashhad in the East, which attracted thousands of pilgrims every month, to the northern cities of Astarābād and Rasht on the Caspian Sea, and to the Port of Bushir in the Persian Gulf. It expanded in only fifty years by attracting the poor who came to seek work and wealthy individuals who found opportunity to further their business. From a few thousand people at the beginning of the nineteenth century,[20] Tehran grew to a population of approximately

[18] Ringer, *Education,* p. 80.

[19] See for instance Elgood, *A Medical History of Persia,* pp. 511-512. The history of hospitals in the Qājār period is extremely confused, as it will be discussed in Chapter Three.

[20] According to a report on the trade of Tehran for 1847 (Fo. 60/141), the population of this city at the beginning of the 19th century was 50,000. See Issawi, *The Economic History*, p. 26. Nāser Najmi estimates the population of Tehran at 20,000 when Āghā Mohammad-Khān made it his capital in the last decade of the eighteenth century. Najmi

200,000 by the beginning of the twentieth century.[21] No measure however was taken to tackle the problems of hygiene that accompanied the increasing population within the walls of the city. James Fraser, visiting Tehran in the 1820s, reported that:

> The streets and bazaars swarm with the most miserable objects and the passengers are pestered by wretches covered with filth and suffering under the most loathsome diseases, who follow them and solicit attention with unwearied perseverance. Leprosy and other cutaneous diseases are constantly forced upon their view, and almost into contact with them. The streams of water in dirty ditches, called *jubes*, run through the centre of the streets in the big cities like Tehran. These ditches served at the same time for irrigation streams, drains, and wash-tubes, and in warm weather gave forth the most pestilential odours. Refuse of all sorts were thrown out in the streets, courtyards, or anywhere in the open.[22]

In the middle of the nineteenth century, people used the icehouses in the summer for their rubbish and, in the winter, when they still contained water, they were used for washing dirty clothes; the ice made of dirty water was thus contaminated. The Mayor of Tehran, Mahmud-Khān-e Kalāntar, ordered the walling off of the icehouses to protect them from dirt.[23]

Nevertheless, it was mainly the repeated waves of cholera and plague epidemics throughout the nineteenth century that proved to be the major factor in awakening the social consciousness about public health. During the repeated epidemics of the early 1850s, Mahmud-Khān-e Kalāntar asked (traditional) physicians to write medical and preventive instructions on *hefz-e sehhat-e ʿāmmeh* (preserving the health of the common people) against cholera, and to distribute them among the population, especially to those who had no access to a doctor.[24]

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by citing Jaubert, who in 1806, gave the number of its inhabitants not more than 30,000, infers that Tehran's population by the beginning of the nineteenth century could not exceed this figure. Cf. Nāser Najmi, *Tehrān-e ʿahd-e nāseri* (Tehran: *Enteshārāt-e ʿattār*, 1364/1985), pp. 21–22.

[21] Averaging various figures provided by Western observers, Charles Issawi suggests the population of Tehran at 150,000 in 1910. Issawi, *The Economic History*, pp. 26, 28, 34. The *Resāleh-ye dastur al- ʿamal-e nazmiyeh* (The guidelines for the prefecture), anonymous manuscript, Tehran, National Library, no. 4739 (undated), p. 17, seems to have overestimated the population of Tehran at 300,000 at the beginning of the 20th century.

[22] James Fraser, *Travel and Adventures in the Persian Province on the south banks of Caspian Sea* (London: Longman, Rees, Orme, Brown, and Green, 1826), p. 150.

[23] *Ruznāmeh-ye Vaqāyeʿ-e Ettefāqiyeh (RVE)*, Nos. 1-473, 1267-1277/1851-1860, 2 vols. (Tehran: facsimile reprint by *Ketābkhāneh-ye melli*, National Library, 1373/1994), no. 17, 27 Rajab 1267, vol. 1, p. 82. See also Jacob Polak, *Safarnāmeh-ye Polak: Iran va Irāniān* [Persian translation of *Persien, das Land und Seine Bewohner* by Keykāvoos Jahāngiri] (Tehran: Khārazmi, 1361/1982), p. 93.

[24] Āqā Mirzā Mohammad Tehrāni, *"A Treatise on the prevention of cholera"*. It seems

Likewise, the state newspaper *ruznāmeh-ye vaqāyeʿ-e ettefāqiyyeh* (hereafter *RVE*), literally meaning "journal of the recorded events", published articles on the causes of the spread of epidemic diseases. Although both politicians and physicians still believed in miasmatic and humoral causes of epidemics, they now explained that there was a direct relation between a filthy environment and the spread of cholera, typhoid and continual fever (*tab-e dā'em*).[25] In order to clean up the city and fight the conditions that favoured the spread of disease, in 1851 the government appointed the *Rikas* (the ushers at the royal court) to check the streets for garbage and to ask the owners of the houses to remove it.[26] The Mayor of Tehran, Mirzā Mahmud-Khān, also caused a census to be taken of all the invalids in the capital who begged.[27] This measure was taken to improve public order as well as public health by preventing the possible spread of contagious diseases by beggars.

The government trained public vaccinators and sent them to the provinces to vaccinate the children against smallpox.[28] In order to make people aware of these prophylactic measures in use against epidemics, the state gazette *RVE* occasionally published statistics of the deaths from cholera in each town or district.[29] It should be remembered, however, that this journal and its public health instructions were available to an extremely small section of the society. In 1277/1861, several court physicians, including Mirzā Mohammad-Taqi Shirāzi *Malek al-Atebbā* [prince of doctors] (d. 1873),[30] the leading Iranian

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that only a 14-page abstract of this treatise appeared in lithographic edition in 1853 (Tehran, Library of Majles); Tehrāni's full text has not been found.

[25] *RVE*, no. 45, 17 Safar 1268/ 12 Dec. 1851.

[26] *Ibid.*

[27] Fereydun Adamiyyat, *Amir-Kabir va Iran* (Tehran: Kharazmi, 3rd edition 1348/ 1969), p. 336; *RVE*, no. 32.

[28] The study of the transition from inoculation to vaccination, which required new techniques, is an important point in the history of public health in Qājār Iran and has yet to be investigated; but it falls outside the scope of this chapter. For a general discussion on vaccination in nineteenth-century Iran see Laurence Kotobi, "L'émergence d'une politique de la santé publique en Perse Qājār, XIX^{e}-XX^{e} siècles: Un apperçu historique de la vaccination," *Studia Iranica*, 24/2 (1995): 261-284.

[29] *RVE*, no.152, 27 Rabiʿ I 1270/ 28 Dec. 1853.

[30] The major sources, such as Eʿtemād al-Saltaneh and Mehdi Bāmdād, do not provide sufficient information about Mirzā Mohammad-Taqi Shirāzi, in spite of his importance. Although more recently, Mohammd-Taqi Mir, in his biography of the physicians of Fars: *Pezeshkān-e nāmi-ye fārs*, (Shirāz: Shirāz University Press, 2nd edition, 1363/1984), pp. 50–52, devotes a chapter to Shirāzi, but his identity still remains unclear and one might mistake this physician for another contemporary court physician, viz. Mirzā Kāzem-e Rashti, who was also called *Malek al-Atebbā*. This is all

Fig. 1. Physicians of Nāser al-Din-Shāh. From right to left: 1. Mirzā Bozorg-e Qazvini, 2. Mirzā Kāzem-e-Rashti (*Malek al-Atebbā / Fīlsuf al-Dowleh*), 3. Hāji Āqā-Bābā (Mirzā Mohammad-Taqi Shirāzi *Malek al-Atebbā*), 4. Dr Tholozan, 5. (ʿAlinaqi) Hakim al-Mamālek, 6. Doctor-e sepāh (?) (Army physician).
Nāser al-Din-Shāh, who has underwritten this photograph (unknown date), added: "This photograph has been taken on the day we used European purgative. These physicians!"

figure in traditional medicine and Dr Tholozan from France, who had been the personal physician to Nāser al-Din-Shāh since 1858, met at the Dār al-Fonun under the supervision of Prince Iraj-Mirzā, an ophthalmologist.[31] Later on, in 1868, Dr Tholozan formed the *majles-e hefz al-sehheh* (sanitary council),[32] which included physicians and statesmen. On that occasion, Tholozan wrote two treatises on the prevention and treatment of cholera that were translated into Persian and published in the *Ruznāmeh-ye mellati.*[33] Tholozan obviously wished to institutionalize the existing *ad hoc* health councils by giving them a title and an agenda with scheduled meetings. However, this sanitary council, according to Tholozan himself, did not last more than a few months due to the poor administration under the Qājārs.

Although the reform projects were inconsistent and sporadic, the need for them was fostered and underpinned by the socio-political dynamism of nineteenth-century Iran. For this reason, their failure did not result in their demise, but in repeated attempts by the Qājār administration to implement them. For instance, a guideline for the police, written by the Prefect of Tehran, probably at the beginning of the twentieth century, dealt mainly with questions relating to public health. It contained a section on "the preservation of health in the city of Tehran", (*hefz al-sehheh-ye shahr-e dār ol-khalāfeh-ye bāhereh*).[34] This

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the more confusing since Shirāzi had also lived for some time in Rasht. Both *Malek al-Atebbā*s lived under the three Qājār Shāhs: Fath'Ali-Shāh (reigned 1798–1834), Mohammad-Shāh (reigned 1834–48) and Nāser al-Din-Shāh (reigned 1848–96). But according to Mehdi Bāmdād—who considers Mirzā Mohammad-Taqi Shirāzi came from Rasht (and not from Shirāz) and calls him Hāji Āqā-Bābā—, when Hāji Āqā Bābā *Malek al-Atebbā* died in 1289/1872–3, Mirzā Kāzem-e Rashti took the *laqab* (title) of his compatriot. As to Mirzā Kāzem-e Rashti *Malek al-Atebbā*, Bāmdād gives his dates as 1788–1905. Mehdi Bāmdād, *Sharh-e hāl-e rejāl-e Iran dar qarn-e 12, 13, 14 hejri*, 6 volumes (Tehran: Publishers *Navā'i, Zavvār*, 1347-1355/1968-1974), vol. 3, pp. 138–139. Cf. Chapter Four, footnote 14. (See illustration no. 1).

Cyril Elgood, on the other hand, mistakenly confused Mirzā Mohammad-Taqi Shirāzi and Mirzā Bābā Afshār whom he called Shirāzi. (See *A Medical History of Persia*, pp. 465, 474, 475, 482, 495, 511.) Mirzā Bābā Afshār had studied medicine at Oxford between 1811 and 1819 and was the *Hakim-bāshi* of 'Abbās-Mirzā, but under Mohammad-Shāh he was disgraced due to the influence of prime minister Hāji Mirzā Aqāsi.

[31] Mohammad Rāzi al-Kani (Fakhr al-Atebbā), *Meftāh al-amān* (Key of safety), Tehran, National Library, MS 2522, 1278/1863, pp. 2-3.

[32] Cyril Elgood, *Medicine in Persia* (New York: Paul B. Hoeber Inc, 1892 [reprinted of 1934 edn.]), p. 76. Issawi, *The Economic History*, p. 21.

[33] *Ruznāmeh-ye mellati* (Journal of the Nation) no. 22, 13 Rajab 1285/ 30 Oct. 1868, lithographic edition by the Dār al-Fonun, Tehran.

[34] *"Resāleh-ye dastur ol- 'amal-e nazmiyeh"* (MS 4739), pp. 16 & 18.

was in fact a reminder of the fifty-year-old principles of public health that were never fully implemented. It is worth briefly describing what it proposed in order to show the close link between the establishment of public health and medical modernization and social, cultural and political development. The first part of this document concerns reform in *edāreh-ye nazmiyeh* (the prefecture) that had been founded under Nāser al-Din-Shāh (1848–96).[35] It also addresses the question of public health and links existing health problems to cultural and educational causes. According to the author, public health had become a dead letter because people had not learned to obey the rules of hygiene [set up by the police and the sanitary council].[36]

An important aspect of this document is that it directly links the improvement in public health in the capital to the enlargement of its streets, the renovation of its buildings or the construction of new ones. The reform project of the Prefect hinged on two axes of public heath and the regularization of all professions, particularly the medical profession. Those public health measures considered necessary were: lighting the streets; renovating derelict buildings, demolishing those coffee-bars that were a nuisance to public health, refurbishing others, constructing new buildings that included a hotel, sentry box and library, and controlling the number of immigrants who poured into Tehran looking for work. The booklet also accorded particular importance to the medical profession; it stressed regulation of the status of workers, servants and other employees such as pharmacists, physicians, tailors, etc. and the formal examination of physicians in order to assess their medical skills. It recommended that the drug sellers [pharmacists] should not sell any items in their shops other than remedies and should not be permitted to practise medicine, and that the sale of Western drugs be limited to those pharmacists holding an appropriate licence. Likewise, doctors should acquire permission from well-known Iranian or European doctors before practising.[37] However, the questions raised and the reforms put forward by the Prefect were not new. The examination of physicians to assess their skill had been proposed in the 1850s. In 1877, the sanitary council

[35] In 1867, when Mirzā ʿAbdol-Vahhāb Ghaffāri finished his medical thesis in Paris, his father, Mahmud-Khān-e Ghaffāri, was the Prefect of police of Tehran. Cf. Mirza Abdol-Vahab Ghaffary [sic], *Des fistules de la glande parotide* (Paris: 1867).

[36] *"Resāleh-ye dastur ol-ʿamal-e nazmiyeh,"* MS 4739, p.16 ff, especially pp. 21–22.

[37] MS 4739, p.5.

had licensed four pharmacists to sell Western drugs and twenty-two for Iranian drugs, and advised the Tehrāni population not to buy any drugs from anyone else.[38]

The fact that, at the beginning of the twentieth century, non-professionals could still sell drugs or practise medicine, thus endangering public health, according to the Prefect of Tehran,[39] indicates that the institutionalisation of medicine and public health had yet to be achieved after half a century of efforts. But repeated attempts after each failure show the extent to which the process of medical institutionalisation was regarded as important by the Qājār state. The problem that medical reform faced in the nineteenth century and which was reflected in the Prefect's concern with the distinction between pharmacy and medicine, was that the tradition of combining medicine, pharmacy and surgery continued even after the introduction of modern medicine. In other words, the very principles of traditional medicine were not seen as contradicting modern medicine. The author of manuscript 505, protagonist of medical reform, was both a physician and pharmacist. In May 1856, the journal *RVE* announced that "Mirzā Mohammad-e *Tabib* (doctor), known as *Dārusāz* (pharmacist), who also treats diseases, has opened a pharmacy beside the Shāh's Mosque (in central Tehran), and sells Western drugs in addition to herbal remedies."[40] In Galenico-Islamic medicine, *materia medica* was an essential part of medical knowledge and learned physicians usually boasted that they had invented such and such a recipe for such and such a disease.[41] This was not only a theoretical question but also a practical one, as any prescription for a drug had to be based on knowledge of the body and any therapy was often associated with a prescription. Moreover, the sale of drugs was the most profitable and immediately financially rewarding part of medical practice. It is not therefore surprising to see that, for example, about 38 pages of the *Meftāh al-amān* was devoted to the prescription of various simple or compound drugs for prevention

[38] See *Ruznāmeh-ye mellati,* no. 5, 22 Moharram 1294/12 February 1877.
[39] MS 4739, p. 5.
[40] *RVE,* no. 271, 4 *Sha'bān* 1272/ 10 April 1856.
[41] Thus, during the 1831 plague, Mirzā Mohammad-Taqi Shirāzi created an electuary that he called *mofarrahe- sāhebqarāni* (lit. "exhilarating Fath 'Ali Shāh") especially concocted for invigorating the Shāh. Cf. *Vabā'iyeh-ye kabireh* (extended treatise on cholera), written ca. 1835 (Tehran: date of lithograph edition unknown, Library of Majles), p. 17.

and cure of cholera and plague.[42] Accordingly, with the introduction of modern medicine and Western drugs, they did not necessarily come into conflict with traditional medicine and herbal drugs. Western drugs were simply new products sold by local pharmacists, just as traditionally educated physicians adopted modern medical theories.[43] But while the introduction of European drugs diversified and enriched the business of some pharmacists, by and large it threatened the market in traditional remedies and hit it materially, allowing us to suggest that the opposition of physicians such as Mirzā Mohammad-Taqi Shirāzi *Malek al-Atebbā* to Western drugs was not only a theoretical issue but that it also had a financial basis.[44]

Another matter of importance in the "guidelines for the prefecture" was the relationship between public health and education. For the Prefect of Tehran, the main reason for the ineffectiveness of the public health system was to be found in the lack of education of the population, who, according to him, was not used to abiding by the rules. He said:

> Whenever the Prefecture decided to make the owners of houses or shops respect the health regulations, letters of recommendation from nobles and ranking officials arrived like hail, and prevented the public health officials from carrying out their tasks… In the recent cholera outbreak, the instructions of the *majles-e hefz al-sehheh* (sanitary council) were prepared [and distributed], but they could never be implemented.[45]

In order to have the health regulations respected, the Prefect's main solution was to educate people, wealthy and poor alike, so that abiding by the rules became a natural cultural activity and that the people would avoid infringing the law under any circumstances. Towards the end of the nineteenth century, most Iranian reformists believed that education was a panacea that could resolve all the problems that modernization faced.[46] One of the most influential newspapers created

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[42] Rāzi al-Kani (Fakhr al-Atebbā), Mohammad, *Meftāh al-amān* (Key of safety), Tehran, National Library, MS 2522, 1278/1863. The treatise contains 95 pages. The first 33 pages concern the description of epidemics according to various sources as well as the clinical observation of the author. From the page 72, the author opens another chapter in which he answers to the most common questions about epidemics.

[43] For more about this question see Chapter Five.

[44] In his *Resāleh-ye jowhariyeh* (treatise on [against] drugs based on essence), written in the mid nineteenth century, Mirzā Mohammad-Taqi Shirāzi refuted the efficiency of Western drugs. Cf. Mir, *Pezeshkān-e nāmi-ye Fārs*, pp. 50–52.

[45] MS 4739, pp. 20–22.

[46] For this discussion see Ringer, *Education*, pp. 213 ff. For a study on the relation

at this time was *Tarbiyat* (education), published by Mirzā Mohammad Hoseyn-e Zakā'ol-Molk-e Forughi.[47] The Prefect suggested that this journal should publish articles warning its readers about their lack of discipline and what would happen if everyone disregarded hygienic standards. In his treatise he cited many of the poems, probably written by Zakā'ol-Molk, about "right" [correct] education. According to the Prefect, the growth in Tehran's population led to an increased risk of contagious diseases and it was only by means of education that the inhabitants of the capital could live a healthier life in a cleaner environment.

The Prefect also suggested that prison reform should include the education and discipline (*tarbiyat*) of the prisoners. At the beginning of the twentieth century, the prisons in Iran were named *anbār*, literally storehouse. They were undivided enclosed spaces, without sufficient natural light, in which different kinds of convicts were mixed together.[48] All kinds of diseases proliferated in such squalor infecting those who had been healthy with incurable diseases.[49] The Tehran Prefect's reform project divided the prisoners into five groups housed in separate rooms, according to their occupations or skills: stonecutting, carpentry, sawing, tailoring, and shoe making. According to the Prefect, physical activity could prevent prisoners from experiencing distress, and could help to preserve their health. Forcing the convicts to work disciplined them and discouraged them from committing crimes, especially those from tribal communities who abhorred manual crafts, while those who had no skill could be trained to a profession before they left the prison and could use their knowledge to earn a living rather than thieving.

Western influence is evident throughout the Prefect's *Resāleh-ye*

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between hygiene and humanism see Firuzeh Kashani-Sabet, "Hallmarks of Humanism: Hygiene and Love of Homeland in Qājār Iran," *The American Historical Review*, 105, no. 4 (2000)—downloaded article.

[47] For this journal see Edward G. Browne, *The Persian Revolution of 1905-1909* (London: Frank Cass, 1966), pp. 404–05.

[48] Giuseppe Anaclerio, the Italian officer in the service of the Qājār described prisons he visited in Tehran around 1865, as "unsanitary, humid, dirty and narrow rooms… prisoners have their feet tied to a big piece of wood placed across the prison cell…". Cf. Anna Vanzan, "Italians' Perception and Experience of Health and Hygiene in Qājār Iran," in Sahar Berjesteh *et al.* (eds), *Qājār Era Health, Hygiene and Beauty* (Rotterdam, Santa Barbara, Tehran: Berjesteh van Waalwijk van Doorn Uitgeversmaatschappij, 2003), pp. 91-97, p. 92.

[49] MS 4739, p. 15.

dastur al-ʿamal-e nazmiyyeh. Examples of advanced societies, such as America, were provided as a guideline for reform of the Iranian administrative system. The consumption of alcohol and opium was considered harmful to public health. After asserting that this practice had been forbidden by Islamic *sharīʿat*, the Prefect acknowledged that neither religious prohibition nor corporal punishment could prevent people drinking alcohol and that this practice had become widespread among the population. He suggested therefore that the best solution for reducing the consumption of alcohol was to increase the price (a bottle of vodka, for instance, should not be less than two tomans)[50] and to put a heavy tax on alcohol so that the common people were unable to afford it.[51] The author of the treatise continued:

> In this way, this humble servant of the state and friend of the nation would add annually more than 100,000 tomans (£30,000) to the state income, of which 20,000 tomans would be spent on the prefecture and the remaining 80,000 tomans would go to the government. If this tax on alcohol were implemented throughout the country, it would bring 400,000 tomans into the state treasury, and would decrease the consumption of alcohol.

The author pointed out that taxation on alcohol and tobacco in European countries brought great material benefit to their governments. He suggested that the government should put a heavy tax and custom duty on opium as well.[52]

As mentioned earlier, the first public health measures were taken in the second decade of the nineteenth century under ʿAbbās-Mirzā. In the early 1850s, on the initiative of the Mayor of Tehran, proto-

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[50] In the middle of the nineteenth century one pound was worth two tomans and in 1307/ 1890, one pound was valued at three tomans. Cf. Adamiyyat, *Amir-kabir va Iran*, p. 367.

[51] The Prefect used two terms, *māliyāt* (tax) and *gomroki* (duty, custom), which were to be added to the value of an item when imported from abroad. However, in Qājār Iran, the merchants usually had to pay custom duty at the gate of a city when they imported their goods from other regions or cities. Considering that the opium and the alcohol for consumption by the common people were homemade, by *gomroki* the Prefect would mean either tax or the customs' duty collected at the gates of the cities. (For various types of taxes and customs, see Willem Floor, *A Fiscal History of Iran in the Safavid and Qajar Periods 1500-1925* (New York: Bibliotheca Persica Press, 1999), especially pp. 373 ff.) In order to solve the problem of alcoholism the Prefect also targeted the poor and common people (*bi-bazāʿat*), who drank locally made *ʿaraq* (spirit), in order to make money for the government out of their pockets. He did not talk of the well-off class, which usually consumed alcohol imported from abroad.

[52] MS 4739, pp. 11–13.

sanitary councils were formed, which were no less important than those initiated by Amir-Kabir a few years earlier, even though the Mayor belonged to the faction of Mirzā Āqā-Khān-e Nuri, which opposed Amir-Kabir.[53] Galenico-Islamic medicine was based on two principles: preserving health (*hefz-e sehhat*) and curing disease (*raf'-e maraz*). It was, however, in the nineteenth century that the term *hefz al-sehheh* took public health connotation. As far as we know, the term *hefz al-sehheh*, the standard term for "sanitary council" in nineteenth-century Iran, was first used in a treatise written by Mirzā Mohammad-e Tehrāni on cholera. Tehrāni, writing in 1852-3, states that the Mayor of Tehran (Mirzā Mahmud-Khān) ordered physicians to write and distribute tracts on epidemics and on preventive measure against epidemics.[54] One might contend that such actions cannot stand for public health measures. But it should be reminded that instructing the population by distributing tracts about epidemics characterised also the work of those sanitary councils set up after 1868.

More than a decade later, in 1868, the French physician, Dr Tholozan, tried to transform these informal councils for public health into a formal organization and permanent institution called *majles-e hefz al-sehheh* (sanitary council). But despite Tholozan's efforts, the sanitary council was almost abandoned due to the nature of the Qājār administration. The councils however resurfaced with new members in 1881.[55] The Prefect of Tehran took up this issue once again in the early twentieth century in his booklet proposing the council's reorganization along the following lines: the *majles-e hefz al-sehheh* would be composed of European and Iranian doctors who received a salary

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[53] Cf. Hormoz Ebrahimnejad, "An Institutional and Epistemological Study of Medical Modernization" in Barjesteh, Sahar *et al.* (eds), *Qājār Era Health, Hygiene and Beauty*, pp. 79-89, see pp. 83-84.

Mirzā Mahmud-Khān-e Kalāntar was Mayor of Tehran for three decades. He is reported as being responsible for hoarding wheat and flour that caused a famine in Tehran in the winter of 1860–61. However his role in creating a nascent public health system should not be ignored. In order to extinguish the wrath of the starving population, after the bread riot caused by the famine, Nāser al-Din-Shāh put the seventy-year-old Mayor to death in February 1861, thereby making him solely responsible for the shortage. But the riot continued despite the Mayor's execution. Cf. E.B. Eastwick, *Journal of a Diplomat's Three Years' Residence in Persia*, 2 vols (London: unknown publishers, 1864), vol. I, p. 288. See also Najmi, *Tehrān-e 'ahd-e nāseri*, pp. 159–160.

[54] See above, Ch. Two, footnote 24. The two principles of "preserving health" and "curing disease" are underlined in most traditional medical texts; see for example: *Risālah fi'l-tibb* (anonymous), ca. 1154/1741, Istanbul, Suleimāniyeh Library, Asir Eff. 447, fol. 2; Bahā' al-Dowleh Rāzi, *Kholāsat al-tajārob* (written ca. 1501), date of the copy unknown, Istanbul, Suleimāniyeh Library, Hkm. 571, fol. 1.

[55] Bāmdād, *Sharh-e hāl*, vol. 3, p. 434.

from the government. The members of the council were expected to be knowledgeable about Western public health and medical practice. The council would be supervised by the prefecture and, since there were six police stations in Tehran, it was also to have six offices, each one to include a doctor, ten servants and two mounted policemen. It would appoint "public health officers" to vaccinate people (usually against smallpox) but who had no right to practise medicine. European doctors were to be employed to control the cleanliness of the streets. The main tasks of the council were to lay pipes from each house to the main drinkable water supply in order to ensure that the city's water was not contaminated; to create public laundries in different quarters; to dig wells in each house for waste water; to take a census of the houses to facilitate their identification; to have the public baths cleansed and the water changed more often than usual;[56] to prevent the construction of public baths and cesspools near subterranean canals, since fighting contagious or infectious disease was ineffective as long as the water of the city was contaminated; to oversee the construction of new, sufficiently wide streets; to register births and deaths in a registry office; to announce the outbreak of smallpox, typhoid, cholera and measles; to publish and distribute medical treatises on the behaviour of disease; to check that food was not contaminated and prevent the sale of such food; to supervise butchers, bakeries, confectioners, etc.; to oversee cemeteries and places for washing the dead; to control schools, and all places of public assembly [to make sure that hygienic regulations were set up to protect the children and those meeting in large public places]; and to arrange for regular vaccination.[57]

To be sure, most examples given above concern the capital Tehran but they indicate that the process of creating a public health system was an integral part of the modernization and development of the army, the city and the administration of the country. Therefore, the reform projects of the Qājār elite to improve public health or to create modern institutions should be seen within the framework of the socio-political and economic development of the country as a whole, but they should not be mistaken for the socio-political development itself that had its own dynamism, independently from the ideas and projects. The major concern of the reformists in the second half of

[56] Usually the water of the hamams (*khazineh*) was changed once or twice a year, while it was used every day throughout the year. Cf. Najmi, *Tehrān-e ʿahd-e nāseri*, p. 439.

[57] MS 4739, pp. 23–27.

the nineteenth century was the lack of respect for law and order in the administration. In both manuscripts 505 and 7439 (The guidelines for the prefecture), the terms, such as "law", "canon" and "order", are of central importance. They were certainly influenced by the writings of Mirzā Malkom-Khān and especially his *Ketābcheh-ye gheybi* or *Daftar-e tanzimāt* (Book of Organization). In this treatise, written about 1859, Malkom-Khān, who had studied in Paris, proposed to reorganize the state administration by abolishing the authoritative system and establishing a rule of law that was respected, so that the ministers carried out the orders of the Shāh under the supervision of an independent body called *majles-e tanzimāt* (executive council). He believed that the existing ministers could stay in power and deliver an efficient service to the country provided that they reorganized themselves and obeyed a set of rules and regulations.[58] Just as Malkom's *tanzimāt*, the regulations proposed by the author of manuscript 505 on the establishment of hospitals, were aimed at putting the existing medical system in order.

There was therefore no question of abandoning traditional elements but rather of restructuring them. Consequently, the idea of the modernization process being either the complete adoption of Western knowledge and institutions or the complete abandonment of traditional and indigenous ones is not based on reality. Western influence was obvious in the proposed project reforms; however, inasmuch as they were put into effect within a traditional context, the role of traditional elements in their implementation was inevitable. Accordingly, the concepts of public health or the rule of law, even when they were directly borrowed from Europe, had different connotations and meanings from the Western ones. The understanding of these concepts, institutions, techniques or sciences both determined, and was determined by, the particular manner in which they were undertaken. For instance, the advocates of modernization had discussed the rule of law since the second half of the nineteenth century. Among others, Mirzā Yusof-Khān-e Mostashār al-Dowleh argued in 1870 that the country could only progress if law prevailed.[59] Today the reformists within the Islamic government in Iran endeavour to inculcate both "respect of the law"

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[58] Mohammad Mohit-e Tabātabā'i, *Majmuʿeh-ye āsār-e Mirzā Malkom-Khān* (Collection of Mirzā Malkom-Khān's writings) (Tehran: *Ketābkhāneh-ye dānesh,* 1327/1948), see pp. 1-52 and 97-117.

[59] Mirzā Yusof-Khān-e Mostashār al-Dowleh *Yek Kalameh*, edited by Sadeq Sajjādi (Tehran: *Nashr-e tārikh-e Iran*, 1364/1985).

and "freedom of speech" in society and to institutionalize (*nahādineh*) them. Just as Mostashār al-Dowleh did in the nineteenth-century, the reformists within the Islamic regime, in talking about the rule of law, humanism or democracy refer to Islam. However, neither the rule of law nor individual freedom as a leitmotif in the Islamist reformist discourse, have precisely the same meaning as those terms when used in Europe. These concepts reflect what is practised or feasible in the existing Iranian social and political system. What is termed "Islamic democracy" by the reformists is the theoretical expression of a social, political and economic system that is now being practised in Iran. By the same token, the concepts of hygiene and public health, as well as their supporting institutions, were different in Iran from Europe. The idea that the precise transplantation of the Western model was possible in Iran ignores local conditions and does not contextualize the modernization process. Chapters Three and Four will depict the internal dynamism of the traditional system as displayed in the reform projects advocated by the Qājār elites.

CHAPTER THREE

THE MANUSCRIPT, THE AUTHOR AND THE HOSPITAL

The manuscript and its author

Manuscript 505 presented here is in the form of a small book and contains forty-one folios and eighty-one pages with twelve lines on each page. It bears no title and no author's name. It was not unusual in the nineteenth century for authors to omit their names. Sometimes it was merely negligence, but the main reason was that some books were written specifically for the attention of a particular group of people or for the person who had commissioned them.[1] One factor in support of this argument is that when a manuscript was published, and thus aimed at a larger audience, the author's name appeared on it. While there are many anonymous nineteenth-century manuscripts, seldom do we find anonymous lithographed texts from the same period. As regards this manuscript, the author was probably not mentioned because it was written on the order of the Minister of War and was therefore addressed to government officials.

Our knowledge of the author is limited to those details he gives in the manuscript, that he was a physician of the army and had formerly worked days and nights at the newly established hospital, where he treated soldiers.[2] The manuscript stops short of informing us about his occupation at the time the treatise was written. The fact that the author was asked by the minister of war to write a guidebook for the reorganization of the public hospital built more than a decade previously could be an indication of his prominent role in the management of the hospital in question. He had opened his own pharmacy in the hospital, which was run by his relatives, and he himself supervised it and took on the duties of First Pharmacist.[3] He was therefore a

[1] There are other anonymous manuscripts, including one of 200 large pages, written in ca. 1857, discussing and extensively criticizing the Austrian Dr Polak. The author of this manuscript explains that his fellows and students had asked him to write the book "On diseases commonly affecting soldiers". Tehran, Majles Library, MS 506.

[2] MS 505, p. 23.

[3] Ibid., pp. 66–68.

pharmacist, physician and a surgeon, a requirement, as the author specified, for all doctors in the army, who had to be able to undertake surgical operations.

Some evidence suggests that Mirzā Mohammad-Vli, *Hakim-bāshi-ye Nezām*, the chief physician of the army, was the author of manuscript 505. The issue of the *RVE* for 9 March 1852, states that:

> His Excellency Mirzā Mohammad-Vali-ye *Tabib* (Doctor), who was formerly the physician of the royal regiment (*fowj-e khāsseh*) and had proved to be highly skilled and qualified in the sciences of medicine… at this time was named [by the Shāh] the chief physician of all the victorious regiments…[4]

In another issue the journal reported that Mirzā Mohammad-Vli, treated the patients at the hospital every day with the assistance of other doctors and some medical students.[5] Furthermore, in July 1853, it states that:

> The physicians under the supervision of Mirzā Mohammad-Vali, *Hakim-bāshi* of the army, endeavour to treat the patients at the state hospital and even work during the night. In addition to the patients from the army, they also treat the homeless and poor sick who go to the hospital…[6]

This agrees with the manuscript's passages about the poor sick, and about night duty. The suggestion that Mirzā Mohammad-Vali wrote manuscript 505 is further sustained by this statement:

> At the Festival of Sacrifices… I went to the hospital. The superintendent told me that "today there is no meat in the bazaar" [to supply the kitchen of the hospital].[7]

This statement implies that the purpose of his visit to the hospital was to monitor its activity. Later, the author identifies himself as *bendeh-ye dargāh*, or a servant of the court, meaning a high-ranking officer appointed by the government.[8] It is therefore likely that the author of manuscript 505 was Mirzā Mohammad-Vali. Nevertheless, we prefer to remain cautious and to mention hereafter "the author of manuscript 505" rather than Mirzā Mohammad-Vali.

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[4] *RVE*, no. 57, Jamādi I 1268 (vol. 1, p. 308.)
[5] *RVE*, no. 102, 3 Rabiʿ al-sāni 1269/14 January 1853 (vol. 1, p. 611.)
[6] *RVE*, no. 125, 15 Ramazan 1269/22 July 1853 (vol. 1, p. 771).
[7] MS. 505, pp. 10–11, 23, 26, 61, 78.
[8] MS 505, p. 20.

The author can be assumed to have had nationalist inclination, inasmuch as he referred repeatedly to the glorious past of pre-Islamic Iran and attributed the founding of hospitals to the Iranian kings. Nationalism, in the sense of a revival of the pre-Islamic period, had been growing since the early nineteenth century, partly due to increased contact with the Europeans. The Qājār elite, facing the influence of foreign countries along with the loss of territories in the wars with Russia, endeavoured to revive the glory and might of the past Persian Empire. This aim took many forms; for instance, Fath ʿAli-Shāh, in imitation of the Sasanian kings, had the image of himself and his sons carved in the mountains of Cheshmeh-ʿAli near Tehran in 1248/1832.[9] The revival of pre-Islamic royal traditions in the Qājār period is also illustrated in several books written in the nineteenth century on the history of Iran since pre-Islamic times.[10] Nationalism sometimes took on anti-Islamic aspects as is shown in the writings of Mirzā Āqā-Khān-e Kermāni (second part of the nineteenth century).[11]

It is also noteworthy that the author of manuscript 505, although not a professional historian, addressed a historical case through the interpretation of sources, without restricting himself solely to narrating past events. In order to show the importance of hospitals in ancient and "medieval" Iran, he proceeded to interpret various literary sources. This method of writing history in nineteenth-century Iran cannot be found among the traditional historiographers.

The anonymous manuscript is undated, but it provides some clues as to the approximate date of its composition. According to data in the text, it was written after the second ministerial change under Nāser al-Din-Shāh, marked by the ousting of Mirzā Āqā-Khān-e Nuri from the office of prime minister in 20 Moharram 1275 AH (30 August 1858). In the introductory passage the author mentions that the Shāh

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[9] Eʿtemād al-Saltaneh, Mohammad-Hasan-Khān (Saniʿal-Dowleh), *Mer'āt al-boldān-e Nāseri*, 4 vols. (Tehran: 1294-1297/1877-1880), vol. 1, p. 240–43.

[10] See for instance the anonymous manuscripts: *"Tārikh-e pādeshāhān-e ʿajam,"* 1848, St Petersburg, National Library; "*Fehrest-e ketāb-e majmaʿ al-moluk,"* 1841, St Petersbourg, National Library, хан 88; Mollāh Ardeshir, *Vaqāyeʿ-e pārsiyān (*c.a. 1846), St Petersburg, National Library, пнс 342.

[11] For a comprehensive account of the ideas of Mirzā Āqā-Khān-e Kermāni, see Fereydun Adamiyyat, *Andisheh-hā-ye Mirzā Āqā-Khān-e Kermāni* (Tehran: Ketābkhāneh-ye Tahuri, 1346/1967).

> decided, at the beginning of his auspicious reign… to order the construction of a hospital…. According to his order, the equipment and other necessities have been prepared and the doctors of the army are attending and treating with diligence the ill soldiers. However, because of some carelessness, this work failed to be conducted in a manner as satisfactory as was desired and ordered by His Majesty the Shāh, … until His Excellency the powerful… and the Great General, was appointed the Commander-in-Chief of the army (*Sepahsālār-e Akram*) and the head of the royal palace (*esfahbodi-ye bārgāh*)…[12] His Excellency ordered me to write a treatise on this subject and to draw up some guidelines for its affairs.[13]

This is the main indicator of the period in which the manuscript was written. The expression "*Sepahsālār-e Akram*" (Commander-in-Chief) of the army, could refer either to Mirzā Mohammad-Khān *Sarkeshikchi-bāshi*, appointed *Sepahsālār-e Aʿzam*[14] in 1865 or to Mirzā Hoseyn-Khān-e Moshir al-Dowleh who was appointed to the same position in 1871. There are therefore two possible dates for the manuscript, but as we will see, the date 1865 is more likely.

Mirzā Mohammad-Khān-e *Sarkeshikchi-bāshi* (Head of the Royal Guard) was appointed and named *Sepahsālār-e Aʿzam* (Great Commander) in March 1865, following a change in the administration of the state by Nāser al-Din-Shāh. It should, however, be noted that Mirzā Mohammad-Khān-e Sepahsālār was not an educated man, and reportedly had poor handwriting. In contrast to other prime ministers, who were learned men with administrative abilities, Sepahsālār came from a tribal and military background. He was naturally more a *Sarkeshikchi-bāshi* (head of the royal guard) than a prime minister or even a minister of war. He delegated the ministerial and administrative tasks to other people, like Pāshā-Khān-e Amin al-Molk.[15] Why, then, should he be involved in the process of modernization, or especially, in this case, in the improvement of hospital affairs? A brief account of his career might shed more light on his role in the hospital project.

Mirzā Mohammad-Khān was from the Davalu branch of the Qājār tribe, the historical rival of the reigning clan of the Qovānlu. Through

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[12] The term *esfahbodi-ye bārgāh* could refer to the Head of the royal guard (*sarkeshikchi-bāshi*) or to the Head of the government (prime minister).

[13] MS 505, pp. 1–2.

[14] *Aʿzam* and *Akram* are synonymous and mean "great".

[15] Hoseyn Saʿādat-e Nuri, *Rejāl-e dowreh-ye Qājār* (Tehran: publishers Vahid, 1364/1985), p. 251.

political events during the eighteenth and early nineteenth centuries, some lines of the Davalu clan became allied to the Qovānlu, including that of Mirzā Mohammad-Khān.[16] Mirzā Mohammad-Khān-e Sepahsālār was the son of Amir-Khān-e Sardār and grandson of Fathʿ Ali-Khān-e Davalu, who was loyal to the Qovānlu. The eldest son of Amir-Khān, Nasrollāh-Khān, became *Sarkeshikchi-bāshi* under Fathʿ Ali-Shāh (r. 1798–1834) and held this position until 1840, when the title went to his younger brother, Mirzā Mohammad-Khān.[17]

After Mirzā Āqā-Khān-e Nuri was dismissed in August 1858, Nāser al-Din-Shāh did not nominate another prime minister, but created a Governing Council comprised of six ministries: interior, foreign affairs, war, finance, justice and pensions (*vezārat-e vazāyef*). Mirzā Mohammad-Khān-e *Sarkeshikchi-bāshi* was honoured with the new title of *Sepahsālār* (Commander-in-Chief of the army) and appointed minister of war. In 1863–64, he personally led a campaign against the Turkmen who regularly plagued the country with their incursions. After his victorious return to Tehran in 1864, the Shāh awarded him the title *Sepahsālār-e Aʿzam* (the Great Commandant-in-Chief of the army).[18] At this period, after six years of directly overseeing the affairs of state himself, Nāser al-Din-Shāh decided to entrust the government to "a safe pair of hands". In his *firmān* (royal decree) of 25 Shavvāl 1281/23 March 1865, the six ministries were reduced to three: army, finance and justice. Although each minister was independent and had complete authority to undertake his duties, the Shāh gave a mandate to the minister of war, Mirzā Mohammad-Khān, then Sepahsālār-e Aʿzam, to oversee other ministers on his behalf.[19] Sepahsālār-e Aʿzam virtually became prime minister without being named as such. He was a dedicated soldier who enjoyed his work and devoted himself to improving the state of the army. According to Mehdi Bāmdād, "no one in his family and among his sons and grand-sons was as efficient and capable as Mirzā Mohammad-Khān-e Sepahsālār himself."[20] In the words of Mahmud Mahmud, Sepahsālār was an able and honourable man.[21] When, in July 1865, the troops mutinied about their unpaid

[16] About the tribal conflicts of the Qājārs for power and the descendants of Qarah-Khān Davalu, see Ebrahimnejad, *Pouvoir et succession*, pp. 155–56.

[17] Bāmdād, *Sharh-e hāl*, vol. 4, pp. 244, 345.

[18] Saʿādat-e Nuri, *Rejāl*, pp. 244–45.

[19] Ibid., p. 246–47.

[20] Bāmdād, *Sharh-e hāl*, vol. 4, p. 12.

[21] Mahmud Mahmud, *Tārikh-e ravābet-e siyāsi-ye Iran va englis dar qarn-e nuzdahom-e milādi*, 7 vols. (Tehran: *Eqbāl*, 1949-1957), vol. 3, p. 708.

salaries, the Shāh reportedly issued orders to shoot all the soldiers, but the Sepahsālār ventured not to obey.[22]

The commanders of the regiments were hereditary appointees or appointed by favour and as such were usually unable to conduct offensive or defensive operations.[23] Mirzā Mohammad-Khān-e Sepahsālār tried to introduce efficiency into the army by making appointments on the basis of merit and ability. He disliked those who had acquired military standing on the basis of hereditary right and believed that only those who had proved themselves capable in the field deserved to be decorated or promoted. This policy had pleased the Shāh, who decided not even to promote his own sons without the agreement of Mirzā Mohammad-Khān.[24] In this sense, Mirzā Mohammad-Khān-e Sepahsālār can be considered a man of progress, and despite his illiteracy, he continued to modernise the army in line with the projects of the late Amir-Kabir, the assassinated prime minister.

The Sepahsālār was reputedly the author of a booklet on modernization of the army in which public health, hospitals and medical organization were discussed. It opens with a note written by Nāser al-Din-Shāh, saying:

> This *Ketābcheh-ye qānun-e nezāmiyeh* [Instruction book for regulating the army] that the Sepahsālār-e Aʿzam has written upon our order is the best regulation for disciplining the army of Iran. The Sepahsālār-e Aʿzam must, if God wills it, put into practice all the chapters of this book in all parts of the provinces of Iran, as our mind had decided, and publish and distribute this handbook all over the country. Hereafter, the regiments of the army must accomplish their duties according to these regulations without any omission, if God wills. Rabiʿ II 1281 [October 1864].[25]

The author of the *Ketābcheh-ye qānun-e nezāmiyeh* was, however, not Mirzā Mohammad-Khān-e Sepahsālār, but apparently Bahrām-Mirzā Moʿezz al-Dowleh, an expert in military affairs and the head of the military council. This council was created by Mirzā Mohammad-Khān-e Sepahsālār-e Aʿzam to form new regulations and to consider

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[22] Amanat, *Pivot*, p. 383.

[23] Correspondances politiques et consulaires de Perse, vol. 1, no. 20, Tauris, 7 juin 1869. (Archive du ministère des affaires étrangères, Quai d'Orsay, Paris).

[24] Saʿādat-e Nuri, *Rejāl,* p. 252.

[25] Anonymous *"Ketābtcheh-ye qānûn-e nezāmiyeh"* (Booklet on the rules in the army), undated, Tehran, National Library, MS 2979. See also the note of Saʿādat-e Nuri, *Rejāl*, p. 251, about this *Ketābtcheh.* Even if the Shāh's order to publish and distribute this book was executed, we have not found yet any published copy of such a book.

the promotion of military personnel. Bahrām-Mirzā had previously been commissioned in 1267 (1850–51) by Amir-Kabir, to write a book entitled *Nezām-e Nāseri* ("the army under Nāser al-Din-Shāh" or "the victorious army").[26] Since the manuscript attributed to Sepahsālār-e A'zam provides similar information to that in manuscript 505 about the establishment of the hospital, it is worth examining its contents. This handbook of military regulations, *Ketābcheh-ye qānun-e nezāmiyeh*, was apparently a loose translation from a Western source probably by one of the European officers who was hired by the government to assist with modernizing the army. However, the treatise advocates a military organisation with modern and traditional elements alike, as does manuscript 505 for the establishment of hospitals.

According to the schedule in the *Ketābcheh-ye qānun-e nezāmiyeh*, the army was to be divided into two parts: the first to be in active service for two years in different parts of the country, particularly near the borders, and the second at home but on call when necessary. After two years of service their roles were to be reversed. An important position was given to the camp hospitals, which were mobile and accompanied the *ordu*s, battalions. The army would be made up of several *ordu*s and each comprised several regiments. To each *ordu* a hospital was assigned. A chief physician was appointed by Tehran to head the team of regimental doctors. A daily visit to the army's sick would be made, in the company of the other doctors and surgeons, checking the course of treatments, followed by a meeting to discuss patients' diseases and their progress.

Other staff of the mobile hospital and their duties were very similar to those explained in our anonymous manuscript 505:

> Two skilled pharmacists from Tehran and one supervisor of the hospital were nominated by the government. The commandant of the *ordu* chose the site of the hospital in consultation with the physicians.[27] Accommodation for the medical staff was to be close to the hospital. For each regiment (*fowj*) there were seven "gypsy" tents and one tent for the toilet, with a second tent similar to that of the commanders (*chādor-e sar-tipi*) for physicians' meetings, one tent for the pharmacist, and one special "gypsy" tent for the pharmacy. In addition, two tents

[26] E'temād al-Saltaneh, *Mer'āt al-boldān*, vol. 2, p. 67, cited by Sa'ādat-e Nuri, *Rejāl*, pp. 251–52.

[27] A point made in MS 505, where the decision about the location and size of the hospital belonged to the commandant of the army (*sepahsālār*). This author talks also about the mobile hospitals (*mārestānhā-ye sayyār*) for the army. (MS 505, pp. 41–42.)

were allocated for the kitchen and its equipment. The kitchen's expenses were to be paid out of the army budget, and its expenditure was to be checked and signed every month by the paymaster-general of the army (*lashkar-nevis*), as well as by the chief physician of the *ordu*. Hospitalised soldiers did not receive a salary. The price of drugs, previously paid to the doctors and surgeons of the regiments, was to be thereafter paid to the pharmacist. A monthly account of the expenses was to be kept and if the money set aside for drugs did not suffice the treasurer would pay the supplement.[28]

Each tent of the hospital should have carpets, kilims and mattresses, and two nurses from the regiment would be appointed to care for the patients and to receive three tomans per month in addition to their regular salary. The nurses would wash and clean the premises and launder the bedclothes of the patients. As they would specialise in the profession, they were to be relieved of their other military duties. A vice-adjutant appointed by the government would act as director of each regiment's hospital to oversee discipline and order. The regimental doctors would start their day with a visit to the regiment's patients and treat those who were slightly ill in their tents and send those who were seriously sick to the hospital. Regimental doctors would also visit and treat soldiers belonging to regiments other than their own. When the *ordu* was on the move, doctors were to remain close to the patients and take a box of medicine for emergencies. Other equipment required included lights for the patients' tents, two tents for the bath (*hammām*) in each *ordu*, a water-keeper with all the necessary utensils and animals, and additional animals for transporting the patients if necessary.[29] Finally, the commandant of the army (*ordu*) on duty was to pay weekly visits to the regimental hospital and confirm that the surgeons and physicians worked within hygienic rules and the rules of the hospital.[30]

What was depicted by the "Minister of War" was a mobile hospital to accompany the army, but its internal organization was the same as the permanent hospital constructed in Tehran described in manuscript 505, just as the military organization portrayed by both authors was analogous. Similar points in manuscript 505 and the *Ketābcheh-ye qānun-e nezāmiyeh* (manuscript 2979) with regard to medical and military organizations are striking and would indicate that they were written at the same period. Further examination of these sources on hospital

[28] MS 2979, pp. 5-6.
[29] Ibid., pp. 6–8.
[30] Ibid., p. 18.

institutions would shed more light on the emergence and the nature of public hospitals in nineteenth-century Iran.[31]

One might suggest that manuscript 505 was written upon the order of Mirzā Hoseyn-Khān, who had the title *Moshir al-Dowleh* in 1865 and *Sepahsālār-e aʿzam* and prime minister in 1871. Mirzā Hoseyn-Khān was also a man of progress. He had been the consul general of Iran in Bombay between 1850 and 1853 and Shāh's ambassador to Istanbul between 1275/1859 and 1287/1870. Mirzā Hoseyn-Khān remained prime minister until 1297/1880 when he was removed from office and sent to Khorāsān as *motavalli* (administrator of the *owqāf*) of Imam-Rezā's shrine in Mashhad, and shortly after, just as had Mirzā Mohammad-Khān-e Sepahsālār, died in a suspicious manner, suggesting that he had been poisoned on the order of the Shāh.[32] If manuscript 505 was written on the order of Mirzā Hoseyn-Khān-e Sepahsālār, it would have been written about 1871, but, as we will see in the following section, there is not enough evidence to support this hypothesis.

The Marizkhāneh-ye dowlati *(state hospital)*

Some sources maintain that the first hospital under the Qājārs was the [a] *marizkhāneh-ye dowlati*—later known as *bimārestān-e sinā* (or Avicenna Hospital)—built between 1874 and 1876.[33] According to these sources, when Nāser al-Din-Shāh returned from his first trip to Europe in 1873, inspired by what he had observed in the West, he ordered his prime minister, Moshir al-Dowleh, and the minister of sciences, prince ʿAli-Qoli-Mirzā Eʿtezād al-Saltaneh, to construct a modern hospital in European style.[34] During his eighteen days' stay in London, Nāser al-Din-Shāh visited the St Thomas's Hospital across the river from Parliament on Friday 4 July 1873. He reported in his diary:

> This *marizkhāneh* was built under Edward the Fourth by the people and has now been working for two or three years. It has many endowments

[31] This question is being currently studied in a separate project.

[32] Mehdi Bāmdād, *Sharh-e hāl*, vol. 1, pp. 411-12, 422.

[33] See for example Mohammad Hasanbeygi, *Tehrān-e qadim*, Old Tehran (Tehran: Enteshārāt-e qoqnus, 1366/1987), p. 210.

[34] *Bimārestān-e sinā dar gozar-e ayyām* (Tehran: *Dāneshgāh-e ʿolum-e pezeshki*, 1378/1999), p. 13; Behdād Qarib, *Beyād-e ān hameh khubān* (Tehran: Farzāneh Books, 1380/2001), p. 25.

> and every year people collect money for its expenses. Drugs and food provided at this hospital are therefore free. It is an excellent building and at the present it receives 400 to 500 patients… The first stone for the construction of the hospital was laid by the king…[35]

It is likely that Nāser al-Din-Shāh was inspired by this hospital or others he came across during his five-month tour of Europe in 1873, and had ordered the construction of a modern hospital in Tehran. The *marizkhāneh-ye dowlati* (state hospital) was located in a street of Tehran that today is named "Sepah street".[36] This hospital was renovated several times and extended, and is today one of the major (public) university hospitals situated in its original location in the centre of Tehran, within walking distance of Artillery Square (*meydān-e tupkhāneh*), and the high school of the Dār al-Fonun.[37] ʿAli-Akbar-Khān-e Nafisi Nāzem al-Atebbā (1831–1910), a graduate of the Dār al-Fonun, was its first director. He served for five years and, after him, his successors were all Iranian, namely Mokhber al-Dowleh, Dr Mohamad-Khān-e Kermānshāhi and Dr Bahrāmi, until 1894 (or 1898) when it was handed over to European physicians, first Dr Luff [?] and then Dr Ilberg, who were recruited in order to improve its organization.[38] The *marizkhāneh-ye dowlati* changed its name to *bimārestān-e sinā* in 1940.[39]

Nevertheless, it is certain that if such hospital was built in 1874, it was not the first one built under the Qājārs. Moreover, the inscription on the gate of the hospital mentions the name of Mozaffar al-Din-Shāh (1896-1906), which suggests that it might have been built or reconstructed after 1896.[40] In fact, the hospital described in manuscript 505 was the first one established in Qājār Iran. This hospital was

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[35] Nāser al-Din-Shāh Qājār, *Safarnāmeh-ye Nāser al-Din-Shāh*, 1st edition in lithography in 1291/1874, re-edited by ʿAbdollāh Mostowfi at an unknown date (Esphahan: Ketābforushi-ye Mashʿal), pp. 126-127.

[36] This street was also called *khiyābān-e marizkhāneh* (hospital street), because the first hospital under Nāser al-Din-Shāh was built there. Cf. Najmi, *Tehrān-e ʿahd-e nāseri*, p. 221; Hasanbeygi, *Tehrān-e qadim*, p. 209.

[37] The Dār al-Fonun (or the school of applied sciences) established in 1851 was converted into a high school under the Pahlavi dynasty.

[38] *Bimārestān-e sinā dar gozar-e ayyām*, p. 13. Behdād Qarib, *beyād-e ān hameh khubān*, p. 25. These two books are mainly collection of interviews with several physicians who had worked at the Sina Hospital during the twentieth century. The first book gives the starting date of the *marizkhāneh-ye dowlai* as 1876 and the second 1879.

[39] Nāser Najmi, *Tehrān-e ʿahd-e nāseri*, p. 421; Hasanbeygi, *Tehrān-e qadim*, p. 210.

[40] See below, Ch. Three, pp. 68-69.

also called *marizkhāneh-ye dowlati*[41] and was built in the mid-nineteenth century. Manuscript 505 is clear as to the date of its establishment when it specifies that Nāser al-Din-Shāh (r. 1848–1896) ordered its construction at the beginning of his reign.[42] The weekly gazette *RVE*, discussing the first year of activity of the newly established hospital confirmed, "since up to this time in Iran there was no hospital, at the beginning of its activity the sick only reluctantly accepted going there for treatment (…)".[43] E'temād al-Saltaneh also confirms that in 1268/1852, a hospital (*marizkhāneh va bimārestān*) was built in Tehran.[44] However, despite the clear indication about the 1852 hospital in these contemporary Persian sources, as we will see later, no contemporary Western source mentions it. Madame Serena who visited Tehran around 1877, states that a military hospital (*marizkhāneh*) was built a few years previously by Nāser al-Din Shāh, but she does not specify the date. It seems, however, that she meant the hospital of 1874.[45] We will also see that most of the later Persian sources avoid providing clear and consistent information about this hospital.

The construction of the *marizkhāneh-ye dowlati* described by manuscript 505 was part of the general project of modernization undertaken by Amir-Kabir, the first prime minister of Nāser al-Din-Shāh. This project included the establishment of the *Dār al-Fonun* (modern polytechnic school), the creation of the *RVE*, and the construction of the hospital. Similarly, the author of manuscript 505 acknowledges that "the development of three institutions, namely the *Dār al-Fonun*, the hospital, and the library are the cause of progress in every country."[46] A vast literature has been published on the reform program of Amir-Kabir and other modernization projects implemented during the second half of the nineteenth century in Iran. However, the hospital in question has attracted very little attention. For example, Fereydun Adamiyyat, who has provided an extensive study on Amir-Kabir's works and period, and Mahbubi Ardakāni, who addressed the modern institutions of the Qājār period, have said only a few words about the hospital. Accord-

[41] MS 505, p. 11.
[42] Idem., p. 1.
[43] *RVE*, no. 103, 10 Rabi' II 1269/22 January 1853.
[44] E'temād al-Saltaneh, *Ma'āser al-āsār*, p. 62.
[45] Madame Carla Serena, *Hommes et choses en Perse* (Paris: G. Charpentier et Cie Editeurs, 1883), p. 143.
[46] MS 505, p. 27.

ing to Fereydun Adamiyyat, Mirzā Taqi-Khān began the construction of the hospital during the second year of his government, in 1266 H (probably sometimes in the Spring of 1850) and opened its doors in Rabiʿ I 1268 (December 1851 or early January 1852).[47] But Adamiyyat does not provide any source for this information. If he is correct in his reporting of the *RVE* account, his statement would mean that the foundation of the building was laid, and some elementary work for its construction was accomplished in 1850, but that the building was not completed before 1852.

Mirzā Taqi-Khān was dismissed on 20 November 1851, and exiled and finally assassinated on 17 Rabiʿ I 1268/11 January 1852, by order of the Shāh, his murder being instigated by his rivals at court. When Mirzā Āgā Khān-e Nuri became prime minister in 1852, as an opponent and rival of the assassinated minister, he tried to thwart the projects of modernization initiated by Amir-Kabir. When European instructors arrived in Tehran in the aftermath of the dismissal of Amir-Kabir, according to one of these instructors, Dr Polak, the new prime minister tried to frustrate them by withholding a suitable reception according to the protocol of the court.[48] This policy should also have affected the hospital project, but it seems that the construction of the hospital was completed during the first year of the premiership of Mirzā Āqā-Khān-e Nuri. Later on, however, as the author of manuscript 505 highlights, the hospital remained neglected by the officials.[49]

The first two projects launched by Amir-Kabir are clearly dated: the first issue of the *RVE* was published on 7 February 1851; the polytechnic school of Dār al-Fonun was inaugurated on 5 Rabiʿ I 1268 (29 December 1851).[50] The date of the inauguration of the *marizkhāneh-ye dowlati*, or state hospital, however, remains unclear. The most important contemporary source informing us about this hospital is the *RVE*. This weekly journal talks about the hospital for the first time in its 67th issue, dated 23 Rajab 1268/13 May 1852. It relates unreported events of the previous week (16 Rajab/6 May), presumably because the journal was not published in that week due to a religious holiday. On 6 May 1852, "the Shāh travelled to the Mausoleum of Shāh ʿAbd al-ʿAzim (south of Tehran) and on his return to Tehran

[47] Adamiyyat, *Amir-Kabir va Iran*, p. 334.
[48] Polak, *Safarnāmeh*, p. 208.
[49] MS 505, p. 2.
[50] *RVE*, no. 48 (vol. 1, p. 253).

he ordered that a hospital for the army be built outside of the city between two barracks (*qarāvol-khāneh*) situated near the two Gates of Tehran (the Gate of Qazvin and the Gate of Dowlat)". This hospital was to house 400 patients, doctors, cooks and other servants. This means that the construction of the hospital was either ordered by 6 May 1852, or began at that date. In this case, Adamiyyat's account, according to which the hospital opened its doors late December 1851 or early January 1852, is inaccurate. In its other issue, 3 Rabiʿ II 1269, (14 January 1853), the *RVE* reported that during the past year, 1238 patients were treated at the hospital.[51] The "past year" here would mean either December 1851 to December 1852, or the past Islamic lunar year, corresponding to the period from October 1851 to October 1852. Finally, Eʿtemād al-Saltaneh, mentioning the buildings constructed under Nāser al-Din-Shāh, confirms the construction of the *marizkhāneh-ye dowlati* in 1268, the Islamic lunar year corresponding to the period between 27 October 1851 and 15 October 1852.[52] From these indications, it seems more likely that the hospital was operational in the second half of 1852.

Under Nāser al-Din-Shāh many new buildings were constructed. Barracks, royal residences, the Dār al-Fonun and the hospital were among these new buildings. Mirzā Rezā, the engineer who had studied in London, prepared a plan for the Dār al-Fonun based on the Woolwich Arsenal in southeast London where he had studied. Mohammad Taqi, the chief architect, assumed the work of construction of the Dār al-Fonun, the hospital and other new buildings.[53] Renovation of the capital went hand in hand with the improvement of the living conditions of the city, as in the case of the *Sabzeh-meydān* (Green Square) in Tehran. Since the eighteenth century, various vegetables had been cultivated and sold at this place and in its surrounding lands. Other tradesmen such as butchers, sellers of chaff, poultry, sheep, and farriers also had their businesses there and all these activities had turned it into a filthy place. Until 1269/1853, the gallows (*qāpuq*) where criminals were executed were also at the centre of the *Sabzeh-meydān*. In 1853,

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[51] *RVE*, no. 102, Thursday 3 Rabi II 1269/14 January 1853.

[52] Eʿtemād al-Saltaneh, *Maʾāser al-āsār*, p. 62; Mokhber al-Saltaneh-ye Hedāyat, *Gozāresh-e Irān-e Qajāriyeh va mashrutiyat* (History of the Qājārs and the Constitutional movement), ed. Mohammad ʿAli Sowti (Tehran, Noqreh, 1363/1984), p. 134.

[53] *RVE*, no. 98, 17 Dec. 1852, and no. 68, 6 May 1852; see also Hoseyn-e Mahbubi Ardakāni, *Tārikh-e moʾassesāt-e tamaddoni-ye jadid dar Iran*, 3 vols. (Tehran: Tehran University Press, 2537/1976), vol. 1, p. 258.

this square, according to E'temād al-Saltaneh, was renovated and cleaned up so that it became a place for recreation and promenade.[54] Although E'temād al-Saltaneh could have exaggerated in this report, as he attributed this renovation to his father, his account underlines the direct relationship between the renovation of the capital and the improvement of public health.

Eduard Jacob Polak, however, provides a different account with regard to the hospital in question. Dr Polak, a professor of medicine and anatomy, arrived in Tehran together with six other instructors in different branches of science from Vienna towards the end of November 1851 (a few days before the 28th), to train students at the Dār al-Fonun.[55] They were accompanied by Jān Dāvoud, translator to the Qājār foreign ministry, who had been entrusted with the mission of selecting the instructors in Austria. However, their arrival coincided with the dismissal of Amir-Kabir who had invited them. According to Dr Polak:

> Amir-Kabir had bequeathed a large part of his wealth for the construction of a hospital in Tehran, but after his death his will was not implemented as he had wished. Instead, that money was spent in the construction of a religious school.[56]

It seems, however, that the hospital projected in the will of Amir-Kabir had nothing to do with the public *marizkhāneh-ye dowlati*. At the same time, Polak claims that in the third year of his stay in Iran [late 1854 or early 1855], he designed a plan for a hospital to be constructed outside the city [i.e. beyond the walls or "burg" of Tehran.] According to the description he gave of this plan, the hospital, that was 3½ feet higher than the ground, contained several halls, a kitchen, a pharmacy, several rooms for the patients and storerooms. The whole building was designed in quadrangle form surrounding a courtyard with small gardens and a pool in the centre. Trees were to be planted all around the building and another wall would encircle the whole

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[54] E'temād al-Saltaneh, *Ma'āser al-āsār*, p. 63.

[55] According to the *RVE*, the other instructors and their specialties were: Baron Komuas (infantry), Aukesht key jiro (artillery), Kulosti (engineering), Mozd (cavalery), Chartuta (mining), Kukati (cavalry). *RVE*, no. 42, 28 *Moharram* 1268 (23 Nov. 1851). Owing to problems with orthography, these names have not been correctly written. They could be Dr Fochetti, in pharmacology, Charnotta in mineralogy, Zatti in engineering and mathematics, Krzysc in artillery, Gumoëns in infantry and Nemiro in cavalry. See Qarib, *Beyād*, p. 10.

[56] Polak, *Safarnāmeh*, p. 216.

complex. According to Polak, the army patients had been treated in the cellar-like building without enough natural light. In such conditions, typhoid, often accompanied by skin diseases, spread easily, especially during the winter, and mortality increased appallingly among the troops. But Polak claimed that this plan for the hospital was opposed by the Commander-in-Chief of the army, ʿAziz-Khān-e *Sardār-e Koll*, of Kurdish origin, and the head of the military hospital who was a relative of ʿAziz-Khān.[57] Instead, small sombre rooms were built. Polak claims that finally he succeeded in demolishing what they had built and reconstructed the hospital in line with his original plan.[58] Apparently Polak referred to this hospital when, in another place, he said that he taught his students in a hospital that he had founded [ca. 1854-55].[59] But the issue of 17 Dec. 1852 of *RVE* gave the information that Dr Polak had planned to take his students to the *marizkhāneh* (hospital) the following week of his appointment (i.e. 24 Dec. 1852).[60] This means that Polak could not be the founder of the first public or military hospital in nineteenth-century Iran.

Did Dr Polak attribute the construction of the hospital built in 1852 to his own efforts or did he refer to another hospital? Issue 271 of the *RVE* (dated 4 *Shaʿbān* 1272/10 April 1856) reported that at the beginning of his mission in Iran, Polak undertook specific projects, one of which was to find a hospital where the students could gain practical experience alongside their theoretical studies.[61] The journal remarked that "practical work had been undertaken for more than a year"; this could correspond to the date Polak gives for the construction of the hospital. But the *RVE* is not precise as to whether this hospital was the same *marizkhāneh-ye dowlati* or another one. The geographical location of the hospital described by Polak (outside the walls of

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[57] We cannot ascertain who was the head of the military hospital mentioned by Polak. It might be Mirzā Mohammad-Vali, but we know that at this period, ʿAziz-Khān was on very good terms with Mirzā Nazar-ʿAli Hakim-bāshi, who was an influential court physician and obviously one of the chief physicians of the army. (See Bāmdād, *sharhe hāl-e rejal*, vol. 2, pp. 328, 334.)

[58] Polak, *Safarnāmeh*, p. 212.

[59] Polak, *Safarnāmeh,* p. 211.

[60] *RVE,* no. 98, 5 Rabiʿ I 1269/17 December 1852.

[61] Another important task of Polak was to train six of his students in medicine and surgery until they graduated. Four of these students, namely Mirzā Nasrollāh, Mirzā Mohammad Hoseyn, Mirzā ʿAli-Naqi and Mirzā Rezā successfully graduated in 1856, but Polak requested permission from the Shāh for them to complete their studies in France (*RVE*, no. 271, 10 April 1856). However, only the last three went to Paris along with the diplomatic mission of Farrokh-Khān-e Amin al-Molk in 1856 and returned in 1861 after completing their studies. See Ringer, *Education,* p. 89.

Tehran), could correspond to the one described in the *RVE* (no. 67) between the two gates of Tehran, which suggests that both sources referred to the same hospital. Rezā Qoli-Khān-e Hedāyat, also talks about a hospital built between 1272/1855 and 1873/1856 outside of the *Dowlat* gate for the soldiers.[62] Nevertheless, the idea that these sources discuss two or three different hospitals, built over a period of three or four years can scarcely be credited considering financial and organizational deficiency in mid-nineteenth-century Iran. Moreover, why would Polak have built another hospital for training his students when he could have used the first one for this purpose? Fereydun Adamiyyat's understanding is also that Dr Polak took his students to the public hospital (*bimārestān-e dowlati*), i.e. the one built in 1852, so that they could put their theoretical knowledge into practice.[63]

It is worth mentioning that shortly after the death of Dr Kazullani (or Casolani) on 23 Rabiʿ I 1268 (16 January 1852), Dr Polak replaced him as chief physician of the army[64] and consequently, from the outset of his mission, he found himself involved in rivalry with other officials, such as Mirzā Mohammad-Vali, who had previously served as physician of the royal regiment (*fowje khāsseh*). Two months after Polak's nomination as chief physician of the army, Mirzā Mohammad-Vali was also appointed chief physician of the army in March 1852, and awarded a high military rank.[65] One might also read Polak's account of the hospital in the light of his disagreement and rivalry with his Iranian counterparts in the army.

It appears that the hospital built in 1852, despite financial or administrative problems, did not close its doors, given the growing demand of the troops frequently affected by typhus or other diseases in their barracks. The hospital was fully operating in 1857, when the author of an anonymous manuscript (ca. 1857), an army chief physicians and probably lecturer at the Dār al-Fonun, worked there and treated soldiers.[66]

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[62] Rezā Qoli-Khān-e Hedāyat, *Rowzat al-safā-ye nāseri*, vols 8, 9 and 10 of *Rozat al-safā* of Mirkhond, 7 vols (Tehran: *Enteshārāt-e markazi*, 1338-1339/1960-61), vol. 10, p. 813.

[63] Adamiyyat, *Amir-Kabir va Iran*, p. 327.

[64] Adamiyyat, *Amir-Kabir va Iran*, p. 336. According to Dr Polak, Kazullani died twelve days after being infected by typhus. See Polak, *Safarnāmeh*, p. 501.

[65] *RVE*, no. 57, 8 March 1852. We have suggested above (Ch. Three, p. 51) that this Moirzā Mohammad-Vali could be the author of manuscript 505.

[66] Anonymous MS 506, "On diseases commonly affecting soldiers," ca. 1857, Tehran, Majles Library, MS 506, fols. Fols. 2, 89. The manuscript is untitled and has no date, but from the information given in fols. 2 and 42, it appears that it was written in 1857. In fol. 89, the author talks about one of his students.

Our sources talk also about a *marizkhāneh-ye dowlati*, built in 1868. Nāser al-Din-Shāh inaugurated the construction of a new wall encircling the capital in December 1867, in order to enlarge the city and respond to the needs of the growing population of Tehran. The enlarged Tehran was then called "*Tehrān-e Nāseri*".[67] E'temād al-Saltaneh states that in 1284/1868 "a magnificent hospital (*marizkhāneh va bimārestān*) was (or began, *enshā',* to be) constructed in Tehran".[68] Cyril Elgood, without giving his sources, claims that:

> In pursuance of the policy of westernising the medical services… a new hospital was founded in Tehran, which was opened in 1868... [This hospital] was originally intended to serve the army. It was at first placed under the management of Dr Polak and Dr Schlimmer. On the return from Paris of the Persian graduates it was handed over to them.[69]

But Elgood contradicts himself later when describing the Persian graduates of the Dār al-Fonun as directing the first twelve years of its activity.[70] It is possible that Elgood was unaware of the existence of the 1852 *marizkhāneh-ye dowlati* or he ignored the full details of its history probably in order to highlight the important role played by European physicians in modernizing the medical service. For example, according to Elgood, the first hospitals in Persia in which Western medicine was practised were a Portuguese hospital in the Persian Gulf in early seventeenth century and another one, with fourteen beds, built by the Russians in Ashurada (in the Caspian) in 1848.[71] Moreover, while giving the opening date of the *marizkhāneh-ye dowlati* as 1868, Elgood maintains that Dr Polak was its first director, but Polak left Iran in 1860.[72]

Finally, the author of the inaugural article, presumably 'Aliqoli-Khān-e Mokhber al-Dowleh, minister of sciences, in the first issue of journal *Dānesh* (10 June 1882) mentioned that:

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[67] E'temād al-Saltaneh, *Ma'āser al-āsār*, p. 72–73.
[68] Ibid., p. 73.
[69] Elgood, *A Medical History of Persia*, pp. 511–512.
[70] Ibid., p. 545.
[71] Ibid., p. 512.
[72] Jacob Polak (1818–1891) left Iran in 1860 after teaching ten years at the Dār al-Fonun. He returned in 1882, according to E'temād al-Saltaneh, for "historical or archeological research". It seems that he did not stay in Iran for long. E'temād al-Saltaneh wrongly states that Polak stayed in Iran 20 years. Cf. *Ruznāmeh-ye khāterāt,* p. 198. See also: Khānbābā Bayāni, *Panjāh sāl tārikh-e nāseri*, 6 vols. (Tehran: *Nashr-e 'elm,* 1375/1996), Vol. 1, pp. 149–150; 'Abbās Eqbāl-e Āshtiyāni, *Mirzā Taqi-Khān-e Amir-Kabir,* edited by Iraj Afshar (Tehran: Tus, 1340/1961), p. 162.

> One of the good works that this eternal state initiated is the construction of a *marizkhāneh* (hospital) for the welfare of the population of the country. This hospital was built twelve years ago [1870] upon the order of the Shāh for the benefit of the sick poor and homeless suffering from diseases…Sometime ago, the Shāh was informed that the conditions of the hospital had degraded and the personnel had become lackadaisical in their work… The Shāh… commissioned me to improve the situation…".[73]

Once again we are provided here with information that does not corroborate others. Mokhber al-Dowleh's testimony is, however, interestingly similar to what manuscript 505 underlined about the hospital it described: the "1870 hospital" was also suffering from misadministration and it became necessary to reorganize it.[74] It has been demonstrated above that modernization was rooted in the socio-political development in which members of the Qājār elites who had received a traditional education took part. As we saw in the projects of public health organization and reform of medical practice in Chapter Two, the development of hospitals also faced repetitive failures but this progressive movement was never abandoned.

Taking into account the historiographical deficiency and the contradictory accounts of hospitals described above, we can draw an outline of the history of nineteenth-century hospitals in Iran based on the two hypotheses: either there existed more than one hospital or that the sources discussed the same building. As to the first hypothesis, considering the growing demand of the troops for hospitals it is possible that various accounts of hospitals mentioned above witness the construction of several hospitals during the second half of the nineteenth century. We can therefore speculate that when our sources talk about *marizkhāneh-ye dowlati*, they do not point to one and the same hospital but to several, built by the state. These hospitals, whether for the troops or the civilians, were called *marizkhāneh-ye dowlati* in

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[73] *Dānesh*, no. 1, 23 Rajab 1299/10 June 1882. See also facsimile reprint of "Dānesh" and the "Journal of Tabriz Dār al-Fonun," by Mohammad Esmā'il-e Rezvāni and Farid-e Qāsemi (Tehran: *Markaz-e Gostaresh-e āmuzesh-e rasānehā*, 1374/1995), p. 1. Literally "knowledge", *Dānesh* in the context of the time meant "science." This journal that appeared every two weeks, was the successor of the *Ruznāmeh-ye ʿelmi*, "Scientific Journal" or "Journal of Sciences" that had been interrupted several years earlier.

[74] This might be the same hospital that Carla Serena referred to in 1877 as "l'hôpital militaire", *méériz-khanéh* that, according to her, was called by the people "the cemetery of the living". Serena, *Hommes et choses en Perse*, p. 143.

the Qājār period. There are some indications that there were more than one *marizkhāneh-ye dowlati*. After mentioning the 1868 hospital, Elgood continued:

> Twelve years later [1880] another hospital was founded for the use of the troops. The older hospital was then handed over to civilians and put under the charge of Dr Albo, a German who was lecturer in medicine at the Dār al-Fonun. It now became known as Imperial hospital or *Marizkhāna-i-Daulati* and led an uneventful but useful life until the time of the War of 1914–18….[75]

The hospitals built privately were called after their founders, such as the hospital *Vaziri* that was built at the turn of the century, about 1900, upon the will of Mirzā ʿIsā Vazir, or the hospital *Najmiyeh* built by Najm al-Saltaneh (1854-1932), the grand daughter of ʿAbbās-Mirzā (d. 1833).[76]

The second hypothesis is that there was only one hospital that was used by both military and civilians and for this reason it was sometimes called the military hospital. In this case, the hospital built in 1868, as mentioned by Elgood, might be the same as discussed in manuscript 505. The approximate date of this manuscript (i.e. 1865) corroborates this suggestion. Considering that both 1852 and 1868 hospitals were identified by our sources as *marizkhāneh-ye dowlati* and that they were both located in northwest of Tehran close to the Gate Dowlat, it might be that either at the location of the first *marizkhāneh-ye dowlati*, built in 1852, a new one was established or that the original building was reconstructed in 1868. A gap, however, persists between the hospital described by manuscript 505 and the one mentioned by the journal *Dānesh* as created in 1870. At the same time, the way Elgood describes the history of the 1868 hospital, suggests that this was the same *marizkhāneh-ye dowlati*, as claimed by recent publications to be the first hospital built under the Qājārs in 1876. Both sources confirm that Mozaffar al-Din-Shāh appointed Dr Ilberg as director of the *marizkhāneh-ye dowlati* in 1896.[77] At this period, Mozaffar al-Din-Shāh

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[75] Elgood, *A Medical History of Persia*, pp. 511–512.

[76] Mirzā ʿIsā Vazir (died of cholera in 1893) had bequeathed part of his wealth for the construction of a hospital. See Hasan Tājbakhsh, *Tārikh-e bimārestānhā-ye Iran az āghāz tā ʿasr-e hāzer* (History of hospitals in Iran from the beginning to present) (Tehran: *Pajuheshgāh-e ʿolum-e ensāni*, 1379/2000), pp. 240-43.

[77] Compare Elgood's version (*A Medical History*, pp. 511-12 and 546) with those of Hasanbeygi, *Tehrān-e qadim*, pp. 208-9; *Bimārestān-e sinā dar gozar-e ayyām*, pp. 13–14 and Behdād-e Qarib, *Beyāde ānhameh khubān*, p. 25. The date in the Iranian solar calendar—1275—given by these two latter sources is erroneous.

appointed Dr Ilberg, the senior physician to the German Legation, at the head of the *marizkhāneh-ye dowlati* in order to reorganize it upon modern lines.[78] It is possible that at this time the building was reconstructed and the name of Mozaffar al-Din-Shāh was inscribed on the gate of the hospital.[79] Under Ahmad-Shāh (reigned 1907–1911), it was renamed *marizkhāneh-ye Ahmadi* before reverting to its original name *marizkhāneh-ye dowlati*, and was some years later (1940) called *bimārestān-e sinā* as it is today. While discussing the *marizkhāneh-ye dowlati* and the change of its name to *bimārestān-e sinā*, Ja'far-e Shahri, without any further comment, provides the photograph (no. 2) and calls it the "military hospital".[80] In doing so, he implies that this military hospital was the same as *marizkhāneh-ye dowlati*.

Our preference goes for a combination of the two above-mentioned hypotheses. In other words, different accounts on the *Marizkhāneh-ye dowlati* in the second part of the nineteenth century refer to several hospitals constructed and/or reconstructed in 1852, 1868, 1870, 1876 and 1896-97. The photograph (no. 2) shows probably the hospital built or reconstructed in 1896-97.

In the second part of the nineteenth century there were also other hospitals of lesser significance than the *marizkhāneh-ye dowlati*(s). In chronological order, the first was the *dār al-shafā* (house of healing) endowed by the revenues of the shrine of 'Ali b. Musā al-Rezā, the eighth Shiite Imam in Mashhad. It was built by Mirzā Ja'far Khān-e Moshir al-Dowleh,[81] who had studied engineering in London between 1815 and 1819.[82] A *dār al-shafā* had previously existed at the shrine

[78] Elgood, *A Medical History*, p. 546; *Bimārestān-e sinā dar gozar-e ayyām*, pp. 13-14.
[79] See above, p. 59.
[80] Ja'far-e. Shahri, *Tārikh-e ejtemā'i-ye Tehrān*, vol. 1, pp. 294–95.
[81] 'Ali-Naqi Hakim al Mamālek, *Ruznāmeh ye safar-e Khorāsān*, edited by Iraj Afshar (Tehran: *Enteshārāt-e farhang-e Irān-zamin*, 1356/1978), p. 194.
[82] Moshir al-Dowleh in 1858 became the head of the newly established Consultative Council (*majles-e maslahat-khāneh*), which replaced the dissolved cabinet of Mirzā Āqā-Khān-e Nuri and included Sepahsālār-e A'zam, the Minister of War. Moshir al-Dowleh was familiar with the British parliamentary system and for this reason he had been appointed head of the Consultative Council, the first experience of consultative government in Iran. He spent about a year in London as Ambassador in 1860–61 and, on his return he was sent to Mashhad as *motavalli* or superintendent of the pious endowments of the shrine of Imam-Rezā. Cf. Mehdi Bamdad, *Sharh-e hāl-e rejāl-e Iran*, vol. 1, p. 243–44. For a summary account of Moshir al-Dowleh's career see Amanat, *Pivot of the Universe*, pp. 356-57.

Figure 2. Marizkhāneh-y dowlati (state hospital), date of the photography unknown.

of Imam Rezā. It had been built probably after Gowharshād, the wife of Shāhrokh the Timurid (d. 1457), founded a mosque next to the shrine.[83] This *dār al-shafā* was operative under the Safavid and successive dynasties until the mid-nineteenth century. When, in Rabiʿ al-awwal 1279/July 1862, Mirzā Jaʿfar-Khān-e Moshir al-Dowleh was sent to Mashhad as *motavalli* or superintendent of the pious endowments of the shrine of Imam-Rezā,[84] he found the *dār al-shafā* derelict and ordered its demolition. He then founded a new hospital in one of the streets leading to the Imam Rezā's shrine that is called today *bālā-khiyābān*. Moshir al-Dowled died in December 1862 and, according to Eʿtemād al-Saltaneh, this hospital was finished under Moshir al-Dowleh's son.[85] During his tour of Mashhad in 1867, Nāser al-Din-Shāh visited the hospital, by then administered by prince Sheykh Abol-Hasan Mirzā.[86] It is to this *dār al-shafā* (hospital) that the author of manuscript 505 referred when he advised the Qājār government to build other hospitals in other Shiite sacred cities of Karbalā and Najaf in Iraq, using religious endowments.[87]

Hakim al-Mamālek, who described the hospital in Mashhad, devoted a few lines to its function and structure, and mentioned that in 1867 Nāser al-Din-Shāh

> went to visit the new *dār al-shafā*, which is a construction of the late Moshir al-Dowleh. The situation of the gardens and the rooms (*hojreh*) of the patients, clothes, beds, meals and medicines of the hospital pleased His Majesty. Then the Shāh paid a sum of money to the servants and the needy [sick poor] of the hospital.[88]

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[83] Ahsan al-Tavārikh, p. 141, cited in Elgood, *A Medical History of Persia*, pp. 348-49.

[84] Mehdi Bāmdād, *Sharh-e hāl-e rejāl-e Iran*, vol. 1, pp. 243–44.

[85] Mohammad-Hasan-Khān-e Saniʿal-Dowleh (Eʿtemād al-Saltaneh), *Matlaʿ al-shams*, on historical geography of history of the provinces of Iran, first lithographic edition 1301-1303/ 1884-87 (Tehran: facsimile reprint by *Farhangsarā*, 1363/1984), p. 525. See also another book of Eʿtemād al-Saltaneh, *Merāt al-boldān-e nāseri*, vol. 3, pp. 75–79. This *dār al-shafā* is now attached to the hospital located at the beginning of *bālā-khiyābān* street that leads to the shrine. It should be noted that the *dār al-shafā* in Iran today are no longer hospitals in proper terms, rather they are dispensaries where the destitute and sick poor are treated.

[86] Hakim al-Mamālek, *Ruznāmeh-ye safar-e khorāsān*, p. 195.

[87] MS 505, p. 42.

[88] Hakim ol-Mamālek, *Ruznāmeh*, p. 259. It is worth mentioning that ʿAlinaqi Hakim al-Mamālek was one of the personal physicians to the Shāh, who had studied modern medicine at the Dār al-Fonun.

Dr Polak describes the Mashhad *dār al-shafā* as being in fairly good condition and the only one surviving from past centuries. According to Polak, this *dār al-shafā* belonged to the foundation of Imam Rezā and provided shelter and meals for travellers and pilgrims.[89] No other *dār al-shafā* of this kind has been thus far recorded in Qājār Iran. In October 1890, Qahremān-Mirzā Sālur visited a place he called *madrasa-ye dār al-shafā* (lit. school of the hospital), built by Fathʿali-Shāh (1798–1834); he found a number of sick [resting] there.[90] Fath ʿAli-Shāh had also built another *madrasa-ye dār al-shafā* in Qom.[91] It is unlikely that this was a hospital, but rather a school of theology that Fath ʿAli-Shāh had built along with other charitable works that he undertook, including building the dome of Imam Hoseyn in Iraq, and repairing the Qom dam, etc. The description that Shahri gives of the *madrasa* suggests that students of Islamic theology lived there. The *Madrasa* had several *hojreh* (cells or rooms) and sometimes several students (*talabeh*) could live in one *hojreh* in order to reduce the fees they paid.[92]

Eʿtemād al-Saltaneh also talks about a *marizkhāneh* in the city of Semnān that was initiated (*'enshā'*) by prince Anushirvān-Mirzā Ziyā' al-Dowleh in 1301/1884.[93] In 1296/1879, Mirzā Hoseyn-Khān-e Moshir al-Dowleh, later *Sepahsālār-e Aʿzam,* began to build a great complex including a mosque, a *madrasa*, a *marizkhāneh* and a *hammām* (bath) and established a *waqf* (endowment) to cover their continuing costs.[94] No other information is available about this hospital attached to the Sepahsālar complex in central Tehran, which still exists today with a school of theology and a library, but no hospital.

Manuscript 505 advocated that the *marizkhāneh-ye dowlati* it described should be the prototype for other hospitals in major cities of the country, namely Tabriz, Esfahān, Shirāz, Mashhad, Kermān, Kermānshāh

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[89] Polak, *Safarnāmeh*, p. 215. It is not clear whether Polak referred to the new or the old *dār al-shafā.* Considering that he had left Iran in 1860, he could not have seen the new one built by Moshir al-Dowleh in 1862.

[90] Qahremān-Mirzā Sālur (*ʿEyn al-Saltaneh*), *Khāterāt-e ʿEyn al-Saltaneh,* p. 306.

[91] Hedāyat, *Rowzat al-safā-ye nāseri*, vol. 10, p. 106.

[92] Shahri, *Tarikh-e ejtemā'i-ye tehrān dar qarn-e sizdahom*, vol. 5, pp. 614, 700. It is possible that some of these students were ill at the time ʿEyn al-Saltaneh (footnote above) visited them.

[93] Eʿtemād al-Saltaneh, *Ma'āser*, p. 79. *Enshā* literally means a project to be undertaken, but in this text it can also mean the construction.

[94] Eʿtemād al-Saltaneh, *Ma'āser*, p. 83.

and the border cities.[95] The Minister of War was to decide the location of the new hospitals, since they were needed wherever troops were stationed in peace or war.[96] This clearly indicates that the main purpose of the hospitals was to serve the army, though civilians were also treated. The project of creating hospitals in sacred cities had both practical and financial reasons. These cities had larger migrant populations, including visiting pilgrims, as well as the poor and the sick, who came to seek miracles at the tombs of the saints. To respond to the demands of such a population, many physicians and quacks worked in sacred cities or within shrines, as they did in the two Iraqi cities of Karbalā and Najaf.[97]

Dr Polak, referring to the 1850s when he was in Iran, mentioned that except for the state hospital and the *dār al-shefā* of Mashhad,

> there was no other hospital establishment except some Leprosaria in Khamseh (Zanjān) and Azarbāijān, which consisted of miserable earthen huts situated far from the city and which resembled more the nest of predatory animals than accommodation for men.[98]

The lepers lived off alms from local people or passing caravans that happened to give charity to them, and were not allowed into the towns because they were considered to be unclean (*najes*). Polak claims that he persuaded some wealthy Khāns to collect funds for the construction of a hospital for travellers in 1858 and also that he had the agreement of a Qājār princess concerning the land where it was to be built. But the princess did not make good her promise since the hospital would not be able to save the lives of all the patients.[99] According to Mehdi Bāmdād, when Dr ʿAli-Akbar-Khān-e Nafisi Nāzem al-Atebbā was sent to Mashhad (probably in 1881), he established the Razavi hospital in that city.[100] It seems, however, that Nāzem al-Atebbā was not the founder of this hospital, as it was most

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[95] Namely, Rasht in the north (south of the Caspian Sea), Arabestān (or Khuzestān) in the southwest, Bushir or Bushehr (Port of the Persian Gulf), Kalāt (in northeast Iran), Zohāb in Kordestān as well as the Shiite shrines in Iraq (Karbalā, Najaf).

[96] MS 505, pp. 41–42.

[97] Seyf al-Din ʿAli b. Mohammad Jaʿfar Astarābādi, *Safineh-ye Nuh* (Noah's Ark), Persian manuscript written in 1310/1892, Qom, Library of Ayatollāh Marʿashi, fol. 5b. For the abridge English translation of this manuscript see Hormoz Ebrahimnejad "Religion and Medicine under the Qājārs," in Robert Gleave (ed.), *Religion and Society in Qājār Iran* (London: Routledge, Curzon, 2004), forthcoming. See Ch. 20.

[98] Polak, *Safarnāmeh*, p. 215.

[99] Idem., p. 216.

[100] Bāmdād, *Sharh-e hāl-e rejāl-e Iran*, vol. 3, p. 434.

probably the same *dār al-shafā* discussed earlier that was established in 1862 by Moshir al-Dowleh.

During the Qājār period, the *takiyyeh* (amphitheatres where the Shiite passion plays commemorating the martyrdom of Hoseyn and the suffering of his house were performed) flourished and many *owqāf* (plural of *waqf*) were created for them.[101] At least some of these *takiyyeh* had a dispensary where sick poor were received. Such *takiyyehs* exist in most cities in Iran today. There are for instance, at least two such charitable dispensaries in Neyshābur, including the *dār al-shafā* of Qamar-e bani-Hāshem, in the Abolfazli *takiyyeh* that had been established under the Qājārs. The expenses of this *dār al-shafā* are paid by the *owqāf* of this *takiyyeh*.

Certainly there were other hospitals or hospices that have not been recorded in the sources. Some of them have received a brief mention, such as the *bimārestān-e nuriyeh* (Nuriyeh hospital) in Kermān, the hospitals of Morsalin in Kermān and Yazd, whose buildings are extant and which are now registered as cultural heritage sites by the *Mirās-e Farhangi* (National Organisation of Cultural Heritage). We have not been able to ascertain the precise dates of their construction but presumably they were all built in the late Qājār period. The Nuriyeh hospital was built by Nurollāh-Khān, son of Khosrow-Khān, son of prince Zahir al-Dowleh, governor of Kermān. According to Bāstāni Pārizi, when, some time before 1874, Nurollāh-Khān inherited a large property that included the village of Bayāz near Rafsanjān, he endowed these properties to a hospital known as Nuriyeh.[102] Bāstāni Pārizi suggests that the hospital existed before, but according to the National Organization of Cultural Heritage (*Mirās-e Farhangi*) Nurollāh-Khān himself had built this hospital. By 1933, there were three modern hospitals in Tehran. The imperial hospital or the renovated *marizkhāneh-ye dowlati* that we have discussed at length; the Vaziri hospital that had been built around 1903 by a private charity; and a hospital for women.[103]

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[101] On this subject see Christoph Werner, *An Iranian Town in Transition: A Social and Economic History of the Elites of Tabriz, 1747-1848* (Wiesbaden: Harassowitz Verlag, 2000), cf. chapter on *waqf*. See also Amanat, *Pivot of the Universe,* pp. 434-435.

[102] Ebrahim Bāstāni Pārizi, *āsiyā-ye haft-rang* (mill of seven colours) (Tehran: *Enteshārāt-e dānesh*, 1362/1983), p. 372.

[103] Abbās Naficy, *La medicine en Perse des origins à nos jours: Ses fondements théoriques d'après l'Encyclopédie médicale de Gorgani* (Paris: Les Editions Véga, 1933), p. 59. We have mentioned about Vaziri hospital, above, p. 68.

Description of the Marizkhāneh-ye dowlati *according to manuscript 505*

The first chapter provided a cursory review of "medieval" hospitals in Iran and other Islamic countries, in order to put the founding of the hospital described in manuscript 505 into historical context. Inasmuch as the manuscript, in describing the *marizkhāneh-ye-dowlati*, reflects features of both "medieval" Islamic and modern European hospitals, it could shed further light on the continuity and change that has occurred in hospital organization since the early Islamic period.

The hospital and the religious establishment

Manuscript 505 begins by describing the hospital as "the greatest of charitable works, including the everlasting virtuous acts".[104] There are two further indications implying that the author relates the foundation of hospitals in Iran to charitable acts. First:

> In the epochs when the Iranians considered the planets to be a source of knowledge and overflowing bounty, they dedicated [the tents used as mobile hospitals] to them and painted them and their furniture the colour of the planets they worshipped.[105]

Later it mentions the hospital—*dār al-shafā* (house of healing)—built at the shrine of Imam Rezā[106] in Mashhad, endowed by the income of the *owqāf*[107] of the shrine. The *waqf* was a complex institution in Iran and took various forms throughout centuries, the study of which lies out of the scope of this work. Generally speaking, there were two categories of *waqf*, the charitable *waqf (waqf-e kheyr or ʿāmm*), and the private *waqf (waqf-e khāss*), even though the concept of charity is present in both. The latter consisted in the assignment of the revenue of a property to one's relative. For example, the Ilkhānid ruler, Ghāzān (1295-1304), gave many lands in *waqf* to the sons of his favourite wife. Rashid al-Din, Ghāzān's minister did the same for his own sons and

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[104] MS 505, pp. 2–3.

[105] MS 505, pp. 4–5. One could ask why the pagan Iranians only dedicated their hospital tents to the planets? It seems more likely that some of their tents were coloured as a sign of worship, but, it seems that in order to reinforce his historical account of hospitals, our author conjectured that these dedicated tents were mobile hospitals.

[106] The eighth Imam of the Shiites died in the eighth century in Iran and was buried in the city that was later named Mashhad (the place of the martyr).

[107] These *owqāf* are in fact the properties of the Imam Rezā shrine.

daughters.[108] The charitable *owqāf* were almost always established by rulers, state officials or the military (emirs), the women of the ruling class or other wealthy individuals. The endowed establishments were usually theological schools *(madrasas*), mosques, convents *(khānqāhs*), mausoleums or shrines *(boqāʿ*), inns for travellers (caravanserais), subterranean canals bringing water to the surface *(qanāt*) or hospitals. For instance, a wealthy physician of Neyshābur, ʿAbd al-Mālek b. abi ʿOsmān, known as Khargush (rabbit), who died in 407/1017, built bridges, mosques, cisterns and a hospital in that city on his return from Mecca and made some endowments *(owqāf*) for their expenses. Or consider the Saffāri sovereign, Yaʿqub-e Laith (867-79), who constructed a bazaar in Zarand (southeast Iran) and endowed its income to the great mosque (*jāmeʿ*) and to a hospital in that city.[109] Although almost all hospitals were endowed, they benefited far less from the *owqāf* than other institutions such as mosque, *madrasa* and so on. The author of the *Mer'āt al-boldān* (mirror of the regions) provides a list of mosques, *madrasa* and sometimes caravanserais in Iran, all endowed by *waqf*. In every city there was *a jāmeʿ* (great mosque) to which there was usually attached a *madrasa*—for example, the *jāmeʿ* of Ganjeh in Caucasus (1015/1606), that of Sanandaj in Kordestān (1228/1813) and that of Rasht, in Guilān, south of the Caspian Sea. But there is no indication of a hospital in the list.[110]

Generally the *waqf* institutions in Islamic countries did not have a secure future because of political instability. The incessant wars and the constant change in local powers called into question the legitimacy of the *waqf* of conquered properties, as shown in the case of Balkh in Central Asia by Robert McChesney.[111] Not only were endowments of any kind quite limited in size and number and easily prey to appropriation by the new rulers, but also in many cases their ultimate purpose was not even charitable but a cover for the protec-

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[108] Ann K. S. Lambton, *Continuity and Change in Medieval Persia: Aspects of Administrative, Economic and Social History, 11th-14th Century* (London: I.B. Tauris, 1988), pp. 118-119, 155-156.

[109] Najmābādi, *Tārikh-e teb*, pp. 767–8. One of the sons of local ruler of Kermān, Qotb al-Din Mohammad (1235-1257) made some of his inherited estates into *waqf* for the *madrasa* and the hospital that he had built outside Bardsir. Cf. Lambton, *Continuity and Change*, p. 151.

[110] Ēʿtemād al-Saltaneh, *Mer'āt al-boldān-e nāseri*, vol. 4, pp. 117–120

[111] Robert Duncan McChesney, "Waqf at Balkh: A Study of the Endowments at the Shrine of ʿAli ibn abi Talib," (unpublished PhD dissertation: Princeton University, 1973), pp. 149 ff.

tion of private property. It was not unusual under the ʿAbbāsid caliphs for private property to be bequeathed as endowments for religious purposes in order to guarantee it against confiscation.[112] By the same token after the Mongol invasion an increasing amount of property was constituted as *waqf* apparently because "the security of tenure was regarded as uncertain and there was still a lack of confidence in the justness of the Ilkhānid government, even after it had gone over to Islam."[113] Since the establishment of Islamic power in the seventh century, the *owqāf* had generally been established for financial or political motives, even though pious intentions were not totally absent.[114] In a study of Zāheriya *owqāf* in Azarbāijān, created around 1680–90 and lasting throughout the Qājār period, Christoph Werner showed that in theory these *owqāf* were for charitable purposes but in practice they operated as the private property of the local nobility. The author studied the *waqf* foundations established in Azarbāijān during the Qājār period which, compared to the Safavid *owqāf*, were much smaller in size, but they had one thing in common, that they were "a device to transform property into a secure foundation".[115] But the endowment of a mosque and a religious school displayed more obvious pious devotion than the endowment of hospitals, bridges or caravanserais. This could partly explain why hospitals received little charitable endowment, or why they were often erected by the order of princes or statesmen who did not always need such pious justification to protect their right of ownership.

At the present stage of our study we cannot ascertain if the *dār al-shafā* of Mashhad under the Qājārs was typical of previous centuries and we do not know of any other such establishment mentioned in the sources. While discussing the *dār al-shafā* of Mashhad in the nineteenth century, Dr Polak refers to Timurid sources, which treat of a considerable number of *dār al-shafā* (seemingly in the fourteenth and fifteenth centuries).[116] This might be the continuation of the Timur

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[112] Ashtor, *A Social and Economic History of the Near East*, p. 37.

[113] Morgan, *Medieval Persia*, p. 82.

[114] Lambton, *Continuity and Change*, p. 157. The author of manuscript 505 (p. 9.) mentions the will of a Jewish woman (c.a. 1860s), who on her deathbed, specified that part of her wealth should be spent in the construction of a hospital after her death. But there is no indication as to whether this was executed.

[115] Christoph Werner, *An Iranian Town in Transition: A Social and Economic History of the Elites of Tabriz, 1747–1848* (Wiesbaden: Harassowitz Verlag, 2000), pp. 110, 117–118, 120, 129, 135.

[116] Polak, *Safarnāmeh*, p. 215.

policy of constructing a mosque, a *madrasa*, a caravanserai and *a dār al-shafā* in each city.[117] If such a trend continued in the fourteenth and fifteenth centuries, its root could be found in the change in the land tenure system. The Ilkhānid rulers (1256–1353) seized private as well a*s waqf* lands, but later granted many estates in fief or sold them in the last decades of the thirteenth century. These sales "resulted in the expansion of private ownership".[118] E. Ashtor believes that pious endowments also increased during this period. Some of these endowments were made to the shrines, for instance, that of "Sayyid Abu'l-Vafā, by Ghāzān."[119] However, even if such suggestions are accurate, it is not known whether the increase in *dār al-shafā* under the Timurids was related to the increase in shrine *waqf*.

Although at least since nineteenth century the term *dār al-shafā* has been attributed to hospitals or dispensaries that are endowed by religious charity, there is no proof that in the "medieval" period and especially under the Timurids, what were known as *dār al-shafā* were also endowed by *waqf* belonging to shrines or to other religious institutions. We can also presume that many shrines, unlike that of Imam Rezā in Mashhad, which were small and did not attract a great deal of religious devotion, were less respected and therefore their *owqāf* could easily be confiscated. Accordingly, the *dār al-shafās* under the Timurids were more likely to have been funded by private charity. According to Sami Hamarneh, hospitals, which flourished after the thirteenth century, especially in populated areas of the Islamic world, were called *dār al-shafā*.[120] Persian sources give several synonymous terms for hospitals, such as *bimārestān, marizkhāneh, dār al-shafā* or *dār al-morzā*, without giving indication of any substantial difference in their concept or organization. But the author of manuscript 505 used *dār al-shafā* mainly to refer to the shrine of the eighth Shiite Imam in Mashhad.[121] The term *marizkhāneh* was commonly used for hospitals in the Qājār period, while today only *bimārestān* is used in Iran. It is noteworthy that the Amasya hospital of the Ottoman Empire, where Sharaf al-Din Ilyās (1404-69), the author of an illustrated surgical

[117] See Chapter One, footnote 45.
[118] Ashtor, *A Social and Economic History*, pp. 260–261.
[119] Lambton, *Continuity and Change*, p. 155.
[120] Hamarneh, "Development of Hospitals in Islam", p. 381.
[121] He used *dār al shafā* three times, including the *dār al-shafā* of Mashhad, while *bimārestān* is used twenty times and *marizkhāneh* twenty-three times in his text.

manual *Jerrāhiye Ilkhāniya* (Ilkhānid Surgery) worked, was called *dār al shafā*.[122]

Both historically and conceptually, hospital institutions in Islam were linked to charity, as they were in Christian Europe. The description of the founding of a hospital by the author of manuscript 505 as the most charitable work is very similar to the sixth-century Justinian legislation that placed the hospital at the very top of charitable institutions.[123] The difference between Islamic and Christian traditions of charity appears to be in their institutional aspects. In the historiography of Western hospitals, the relationship between the hospital and charity naturally evokes the institutional link between the church and hospices or hospitals. In Islamic countries, however, for various socio-political reasons, there was no such link between religious establishments and hospitals. In contrast, since the Safavid period, Christian missionaries in Iran had been known for their charitable dispensaries.[124] In the nineteenth century, English and American religious missions founded dispensaries in Tehran, Ispahan, Kermān, Yazd, Mashhad, Rasht and Kermānshāh.[125] In the second part of the century, the English Mission Station, supported by the Church of England Missionary Society, and established in 1869, had extensive buildings, comprising a church, a school, and a dispensary. The school and the dispensary were well attended and appreciated by both Muslims and Armenians.[126]

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[122] Gül A. Russell, "Physicians at the Ottoman Court", *Medical History*, 34 (1990), p. 255. In Afghanistan today, a Persian-speaking country, the term commonly used for hospital is *shafākhāna* (*khāna* = house in Persian). This might be the Persian version of *dār al-shafā* (house of healing) surviving from the Timurid period.

[123] Miller, *The Birth of the Hospital*, p. 101.

[124] The missionaries to Iran, since the seventeenth century, included the Portuguese Augustinians, the Italian Carmelites and the French Capuchins. (Cf. Mémoires et Documents, Perse (Archive du ministère des affaires étrangères, Paris.), vol. 8, fols. 20-21. In 1609, the Augustinian Hermits in Hormoz (Persian Gulf) were in charge of the Royal Hospital: "Opposite the fortress there was the noted Hospital of Misericordia, a place of pious devotion…". See Father Eusebius, *History of the Missions*, vol. I, p. 267 and vol. II, p. 1041, cited by Elgood, *A Medical History*, p. 512.

[125] Mahmud Nadjmabadi, "Les relations médicales entre la Grande-Bretagne et l'Iran et les médecins anglais serviteurs de la médecine contemporaine de l'Iran", in *Proceedings of the XXIII International Congress of the History of Medicine, London 2-9 September 1972* (London: Wellcome Institute, 1974), pp. 704–8. In the early nineteenth century, the Armenian community in Azarbāijān had its own dispensary. Cf. Hormoz Ebrahimnejad, "L'Introduction de la médecine européenne en Iran," *Sciences sociales et santé*, vol.16, 4 (1999): 69-96, pp. 73–74; Naficy, *La médecine en Perse*, p. 61.

[126] Collins, *In the Kingdom of the Shah*, p. 229.

The charitable hospital and Islamic politics

Before the modernization of the judicial system in the twentieth century, the *ulama* (Islamic clerics) held the judicial authority[127] and were the only source capable of legalizing the transfer of properties or *owqāf*. Under the Ilkhānids, the *owqāf* were theoretically under the control of the *Qāzi*, administrator of divine law.[128] During the Safavid period, the *Sadr*, a religious authority appointed by the Shāh, held the position of the *Qāzi* and could oversee the administration of the *owqāf*.[129] This could be interpreted as clerical control of the endowment system. However, such authority was in fact at the service of wealthy individuals or those holding political power and the *ulama* usually confirmed the right of the more influential and politically appropriate claimants on a property; otherwise the clerics' decision carried no executive force.[130] Furthermore, different judges sometimes handed down different judgements, which ultimately led to the triumph of the most powerful claimant. As J. J. Saunders pointed out, the failure of the ʿAbbāsid Caliphate to impose a doctrine, in this case that of the Muʿtazilites, in part prevented it from developing into a papacy.[131] Having known no ecclesiastical councils or a hierarchy of priests and bishops, Islam was deprived of a powerful religious establishment that could take control and administer the pious foundations.

Accordingly, in the history of Iran after Islam, princes or the nobility were the ultimate authorities who established or controlled charitable bodies, and this continued throughout the nineteenth century. Religious endowments in the holy cities of Mashhad and Qom were administered by the Qājār princes or ministers appointed by the Qājār Shāh. After the death of Mirzā Jaʿfar-Khān-e Moshir al-Dowleh, the Mashhad *dār al-shafā* came under the control of prince Abol-Hasan Mirzā.[132] Then,

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[127] After the establishment of the Islamic regime in 1979, judicial authority returned to the mullahs. On the judicial system, see Willem Floor, "Changes and Developments in the judicial system of Qājār Iran" in: *Qājār Iran*, E. Bosworth & C. Hillenbrand (eds.) (Edinburgh: Edinburgh University Press, 1983), pp. 113-147.

[128] Lambton, *Continuity and Change*, p. 70.

[129] Morgan, *Medieval Persia*, p. 121. See also Willem Floor, "The *sadr* or head of the Safavid religious administration, judiciary and endowments and other members of the religious institution," *ZDMG*, 150 (2000): 461-500; idem, "The Secular Judicial System in Safavid Persia," *Studia Iranica*, 29 (2000): 9-60.

[130] Lambton, *Continuity and Change*, p. 70; Werner, *An Iranian Town*, p. 107.

[131] J. J. Saunders, *A History of Medieval Islam* (London, New York: Routledge, 2001), p. 112.

[132] Hakim al-Mamālek, *Ruznāmeh ye safar-e Khorāsān*, p. 195.

in 1871, shortly before being given the title *Sepahsālār-e A'z*am and being promoted to the post of prime minister, Mirzā Hoseyn Khān-e Mohir al-Dowleh was named minister of justice and of pensions and religious endowments by Nāser al-Din-Shāh.[133] It is, therefore, for this reason that the author of manuscript 505, without any reference to the Shiite clerics, directly advised the ministers and the Shāh to establish a similar *dār al-shafā* in other Shiite holy cities in Iraq.[134]

For the author of manuscript 505 there were three kinds of financial resources available to support hospitals. The first was government funds, even though, because of his patriarchal attitude the Shāh considered government money as his own.[135] The fact that, at least rhetorically, this resource is mentioned by manuscript 505 as belonging to the government reflects the gradual depersonalizing of state resources. This was a new phenomenon in Iran, as the general discourse before the nineteenth century was that hospitals were created by the generosity of princes with no mention of "the government". In the "medieval" period most of the Islamic hospitals were named after the Caliphs or princes who founded them, such as *bimārestān-e* Mansuri or *bimārestān-e* 'Azodi. In Qājār Iran, the first hospital was named after the state (*marizkhāneh-ye dowlati*), denoting its public dimension.

A second source of finance was the endowment (*waqf*) of Shiite shrines, and manuscript 505 suggested that the government allocate part of these resources for the creation of hospitals at these shrines.[136] The third financial source that could be used for the hospitals, mentioned by manuscript 505, was charitable donations or alms (*nozur va sadaqāt*).[137] The author lamented that people on days of sacrifice distributed meat but did not give a part of that meat to the hospital. As we see, the scope of the author of manuscript 505 was limited to either the endowments of the holy Shiite shrines in Mashhad and in Baghdad, or to *nozur va sadaqāt* (alms). The *nazr va sadaqa* would not provide a substantial and secure resource for hospitals, as there was no specific organization for the collection of alms for such purposes.

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[133] Niki Keddie, *Qajar Iran and The Rise of Reza Khan 1796-1925* (Costa Mesa: Mazda, 1999), p. 35.

[134] MS 505, p. 42.

[135] For a study of the patriarchal and patrimonial nature of the Qājār state see Ali-Reza Sheikholeslami, *The Structure of Central Authority in Qājār Iran: 1871–1896* (Atlanta, Georgia: Scholars Press, 1997).

[136] Ibid., pp. 41–42.

[137] MS 505, pp. 9 and 10.

This leads us to assume that the culture of piety or specific religious affiliation would be needed to inform charitable organizations. The construction of hospitals in Iran until the nineteenth century was essentially motivated by charity but without the involvement of the religious establishment. In most instances princes or rich individuals initiated their creation. With political instability and the absence of any respect for pious foundations by successive dynasties, few could survive the death of their creator. It was partly for this reason that there was no sign of hospital establishment in Iran by the beginning of the nineteenth century.

The hospital and the sick poor

The *marizkhāneh-ye dowlati* described in manuscript 505 was constructed for soldiers. Unlike the medieval Christian hospitals, the *marizkhāneh-ye dowlati* was not conceived for the purpose of treating or sheltering the sick poor even though, rhetorically, the author of manuscript 505 claimed that the hospital benefited the *foqarā va bichāregān* (the destitute and sick poor). For cultural or practical reasons, hospital treatment could not replace household or family care. Rich families called the most skilled physicians to the bedsides of their sick;[138] ordinary families also treated their patients at home. In addition to social and cultural reasons, the material conditions of the public hospital were so that even the poor and the soldiers declined to use it and the people, as Carla Serena reported, called it "the cemetery of the living".[139] Consequently, the *RVE* published articles encouraging and urging people who were in need of treatment to go to the hospital, by stating that: "Those who were reluctant to go to the hospital, after being treated, were unwilling to leave it."[140] By the time manuscript 505 was written (ca. 1865), the author reported that "presently two to three hundred patients are treated at the hospital."[141] It is possible that this statement gave a favourable report in so far as the author, fighting the unpopularity of the hospital, endeavoured to show its efficiency. What

[138] MS 505, p. 12.
[139] Serena, *Hommes et choses*, p. 143. For similar hospital conditions in the Safavid period, see Mirzā Rafi' Jāberi Ansāri, *Dastur al-Moluk*, above, Ch. I, footnote 45 (?)
[140] *RVE*, nos. 102 & 103, January 1853.
[141] MS 505, p. 26.

is more certain is that the number of inpatients varied with the rise and fall of epidemics.

Whatever the purpose of the state hospitals in nineteenth-century Iran was, it seems that they were mostly used by the poor and soldiers who, during their short or long term residence in Tehran, were separated from their families and the hospital was their sole refuge during illness.

Administration

Another important detail in manuscript 505 concerns the organization and personnel of the hospital and their duties:

> The highest-ranking position is that of chief health officer for the preservation of the health of the army and civil society… In other countries [presumably European], this office holds the same rank as that of ministers and commanders of the army. He should have the highest position [in the hospital], and should select his subordinates (doctors, surgeons, pharmacists, nurses and so on), but the number of these personnel as well as the location of the hospital remains within the remit of the Minister of War according to the number of troops and where they are stationed.[142]

The chief health officer was not a physician but a military officer, even though he had a seat on the sanitary council and was responsible for public health regulations for the regiments during epidemics.[143] His qualities of leadership and integrity were fundamental, since the health and efficiency of the army depended on his work. He could be regarded as the chief administrator of the hospital. When a soldier fell ill he was to be removed from his unit and transferred to the chief health officer's unit, who entrusted him to the chief physician.[144] After the chief officer of health came the chief physician (*hakim-bāshi*) then there were three grades for physicians (first, second and third physician), surgeon (first, second and third surgeon) and pharmacists (first, second and third pharmacist). Then came three grades of secretaries (*mirzā*) whose task was administration, and three grades of nurse who

[142] MS 505, pp. 39-40.
[143] Ibid., pp. 48–49.
[144] Ibid., p. 42.

distributed meals, cleaned and took care of the patients.[145] Of interest here is the theoretical knowledge of the physicians. The first physician had to master the five branches of medicine described in classical sources such as the Canon of Avicenna and the *Kāmel al-sanā'ah* of al-Majusi.[146] The author does not define these five branches, but from what he explains about surgery—which according to him was one of the medical branches, *fonun-e tebbiyah*,—they were: humoral medicine treating humoral diseases (*amrāz-e mazājiyeh*), anatomy (*tashrih*), surgery, ophthalmology, and pharmacy.

The chief surgeon was to have the same qualities as the chief physician, even though being learned in surgery was not as important as in medicine. A surgeon, in addition to reading books, should do many operations, since observation (*moshāhedeh*) is the main requirement in surgery. Surgery had declined because it was not considered to be a noble profession and, according to the author of manuscript 505, Hippocrates himself was responsible for this diminution.[147] Surgery was to be used only for battle injuries. Any other wound or inflammation (*joruh va qoruh*) occurring in peacetime was, according to him, caused by an imbalance of the humours (*amrāz-e mazājiyeh*) and should be treated by restoring their balance. However, the hospital would need three surgeons because even during times of peace it was necessary to extract stones or to cut the body.[148]

Last but not least of the medical staff, pharmacists were required at the hospital because a physician without a pharmacist was like a man with one hand. The author of manuscript 505 established a pharmacy in the hospital under his own supervision. Pharmacology was principally based on simple and compound drugs, since "taking the essence" (*jowhar-keshi*) from herbal drugs was rarely used in Tehran for climatic reasons.[149] The author highlighted this probably because the local market for simple and compound drugs at this period was depressed due to the introduction of Western drugs based on essences.[150]

The administrative tasks, which mainly consisted of supplying the hospital with provisions, went to *mirzās* (secretaries or scribes), who were also divided into three grades, though the duties of the first two

[145] Ibid., pp. 43–44.
[146] Ibid., pp. 57–58.
[147] See Part Two, the English translation of MS 505, footnote 172.
[148] MS 505, p. 64.
[149] Ibid., p. 66.
[150] See Ch. Two, pp. 42-43.

overlapped somewhat: The first *mirzā*, called *moshref* (literally inspector or controller), kept the accounts of the hospital, including those for the clothes of the sick, furniture, and the list of expenses for food and drugs. In addition to keeping the accounts every day, he would prepare a list of what should be purchased on the basis of the prescription of the physicians. The second *mirzā* was called *nāzer* (supervisor), with the duty of handing over the foodstuff to the cooks according to the list of the first *mirzā*. The third *mirzā* kept the warehouse and was also responsible for cleaning the clothes or repairing the utensils of the hospital.[151]

Nursing did exist in the Islamic hospitals during the "medieval" period.[152] But, unlike medieval European hospitals, where nursing appeared to be carried out in emulation of one of "The Works of Mercy", namely, visiting the sick,[153] in Islamic hospitals it does not seem to have been a benevolent act of charity. Thus, the author of manuscript 505 reminds us that "nursing is a hard and undesirable job for society as the lay people, fearful of contagion, consider that nurses are contaminated as soon as they enter the hospital." There was also a hierarchy for nurses: the first nurse was a cook, the second distributed food and drugs and the third was a cleaner.[154]

Finally, there were guards to keep the gates of the hospital closed and to prevent anyone entering or leaving without a ticket. This entrance ticket was required of both the employees and the patients and those without a ticket claiming to be sick would be taken by the guard to a special room where the chief physician or the duty physician would examine him.[155]

This description of the organization of the hospital and curriculum of medical education indicates that manuscript 505 was more concerned with institutional aspects than theoretical. While the author proposes a rigorous (re)organization with discipline and hierarchy similar to those in a modern army, he does not depart from the old medical sources such as Avicenna, al-Majusi, and Hunayn b. Is'hāq,

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[151] MS 505, pp. 69–74.

[152] Elgood, *A Medical History of Persia*, pp. 170-173.

[153] "Food for the hungry, drink for the thirsty, shelter for the homeless, clothing for the needy, visiting the sick and prisoners and burying the dead", were "The Works of Mercy", that Christ mentioned in the Gospel. See C. Jones, "Charity before c. 1850", in *Companion Encyclopaedia*, edited by Bynum and Porter, vol. 2, p. 1470.

[154] MS 505, pp. 75–77.

[155] Ibid., p. 80.

the "medieval" authorities in Galenico-Islamic medicine that he recommends to medical students.[156] In the list of the officials of the hospital, provided by E'temād al-Saltaneh in the 1880s, we find functions that also figure among those given by the author of manuscript 505, for example, Hasan-Khān, physician and pharmacist; Mirzā Farhād, assistant pharmacist; Mirzā Seyyed 'Ali Tafreshi, *Moshref* (inspector), a *Nāzer* (supervisor), and so forth.[157] The personnel of the hospital in manuscript 505 were indeed modelled on those of the "medieval" Islamic hospitals discussed in the first chapter. But at the same time the strictness of its hierarchical organization, with a military general (or chief health officer) as the main director, and soldiers acting as the hospital guard, seems to be modelled on Western military hospitals. This indicates the extent to which the modernization process tended to borrow both modern and traditional elements. From a structural standpoint, what seems more fundamental was that the establishment of a hospital or medical school for the Qājārs was their mark of state power and state involvement in medicine, regardless of their being modern or traditional.

From the abridged description given of manuscript 505, it emerges that in the understanding of the author, the creation of a "modern" hospital was at the heart of medical reform. Not only was it to be an institutional home for all branches of medical knowledge (medicine, surgery and pharmacy), but also a place where physicians could enhance their knowledge and skill through putting into practice what they had read in books. The author classified the hospital alongside the *Dār al-Fonun* (polytechnic school) and the library, as the three institutions that any government seeking progress should establish.[158] It is of interest that while the author explicitly mentioned the Dār al-Fonun, where medicine constituted the most important field after the military, more importance was given to the hospital than the Dār al-Fonun in medical education. The reason was that, the author wanted to emphasis the necessity of hospital experimentation in a medical system dominated by literary knowledge. Bed-side observation at the hospital enabled physicians to distinguish better between different diseases with similar symptoms. In short, the hospital was

[156] Ibid., pp. 57–58.
[157] E'temād al-Saltaneh, *Tārikh-e montazam-e nāseri*, vol. 3, p. 2131.
[158] MS 505, pp. 27–28.

an institution where skilled physicians could be trained.[159] According to the author of manuscript 505, the ideal head of a hospital before Hippocrates was one that could be at the same time physician, surgeon, ophthalmologist and pharmacist. He criticized Hippocrates for having separated these branches by relegating the practice of surgery to his pupils and having occupied himself only with the treatment of humoral diseases.[160] There are elements of similarity between the view of this author and that of the physicians of early nineteenth-century France, who believed that:

> The hospital was the only place where the art could become perfect, where, the facts being numerous, one could draw general conclusions and where you could be certain of the administration of the drugs.[161]

By the same token, manuscript 505's idea of a hospital as a centre for medical education and where surgery and medicine were reunited is strikingly similar to those of Clot-Bey, the French physician and the architect of medical modernization in nineteenth-century Egypt.[162] Rather than indicating common aspects between the Qājār hospital and medicine and those in nineteenth-century Europe, such comparisons provide an authentic example of the role that traditional local physicians did, or could, play in medical modernization. More particularly, manuscript 505 illuminates the shift that took place in the concepts of "bedside medicine" and of the "hospital" that had long existed in Islamic countries. The role of institutional and intellectual dynamism of traditional medicine in medical transformation will further be examined in Chapters Four & Five.

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[159] Ibid., p. 31.

[160] Ibid., pp. 63–64.

[161] F. Imbert, *De l'observation dans les grands hôpitaux*, p. 6, cited in Olivier Faure, *Genèse de l'hôpital moderne: Les hospices Civiles de Lyon de 1802 à 1845* (Lyon: Presses Universitaires de Lyon, 1982), p. 118.

[162] Chifoleau, *Médecines et médecins en Egypte*, pp. 117-20.

CHAPTER FOUR

TRADITIONAL MEDICINE AND MODERNIZATION

The process of the creation of a "public" hospital presented in this volume illustrates the genesis of medical modernization in nineteenth-century Iran. It clearly indicates that the modernization process began not with the elimination of the traditional system, but with its reorganization. Since medical modernization has always been identified with the establishment of a modern school on the lines of the European model, institutional reform in medicine has also been attributed exclusively to European advisers, and this discourse continues to inform many historical accounts today. Without ignoring the Western influence, we try to place it into historical context. This chapter will discuss the role played by traditional medicine in the process of modernization from institutional and theoretical dimensions. The institutional dynamism of traditional medicine is examined in relation to the development of the Qājār state. This is illustrated by the fact that the Qājār elite, including some traditional physicians such as the author of manuscript 505, was more concerned with institutional than intellectual issues in medical reform. Hence the increasing integration of the medical profession into a formal administration by the state. Finally, in Chapter Five, the theoretical mechanisms through which modern medical ideas came to be assimilated into nineteenth-century Iranian medicine will be addressed as a process that was intimately linked with institutional reform.

The Qājār state and the institutionalization of medicine

When Āghā Mohammad-Khān, the founder of the Qājār dynasty, conquered Iran by defeating his last opponent in 1794, his closest advisers included a grand vizier, a minister of war or *Lashkar-nevis* (more precisely the paymaster general of the army), a *Mostowfi al-mamālek* (minister for collection of taxes), and a *Monajjem-bāshi* (chief astrologer), as well as a *Hakim-bāshi* (chief physician). The presence of a chief physician in the nascent Qājār court was not a new phenomenon; in all previous dynasties kings had had their personal

physicians.[1] However, this point is stressed here, because of its significance in the history of medicine in general, and in medical modernization under the Qājār in particular, as the number of court physicians throughout the nineteenth century increased to an extent unprecedented in earlier centuries. No previous dynasty in Iran had as many physicians attached to the state or to the court with as many specific titles as under the Qājārs. Particularly during the second part of the Qājār period we see court medical positions with titles such as *Malek al-Atebbā* (prince of physicians), *Sehhat al-Dowleh* (health [keeper] of the state), *Hakim al-Molk* (physician of the kingdom), *Ra'is al-Atebbā* (chief of physicians), *Nāzem al-Atebbā* (superintendent of physicians), *Mo'tamed al-Atebbā* (confidence of physicians), *Zobdat al-Atebbā* (cream of physicians), *Fakhr al-Atebbā* (honour of physicians), *Sharif al-Hokamā* (sheriff of physicians), *Soltān al-Atebbā* (Soltān of physicians), *'Emād al-Atebbā* (column of physicians) and so forth. This quantitative leap constitutes in itself a historical phenomenon that must be considered in the study of nineteenth-century medical institutions in Iran.

Nevertheless, neither was the granting of court titles exclusive to medicine, nor was it unprecedented in previous centuries. It had existed in pre-Islamic Iran but developed during the Islamic period. Under the Mongols and the Timurids, the use of court titles was considerably diminished, but slightly increased under the Safavids. It was under the Qājārs, especially from the reign of Nāser al-Din-Shāh onward, that the disposition of court titles became spectacular.[2] The fact that the creation and multiplication of court titles was not exclusive to medicine but covered all other professions, such as historiographers, poets, and even occupations like bath-keepers, merchants, butlers, gardeners, etc., indicates that the development of the court medical staff was not an isolated phenomenon but intimately linked to a wider structural pattern.

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[1] According to Chardin who visited Iran between 1664 and 1677, "the Shāh employed many doctors at an expenditure of no less that 2,500,000 livres a year." Cf. *A Journey to Persia: Jean Chardin's Portrait of a 17th-Century Empire*, translated and edited by Roland W. Ferrier (London, New York: I.B.Tauris Publisher, 1996), p. 129. In the Ottoman Empire, court medicine was also closely identified with the state bureaucracy between the sixteenth and eighteenth centuries. See Russell, "Physicians at the Ottoman Court," *Medical History*, 34 (1990): 243-267.

[2] 'Abdollāh Mostowfi, *Sharh-e zendegāni-ye man, yā tārikh- ejtemā'i va edāri-ye dowreh-ye Qājār*, 3 vols., (Tehran: Ketābforushi-ye zavvār, 1324/1945), vol. 1, pp. 587–592; Ahmad Ashraf, "*Alqāb va 'anāvîn*" *Encyclopaedia Iranica*, edited by Ehsan Yarshater (Costa Mesa, California: Routledge & Kegan Paul, 1985) vol. 1, fascicule 9, pp. 898-906.

Usually a *laqab* (court title), added to the initials of the recipient, was made of two nouns, the first being descriptive, such as pillar (*ʿemād*) or pride (*fakhr*), and the second indicating the occupation or institution with which the recipient was connected.[3] For example, *Fakhr al-Atebbā* (honour of physicians) or *ʿEmād al-Atebbā* (column of physicians) in medicine, and *Malek al-shoʿarā* (prince of poets) in poetry. A *laqab* could easily be created. As indicated by ʿAbdollāh Mostowfi, in Arabic grammar, from a root such as *nsr,* multiple nouns could be made with as many meanings: Nasr, Nosrat, Nasir, Nāser, Mansur, Ansār, etc. and each form could be annexed to a second noun that denoted, for example, function or sphere of occupation such as *al-kottāb*, *al-molk*, *al-Atebbā*, *al-ʿolum*, etc. Mostowfi claimed that he went through all the possible nouns used in the creation of *alqāb* and concluded that the Qājārs could have easily provided 10,000 court titles.[4]

Laqab, *court appointments and the Qājār administration*

What was the purpose in the creation and granting of court titles? Had the *alqāb* any significance in the Qājār state apparatus or were they nominal, without any practical purpose? Some historians, including ʿAbdollāh Mostowfi, have considered the increase in court titles in the second part of the nineteenth century to be a sign of the degradation and inefficiency of the Qājār administration, since any incompetent person could obtain a title from the government. According to Nāser-e Najmi, the number of these titles amounted to several hundreds in the second part of the century, peaking under the government of Amin al-Soltān, who acted as premier of Nāser al-Din-Shāh from 1886.

> Whosoever from any profession wanted a title, Amin al-Soltan accorded it to him and the Shāh endorsed it… to such an extent that from an inefficient physician with superficial knowledge, to any teacher of a traditional school (*madrasa*), or his pupils, etc.… anyone could obtain these titles and in this way acquire position and influence.[5]

In the context of nineteenth-century Iran, where title and personality were more important than competence, the granting of a *laqab* could

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[3] Ahmad Ashraf, in "*Alqāb va ʿanāwin,*" divides the *alqāb* into four categories: official, occupational, generic and best-known name.

[4] Mostowfi, *Sharh-e zendegāni*, p. 590.

[5] Najmi, *Tehrān-e ahde nāseri,* p. 199.

indeed easily become counter-productive and it was not surprising that unskilled people received ennobling titles and court positions. Financial benefit was also to be gained from the granting (or sale) of a title. In order to increase his influence as well as his wealth, Amin al-Soltān obtained the Shāh's approval for the granting of a large number of titles. According to Mostowfi, under Nāser al-Din-Shāh a decree was issued to grant titles, and each day up to twenty *firmān*s were written by the royal scribes and between 50 and a 100 gold *panjhezāri* (5000) coins were paid by the recipient of the title.[6] A more substantial price was paid for ministerial positions and constituted a real source of revenue for the Shāh.[7]

But such an understanding of the *alqāb* illuminates only one aspect of the system. Of greater socio-political relevance was that the court titles contributed to the reinforcement of central authority inasmuch as they represented the state. Given names such as Mirzā ʿAli Hamedāni and Mirzā ʿAli-Akbar-Khān-e Kermāni, two of the most important physicians under the Qājārs, had no socio-political significance without their respective titles *Ra'is al-Atebbā* (Director of physicians) and *Nāzem al-Atebbā* (Superintendent of physicians). In modern historiography only the negative aspect of the proliferation of court titles has been observed, while their role in the professionalization process, the conventionalisation of the state apparatus and in the centralization of state power has been overlooked. As soon as Nāser al-Din-Shāh realized that the granting of titles was getting out of hand, he tried to check its expansion by restricting the award of titles according to merit or wealth and by making it an offence punished by imprisonment for those who abused the system and assumed titles without royal authority.[8]

Court titles were hierarchically graded in the Qājār period, which indicates their role in the centralization of power. When ʿAli-Asghar-Khān-e Amin al-Soltān received the official title of Sadr-e Aʿzam (or prime minister) in 1888, and created and distributed the *alqāb,* he also ordered Malek al-Shoʿarā Sabā to compile a register of all existing titles, *Tartib al-alqāb* (Order of the titles).[9] Its purpose was to

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[6] Mostowfi, *Sharh-e zendegāni*, p. 591; Ashraf, *"Alqāb va ʿanāwin"*; Serena, *Les homes et les choses*, p. 125.

[7] Ali-Reza Sheikholeslami, "The Sale of Office in Qājār Iran, 1838–1896," *Iranian Studies*, 4/1 (1971): 104–118, p. 107.

[8] Ashraf, *"Alqāb va ʿanāwin,"* p. 901.

[9] Ibid.

clarify and quantify the hierarchy and order between the court titles and their recipients. Madame Serena reports that there were three classes of title: the highest class was made by *Saltaneh* (of the Shāh); the second class by *Dowleh* (of the government or state), and the third class by *Molk* (of the empire).[10]

In the medical field, the granting of a title had no financial benefit for the court. Although physicians, who became famous because of their *alqāb*, enjoyed more prestige and further opportunities to increase their income, it was unlikely that they paid the Shāh or ministers for their titles. As a physician increased his knowledge, skill or prestige by studying medicine at the highest levels, he could receive more than one *laqab*. For example, after completing his studies in Paris, Dr Mirzā ʿAli was appointed professor of medicine at the Dār al-Fonun and was named *Moʿtamed al-Atebbā,* and later on he was also called *Ra'is al-Atebbā.* Mirzā Kāzem-e Rashti *Malek al-Atebbā*, one of the personal physicians to the Shāh, also received the title of *Filsuf al-Dowleh* (philosopher of the state). Following the death of Nāser al-Din-Shāh towards the end of the nineteenth century, the exclusive authority of the Shāh in the granting of titles progressively faded so that conferring of titles did not need the Shāh's decree (*firmān* or *dastkhatt*). As far as the medical profession is concerned, this was also partly due to the increase of "state physicians" graduating from the Dār al-Fonun. In this case, the *laqab* was given, for example to Dr Mehdi *Boqrāt al-Hokamā* (d. 1965), not as a court title, but as a state appointment. Mehdi Malek-Afzali had studied traditional medicine in a traditional school. After successfully completing his medical studies at the Dār al-Fonun in 1907, he was given the titles of "doctor" on account of his modern education and *Boqrāt al-Hokamā* for mastering both modern and traditional medicine,

[10] Serena, *Hommes et choses en Perse*, p. 142. Further examples of the awarding of court titles as a tool for enhancing state power can be seen in the religious policy of the Qājārs. The creation of court mullahs—for instance the title *Nezām al-ʿOlamā* [*ulama*] awarded to Mirzā Mohammad-Khān and Nasrollāh-Khān (see Eʿtemād al-Salteneh, *Maʾāser al-āsār*, p. 24), was part of the Qājār strategy to reduce the independence of the religious establishment that, by relying on their financial power and ideological tools, tended to increase its authority and to threaten the state power. On the question of the Shiite establishment and its theory of power, see Said Amir Arjomand, *The Shadow of God and the Hidden Imam: Religion, Political Order and Social Change in Shiite Iran from the Beginning to 1890* (Chicago, London: Chicago University Press, 1984). Idem, "The Shiite Hierocracy and the State in Pre-modern Iran: 1785–1890," *European Journal of Sociology*, 22 (1981): 40–78. On the conflict between state and the *ulama* cf. Hamid Algar, *Religion and State in Iran, 1785-1905: The Role of the ulama in the Qajar Period* (Berkeley and Los Angeles: University of California Press, 1969).

and throughout his life he was called Doctor *Boqrāt al-Hokamā*.[11]

The award of titles in medicine advanced the integration of the medical profession into the state administration. In order to appreciate further the institutional significance of this policy and its role in the reorganization of the medical system, it is worth having a closer look at the lists of state officials and other celebrities given by E'temād al-Saltaneh in his *Ma'āser al-āsār* in the late nineteenth century.[12] The first list (pp. 134–226) provides a short biography of famous people, some of whom had a *laqab*. The second list (pp. 227–242) contains only those who had been granted a *laqab* by the Shāh. Some names appear on both lists.[13] E'temād al-Saltaneh reminds us that the list is not comprehensive and includes only those whom he knew or remembered and, in any case, only those *alqāb* that were granted during the forty years between 1848 and 1888 of the Nāser al-Din-Shāh's reign. Moreover, it is likely that some people or *alqāb* were omitted just because the author had no good opinion of them. According to this author the *alqāb* were of two kinds. Some were nominal and aimed to enhance honour, glory and nobility. Others indicated the appointment of a person to a position by the court or the government. The descriptive list (the first one) shows the difference in status between those who had received a *laqab* and those who had not. This list includes forty-one physicians, among whom eighteen had a *laqab*. The author is explicit only about the connections of eleven of these *molaqqab* ("titled") physicians to the court. For others, he might simply have omitted to mention their court connections. One of these physicians, Hāj Mirzā Habibollāh Tonekāboni *Majd al-Atebbā*, is not listed as a court physician in the *Ma'āser al-āsār*, but in the other list of E'temād al-Saltaneh provided in his *Montazam-e nāseri*, he is named among the court physicians without his *laqab*. In the same source, we find *Malek al-Atebbā* Mirzā Kāzem,[14] *Mo'tamed al-Atebbā*

[11] See Hormoz Ebrahimnejad, "Religion and Medicine in Iran," *History of Science*, 60 (2002), p. 92. Boqrāt al-Hokamā left Tehran for Mashhad and, in 1919 following the order of the provincial sanitary council (*majles-e hefz al-sehheh*) in Mashhad, he was sent to Neyshābur as the head of the local office of the *majles-e hefz al-sehheh* in that city. See Ch. Four, footnote 79, figure no. 5.

[12] E'temād al-Saltaneh's other book, *Montazam-e nāseri*, also provides lists of officials with their titles.

[13] For example, Hāji Mirzā Mortezā-Qoli and Hāji Mirzā Hoseyn were two physicians who had received the common title, *E'temād al-Atebbā*, and are not mentioned in the descriptive list. E'temād al-Saltaneh, *Ma'āser al-āsār*, p. 231.

[14] The title of *Malek al-Atebbā* was given to two contemporary physicians: Mirzā Mohammad-Taqi Shirāzi (also called Hāji Āqā-Bābā) and Mirzā Kāzem-e Rashti.

Mirzā ʿAli Doctor, Hāji Mirzā Habibollāh Tonekāboni and Mirzā Asadollāh Kāshi among the court physicians in 1299/1882.[15] What is more important to note is that among the twenty-three physicians without a *laqab* only one was a court physician: Mollāh Mohammad-e Qoboli, one of the Shāh's personal physicians.[16] The majority of those with a *laqab* were appointed by the court or the government. Although some titles were only honorific, in the Qājār administrative system they were meant to be synonymous with court or state positions. Sometimes a *laqab* officialised a *de facto* function. Concerning the appointment of Amin al-Soltān to the premiership, mentioned that "Mirzā ʿAli-Asghar-Khān-e Amin al-Soltān, who from 1303/1886 was performing, without title, the duties of a prime minister, received in 1306/1888 the title of *Vazir-e Aʿzam*". In other words, from this date he became prime minister *de jure*.[17]

In no other Islamic country did the creation and distribution of court titles expand to the same degree as in Qājār Iran. Traditional physicians in India were generally called Hakims. In Tunisia, the most important court physician was *Amin al-Atebbā*, the equivalent of chief physician (*hakim-bāshi*) in Iran. In the Ottoman Empire, which had a well-organized system of court medicine, the court physicians under the authority of the chief physician had no specific titles. The chief physician, who controlled not only other court physicians but also the medical profession through the guilds, was called "Hekimbashi (or *ser etibbā-i khāssa*). On formal occasions, he would be elaborately addressed as 'the Galen and Hippocrates of the age".[18] Under the Qājārs, the expression *Jālinus-e zamān* (Galen of the age) could be given to any famous physician and the title *Hakim-bāshi* was not a court title; it was rather a generic term used to distinguish those who were skilled in medicine. There were several *hakim-bāshi*s of the court and each had his specific *laqab*. Another peculiarity of the nineteenth-century court medical organization in Iran was that physicians could accumulate both a traditional *laqab* and the modern title of "Doctor", while in

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The latter is made the object of sarcasm by Eʿtemād al-Saltaneh in his *Ruznāmeh*. But Mirzā Kāzem-e Rashti later received from Nāser al-Din-Shāh the title *Filsuf al-Dowleh* (Philosopher of the state) in addition to the previous one of *Malek al-Atebbā*. Cf. Eʿtemād al-Saltaneh, *Maʾāser al-āsār*, p. 195. (See Ch. Two, footnote 30 and illustration no. 1).

[15] Eʿtemād al-Saltaneh, *Tārikh-e montazam-e nāseri*, vol. 3, p. 2097.

[16] Eʿtemād al-Saltaneh, *Maʾāser al-āsār*, p. 203.

[17] Eʿtemād al-Saltaneh, *Maʾāser al-āsār*, p.16.

[18] Russell, "Physicians at the Ottoman Court," pp. 261, 265.

contemporary India the traditional physicians were called *hakim* and European physicians or their modern-educated Indian colleagues were called Doctor; hence the term *doctory* that was used to designate Western medicine.[19]

It was within the framework of this process, throughout the nineteenth century, that many physicians, distinguished by the newly created titles such as *Malek al-Atebbā* (prince of physicians), or *Fakhr al-Atebbā* (glory of physicians), were incorporated into the state. In this way, the state could bring the medical institutions under its control and reorganize them. This process was a natural result of the centralization of power.

The criteria of ethics, knowledge and institutional organization are the most important for historians to determine who was a physician and who was not.[20] Although questions of ethics and deontological conventions were occasionally discussed in various medical works, there was no such established principle as the Hippocratic Oath for those who wanted to practise medicine. Although those who were learned and skilled were better recognized as physicians, the question of knowledge and skill was rather subjective, unless an organization could affirm such qualities. As to the criterion of education, medicine was only one of a number of general courses in the curriculum at the *madrasa* (or traditional school). To undertake the study of medicine at a higher level, wealthy people took private instructors, and those who desired to learn but could not afford it, were self-taught.[21] For this reason, most educated individuals had some medical knowledge or, as Dr Carr witnessed:

> If a man wishes to become a doctor, he buys a book in the bazaar, reads it for few weeks, learns what diseases are said to be hot and which are cold, and the same with regard to food and medicines, and then he is ready for practice.[22]

Seyf al-din Astarābādi, a mullah, had studied medicine as part of his education, but according to himself he had never practised it. During

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[19] Neshat Qaiser, "Colonial politics of medicine and popular Unāni Resistance," *Indian Horizons*, April-June 2000, pp. 29–42.

[20] For discussion on this topic see Toby Gelfand, "The History of Medical Profession," in *Companion Encyclopaedia*, vol. 2, pp. 1119-1150.

[21] For a general view on medical education in Islamic countries see Conrad, "Arab-Islamic Medicine," in *Companion Encyclopaedia*, pp. 710-711.

[22] Cited by Floor, *Public Health in Qājār Persia* (unpublished typescript), p. 155.

the cholera outbreak of 1892, however, he provided treatment and also wrote a treatise on cholera.[23] In another case, Mirzā Rezā Kermāni, a broker turned revolutionary, prescribed medicine for women and treated their children—probably for subsistence—during his twenty-day stay near the shrine of Shāh ʿAbd al-ʿAzim (south of Tehran), before assassinating Nāser al-Din-Shāh on 30 May 1896.[24]

Therefore, traditional medicine, outside of the court, had little or, at most, a very loose institutional base. In such circumstances, the distinction between "regular" and "irregular" practitioners, usually identified with "genuine" medicine and quackery, could not be conceived other than subjectively.

The re-institutionalisation of traditional medicine

The acquisition of court or state titles by physicians *per se* did not mean professional regularisation but it constituted a major departure for medical institutionalisation, insofar as it provided an organizational tool that made it possible to distinguish between physicians other than on the basis of the subjective criteria of skill or competence. The institutionalisation did not mean the exclusion of traditional medicine, or even medicine based on magic or household knowledge. The nobility and the Qājār princes had several medical advisers, and when they fell ill, they consulted almost all of them. Concerning the illness of one of the Qājār princes on 18 November 1890, ʿEyn al-Saltaneh described the successive visits of several traditional and modern physicians, including Dr Tholozan, to the bedside of the prince and noted that their prescriptions were usually contradictory.[25] It was common for the nobility or Qājār princes to consult and believe in faith healers for their medical problems.[26] Eʿtemād al-Saltaneh, for example, who often disparaged traditional physicians as compared with his high opinion for the treatments of Western doctors, used traditional treatments such as bloodletting and household medicine that he called

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[23] ʿAli b. Mohammad-Jaʿfar Astarābādi, *"Safineh-ye nuh"*.

[24] ʿEyn al-Saltaneh, *Ruznāmeh*, p. 934. Khān-Malek Sāsāni, *siyāsatgarān-e dowrey-ye Qājār*, 2 vols. (Tehran, enteshārāt-e bābak, 1338/1959), vol. 2, p. 273. For Mirzā Rezā Kermāni's life and ideas, cf. Homā Nātegh, *Kārnāmeh va zamāneh-ye Mirzā Rezā Kermāni* (Bonn: *Enteshārāt-e hāfez,* 1363/1984).

[25] Qahremān-Mirzā Sālur, *Khāterāt-e ʿEyn al-Saltaneh*, pp. 312–315.

[26] Jaʿfar-e Shahri, *Gushehā'i az tārikh-s ejtemā'i-ye Tehrān-e qadim*, 2 vols. (Tehran: Amir-Kabir, 1376/1997), vol. 2, p. 265.

moʿālejeh-ye zanāneh, (treatment made by old women).[27] The primary aim of the institutionalisation was to distinguish the borders between "regular" and "irregular" medicine, whether traditional or modern. However, as scientific developments further widened the theoretical gap between modern and traditional practices, official medicine more closely identified itself with modern theories and practice. This was principally because, unlike faith healing or folk medicine that could be practised out of the court, modern medicine was, from its introduction into Iran, dependent on the government. The other factor that led to a closer link between the state and modern medicine, at the expense of traditional and folk medicine, was that the former had a higher theoretical and intellectual cohesion that rendered it easier for the self-identification or construction of a (medical) community structure.[28] Modern medicine with its more sophisticated educational and practical rules and tools provided a more systematic means for professional integration and this better suited the regularizing role and legalizing function to which the state aspired.

In undertaking the institutionalisation of medicine, the Qājār state took various measures, as illustrated in the following specific cases.

In 1267 H (1851 AD), it was ruled that doctors who practised in the army should pass a test under the supervision of Dr Kazullani,[29] chief physician of the army, and obtain permission to work.[30] This examination, however, was a mere formality, as there were not sufficient material or technical facilities to train unskilled doctors and Dr Kazullani had no other option but to confirm them in their posts for organizational purposes. Mirzā Mohammad-Hasan-Khān-e Eʿtemād

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[27] Eʿtemād al-Saltaneh (Saniʿal-Dowleh), Mohammad-Hasan-Khān *Rouznāmeh-ye khāterāt-e Eʿtemād al-Saltaneh*, ed. Iraj Afshār (Tehran: Amir-Kabir, 1345/1976), pp. 242, 922, *et passim*.

[28] We refer here, by analogy or directly, to the relationship between paradigm and definition of community structure studied by Kuhn. Cf. Thomas S. Kuhn, *The Structure of Scientific Revolution*, 3rd edition (Chicago, London: The University of Chicago Press, 1996).

[29] Dr Kazullani (or Casolani) was the brother of sāheb Kazullani, painter-in chief to the Shāh. Kazullani was among the rare European physicians who were practising medicine at the Qājār court before the establishment of the Dār al-Fonun. See Adamiyyat, *Amir-Kabir*, pp. 28, 334, 336 and Mahmud Najmābādi, *"Tebb-e dār alfonun va kotob-e darsi-ye ān"* (Medicine of Dār al-Fonun and its curriculum), in Qodratollāh Rowshani Zaʿferānlu (ed.), *Amir-Kabir va Dār al-fonun* (Tehran: Tehran University Press, 1354/1975), p. 203.

[30] *RVE* No. 49, 16 Rabiʿ I 1268/9 January 1952.

al-Saltaneh, also known as Sani' al-Dowleh, expressed this fact more clearly. He noted that:

> In the fifth year of the rule of Nāser -al-Din-Shāh [1852], in order to prevent those without medical qualifications entering the regiments and treating the troops, it was ruled that the regiments' doctors should be registered in the office of Dr Kazullani, chief physician of the army, and appointed by him.[31]

Sani' al-Dowleh's expression is unambiguous that these army doctors were "registered" and "appointed" as "doctors" by Kazullani. This is a direct reference to the fact that the activity of these physicians was legalized even before they could be trained or examined properly. Manuscript 505 provides a case that further illustrates this policy of legalization. According to the author:

> In the past, about 200 individuals, on account of their medical and surgical services in the army, received salaries, rations and fodder [for their animals]. Half of this number, [i.e. 100], were illegal, as they did not attend the review. And half of those 100 [i.e. 50] who attended the review held the title of doctor without deserving it. The remaining fifty individuals did not provide any useful service, except for seven or eight of them who accompanied the ranking officers… But today, thanks to His Majesty, every army doctor is a source of service proportionate to his ability, which he progressively increases and for which he deserves to earn a higher salary.[32]

This testimony suggests that the legalization of physicians and surgeons was not necessarily synonymous with a better training, because it is not conceivable that the 192 remaining physicians were either trained in a short time or dismissed. In January 1877, the sanitary council in Tehran prohibited the sale of Western drugs before they were examined by Mirzā Kāzem, professor of chemistry and physics at the Dār al-Fonun. Once these drugs were confirmed as safe, they could not be sold retail but were sold wholesale to Hāji Mohammad Ja'far, appointed as dean (*rish-sefid*) of the pharmacists, by prince Nāyeb al-Saltaneh, the governor of Tehran.[33] In February 1877, the sanitary council ruled that only qualified pharmacists should sell drugs and

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[31] E'temād al-Saltaneh, *Mer'āt al-boldān*, vol. 2, p. 76.

[32] MS 505, pp. 32–33.

[33] *Ruznāmeh-ye 'elmi* ([weekly] Journal of Science), no. 2, 29 Zolhajja 1293/ 15 January 1877, lithograph edition, Tehran, Library of Majles. See also *Ruznāmeh-ye 'elmi,* no. 1, 22 Zolhajja 1293/ 8 January 1877.

others should be forbidden from doing so, because many deaths or health problems resulted from mistaking Western drugs for herbal ones and vice versa. Consequently only twenty-six pharmacists in different districts of Tehran were authorized for this activity and the inhabitants were advised not to buy drugs from others. Of this number, only four were allowed to sell both Iranian and Western drugs and twenty-two could sell Iranian herbal drugs only.[34] Even though the legalization projects were always justified by the idea of providing a better and more efficient medical service, the primary effect of such a process was to strengthen the status of official medicine and to extend its differences with illegal practice by giving it a new institutional identity.

The distinction between official and non-official medicine became clearer when the court began to employ European physicians and, later on, Iranian doctors trained in modern medicine. After the establishment of the Dār al-Fonun, the graduates in medicine, especially those who completed their studies in European universities, were given the title "Doctor". With the introduction of modern medicine and the title "Doctor" not only did the traditional titles such as *Sehhat al-Dowleh* (the health [keeper] of the state), *Hakim al-Molk* (physician of the empire) or *Malek al-Atebbā* (prince of physicians) fail to disappear but they expanded, and often those who were trained in modern medicine, assumed both traditional and modern titles. The traditional titles together with that of "Doctor", used widely at the turn of the nineteenth century, further qualified recognized and official physicians, such as *Doctor* Mirzā ʿAli *Moʿtamed al-Atebbā* (confident of physicians), or *Doctor* ʿAli-Akbar-Khān-e *Nāzem al-Atebbā* (superintendent of physicians) who was the director of the modern *marizkhāneh-ye dowlati* (state hospital) between 1876 and 1881.

One of the most important physicians of the latter part of the nineteenth century was Dr Mirzā ʿAli (ʿAli b. Zeyn al-ʿĀbedin-e Hamedāni), who, after studying traditional medicine together with mathematics and religious sciences in a traditional *madrasa* in Hamedān, went to Tehran to study modern medicine at the Dār al-Fonun. After he finished at the Dār al-Fonun, he was appointed to teach both traditional and modern medicine there.[35] Shortly afterwards, he was selected by

[34] *Ruznāmeh-ye ʿelmi*, no. 5, 22 Moharram 1294/ 12 February 1877.

[35] Dr Mirzā ʿAli, *Amrāz-e ʿAsabāni* (a translation of Grisolle's *Traité des maladies nerveuses*), lithograph edition, Tehran, 1297/1880, preface by Dr Mirzā ʿAli, p. 2.

Fig. 3. Dr Mirzā ʿAli *Raʾis al-Atebbā*, lecturing at the Dār al-Fonun (1887).

Dr Tholozan and sent to France to complete his medical studies. He wrote his doctoral thesis on intestinal haemorrhage in 1876,[36] and a year later returned to Iran with the title "Doctor" and was appointed by the Shāh to teach modern medicine as professor at the Dār al-Fonun.[37] According to Mehdi Bāmdād, Dr Mirzā ʿAli acquired the title *Moʿtamed al-Atebbā* (confident of physicians) in 1299/1882, when he became one of the personal physicians (*tabib-e makhsus*) to the Shāh and after the death of Mirzā Rezā *Doctor* in 1887, he replaced him as chief physician of the army and his previous title *Moʿtamed al-Atebbā* was switched to *Ra'is al-Atebbā* [chief of physicians].[38]

Dr Mirzā ʿAli suggested that the old medical literature should be abandoned, as his French master, Dr Tholozan, had advocated.[39] He also criticised Persian medical teachers who preserved the traditions of the past and never tried to renounce them.[40] However, in his introduction to the translation (1880) of the *Pathologie nerveuse* by Augustin Grisolle (1811-69), Mirzā ʿAli praised those in the state who had revived traditional sciences together with modern ones.[41] He was described in the preface to the same book, as "the phoenix of both traditional and modern medicine".[42] Dr Mirzā ʿAli was the most prolific Western-educated Iranian physician; he wrote and translated at least six books from French, and played a prominent role in the introduction of modern medicine.[43] He died in 1310/1893 in Tehran.[44]

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[36] The thesis was published with the title *Des Hémorrhagies intestinales et leur rapport avec les sueurs dans la fièvre typhoide* (Paris: A. Derenne, 1876).

[37] Dr Mirzā ʿAli, *Amrāz-e ʿasabāni*, p. 3.

[38] Bāmdād, *Sharh-e hāle rejāl-e Iran*, vol. 5, pp. 156-57; Najmābādi ("Tebb-e Dār al-Fonun" pp. 222–223) refers to Dr Mirzā ʿAli *Ra'is al-Atebbā* and Dr ʿAli *Moʿtamed al-Atebbā* as two people, which is wrong. It is possible that he retained both titles after 1887, as in the preface to his book *Javāher al-hekmah-ye Nāseri* (Tehran: 1304/1887) he is introduced as Mirzā ʿAli Doctor *Moʿtamed al-Atebbā*.

[39] Dr Mirzā ʿAli, *Javāher al-tashrih*, (gist of anatomy), or, as Mirzā ʿAli put it in Freud, *Traité d'anatomie descriptive* (Tehran: lithograph edition, 1306/1888); see the introduction. Concerning Tholozan's opinion on this matter, see Hormoz Ebrahimnejad, "Theory and Practice in nineteenth-century Persian medicine," *History of Science*, 38 (2000): 171–78.

[40] Mirzā ʿAli, *Javāher al-tashrih*, p. 4.

[41] *Ehyā-ye ʿolum-e qadimeh va jadideh*. Dr Mirzā ʿAli, *Amrāz-e Asabāni*, nervous pathology, (Tehran: lithograph 1297/1880), p. 4.

[42] Ibid., preface.

[43] Najmābādi, "Tebb-e Dār al-Fonun," p. 223. Dr Mirzā ʿAli translated one of the 10 volumes of *Pathologie nerveuse* by Grisolle. His other book, *Javāher al-hekmah-ye Nāseri* (Quintessence of Christian medicine) (Tehran: lithograph edition, 1304/1887), was also written by using several French works. The title *hekmat-e nāseri* has a double meaning. The books of medicine were often called after the name of the prince to

Certainly the most skilled and knowledgeable physicians were honoured with the aristocratic titles or sent to modern medical schools to become a "doctor". But what is more important for the study of medical reform is the institutional implication of the award of such titles. For the Qājārs, the institutionalisation of medicine through its incorporation into court and state was no less fundamental than the acquisition of new methods of treatment or a new understanding of a disease. Consequently, it was in the light of this institutionalisation that traditional medicine, with its old concepts and methods, continued to be represented at court and taught in the Dār al-Fonun, despite the increasing influence of modern medicine.[45] Issue 456 (14 Dec. 1859) of the *RVE* claimed that:

> Since some of the Iranians do not yet believe in Western medicine, it was ruled that Mirzā Ahmad-e *Hakim-bāshi*-ye Kāshāni should teach traditional medicine at the Dār al-Fonun.[46]

However, traditional medicine was taught at the Dār al-Fonun from the beginning (i.e. 1852). For example, Mirzā Seyyed ʿAli, one of the students of Dr Cloquet, the French physician, who had studied modern medicine, was teaching both modern and traditional medicine at the Dār al-Fonun in 1853.[47] Traditional medicine continued to be taught after 1860. In 1883, Mirzā Abol-Qāsem-e *Hakim-bāshi*-ye *Soltān al-Hokamā* was teaching traditional medicine at the Dār al-Fonun while Dr Mirzā ʿAli and Dr ʿAli-Khān-e Qājār taught Western medicine.[48] There were more instructors and students of traditional medicine at the Dār al-Fonun than those just mentioned. For instance, Mirzā

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whom they were dedicated. In this case, it was an anthology of pathological–anatomical medicine and as it was named after Nāserod-din-Shāh, it was entitled *Javāher al-hekmah-ye Nāseri*. Nāseri (Christian) also referred to European medicine, Europe being usually associated, by the Iranians, with Christianity.

[44] Bāmdād, *Sharh-e hāl*, vol. 5, p. 157.

[45] See for instance, Qahremān-Mirzā Sālur (*ʿEyn al-Saltaneh*), *Khāterāt-e ʿEyn al-Saltaneh*, edited by Masʿud Sālur and Iraj Afshar (Tehran: *Enteshārāt-e asātir,* 1374/1995), p. 315.

[46] *RVE*, no. 456,19 Jamadi I 1276/14 Dec. 1859; see also no. 458, 28 Dec. 1859.

[47] *RVE*, no. 102, 3 Rabiʿ II 1269/14 January 1853.

[48] Mohammad-Hasan-Khān-e Eʿtemād al-Saltaneh, *Tārikh-e montazam-e nāseri*, vol. 1, pp. 465–66; Najmābādi, "Tebb-e Dār al-Fonun," p. 223. By 1888 when *Ma'āser al-āsār* was written, Mirzā Abol-Qāsem-e *Hakim-bāshi Soltān al-Hokamā* was still teaching traditional medicine at the Dār al-Fonun and had written a book on this subject entitled *Nāser al-moluk* (Cf. Eʿtemād al-Saltaneh, *Ma'āser al-āsār,* pp. 186–87.)

ʿAbdol-Karim-e *Tabib* had studied medicine at the Dār al-Fonun with "the Late Mirzā Vali Orduābādi, the chief physician of the army". He was also "one of the students of Mirzā Zeyn al-ʿĀbedin-e Kāshāni-ye *Mo'tamen al-Atebbā*."[49] Apparently, Mirzā Vali and probably Mirzā Zeyn al-ʿĀbedin were teachers of traditional medicine at the Dār al-Fonun. Although there is no specific date indicating the end of the teaching of traditional medicine at the Dār al-Fonun, given the state of medical knowledge and the process of its transformation, it seems that it continued to be taught until the modern faculty of medicine, established at Tehran university in 1934, superseded the medical curriculum of the Dār al-Fonun.

What was the purpose in the instruction of traditional medicine at the Dār al-Fonun, given the fact that this school was the stronghold of modern sciences? Who were the students in this field and did they actually graduate? If so, were they later employed to treat patients according to traditional medicine? One might presume that the instruction of Avicennian medicine at the Dār al-Fonun was a phenomenon similar to that in colonial India. In the 1920s, when India was facing excessive expenditure in training enough physicians in modern medicine, the colonial government of India decided to train physicians, destined to practise in the rural areas, in Ayurvedic or Unāni[50] medicine. The length and the cost of training were respectively less than for Western medicine, while the rural population was more receptive to traditional treatment.[51] But in Qājār Iran there was no such project to increase traditional physicians in rural areas.[52] The Qājār government's purpose in including traditional medicine in the curriculum of the Dār al-Fonun

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[49] Eʿtemād al-Saltaneh, *Ma'āser al-āsār*, pp. 210, 222.

[50] *Unāni* (from Ionia, a region of Western Asia Minor on the Aegean coast that was colonized by the Greeks ca. 1000 BC) is the term used in India to designate the medical system based on the medicine of Hippocrates and Galen.

[51] Gary Hausman, *Siddhars, Alchemy and the Abyss of Tradition: 'Traditional' Tamil Medical Knowledge in 'Modern' Practice*, unpublished PhD thesis, University of Michigan, 1996; B. Pati & Mark Harrison (eds), *Health, Medicine and Empire: Perspectives on colonial India* (London: Sangam Books, 2001).

[52] After the Iranian Revolution of 1979, the Islamic Republic tried to establish similar institutions for the education and practice of traditional medicine in rural areas and small cities. (cf. Seyyed Hoseyn Nasr, "*Tebb-e sonnati-ye Iran va ahammiyat-e emruzi-ye ān*" (Traditional medicine in Iran today and its importance) (Tehran: *mo'asseseh-ye motāleʿāt va tahqiqāt-e farhangi* (the Institute of Cultural Researches), 1362/1983), pp. 25–34. This is a collection of articles on traditional Iranian medicine. See also the introduction in this volume by Haddād ʿĀdel. However, such projects have not been implemented to date.

Fig. 4a. A traditional physician (hakim-bāshi), with a noskhehnevis (writer of recepies or prescriptions), a pupil and patients. Shiraz (ca. 1898).

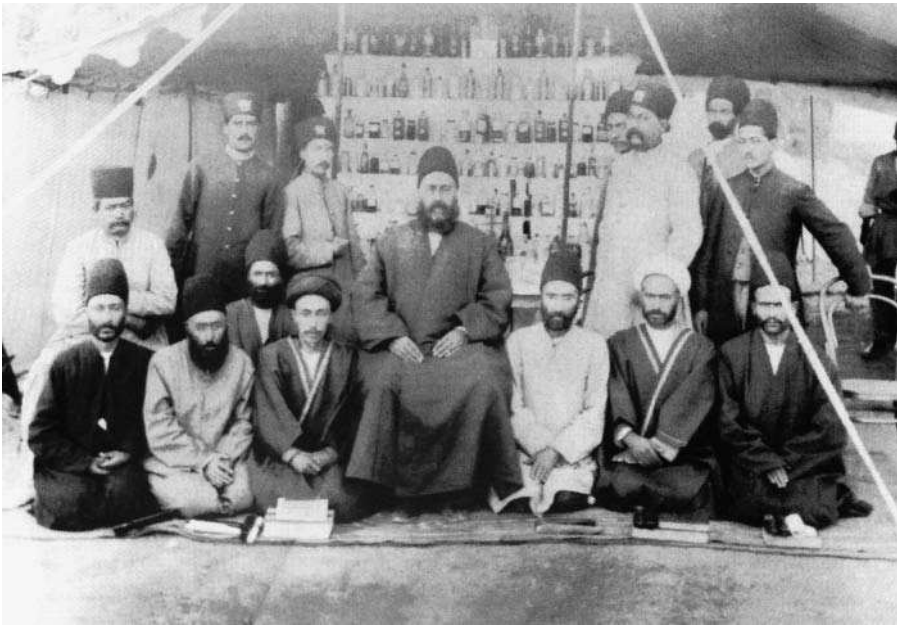

Fig. 4b. A photograph of Loghman al-Dowleh (centre), a court physician, and some other physicians and pharmacists in a military camp in 1892.

was not to produce traditional practitioners. And, in fact, there were no graduates in traditional medicine at the Dār al-Fonun.

There were two main reasons for teaching traditional medicine at the Dār al-Fonun. The first reason was one of practicality. The students had already studied basic traditional medicine in the *madrasa* (as did, for instance, the above-mentioned Mirzā ʿAli Hamedāni) and needed to develop their knowledge. In addition to the students, there were also many traditional practitioners who attended courses in modern medicine, such as human anatomy and dissection of sheep taught by Tholozan.[53] When Dr Polak taught at the Dār al-Fonun, all army physicians, *Atebbā-ye nezām*, who had been trained in traditional medicine, were to attend his lectures.[54] Traditional medicine was not eliminated from the syllabus with the introduction of modern medicine, nor even devalued. It was considered a necessary prerequisite for every physician. All Iranians who studied modern medicine were also expected to be well versed in traditional medicine, just as many traditional physicians, with the introduction of modern medicine and especially from the mid-nineteenth-century onwards, also studied modern medicine either informally or at the Dār al-Fonun. For example, Rahmat-e Shirāzi, who had mastered traditional medicine, doubtless studied modern medicine (probably at the Dār al-Fonun), since he was compared to Galen and Dr Polak.[55] Qahremān-Mirzā ʿEyn al-Saltaneh mentions in his diary that Mirzā ʿAli-Akbar-Khān-e *Nāzem al-Atebbā*, who had studied modern medicine at the Dār al-Fonun, mastered perfectly both European and Iranian medicine.[56] The major work of *Nāzem al-Atebbā*, the *Pezeshki-Nāmeh,* was a compendium of all drugs used in traditional and modern medicine, with their composition and the method of their use in the treatment of diseases.[57] As Mohammad Mohit-e Tabātabā'i pointed out, with the increasing number of translations of modern texts, not only in medicine but also in chemistry, physics, pharmacology, and astronomy, the use of traditional terms extracted from the *Zakhireh* of Jorjāni (or Gorgāni 1041-1137 AD), the *Sharh-e Zij* of

[53] Dissection on sheep was necessary due to the lack of human cadavers. Cf. Johan Schlimmer, *Terminologie Médico–pharmaceutique et anthropologique française–persane*, p. 227.

[54] Anonymous MS 506 "On diseases commonly affecting soldiers," fol. 1.

[55] Mir, *Pezeshkān-e nāmi*, pp. 94–95.

[56] Qahremān-Mirzā Sālur, *Khāterāt-e ʿEyn al-Saltaneh*, p. 315.

[57] Mirzā ʿAli-Akbar-Khān-e *Hakim-bāshi-ye Nāzem al-Atebbā*, *Pezeshki-nāmeh dar ʿelm-e therapeutique- matière médicale,* (Tehran, lithographic edition, 1317/1899).

Soltāni (fifteenth century), the *Tohfah* of Hakim-Mo'men (seventeenth century), and others also increased. Therefore, to nineteenth-century Iranian scholars the use of old and modern scientific terms in education seemed both necessary and complementary. "This combination facilitated the expansion of modern science beyond the Dār al-Fonun and also attracted traditional physicians to this school."[58]

Furthermore, European instructors referred to traditional medicine for didactic purposes, when they wanted to transmit modern ideas to the students with traditional backgrounds. In the preface to his *Terminologie médico-pharmaceutique* (1874), Schlimmer remarked clearly that in order to establish a dialogue between modern Western medicine and traditional Persian medicine he needed to "create a synthesis between European and Persian medical terms and this synthesis was favourably received by the local doctors." Further, with regard to physics, chemistry and botany, he continued:

> These fields are almost entirely unknown in Iran and therefore many of their terms have yet to be found or created in Persian. Moreover, many Persian medical terms that seem superfluous to Western physicians, are far from being so for the Persians. Consequently, I have decided, as far as possible, to provide the significance of Persian terms relating to medical practice and to men in states of health and illness that the European physicians need to know in their work.[59]

Schlimmer's work makes it clear that the presence of traditional medicine was epistemologically necessary for both Persian and European physicians to communicate with each other intellectually, but also, for the Western physicians, to have a more realistic view of local diseases. Such an approach is quite similar to that of the eighteenth-century European physicians in India who, before the firm establishment of colonial rule, had created an "Anglo-Indian medicine", characterised by interaction between colonizers and colonized.[60]

This mixture of modern–traditional in the Dār al-Fonun curriculum had long-lasting results for medical education and literature in the following decades. Mirzā ʿAbdol-Karim-e *Tabib* had studied traditional,

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[58] Mohammad-Mohit-e Tabātabā'i, "Dār al-Fonun va Amir-Kabir," in Qodratollāh Rowshani Zaʿferānlu (ed.), *Amir-Kabir va Dār al-fonun*, (Tehran: Tehran University Press, 1354/1975), pp. 186-194, see pp. 192-193.

[59] Schlimmer, *Terminilogie*, preface.

[60] Mark Harrison, *Climates and Constitutions*: Health, Race, Environment and British Imperialism in India 1600-1850 (New Delhi, Oxford, New York: Oxford University Press, 1999), pp. 7-8.

and probably modern, medicine there. In one of his books, the *ʿAlāyem al-amrāz* (Symptoms of diseases), dedicated to Nāser al-Din-Shāh, he discussed both traditional and modern medicine.[61] In another instance, ʿAlā' al-Hokamā, a physician from Azarbāijān, who had studied for several years in Europe, practised and taught a medicine that was a mixture of the traditional and modern.[62] This trend continued well into the twentieth century, as we saw in the case of the above-mentioned Dr Boqrāt al-Hokamā.[63]

The second reason for including traditional medicine in the curriculum of the Dār al-Fonun was of political and institutional relevance. It went hand in hand with the involvement of the traditional medical system in the Qājār power structure. That is why it continued at court when European doctors were increasingly engaged as personal physicians to the Qājār princes.

The "institutional" importance, in the Qājār sense, of the modernization process during the latter part of the nineteenth century is illustrated in the career of some court physicians (*hakim-bāshi*), who were sent to Europe to study modern medicine. Most of these doctors received special privileges from the French Ministry of Education, so that they could avoid years of studying or practising as "interns" at the hospital before taking their exams. This special favour, officially requested by General Nazar-Āqā, the Persian ambassador, allowed these students to pass their exams in two years or even less, instead of the four normally required.[64] For instance in May 1889, Mirzā Mohammad-Khān, eight months after arriving in Paris to complete his medical studies, "was relieved of the need to take examinations in physics, chemistry, natural history, anatomy and pathology" on account of his having proved to have sufficient knowledge. He had only to pass exams in practical medicine (*médecine opératoire*), internal pathology and external pathology.[65] In May 1891, another court *hakim-bāshi*, Moʿin al-Atebbā, received the same privileges after eighteen months

[61] Mirzā ʿAbdol-Karim-e *Tabib*, *ʿAlāyem al-amrāz*, Persian manuscript 1295/1878, no. 821, Tehran, Sepahsālār Library.

[62] Shahri, *Gushehā'i az tārikh-s ejtemāʿi-ye Tehrān-e qadim*, vol. 2, p. 265.

[63] See above, Ch. Four, footnote 11.

[64] Mirzā Rezā ʿAli-Ābādi was one of the first students of Dr Polak, who went to Paris in 1272/1856 and studied for four years, returning in 1277/1860–61. Mirzā Hoseyn-e Afshār, however, who also went to Paris to complete his medical studies in 1856, returned after only three years. Cf. Bamdad, *Sharh-e hāl*, vol. 5, pp. 75, 97.

[65] Archive du ministère des affairs étrangères, Affaires Diverses Politiques, Perse, no. 68 (iii), Paris, 12 April 1889.

in Paris. In an attempt to justify further the early examination of the candidates, the Ambassador made clear that "the Royal Prince, [Zell al-Soltān, governor of Tehran and Minister of War] would be very pleased to see his personal physician with the title of "Doctor" of the Paris Faculty [at the earliest opportunity]".[66] Circumventing the normal curriculum and courses of the Paris faculty of medicine indicates that what was more important for the students was the acquisition of the Paris degree, whether or not they had fully assimilated modern medical knowledge. This trend became general practice to such an extent that in 1903 Dr Schneider, the French personal physician to Mozaffar al-Din-Shāh (1896–1906), warned the Shāh that these *hakim-bāshi*s sent to France did not study seriously, yet after one or two years of attending the course returned to Iran with the title of "Doctor".[67]

From the proliferation of court-titled doctors to the registration and legalisation of existing pseudo-physicians, the main goal was the institutionalisation of medicine, the first step of which was to integrate medical education and practice, whether traditional or modern, into the state apparatus. This indicates the extent to which reform of medical institutions was intimately linked to the development of the state organization, and to some extent, to the reinforcement of state power in Qājār-Iran. It is not therefore surprising that modern sciences and education were first introduced into the army, the pillar of state power. In this respect it is highly significant that for the author of manuscript 505 the creation of public hospitals could strengthen the state. He argued that

> the welfare of the state's subjects results in the prosperity of the government and its reinforcement, because hospitals keep the soldiers healthy and reduce their mortality, and the consequence is an increase in the population, so that there are enough workers to continue producing while also providing soldiers for the army.[68]

In other places the author emphasized that the prosperity of the provinces and the army depended on the health of the subjects and the elimination of diseases.[69] The physicians who wrote treatises about epidemics underlined the importance of the healthy population for

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[66] Ibid., Affaires Diverses Politiques, Perse, no. 68 (v), Paris, 14 May 1891.

[67] Homa Nategh, *kāmāmeh-ye farhangi-ye farangi dar Iran* (The French in Iran: Religious and secular schools, 1837–1921), (Paris: editions Khavaran, 1375/1995), p. 255.

[68] MS 505, p. 31.

[69] Ibid., p. 38.

the prosperity of the state, and thus it was the duty of the government to support physicians.[70] This rhetoric clearly indicates that the welfare of the subjects was considered a tool for strengthening state power. Nevertheless, we should bear in mind that, no matter what the purpose of medical reform in the Qājār state was, the important fact is that it resulted in the creation of a public health system.

From such a perspective, a study of medical modernization consists of addressing the changes in the interrelation between the traditional medical system and state power, prior to, or in parallel with, the introduction of modern medicine from outside. Manuscript 505 clearly illustrates these changes through discussion of the relationship between the medical profession and statesmen, and by advocating the reorganization and regularization of the existing system. Situated in a transitional period, the author of this manuscript, under the section title "The benefits of the hospital for soldiers, the homeless and the poor", underlines the salutary effect of medicine, praises its noble place among the sciences, and urges the wealthy and the nobility to take private physicians: "The more they have dignity and power, the greater their consideration should be for doctors; they should not pass their life without a physician's service."[71] The author argues that the statesmen (nobles in the army and in the government) should, besides taking private physicians, invest in the education of doctors who would become qualified and would treat the sick poor who had no money to pay private doctors.[72] This represents a key stage in the institutionalisation of medicine, for it aimed to provide employment for a larger number of physicians, a logical continuation of the expansion of court medicine discussed above.

The expansion of court medicine was not therefore an isolated event, but belonged to a more permanent trend in the evolution of medical organization. One major characteristic of this trend was that the role and position of physicians in relation to society and to the state was changing. Court physicians under the Qājārs, unlike their predecessors, more regularly extended their services to the common people beyond the government circle. This policy was already underway in 1829, when plague hit Iran alongside a cholera epidemic in several

[70] Mirzā Musā Sāveji Fakhr al-Hokamā, *"Dastur al Atebbā fi 'alāj al-vabā"* (Prescription of physicians for the treatment of cholera), treatise completed 2 Sha'bān 1269/11 May 1853, (Tehran, date of lithograph edition unknown, Majles Library), pp. 2–3.

[71] MS 505, p. 12.

[72] MS 505, pp. 12–13.

provinces.[73] Later on, in the 1850s, when cholera, plague and famine broke out, the Mayor of Tehran ordered court physicians to write treatises on cholera and plague for distribution among the population so that they could treat themselves when doctors were unavailable.[74] In the second part of the nineteenth century, in addition to some physicians, auxiliary doctors were sent to the provincial towns.[75] In the early 1880s, sanitary councils were established in most major cities of the country and the newspapers of the sanitary councils of Tehran and other provinces were regularly received and read at the Central Sanitary Council, which were held every Sunday in its head office at the Dār al-Fonun.[76] By 1882, after thirty years of activity, the Dār al-Fonun had at its credit 372 graduates in various sciences, including forty-two in medicine and four in pharmacy.[77] This number was sufficiently large to supply each major city or town of the country with a physician trained in modern medicine. The journal *Dānesh* (science), during its six month existence from June to December 1882, mentioned at least eight sanitary councils in several cities, each one under the supervision of a physician, educated at the Dār al-Fonun.[78] In the first two decades of the twentieth century, sanitary councils were created in the small towns of each province throughout the country, and the graduates of the Dār al-Fonun, were appointed as representatives of the central provincial commission to each town.[79] In 1921, the

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[73] For instance, Mirzā Mohammad Taqi Shirāzi was ordered by the government to write a treatise on plague following its outbreak in 1829. See *Tā'uniya* (Treatise on plague), ca. 1247/1831 (Tehran: date of lithograph edition unknown, Library of Majels).

[74] Hormoz Ebrahimnejad, "Epidémies, médecine et politique en Iran du XIX^{e} siècle," *Studia Iranica*, 30 (2001): 105–134.

[75] Adamiyyat, *Amir-Kabir va Iran*, pp. 332-335.

[76] *Dānesh*, no. 9, 1 Zolhajja 1299/15 Oct. 1882 (facsimile reprint, p. 33).

[77] *Dānesh*, no. 2, 24 June 1882 (facsimile reprint, p. 5).

[78] Namely, Mirzā Rezā-Khān in Shemirān, Mirzā Seyyed Bāqer, Hājji Mirzā Ahmad and Mirzā Yusef in Azarbāijān, Mirzā 'Ali-Akbar-Khān-e Shirāzi, in Qom, Mirzā Ahmad-e *Tabib*, in Nur va Kajur (in Māzandarān), Mirzā Hesām al-Din, in Shirāz and Mirzā Mohammad-e Tafreshi, in Sāri, the capital city of Mazandarān. See *Dānesh*, nos. 3, 5, 9, 13 (facsimile reprint, pp. 10,22,33 and 52).

[79] A letter from the head office of the sanitary council in the province of Khorāsān and Sistān, dated 20 Qows (Azar) 1297/1 Dec. 1919, addressed to Boqrāt al-Hokamā, reads: "Your Excellency…, Mr Boqrārt al-Hokamā, … As for all parts of the Khorāsān province [east Iran], a health officer has been selected and sent, you are appointed to represent the provincial commission of the sanitary council in the city of Neyshābur, following the proposition of His Excellency the Governor of Neyshābur and the confirmation of His Excellency Sardār Amir A'lam, may his

sanitary councils were transformed into the Ministry of Hygiene and National Assistance.[80] Thus court medicine became the foundation of the public medical service.

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fortune last for ever. You should make your utmost endeavour for the affairs of public health and provide the provincial sanitary council committee with a weekly report of your activity. President of the provincial sanitary council committee of Khorāsān and Sistān, *Sadr al-Atebbā*." (see figure 5). For a copy of this letter, I am indebted to Nezām al-Din Boqrāt, the son of Dr Boqrāt al Hokamā.

[80] Naficy, *La médecine en Perse*, p. 58.

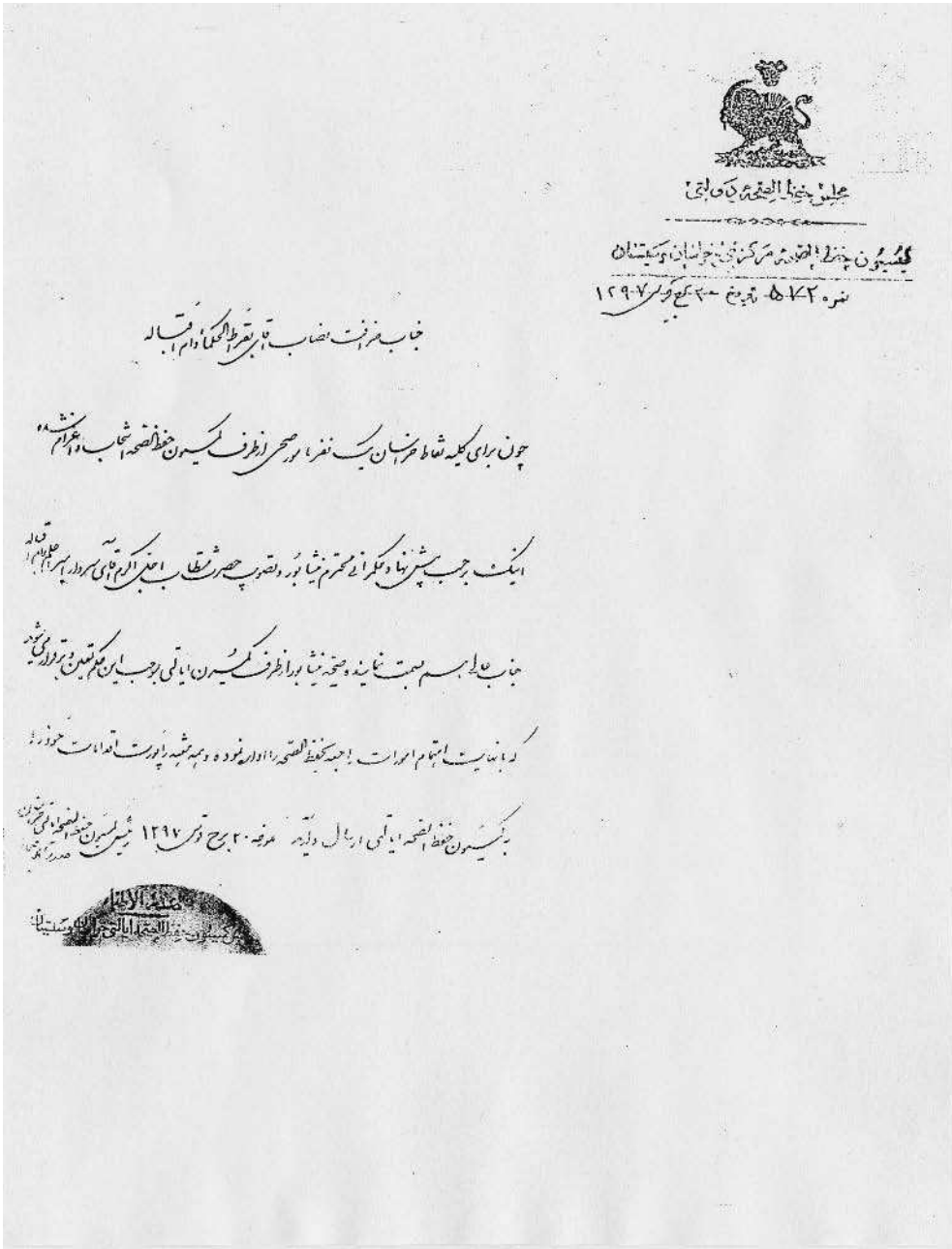

Fig. 5. Letter from the head office of the sanitary council in the province of Khorāsān and Sistān, dated 20 Qows (Azar) 1297 / 1 Dec. 1919, addressed to Boqrāt al-Hokamā.

CHAPTER FIVE

TOWARDS THE EPISTEMOLOGY OF MEDICAL MODERNIZATION

When analysing the process of medical modernization in Iran, we might distinguish rhetorically between modern and traditional medicine. Nevertheless, the reality of medical transformation in nineteenth- and twentieth-century Iran did not correspond with this clear-cut distinction. Where can we place several nineteenth-century physicians, such as Mirzā Hoseyn-ʿAli *Sheykh al-Atebbā* and Mirzā Ebrahim-e *Tabib*, learned traditional doctors who had also studied modern medicine at the Dār al-Fonun?[1] Likewise, if we carefully examine medical literature under the Qājār, we find texts that cannot be explained by the classical "modern versus traditional" division. For insance, how can the voluminous manuscript on diseases commonly affecting soldiers in the military barracks, which refuted the ideas of Dr Polak but frequently referred to several Western physicians and terms, be intellectually categorized?[2] The same question applies to the works of the abovementioned Abdol-Karim-e *Tabib*-e Tehrāni. Certainly these books were principally based on traditional theories, but the references to modern medicine distinguishes them from what is usually understood as traditional medicine in nineteenth-century Iran.

The modernization process was twofold: theoretical and institutional. In both institutional and theoretical aspects we find modern and traditional medicine overlapping or in close relationship. By the second part of the nineteenth century there were grosso modo three categories of Iranian physicians. On the one extreme were those who entirely rejected modern medicine, such as Mirzā Kāzem-e Rashti Filsuf al-Dowleh and Mirzā Mohammad-Taqi Shirāzi Malek al-Atebbā. On the other extreme were those who had completely assimilated anatomico–pathological medicine (such as Dr Mirzā ʿAli Ra'is al-Atebbā). Between the two we find those who showed openness to

[1] Eʿtemād al-Saltaneh, *Ma'āser al-āsār*, pp. 235, 225; Barjesteh, "An Overview of the state of Health and Hygiene in the Sajar Era," in: Barjesteh, *et al.* (eds), *Qājār Era Health,* p. 57.

[2] Anonymous, "On Diseases Commonly Affecting Soldiers in the Barracks," ca. 1857, Tehran, Majles Library, MS 506.

modern medicine (such as the author of manuscript 506), while also believing in traditional theories and those who were trained in modern medicine but had not abandoned terms and concepts of traditional medicine, such as Mirzā Hoseyn-e Afshār and Mirzā ʿAlinaqi-Khān, the two translators of Dr Polak's lectures given at the Dār al-Fonun.

As to the institutional modernization, we have seen, for example, that Kazullani, chief physician of the army, when ordered by the government, registered and licensed most of the army practitioners and empirics, even though some of them could have been illiterate,[3] thus allowing them to continue their profession legally. We have also seen that the Paris medical Faculty, upon the request of the Qājār government, expedited the examination of several Iranian physicians, bypassing necessary theoretical or practical courses, because the Qājār princes were impatient to provide their court with "Western-trained" doctors. Moreover, due to their involvement in the Qājār administration, some traditionally trained doctors were more concerned with adjusting to socio-political developments than simply with protecting their theoretical and cultural identity. In other words, what was primarily on the agenda was the institutional reform that took place within the framework of the structural relationship between medicine and the state administration. The theoretical change occurred only as a result of, or within, the new institutional environment.

We can better understand this trend if we bear in mind that the process of theoretical transition went beyond the mere adoption of modern theories and techniques; it consisted rather of two simultaneous phases: internal changes in humoral medicine, and the assimilation of modern medical theories. Persian medical manuscripts produced in the course of the nineteenth century provide ample examples of this "internal" or "epistemological" change. This challenges the idea that the modernization of medicine was made, as Joseph Désiré Tholozan (1820–97), the French physician to Nāser al-Din-shāh Qājār (reigned 1848–96), suggested, by sweeping away the Avicennian literature, and replacing it with anatomico–pathological texts from Europe. This is how the process of medical modernization is understood today. However, at least in Iran this was not the manner in which modern medicine was assimilated, for two reasons that relate both to the intellectual history of medical modernization and to the institutional and organizational features of medicine in nineteenth-century Iran.

[3] As witnessed by the author of MS 505, see above, Chapter Four.

Glimpses of the epistemological study of medical modernization

The intellectual history of medical modernization is a vast subject and its thorough examination goes beyond the scope of this chapter. Only a few examples are given here to illustrate this process. Modern medicine, as it was practised in Europe or introduced into nineteenth-century Iran, was not a fixed and fully developed corpus of knowledge, but was itself in a process of evolution. Many Galenic concepts were present in the developing European medical science. For example, in his 1832 study of epidemics, the French physician François V. Broussais—who was one of the first to have contested the "mysterious" notion of "Essential fever" and through whom the medicine of lesion replaced the medicine of symptoms—held that the first predisposing cause of cholera was indigestion and irritation. The second cause, according to him, was terror, which irritated the stomach and weakened the body. Finally, the third predisposing cause was coitus.[4] In his treatise on cholera written in 1852, the Persian physician Mirzā Musā Sāveji *Fakhr al-Atebbā* proposed almost the same principles to explain the epidemic of cholera as well as its prevention:

> Choleric air has no effect on healthy bodies, but it affects the body predisposed by terror, weakness, and excess of coitus. At most, it produces a change in the healthy body but does not cause choleric fever.[5]

Even the most important leader of the Paris Clinical School, Philippe Pinel, who gave the idea of tissue localization to Xavier Bichat, filled one third of his voluminous *Nosographie philosophique* (1795) with a description of the "Essential fevers", what Arabo–Persian medicine called *tab-e lāzem* (hectic fever) as opposed to *tab-e dāyereh* (periodic or intermittent fever), which corresponds to "sympathic fever" in Neo-Hippocratic European medicine. The Arabo-Persian medical texts refer to these terms frequently in their long chapter on the classification

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[4] François J.-V. Broussais, *Le cholera-morbus épidémique, observé et traité selon la méthode physiologique* (Paris: Mademoiselle Delaunay, Librairie, 2nd edition, 1832), pp. 15–17. For a study on Broussais see Erwin Heinz Ackerknecht, "Broussais or A Forgotten Medical Revolution," *Bulletin of the History of Medicine,* 27 (1853): 320-343. Clot Bey, the promoter of modern medicine in Egypt also believed in miasma and "epidemic constitution," a Hippocratic theory. See Anne-Marie Moulin, "Révolutions médicales et politiques en Egypte (1865-1917)," *Revue de l'Occident musulman et de la Méditerranée*, 52 (1989): 111-123, p. 113.

[5] Mirzā Musā Sāveji Fakhr al-Atebbā, *"Dastur al-atebbā fi 'alāj al-vabā,"* p. 12.

of diseases based on fevers. The ambiguous concept of a fever, as a disease, symptom and nosological entity all at once in the writings of William Cullen,[6] for instance, dominated the thoughts of Mirzā Mohammad Taqi Shirāzi *Malek al-Atebbā* in Iran.[7] Before the advent of bacteriology, the continuity was obvious between the writings of nineteenth-century Western physicians and Hippocratic medicine, "the common patrimony of learned Arab and European medicines".[8]

By the same token, a change was taking place in the nineteenth-century Persian medical discourse on epidemics within the framework of humoral theories. This change was symptomatic of intellectual dynamism as well as openness to outside ideas. Most of the nineteenth-century physicians, such as Mohammad Rāzi-ye Kani *Fakhr al-Atebbā*, claimed to having referred to both old (*moteqaddemin*) and new (*mote'akhkherin*) sources[9] when they wrote about epidemics. Even though in reality they based their writings mainly on traditional sources, their claim indicates that in principle they found no intellectual or ideological barriers in referring to new ideas. Mirzā Mohammad Taqi Shirāzi, on the other hand, explicitly opposed modern medicine. Nonetheless, his works illustrate the internal dynamism of traditional medicine. Shirāzi wrote his treatise on plague following its outbreak in Tehran in 1831. This treatise particularly criticised physicians who believed in contagion and emphasised that the plague was not contagious. Shirāzi's main purpose in this treatise was to describe the plague according to his "clinical" observation.[10] When Shirāzi was in Rasht in 1835, he observed a cholera outbreak and wrote a treatise on its characteristics. Already during this period, Shirāzi had endeavoured to characterize cholera fever by the high temperature it produced inside the body and by its

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[6] William F. Bynum, "Cullen and the Study of Fevers in Britain, 1760-1820," in *Theories of Fever from Antiquity to the Enlightenment*, edited by idem and Vivian Nutton, Medical History, Suppl. no. 1, Wellcome Institute for the History of Medicine, 1981, pp. 135-147.

[7] See Hormoz Ebrahimnejad, "Un traité d'épidémiologie de la médecine traditionnelle persane: *"Mofarraq ol-heyze va'l-vabā"* de Mirzā Mohammad-Taqi Shirāzi (ca. 1800–1873)," *Studia Iranica*, 27 (1998): 83–107; idem: "La médecine d'observation en Iran du XIX^{e} siècle," *Gesnerus*, 55 (1998): 33–57.

[8] Anne-Marie Moulin, "Les Instituts Pasteur de la méditerranée arabe: Une religion scientifique en pays d'Islam," in Elisabeth Longuenesse (ed.), *Santé, médecine et société dans le monde arabe* (Paris: L'Harmattan, Maison de l'Orient méditerranéen, 1995), pp. 129-164, cf., pp. 134-5.

[9] Mohammad al-Rāzi al-Kani Fakhr al-Atebbā, *"Meftāh al-amān"* (Key of safety), 1278/1863, Tehran, National Library, MS 2522.

[10] Shirāzi, *"Tā'unia"*.

external coolness because, according to him, cholera fever originated in the heart and was then transmitted to other parts of the body. In an ordinary fever, the movement was in the opposite direction.[11] A more precise description of cholera was, however, given by Shirāzi in his treatise written in 1861–62, when prince Eʿtezād al-Saltaneh, the Minister of education and head of the Dār al-Fonun, asked him to write about the differences between cholera and diarrhoea. In this description, he tried to distinguish cholera from a widespread disease called *heyzeh*, a kind of dysentry that could be translated *"cholerin"* showing that cholera was epidemic and *cholerin* was not, although they both presented very similar symptoms.[12]

Dr Polak's lecture on cholera was translated in 1269/1852–53 by two of his students at the Dār al-Fonun. According to these translations,[13] Polak suggested that cholera was of two types: the first, called *vabā-ye khāss* or *heyzeh* by Iranian physicians, affected only individuals and was not fatal. The second was called *vabā-ye ʿāmm* or "transmissible cholera" and affected many people.[14] It is possible that Shirāzi, who very likely frequented the Dār al-Fonun, and as a court physician was in contact with Dr Polak and other Western doctors, knew about Polak's ideas. Nevertheless, we cannot deny that long before the advent of the Dār al-Fonun he had shown, in 1835, sensitivity and curiosity about the clinical signs of cholera and its physiological differences from other similar diseases within the framework of humoral theories. Moreover, even if we suppose that Shirāzi was inspired by Polak's lectures, it is obvious that his method of differentiation between cholera and *heyzeh* was different from that given in Polak's translated lecture. According to Polak, cholera had two forms, "vigorous", which decimated the population and "weak" or "harmless" called *heyzeh*.[15] In another

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[11] Shirāzi, *"Vabā'iyeh-ye kabireh"*.

[12] Idem, *"Mofarraq ol-heyzeh v'al vabā"*. For a French translation of this treatise, see Ebrahimnejad, "Un traité d'épidémiologie". It is noteworthy that Shirāzi accompanied Nāser al-Din-Shāh on his first trip abroad to Iraq in 1870, when cholera was seen in several parts of Iran, especially in Kermānshāh in the path of the Shāh's caravan to Iraq. Nāser al-Din-Shāh, *Safarnāmeh-ye ʿatabāt*, pp. 40, 45. Nāser al-Din-Shāh in his diary referred to Shirāzi as *Hāji āqā-Bābā-ye Malek al-Atebbā*.

[13] These translations are stylistically different and vary in some details. One (Tehran, National Library, MS 2479) was written by Mohammad-Hoseyn-e Afshār, son of Mirzā Ahmad-e *Hakim-bāshi* and the other (Tehran, National Library, MS 2533) by Mirzā ʿAlinaqi.

[14] Polak's lecture on cholera, MS 2479, p. 4.

[15] Polak's lecture on cholera (MS 2479), p. 4, and (MS 2533), pp. 3–4. In another place, Polak referred to diarrhoea of children (*heyzeh*) as cholera of children. See

place, Polak made a distinction between "sporadic cholera", *vabāy-e pā'izi*, which occurred usually in autumn and "epidemic cholera".[16] Shirāzi, on the other hand, was more specific in order to remove any confusion in the diagnosis of *heyzeh* and cholera by emphasising that *heyzeh* was not the weak form of cholera; it was a completely different disease.[17]

In any case, the clinical descriptions of plague, cholera and *heyzeh* and distinctions made between them by Shirāzi show that traditional medicine was undergoing a theoretical change. For example, while in Galenico–Islamic medicine symptoms signified the disease itself (because what was observed by the physician was only the symptoms), Shirāzi made the distinction between symptom and disease by explaining that two or more different diseases could have the same symptoms. This suggests that symptoms were related to the body surface and did not represent the nature of the disease. Therefore the diagnosis should have been made on the basis of the "physiology" of disease, not on the basis of symptoms as was the custom of traditional humoral medicine. This observation would have resulted in shifting the attention of the physician from the surface to the inner body, a major departure from classical humoral theory. On the other hand, a more careful analysis of the Persian translations of Polak's lectures indicates that the translators, who were students in modern medicine, used traditional terms or concepts to transmit Polak's ideas. For example, both translators mention the transition from choleric to putrid fevers (*hommiyāt-e khelti*) such as *mohreqah* (intermittent bilious fever).[18]

Systematic reference to the old theories and sources and commenting on them constituted one of the main characteristics of nineteenth-century medicine in Iran. A combination of a rational explanation for a disease with magic or spiritual healing or a mixture of modern and traditional theories constituted another feature of traditional medical literature in nineteenth-century Iran.[19] It is tempting to interpret this

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Polak, *Safarnāmeh*, p. 480. It should be emphasised here that these terms and distinctions are not only a question of translation into Persian, but also represent Polak's understanding of these diseases from pathological viewpoint.

[16] Polak, *Safarnāmeh*, p. 501.

[17] Ebrahimnejad, "Un traité d'épidémiologie," pp. 98-99.

[18] About *mohreqah* and *motbeqah* (typhoid) see Schlimmer, *Terminologie médico-pharmaceutique*, pp. 192–195.

[19] See for example, Sāveji, *"Dastur al-atebbā"*. For other examples, cf. Ebrahimnejad, "Religion and medicine".

approach in the light of Michel Foucault's epistemological explanation. According to Foucault, the fact that Renaissance scholars referred to tradition or magic while their writing was principally rational and based on mechanics, physics and chemistry (such as in works of Paracelsus, Newton [and Harvey]), was due to the conception of knowledge that characterized the "Renaissance episteme". In the Renaissance, according to Foucault, things were seen as ordered through their resemblances to one another. Therefore there was nothing bizarre in Paracelsus' claim that snakes were repelled by certain words, or a yellow plant cured jaundice; neither is it surprising that Newton's mechanics and optics went side by side with scriptural exegesis.[20] Erwin Ackerknecht also pointed to this approach in the writings of Paracelsus and Harvey: "Harvey was full of old-fashioned philosophical ideas and arguments… he was looking for the circulatory processes everywhere".[21]

Foucault tried to identify the cognitive status of scientific literature in the Renaissance, classical and modern ages. In doing so, he maintained that there was a break between these three periods.[22] In our view, however, even though a break was eventually produced between traditional and modern medicine in Iran, it occurred as a result of an evolution from the first to the second. In other words, reference to the old theories by physicians who had embraced some of the modern ideas not only characterised nineteenth-century medicine in Iran, but also indicated that there was a continuous process of development from traditional concepts to modern ones, from traditional institutions to modern organizations.

Another example of the epistemological evolution of medicine can be seen in the literature referring to hospitals. We know that Galenico–Islamic medicine advocated the use of the hospital as a centre for medical education, where physicians could improve their knowledge by practising on patients. Mohammad-Hoseyn-e Shirāzi b. ʿAqili, the eighteenth-century physician, stated in his *Kholāsat al-hekmat* that "physicians should be eager in treating the sick, in undertaking

[20] Michel Foucault, *Les mots et les choses: une archéologie des sciences humaines* (Paris: Gallimard, 1966), pp. 32 ff, and especially pp. 54–55.

[21] Erwin Ackerknecht, *A Short History of Medicine* (Baltimore and London: The John Hopkins University Press, 1982), p. 114.

[22] Renaissance (sixteenth century), classical (mid-seventeenth to eighteenth centuries) and modern (nineteenth to twentieth centuries). For an overview of this question see Garry Gutting, *Michel Foucault's Archeology of Scientific Reason* (Cambridge: Cambridge University Press, 1993), pp. 139 ff.

research on diseases and on drugs, on observation and in working in hospitals or places where there are many sick".[23] The author of manuscript 505 also laid emphasis on the necessity of training doctors at the hospital (*Marizkhāneh-ye dowlati*), which he described. There is, however, a difference between the principle of bedside observation and the importance of hospital training as underlined by the eighteenth-century learned physician ʿAqili, on the one hand, and the need for the hospital in medical education and practice as advocated by the author of manuscript 505, on the other. The tone and style of ʿAqili's writing allows us to suggest that he wrote about hospital training from what he had read in other books, in the same way as his anatomical knowledge was apparently based on his reading rather than on practical experience.[24] The author of manuscript 505, who was also believing and trained in humoural medicine, on the other hand, talked about the importance of hospital experience from his own experience on the battlefield or in the hospital where he treated injured soldiers.[25] A similar, but more pronounced difference existed between two kinds of medicine in Europe before the nineteenth century. Philippe Pinel's criticism of "humoral" physicians among his contemporaries, whose clinical observations were limited to "seeing the sick automatically and prescribing drugs randomly" exposed this gap between "literary" medicine, on the one hand, and his clinical method, on the other, which consisted in recording meticulously "les faits particuliers" or individual histories of internal maladies throughout their entire course and that constituted the foundation of medicine as science.[26]

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[23] ʿAqili, *Kholāsat al-hekmat*, fol. 4.

[24] Ibid., fol. 28b. For a detailed study on the gap between practice and theory in Galenico-Islamic surgery, cf. Emilie Savage-Smith, "The Practice of Surgery in Islamic Lands: Myth and Reality," *Social History of Medicine*, 13 (2000): 307-321. This was in sharp contrast to Galen's method of teaching anatomy, as he used dissection and vivisection not only privately in his own research but also undertook demonstrations for persuasion or public instruction. See Heinrich von Staden, "Anatomy as Rhetoric: Galen on Dissection and Persuasion," *Journal of the history of Medicine*, 50 (1995), pp. 47-66.

[25] This dichotomy between theoretical and practical knowledge was commonplace in Iran. Dr Schlimmer, in a book translated into Persian, pointed out: "although many people could be knowledgeable in medical science, few of them are able to put their knowledge into practice." Cf. Johan Schlimmer, *Qavāʿed al-amrāz* (rules of diseases), lithograph edition, 1292/1875, Tehran, National Library, p. 96.

[26] Cf. Philippe Pinel, *Nosography philosophique ou La méthode de l'analyse appliquée à la médecine*, 6th edition (Paris: J. A. Brosson, 1818). See for example, Introduction, pp. i–ii, 189.

The institutional aspect of medical modernization

The fact that traditional medicine experienced changes in its reading of Galenic theories demonstrates that it was not as orthodox as is usually thought and that its theoretical boundaries were not well defined. Hence its permeability to the influence of modern medicine. But at the same time, this intellectual openness was fostered by the institutional context of nineteenth-century Iranian medicine. Unlike countries such as India, where Western physicians worked in the Indian Medical Service (Colonial India's state medical service, administered by the British Government), European doctors in Iran did not have their own institutions and were constrained by having to work within the court-sponsored system. There was only one medical board. Following the 1877 epidemic of plague, for instance, a commission was appointed to enquire into its causes and treatment. This commission comprised six European physicians, including Dr Tholozan, and six Persian physicians.[27] Again in 1881, a new sanitary council (*majles-e hefz al-sehheh*) brought together four Persians (Dr ʿAli-Akbar-Khān *Nāzem al-Atebbā*, Mirzā ʿAbdollāh *Tabib*, Mirzā Kāzem-e *Shimi* [chemist], Dr Mirzā ʿAli *Ra'is al-Atebbā*) and three Europeans (Dr Tholozan, Dr Dixon, physician to the British embassy and Dr Cherebnin, physician to the Russian embassy).[28] Dr Tholozan, despite his opposition to traditional medicine, maintained close connection with traditional physicians and consulted them in his treatment, not least because they were supported by both the court and the religious class.[29]

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[27] Other Europeans were Drs Baker, Kack, Dickson, Kuzmingi and Castaldi. Iranian physicians included: Mirzā Seyyed Rezā (also called Seyyed Razi), Chief Medical officer to the army, Mirzā Rezā, lecturer in Western medicine at the Dār al-Fonun [he was the famous Mirzā Rezā Doctor who had translated part of Grisolle's *Pathology*], Mirzā ʿAli Akbar [*Nāzem al-Atebbā*, graduate of the Dār al-Fonun and Head of the Imperial Hospital *marizkhāneh-ye dowlati*], Mirzā Abol-Qāsem, lecturer in Avicennian medicine at the Dār al-Fonun, and Jaʿfar Qoli-Khān, the Dean of the medical school. Cf. Elgood, *A Medical History of Persia*, p. 520. These Iranian physicians have been referred to in Ch. Four, pp. 101-107 (footnotes 38, 48, 56, 57 and 64). We cannot ascertain, however, if Mirzā Rezā Doctor and Mirzā Rezā ʿAli-Ābādi were one and the same persone.

[28] Homa Nategh, *kārnāmeh-ye farhangi-ye farangi dar Iran* (The French in Iran: Religious and Secular Schools: 1837-1921) (Paris: editions Khāvarān, 1375/1995), p. 258; Behdād Gharib, *Beyād*, p. 13.

[29] Jane Dieulafoy, *Safarnāmeh-ye Madam Dieulafoy*, Persian translation by Farahvashi (Tehran: Khayyām, 2nd edition, 1361/1982), p. 118.

Fig. 6. Members of the Sanitary Council (*majles-e hefz al-sehheh*) (date unknown, before 1895).
From left to right: 1. Dr Mirzā ʿAli *Raʾis al-Atebbā*, 2. Dr Dixon, physician to the British Embassy, 3. Mirzā ʿAbdollāh *Tabib*, 4. Dr Tholozan, 5. Dr Mirzā ʿAli-Akbar Nāzem al-Atebbā, 6. Dr Cherebnin, physician to the Russian embassy, 7. Mirzā Kāzem-e *Shimi* (professor of chemistry at the Dār al-Fonun).

Although, like their Iranian counterparts, the Indian hakims had borrowed elements of modern Western medicine, at the same time they were inclined to see the cure of diseases by Western medicine as a means of justifying British colonial rule.[30] Unlike the Qājārs, who sponsored traditional Iranian and European physicians alike, in nineteenth-century India Unāni medicine was not encouraged by the colonial government and there was a dearth of jobs for the hakims.[31] The Unāni and Ayurvedic physicians in India were perturbed by the Western dominance all the more so once they lost the patronage that they had enjoyed under the Mughal emperors. They united in opposition to Western or, as they called it, *Doctory* medicine. But at the same time, they borrowed from Western medicine in order to avail themselves of its efficiency. A medical school was established in Delhi in 1889. In his inaugural speech, Sir Seyyed Ahmad-Khān said: "…this *Madrasa* will not only develop Unāni Tibb…but also Doctory along with Unāni Tibb and will remove the difference between the two".[32] What mattered to the Indian physicians, or at least to Seyyed Ahmad-Khān, was not so much to challenge the theoretical foundation of colonial medicine as to contest its institutional dominance. Such a contradiction was symptomatic of two facts. From a conceptual standpoint, traditional medicine was theoretically influenced by modern medicine without assimilating it totally, and from a strategic standpoint, it became necessary to preserve the basic rules of Unāni and Ayurvedic medicine in order to uphold its identity and institutional independence.

The coexistence of traditional and modern medicine was similarly emphasised in 1877 in Iran, by Mirzā Nosrat, a graduate of the Dār al-Fonun and a teacher of modern medicine there, who worked also as special physician to the state hospital (*marizkhāneh-ye dowlati*). He was quoted as saying that:

> Medicine is twofold, traditional (*qadim*) and modern (*jadid*). Traditional medicine consists of Greek medicine, and modern medicine comprises Greek medicine plus anatomy, pathology and some branches of mathematics, natural sciences and pharmacology, geology, physiology, botany, etc.[33]

The same strategy in India and Iran was used, however, for different

[30] Neshat Qaiser, "Colonial Politics of Medicine and Popular Unāni," p. 31.
[31] Ibid., p. 33.
[32] Ibid., p. 34.
[33] *Ruznāmeh-ye ʿelmi*, no. 10, 19 March 1877, Library of Majes, Tehran.

Fig. 7. From left to right: Dr Tholozan, Amir Nezām-e Garrusi (Ambassador of Iran to France and England between 1858 and 1866), Hakim al-Mamālek (one of the Personal physicians to Nāser al-Din Shāh) (26 February 1895).

aims. While Sir Seyyed Ahmad-Khān wanted to make use of modern medicine to strengthen the (Unāni) medical school, Mirzā Nosrat-e Tabib tried to justify the presence of modern medicine at the Dār al-Fonun, by trying to establish historical links between modern and traditional medicine by presuming a continuity between Greek and modern medicine.[34] He stated that:

> For the last twenty-five years the 700 year-old European sciences have been taught and learned at the Dār al-Fonun; therefore most of our brothers in faith are aware of it… These sciences comprise medicine, anatomy, mathematics, natural sciences, geography, and so forth [but] people think that the curriculum of the Dār al-Fonun concerns only the army. Although I am the most humble student of this school compared to its knowledgeable physicians and professors, I cite the history so that the people don't think that modern medicine is only manual (*yadi*)…[35]

The institutional importance, for Mirzā Nosrat, of bringing together modern and traditional medicine comes out more clearly if we bear in mind that he did so in spite of his opposition to traditional theories. In a circumscribed and metaphoric manner he stressed that:

> The relation of traditional medicine to modern medicine is like the relation of a matchlock-gun to a needle-gun. Some basic and fundamental theories of ancient physicians, i.e. humoral theories, have been preventing the progress of medicine as well as most of the sciences.[36]

By making a parallel between modern medicine and a needle-gun, that in his time had become the archetype of state-of-the-art technology, Mirzā Nosrat seemed to draw a comparison between an utterly primitive traditional medical system and a modern one that he thinks has reached a plateau of technical advancement.

At the first reading, these statements of Mirzā Nosrat lead to confusion. But this can be explained, firstly, by Mirzā Nosrat's double-dealing with regard to traditional and modern medicine in an attempt to ensure their coexistence institutionally and, secondly, by his perception

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[34] This idea is quite similar to that of van Andel, cf. Ch. Five, footnote 63.

[35] *Ruznāmeh-ye ʿelmi*, no. 10. The word "manual" could refer to the importance of surgery and "physiological anatomy" versus "descriptive anatomy" in modern medicine. Cf. Pierre Cabanis, *Sketch of the Revolutions of Medical Sciences,* translated from French with notes by A. Henderson (London: Printed for J. Johnson [etc.] by Bye and Law, 1808), p. 291. It refers also to the fact that traditional medicine was usually bookish and therefore remained theoretical knowledge.

[36] *Ruznāmeh-ye ʿelmi,* no. 10.

of medical history and the way he was educated in the intellectual environment of the Dār al-Fonun.

There was no basic objection to the acquisition of Western medical knowledge in India, Iran or in any other Islamic country. Early modern European influence can be seen in the seventeenth century in Safavid Iran and in the Ottoman Empire. The concept of "chemical medicine" was introduced in the writings of Sāleh b. Nasr b. Sālum, Ottoman court physician in the late seventeenth century.[37] Andreas Vesalius' book, *De humani corporis fabrica* (1542), was also known in the Safavid and Ottoman Empires. Its influence is seen in a seventeenth-century Ottoman anatomical treatise and later in nineteenth-century Iran and India.[38] The Europeans too were more open to local ideas before their colonial expansion. As Mark Harrison noted, "it was not until the nineteenth century that India's climate was *generally* considered incompatible with European constitutions… These shifts in perception mirrored the successive phases of European expansion in India…".[39] It was also before the colonial era that "the willingness of Europeans to incorporate certain indigenous ideas and practices led to the emergence of a distinctive Anglo-Indian medical tradition".[40] It could therefore be deduced that the extent of colonial expansion shaped the patterns of development of modern medicine in non-European countries. Nevertheless, it should be noted that it was not only colonial domination that ended the dialogue between European and indigenous medicine in some countries but also the considerable theoretical change that occurred in Western medicine in the nineteenth century.

Unlike the earlier period, the nineteenth-century colonial presence in India led to the creation of barriers between local and European physicians. In Qājār Iran, on the other hand, in the absence of colonial

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[37] Emilie Savage-Smith, "Tibb," *Encyclopaedia of Islam* (Leiden: E. J. Brill, 2000), 10, p. 457.

[38] Emilie Savage-Smith, "Tashrih," *Encyclopaedia of Islam* (Leiden: E. J. Brill, 2000), 10, p. 356. See also: Feza Günergun, "The Turkish Response to Western Medicine and the Turkish Medical Historiography." Paper presented at the International Symposium on the Comparative History of Medicine, East and West: Seoul, 1998; Arslan Terziuglu, "Science and Technology in the Ottoman Empire since the 16th Century," *ÖGW*, 17 (1997: 161-184). For an account of the early introduction of Western sciences to the Ottoman Empire, see Ekmedin Ihsanoglu, "Ottomans and European Sciences" in P. Petitjean *et al.* (eds), *Science and Empires* (London: Kluwer Academic, 1992), pp. 37-48.

[39] Mark Harrison, *Climates and Constitutions*, p. 3.

[40] Ibid., p. 8. See also pp. 56, 58-59.

domination, court medicine retained equal rights for both traditional and European medicines. In such circumstances, Persian physicians did not see Western medicine as a tool for colonial domination and therefore, unlike the Indian *hakim*s, they did not assimilate Western theories or practice in order to strengthen their institutional position. They viewed Western medicine as a new form of knowledge, without political mission.

As Nancy Gallagher also notes, the bey rulers of Tunisia had shown their interest in European medicine since the early eighteenth century or earlier by patronizing Western as well as local physicians. Although the *Amin al-Atebbā*, the chief physician of the ruling bey, had no authority over European physicians, it was in the interest of the Europeans to stay on good terms with him,[41] because of his eminent position in the court hierarchy. Once independence was over and the Europeans were established as a colonial power, "the day when European doctors sought to stay on good terms with the *Amin al-Atebbā* to avoid trouble were gone" and the indigenous doctors were relegated to an inferior rank within the medical system.[42] The reaction of Tunisia to colonial rule was similar to, but less marked than, India's. It encouraged traditional institutions, such as the Sufi *zāwia* in order to counter Western medicine. Zāwias were small mosques built on the site of saints' tombs often with a hospice providing social welfare and teaching facilities.[43]

Considering that Iranian physicians had been in contact with Western medicine before the nineteenth century, the question to be answered is to what extent the establishment of the Dār al-Fonun and systematic translation of Western medical literature into Persian in the nineteenth century influenced the assimilation of modern Western medicine? After the Dār al-Fonun, did the Iranian physicians use the same scientific method as used by European themselves or did they contribute to the further advancement of modern medicine? The answer is certainly no; one of the reasons being that the assimilation of modern science did not accompany the adoption of the Western socio-political system within which modern sciences had developed in Europe. And this could not be so, because within the cultural, religious and socio-political contexts of nineteenth-century Iran, the develop-

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[41] Nancy Gallagher, *Medicine and Power in Tunisia, 1780-1900* (Cambridge, etc.: Cambridge University Press, 1983), pp. 17–20.

[42] Ibid., p. 93.

[43] Ibid., pp. 95, 133. See also Mohsen Kiyāni, *Tārikh-e khānqāh dar Iran* (Tehran: Ketābkhāneh-ye Tahuri, 1369/1990), pp. 96-102.

ment of modern medicine could not take place in the same way as, or at the same level as, in Europe itself. We have explained in Chapter Two how traditional ideas informed the modernization trend. It is not therefore surprising that after the Dār al-Fonun was established and modern medicine translated into Persian, no policy was adopted for a complete abandonment of traditional methods and, overall, medical literature contained a wide-ranging mixture of modern and traditional ideas. Just as the study of Western medicine did not start with the Dār al-Fonun, so its understanding and assimilation by Iranian physicians was not absolute and unmitigated after the establishment of the Dār al-Fonun. Rather, in the nineteenth century both traditionally- and modern-educated Iranian physicians used Western ideas according to their own theoretical agendas. For instance, in the first half of the nineteenth century, some traditionalists rejected humoral theories, not by referring to the physiology of Claude Bernard or Broussais, but by basing their analysis on the iatrochemistry of Paracelsus. The pro-modern newspapers such as the *Dānesh*, used still traditional terminology alongside modern ones. In October 1882, the *Dānesh,* reporting the resumption of the sanitary council at the Dār al-Fonun, mentioned that "Thank God this year there was no epidemic disease in the provinces and the only diseases consisted of various periodic fevers (*tab-e dāyereh*), and, in certain regions, diarrhoea was manifest…".[44]

By the same token, Dr Mirzā ʿAli, a Sorbonne educated physician and professor of modern Western medicine at the Dār al-Fonun, who advocated the complete abandonment of the past theories and concepts, used extensively the traditional terminology of fevers, such as *hommāy-e dāyereh*, *hommāy-e mosakkaneh* (remittent fever), *hommā-ye motbeqah* (typhoid), etc., together with modern terms.[45] In 1887, Dr Mirzā ʿAli recommended cupping for the treatment of general pain (i.e. without any specific locality) in internal organs such as bowl, heart, liver; and humoural treatments (*moʿālejāt-e mazājiyyeh*) by electric shock for the pain in specific and recognizable internal organs.[46]

In addition to a natural curiosity about new ideas, as in previous centuries, the expansion of court patronage fostered competition. At its best, court patronage facilitated the access of traditional court physicians to modern knowledge and encouraged them to explore how it

[44] *Dānesh*, no. 9, 1 Zolhajja 1299/15 October 1886.
[45] Dr Mirzā ʿAli, *Javāher al-hekmat-e nāseri,* pp. 515 ff.
[46] Ibid. p. 501.

was different from Galenic medicine. At its worst, local physicians, in opposition to the growing influence of Western doctors, wrote pamphlets decrying European practice by making reference to traditional and when necessary, to modern ideas. For example, the anonymous author of a treatise (ca. 1857) critical of the lectures of Dr Polak at the Dār al-fonun, frequently referred to Western authors, such as Rostan (sic),[47] [August François] Chomel, whose book he translated as *Osul-e mabāhes-e amrāz,* and (V) Sanson, whose book he translated as *Nahāyat al-aʿrāz fi ʿelm al-amrāz.*[48]

A similar phenomenon took place in China in the early twentieth century, when "traditional medicine in reaction to the 'Plan to Abolish Chinese Medicine' was forced to engage issues of modernization and scientization".[49] Modern theories were assimilated as a result of intellectual controversy and debate, as well as through direct translation; but even the translations were sometimes refracted through the prism of traditional theories and Avicennian terminology. Astarābādi, for example, translated vulgarly physiology as "prevention" and pathology as "treatment".[50] Consequently, the entire spectrum of medical literature covering orthodox or updated traditional medicine, as well as Paracelsian, Neo-Hippocratic and anatomico-pathological ideas, in Persian terms, emerged. It would therefore be an over-simplification to divide medical literature in nineteenth-century Iran in two antagonistic and fixed entities of modern and traditional.[51]

To further illustrate the process of intellectual contact and epistemic change in traditional knowledge, let us return, once again, to manuscript 505. The author highlights the distinctive European

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[47] Probably "Rostand," of French origin.

[48] The book of Chomel might be the *Eléments de pathologie générale* (Paris: Crochard & Gabon, 1817). We could not identify the book of Sanson or Vsanson, which might be translated as "Symptomatology and pathology". See MS 506, fols. 9,18, 46, 66, etc.

[49] Makoto Mayanagi, "Japan and Traditional Medicine in Modern China: The Impact of Japanese Medical Texts in the Period of Republican China," *Journal of Kampo Medicine*, 42 (1999): 1928-1944. See Conclusion.

[50] Cf. Astarābādi, *"Safineh-ye nuh,"* fols. 6, 8. See also the translations of Dr Polak's lecture on cholera by Mirzā Hoseyn-e Afshār and Mirzā ʿAlinaqi. See above, pp. 117-118, footnotes 13, 15, and 16.

[51] This idea is ubiquitous in medical historiography. For example Mir, *Pezeshkān-e nāmi-ye fārs*, p. 50; Najmābādi, "Tebb-e dār al-fonun va kotob-e darsi," p. 204; Elgood, *A Medical History,* p. 511.

worldview as based on outward beauty and sensory perception of the physical universe.[52] This author might have expressed here the general perception that the Iranian scholars had from Western culture or "modern" Western sciences. Such a perception can be seen in the anonymous manuscript 506 (mid-nineteenth century) that underlined: "Europeans have shifted from the worship of Christ to the worship of nature and whatever they say is based on palpable objects".[53] It can also be observed in the *Qarābādin-e kabir* of ʿAqili (ca. 1780s) who pointed out:

> Know that Christians who devote themselves to understanding perceptible matters and to conquer new lands, especially the coasts, are always in search of unknown phenomena to examine them and understand them…[54]

What the Iranians such as the authors of manuscripts 505 and 506, conceived of as "European sensualism" found its theoretical or philosophical echo in the works of Pierre Cabanis, who is considered to have provided the theoretical foundation for modern clinical medicine in Europe. Cabanis's idea of the importance of the senses in the development of knowledge is clear from this extract:

> It is by means of the senses with which nature has furnished him [man], or rather the sensibility, which renders all his organs subservient to the energy of his brain, that man becomes acquainted with external objects. His sensations are the immediate source of knowledge, and the organs of his body, in as far as they are endowed with sensibility, the direct instrument of his instruction.[55]

It was on the basis of this philosophy that Cabanis strongly believed in the necessity of hospitals for clinical experience "because it gave the students and practitioners greater clearness and distinctiveness in their mind and improved their senses".[56] At the commencement of the French Revolution, he proposed the establishment of clinical schools

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[52] "*marāteb-e hasti* (creature, being, worldview) *rā bar ehsāsāt-e zāheriyyeh monhaser dānand,*" MS 505, p. 28.

[53] MS 506, "On diseases usually affecting soldiers," fol. 5. The term usually used by the Persian authors is *"mahsusāt,"* which means what can be touched. But this also had a sensual connotation in a pejorative sense.

[54] Cited in Mir, *Pezeshkān-e nāmi,* p. 72.

[55] Cabanis, *Sketch of the Revolution*, p. 171.

[56] Cabanis, *Sketch of the Revolution*, p. 327.

and in 1792, the hospital *La Charité* was chosen for the establishment of the first clinical school,[57] a hospital where traditionally the nuns took care of the patients and prayed with them for their cure. But European "sensualism" as perceived by the modern-minded nineteenth-century Iranian physician was very different, even though he had an approving and positive opinion about it. Under the section title "The benefits of the hospital for the government", the author of manuscript 505 explained that "because Europeans accord considerable importance to the improvement of the senses [i.e. welfare] and outward beauty, they established hospitals to achieve this goal". How could the hospital improve material or spiritual comfort (*hosn-e hāl va kheyr-e ma'āl*)? Curiously, the answer is not because it provided better treatment or care, etc. but because the Europeans believed that "hospital is the place where prayer is answered favourably". Accordingly, material wellbeing was realized by prayers made by the patients who received care and cure. In other words, the author of manuscript 505 tried to explain and justify Western ideas about the necessity of hospitals using the Islamic precept of "*estejābat-e do'ā*" (answering favourably the prayer of the patient at the hospital) that he also attributed to Christianity.[58] Obviously the author mixed religion and science, and traditionalism and modernism. In spite of the Christian ethic that rejected outward beauty, the author claimed that Europeans were oriented toward materialism and that Christianity made this orientation possible. The author's argument is as follows:

> The reason why the Europeans consider hospitals as places where prayers are answered favourably is that during illness the temperament is corrupted and the body loses the harmony and balance of its humours. In this condition, the soul ends its attachment to corrupted matter and therefore increases its connection with the soul's realm. In such a situation, if the patient who has received care and a cure at the hospital, prays for those who have established that hospital (in this case, the state) his prayers would be favourably answered and would result in *"hosn-e hāl"* ([material or spiritual] well-being).[59]

As we see, such perception, and possible assimilation, of Western

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[57] Cabanis, *Sketch of the Revolution,* p. 326.

[58] On the tradition of *estejābat-e do'ā* in Islam, see the explanation and references provided in the English translation of MS 505, footnote 79, p. 162.

[59] MS 505, p. 28-29.

"sensualism" occurred through the prism of traditional knowledge and not via the method associated with the philosophy of Cabanis for example.

Obviously modern public health institutions, such as the sanitary council (*majles-e hefz al-sehheh*) and the state hospital (*marizkhāneh-ye dowlati*), also harboured traditional medicine. Mirzā Kāzem-e Rashti *Malek al-Atebbā*, the archetype of traditional physicians in the Qājār period, regularly published his observations on epidemics and other common diseases in the *Ruznāmeh-ye ʿelmi*. For example, for croup, diphtheria and inflammation of the tonsils (tonsillitis), he advised practitioners not to prescribe suppurative medicine (*monzej*) before knowing which humour was corrupted. Doing so would result in bringing a discharged material from the lower to the upper members and would cause asphyxiation.[60] Humoral medicine could retain its place within the official institutions during the modernizing process not least because of the presence of traditional physicians in these institutions. However, the development of bacteriology and microbiology widened the theoretical gap between modern and traditional medicine. At the same time, with their involvement in the state-sponsored institutions, such as sanitary councils, hospitals, and medical schools, in which modern medicine was also practised, traditional physicians gradually abandoned the old theories and assimilated those of anatomical-pathological medicine. It was through this process taking place roughly from mid-nineteenth to mid-twentieth century that traditional medicine died out epistemologically.

Today we witness the reverse. After almost a century of the dominance of modern medicine, from its coming to power the Islamic regime in Iran tried to revive traditional medicine for ideological and political purposes, as it considered that alongside the "Islamic renaissance" all sciences, which had developed during the early Islamic history but that have been abandoned under Western influence, should be restored. Nevertheless it did not succeed in its attempt. No university teaching the medicine of Avicenna or Rāzi has been created, and no traditional physician practising in a rural area has been trained, contrary to the plan proposed by Seyyed Hoseyn Nasr.[61] As a sign

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[60] *Ruznāmeh-ye ʿelmi*, no. 3, 14 Moharram 1294/ 29 January 1877.

[61] See article of Seyyed Hoseyn Nasr in *Majmuʿeh-ye maqālāt dar bāreh-ye tebb-e sonnati dar irān* (collection of articles on traditional medicine in Iran) (Tehran: *Moʾasseseh-ye motāleʿāt va tahqiqāt-e farhangi*, 1983).

of the ideological triumph of traditional knowledge, traditional medicine has now acquired the right to be practised, but only by those who have been through the full university medical curriculum. The candidates should then follow special training in traditional medicine before being licensed to practise. This indicates the extent to which the medical system has undergone fundamental epistemological changes making it impossible to ignore modern science. It is not surprising therefore that those who promote the revival of traditional medicine are themselves imbued with modern theories and methods. One of the physicians and university professors advocating traditional medicine suggested in 1983 that:

> In every medical or pharmacological faculty in Iran a committee of traditional medicine should be formed of specialists on medical plants, pharmacologists and pharmacotherapists with a sufficient budget. This committee should first methodically collect medicinal plants when in season or animal organs from their natural habitat and extract their active compound.… They should prepare the essence of the specific part of the plant through chemical examination and apply it to animals to discover their reactions. After the experiment, they should compare its medical effect to what was described in the traditional medical sources, also to make sure that there is no side effect and that it cures efficiently. The result of this research should be discussed in the annual congress on traditional medicine. If there is any suggestion or criticism, further examination should be made of the plant and the result should be tested again in the clinic of the medical faculties….[62]

The language used here to promote traditional medicine is clearly the language of modern medicine. The author is well aware of the difference in "language". Again what is at stake is the institutional aspect of traditional medicine. The advocates of the revival of traditional medicine wanted to establish a university, a hospital or committees according to the etiquette of traditional medicine, regardless of its theoretical content, which was entirely modern. On the contrary, the Qājārs wanted to establish modern medical institutions, schools and hospitals in the name of modern medicine, but these modern institutions were imbued with the traditional system and knowledge.

Van Andel (1878-1941) believed that, in his time, folk medicine and science were separated by "strict boundaries" while in the past they

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[62] *Majmuʿeh-ye maqālāt dar bāreh-ye tebb-e sonnati dar irān*, pp. 173–174.

"had always influenced each other and borrowed from each other". While van Andel's solution was to re-establish the link between the two by constructing a medical history, he attributed this divorce to the fact that "folk medicine remained unaffected by scientific developments".[63] This, however, constitutes only one reason for the divorce mentioned above in reference to the increasing separation between European and indigenous medicine in nineteenth-century India, as compared with the pre-colonial period. While scientific medicine benefited fully from modern institutions, such as universities, hospitals, laboratories, public health organizations, etc., folk medicine did not have such institutions and was poorly organized and, as Willem de Blécourt noted, "their healing activities often stemmed from their poor condition".[64] Van Andel's idea could also imply that folk medicine remained unaffected by scientific development due to a lack of institutional support.

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[63] Frank Huisman, "Shaping the Medical Market: on the construction of quackery and folk medicine in Dutch historiography," *Medical History* 43 (1999): 359–375, pp. 366–7.

[64] Cited by Huismas, "Shaping the Medical Market," p. 374.

CONCLUSION

The aim of this study is twofold: to indicate the fundamental role of institutions in the shaping of medical knowledge and to mark out the contours of the epistemological integration of modern medicine in nineteenth-century Iran. Further research will allow a more complete picture of the epistemology of medical modernization to be drawn. Moreover, placing medical institutions within the context of power relationships and addressing the introduction of modern medicine from an epistemological viewpoint allow us to bridge the institutional and theoretical divide between traditional medicine, on the one hand, and modern Western medicine, on the other. It also helps us to understand the ways in which modern sciences—that emerged and developed in nineteenth-century Europe, have been transmitted to countries, such as Iran, with different intellectual resources and socio-political environment.

Underlining the involvement of traditional medicine in the modernization discussed here does not devalue the importance of Western influence in this process. This involvement was mainly due to the presence and integration of traditional medicine into the power structure. The importance of traditional medicine for the Qājār state therefore finds its genesis in the "state apparatus" that, at least since the Sasanians, had included a chief physician, such as Borzoe, the Zoroastrian, and Jabril Bukhtishuʿ, the Christian, who were among the chief physicians of Khosrow Anushirvān. This system continued in the Islamic period. In the nineteenth century, despite their expanding administration and contact with the West, the Qājārs failed systematically to adopt Western institutions, as did the Ottoman Empire. The reforms of Amir-Kabir (1849–51) in modernizing the army and establishing a modern school and hospital were limited and short-lived. Therefore, the process of change continued by drawing much upon the existing traditional resources.

Moreover, the swelling state administration resulted in the Qājār court extending its patronage to as many men of knowledge as possible. This explains why the Qājārs systematically employed and sponsored all those whom they believed to be learned and men of science, whether traditional or modern. This patronage enhanced the authority and legitimacy of the imperial power. Furthermore, the number of tradi-

tional court physicians increased in response to the growing number of Western physicians at court, not least because nineteenth-century Iran was neither colonized like India, nor tended to be westernized like the Ottoman Empire. At the same time, although the Qājār elites were eager to make use of modern sciences to reinforce their power, their cultural and social background did not permit them to abandon their "domestic " product or systematically and fully to integrate modern Western institutions. Therefore, there were political as well as cultural reasons behind the Qājārs' attachment to traditional physicians.

The institutionalization of medicine in Iran should not necessarily be seen as an identical process to the one experienced in the West. The integrative pattern of Qājār society allowed the Qājār elite to introduce some change into the traditional medical system before fully adopting European institutions. The main characteristic of medical modernization in Qājār Iran was that the state (re)institutionalized the prevailing traditional medicine by incorporating it into the state. Once institutionally integrated, traditional medicine became involved in the process of change despite its attachment to humoral theories. This fact is clearly illustrated in manuscript 505. With its institutional involvement in modernization, traditional medicine found itself practically within the intellectual environment of modern medicine, as we have seen in the various cases where traditional physicians studied modern medicine at the Dār al-Fonun or became engaged in theoretical debate with Europeans through their sharing of court patronage.

Theoretically, traditional medicine could conserve old ideas or integrate modern ones as it did and still does in Iran and in other countries such as India and China. But what is more fundamental in the distinction between traditional and modern medicine or in the transition from traditional to modern, is the institutional factor. What has preserved Ayurvedic, Unāni or Chinese medicine despite the overwhelming domination of Western modern medicine, is not so much their theoretical strength, since they all make use of modern technology and modern methods in preparing drugs and in treating diseases, but rather their institutional independence and commercial marketing power. In Iran, on the other hand, modern medicine and modern hospitals have monopolized the medical service and this has its origin in the absorption of traditional medicine into court medicine or state medical institutions throughout the nineteenth century. Because of its involvement in the long process of institutional change, traditional medicine has been structurally transformed. Despite the

efforts made by the Islamic regime to revive it, traditional medicine has failed to restore its independent institutional base. The fact that traditional medicine, under the auspices of the Islamic government, can be legally practised but only by those who have obtained their doctoral degree after seven years of theoretical and practical study of modern medicine at university indicates the epistemological demise of traditional medicine. Thus, the revival of traditional (or alternative) medicine, if such can occur in Iran and other countries, only makes sense institutionally and not theoretically.

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PART TWO

ON THE BENEFITS, THE MAINTENANCE AND THE STATUTES OF THE STATE HOSPITAL

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PREFACE

The following pages provide an edition and English translation of the unique manuscript 505. The commentary in the footnotes clarifies the obscure passages and further explains some historical details or technical terms, which might not be familiar to the readers. These footnotes and comments further facilitate the reading of the second part independently from the first Part of the book. Manuscript 505, now available in this volume, if not the most, is certainly one of the most important sources on the history of hospitals in modern Iran. Although the hospital system described in this manuscript has been examined within the framework of medical modernization in nineteenth-century Iran in the first Part, the thorough study of this document particularly with regard to the details it provides on military and civil hospitals, the extent of their importance in medical modernization and in fighting epidemics under the Qājār, is yet to be undertaken in a separate project.

The manuscript is a running text with no physical separation between chapters and sections. The first 11 pages are devoted to the introduction. Chapters are defined according to various criteria: the first two chapters concern the benefits of the hospital for the government and for the soldiers, and each benefit is explained extensively. All other chapters are generally titled as duties and qualities of various functionaries and medical staff of the hospital, though other matters also are dealt with. As in the first two chapters, the duties and qualities are explained at length in numerical order. It is on the basis of this division by the author that in the English edition we have divided the text into 13 chapters, although other forms of division would also be possible.

A note here is necessary about the translation of manuscript 505. Unlike European languages, Persian in the nineteenth century retained its medieval structure. A proper Persian grammar had not yet been elaborated and what was known until the early twentieth century was rather Arabic grammar applied to Persian.[1] This led to

[1] Cf. Anonymous article "*Ma'khaz-e fārsi-ye fasih*" (origin of eloquent Persian), *Kāveh* (published in Berlin) 5th year, no.12, 13 Nov 1920.

the creation of texts that at times are hard to understand. Moreover, many expressions used in the nineteenth century have been long out of use and are therefore unfamiliar to us. The Persian literary style, in general, is redundant, instead of concise. The poetic taste of Iranian authors adds to the difficulty. For the sake of aesthetics, they tended to repeat the same words several times by making use of their Arabic or Persian synonyms. For instance, for "historians" or "writers", the author of manuscript 505 put *motetabbeʿin-e akhbār* (searchers of news) *va moteʿallemin-e āsār* (instructors of traditions). This pedantic and redundant style sometimes makes the English translation seem unnatural or even meaningless. Manuscript 505 has no punctuation, as was the norm in Old Persian literature, and this makes it sometimes difficult to establish the beginning and end of sentences. In order to render the running text of the manuscript more legible, we have added punctuation and distinguished between paragraphs, sections and chapters.

When the handwriting is illegible, the sentences outdated or not clearly expressed, we have suggested several readings with their respective meanings and provided their literal sense in the footnotes, leaving further suggestions to readers themselves. Given such a literary style and the problem of legibility, a faithful and accurate translation becomes extremely difficult and full of pitfalls. Although the utmost effort has been employed to reflect accurately the text of manuscript 505, we do not claim that the translation is flawless.

Introduction[1]

In the Name of God, the Clement and the Merciful

[1] Since, with his high-minded ambitions, His Majesty, the King of Kings and ornament of the throne of the kingdom of Iran,[2] the exalted descendant of Hushang and Jam,[3] sun of the royal palace,[4] candle of the nine heavens[5] of the splendour of Islam, Nāser al-Din-Shāh,[6] may his victory be glorified and his reign be long, endeavours to improve the education of Iranians and [since] his high and royal mind is devoted to reviving and propagating the traditions of the past kings, he decided, at the beginning of his auspicious reign, in accordance with the intention of his blessed spirit, to order the con-

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[1] As explained in the Preface, the first 11 pages stand for the Introduction without being titled as such by the author. Likewise, the manuscript has no title and what we have suggested as the title for Part II refers to pp. 10 and 11 of the manuscript especially.

[2] *Molk-e ʿajam* (lit. the kingdom of the barbarians and non-Arabs). Although *ʿajam* signifies foreigners or non-Arabs (cf. ʿAli-Akbar Dehkhodā, *Loghatnāmeh*, eds. Mohammad Moʿin and Seyyed Jaʿfar Shahidi (Tehran: Tehran University Press, 2nd edition, 1377/1998), vol. 10), in most Persian texts, including our manuscript, *ʿajam* means "Iran" and *moluk-e ʿajam* means "kings of Iran". For another example see ʿOmar b. Ebrāhim-e Khayyām-e Neyshāburi, *Nowruz-nāmeh*, ed. ʿAli Hosuri (Tehran: Tahuri, 1357/1978), p. 27.

[3] Hushang and Jam (or Jamshid) were two members of the pre-historic Pishdādi dynasty in Iran. Hushang (the fourth son of Adam) was, after Kiyumars (Gayomart), the second Shāh of Iran. The semi-mythological account went on to say that during his reign, fire and iron were discovered. He was also considered by the Iranians to be a Prophet. Jam was the generic name of the Kings, but also the name of the fourth King of Iran, Jamshid, 2419 years after Adam. Jamshid was the first to talk about bathing. See anonymous Persian manuscript, *"Tārikh-e pādeshāhān-e ʿajam"*, 1848, St Petersburg, National Library, хан. 89). Others maintained that he invented medical knowledge (anonymous, "*Fihrist ketāb-e majmaʿ al-moluk"*, 1841, St Petersburg, National Library, MS XAH.88). He was also, according to mythology, the founder of *Nowruz*, the Iranian New Year celebrated at the vernal equinox (Dehkhodā, *Loqatnāmeh*, vol. 5, pp. 7855-56; vol.15, p. 22833).

[4] *Shesh-tāq* (lit. royal tent.), see Dehkhodā, *Loqatnāmeh*, vol. 9.

[5] *Noh-khargāh*. *Khargāh* also means spacious palace of residence. *Khar* (or *kher*) in Pahlavi signifies pleasant, and *gāh*, place; *khargāh* means pleasant and agreeable place. *Noh* (nine), is used as prefix to several words like *noh-bām* (nine house, roofs), *noh-pāyeh* (nine pillars), *noh-pardeh* (nine curtains or screens), *noh-takht* (nine thrones), *noh-sepehr* (nine spheres), etc., which always mean "nine heavens" or "nine skies". The term *noh* is also an allusion to the nine apertures of the body: see Dehkhodā, *Loghatnāmeh*, vol. 15, p. 22879.

[6] Nāser al-Din Shāh of the Qājār dynasty (1794-1925), who reigned from 1848 to 1896.

struction of a hospital which is one of the charitable foundations and the most acknowledged mark of good works.[7] According to his order, the equipment and other necessities have been prepared [2] and the doctors of the army are attending and treating with diligence the ill soldiers. However, because of some carelessness, this work failed to be conducted in a manner as satisfactory as was desired and ordered by His Majesty the Shāh, the supporter of the faith, may God perpetuate his kingdom, until His Excellency the powerful, the great lord, the example of the ornament of existence and [good] intentions,[8] the basis of the world of greatness and nobility, and the Great General, was appointed the Commander-in-Chief of the army[9] and the head of the royal palace, and dedicated his body and soul, intelligence and consciousness to put in order the victorious army and to improve the well-being of the provinces of the King of Kings. And since one of the most important of these tasks is the consolidation of the affairs of the hospital, upon which depend the tranquillity of the army's soldiers, His Excellency ordered me to write a sort of treatise[10] on this subject and to draw up some guidelines for its affairs as he has determined them.

It is self-evident that a hospital is the greatest of charities [3] and everlasting virtuous acts. Since the benefit of this fruitful work is to keep the humours in balance,[11] which is, in turn, the means of meeting corporal needs, securing religious interests and acquiring knowledge of the divine (*maʿāref-e rabbāni*), it is naturally desired and accepted by religious law; it is praiseworthy for all governments and acknowledged by all nations.

It is now well known that we should observe [what] the European

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[7] *Masduqah-e bāqiyāt va sālehāt.*

[8] *ʿOnvān-e dibācheh-ye vojud va hemam.*

[9] The person in question should be Mohammad-Khān-e Qājār, the chief of the royal guards (*Sarkeshikchi-bāshi*) under the premiership of Mirzā Taqi-Khān-e Amir Kabir (1848-1852). Later on, he became minister of war (*Sepahsālār-e aʿzam*). He ordered our author to write this treatise probably when he became *de facto* prime minister in 1864. (See Part One, Chapter Three, in this volume). Cf. Abbas Amanat, *Pivot of the Universe Nasir al-din Shāh Qājār and the Iranian Monarchy, 1831-1896* (London, New York: I. B. Tauris Publishers, 1997), pp. 210, 250, 379-383, and 398-99.

[10] *Resāleh-guneh.* But, as the content of this text shows, in fact the author tries to lay down a manifesto for the establishment of public hospitals in Iran.

[11] *Hefz-e sehhat-e mazāj-e ensāni.* Terms such as *hefz-e sehhat-e mazāj-e ensāni* (lit. keeping the bodily humours healthy) and *tahsil-e maqāsed-e jesmāni* (meeting corporal needs) imply a rudimentary notion of public health. There are doubtless notions of public health in this text, but the problem is that the author has no equivalent in traditional medicine or available Persian terms for them.

nations, whom one envies, [are doing]. Everybody knows that in order to gain the slightest profit they do not even hesitate to endure physical suffering. These Europeans have constructed grand hospitals in every province, city and village and donated to each one endowed land and movable properties and money.[12] Thus no large village has remained without a hospital. It is obvious to those who pursue such matters and those well-read in antiquities that this work of charity[13] was first realised in Iran,[14] [4] and that it is the imitation of this tradition that has adorned and refined Europe. It is regrettable for the fame and honour of the masters of knowledge and education, and of the most just inhabitants of the populated world [Iranians], whom the people of other countries have imitated in everything, that they are now excluded from science and education and have become the object of mockery; the inhabitants of the earth, who, according to the opinion of the sages, were their servants, have now become their superiors and masters.

The books of history[15] make it known that from the epoch of the first dynasty of the Persian kings[16] to the domination of Alexander in Iran,

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[12] *Khazāyen* (lit. treasuries).

[13] *Kār-e kheyr-āsār* (lit. "a work that produces well-being and happiness").

[14] As we see in the following paragraph, the author believed that hospitals had been created in the pre-historic Pishdādiyān dynasty in Iran, but provides no other source for this assertion than the epic: the Book of Kings (*Shāh-nāmeh*) of Ferdowsi. (For the *Shāh-nāmeh* see below, footnote 18.

[15] *Kotob-e siyar*. *Siyar* (plural of *sirat*) means the manners, customs, etc. of great people, such as kings. *ʿElm-e tavārikh va siyar* (science of histories and biographies) is, according to Āmoli, the second branch of the science of *mohāvera* (conversation, dialogue, phraseology). The science of history referred to the chronicles of the dynasties and the kings or the prophets and science of *siyar* described the manners and personalities of the Prophets and Kings. Cf. Shams al-Din Mohammad b. Mahmud-e Āmoli, *Nafāyes al-fonun fi ʿarāyes al-ʿoyun*, The precious branches of learning in the quintessential sources of knowledge, ed. Hāj Mirzā Abol-Hasan Shaʿrāni, 3 vols. (Tehran: Library Eslāmiyeh, 1958), vol. 2, p. 170. We can translate *kotob-e siyar* as the biographies of great people. The sources, which the author refers to as *kotob-e siyar*, might include the following books of Ebn al Moqaffaʿ: *Ketāb al-tāj* on the manners of Khosrow Anushirwān; *Khodāy-nāmeh*, book of the kings, on royal customs, and *Ā'in-nāmeh* (book of the rules of governance). Ebn al Moqaffaʿ was a Zoroastrian convert to Islam from the Fārs region who served the court of al-Mansur, the ʿAbbāsid Caliph, and was put to death in 761 at the age of thirty-six.

[16] *Pishdādiyān* (plural of *Pishdādi*). This term is composed of *pish* (front, past), and *dād* (justice). The Pishdād was the first man to administer justice. In the *Shāh-nāmeh* of Ferdowsi there were four Persian dynasties reigning before the introduction of Islam: the Pishdādi, the Kayāni (or Kiyāni), the Achaemenid (559-331 BC), the Ashkāni (or the Parthian, 141 BC-AD 224), and the Sasanians (224-651AD). Of these dynasties the first was prehistoric and reigned about 2600 years (Āmoli, *Nafāyes*

large or small hospitals were always being constructed in the provinces, cities and even villages of this empire and, during campaigns, mobile hospitals consisting of tents accompanied the soldiers.[17] In the epochs when the Iranians considered the moving planets to be a source of knowledge and overflowing [5] bounties, they dedicated [these mobile hospitals] to the planets and painted the tents and their furniture the colour of the planets [they worshipped]. In the great Shāh-nāmeh[18] it is said: when Dārā [Darius III] moved to wage war against Alexander, 366 mobile hospitals accompanied his army and their budget and raw and cooked victuals were provided by the Royal Kitchen.

I do not remember any epoch in ancient times when this act of charity was not prevalent [in Iran]. Only after Alexander's domination of Iran was the activity of hospitals curtailed and [later on], during the Arab domination, the custom of the hospital was still in many parts of the country respected and widespread, although the standards of the Kings of Iran were completely abandoned. So much so that the *Tazkerat al-Atebbā*[19] makes it known that in Iran there were many hospitals where all of the great physicians treated the patients. In the same book it is said that, when [the Caliph] Muʿtasim[20] [6] headed towards the West,[21] Bokhtishuʿ[22] did not go along with him because of

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al-fonun, vol. 2, p. 203). The scanty historiography of the Kiyānid and the Achaemenid leads us to suppose that these two dynasties were contemporaneous and that the last two kings of both dynasties, namely Dārā the First and Dārā the Second (who was defeated by Alexander of Macedonia) were one and the same.

[17] There are many accounts on mobile hospitals during the Islamic period. For example, "Sinān b. Thābit (d. 331/945), the then inspector general of the hospitals of Baghdad, was asked to organize a travelling hospital to visit the various places where the prisoners were lodged." See Mohammad Zubayr Siddiqi, *Studies in Arabic and Persian Medical Literature* (Calcutta: Calcutta University Press, 1959), p. xxx. Or again, a mobile hospital was transported by forty dromedaries and followed the encampments of Soltān Mahmud Seljuq (twelfth century). Ahmed Issa Bey, *Histoire des Bimaristans (hôpitaux) à l'époque Islamique* (Cairo: Imprimerie Paul Barbey, 1928), p. 89.

[18] The book of kings, begun by the Persian poet Daqiqi-ye Tusi (d. 975) and completed after some forty years of labour by Ferdowsi in 1010 AD.

[19] *Tazkerat al-Atebbā* (biography of physicians). We could not find any trace of this book.

[20] Muʿtasim was one of the ʿAbbāsid caliphs who reigned in Baghdad from A.D. 833 to A.D. 842. On the ʿAbbāsid caliphs, cf. C.E. Bosworth, *The Islamic Dynasties* (Edinburgh: Edinburgh University Press, 1967), pp. 7-10.

[21] A reference to his stay in Damascus. A similar story has been reported about the Caliph al-Mansur (754-775) and Jorjis Bokhtishuʿ: "Jorjis was summoned from Jondishāpur to Baghdad for the treatment of the Caliph. Four years later Jorjis fell ill and asked permission to return to Jondishāpur. On his departure, he promised

his advanced age and sent Abu Saʿid, the most knowledgeable of his pupils, together with other skilled doctors, to accompany the Caliph. When Bokhtishuʿ bid the Caliph farewell, upon the latter's question as to why he had kept his son Gabriel and sent instead Abu Saʿid, he replied that the hospital of Jondishāpur needed many doctors such as Gabriel.[23] This statement makes it plain that at that period the hospital had such prestige that working in it was more important than working for the Sultan; service at the hospital was considered to be the most noble employment. During the reign of one of the ʿAbbāsid sovereigns, the head of the physicians of the hospital of Rayy died and left no one capable of succeeding him. The news was sent to the Caliph, who subsequently consulted his vizier about it. Since Abu Soleymān, the physician,[24] [7] interfered a great deal in political affairs, the vizier suggested that the hospital of Rayy was a great place and no one except Abu Soleymān could take over its direction. When this statement [of the vizier] reached the physician, he could not refuse,

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to send in his place one of his pupils, Isa b. Shahlā, but declined to send his son (Bokhtishuʿ the Second) on the grounds that he could not be spared from the hospital of Jondishāpur." Cf. Edward G. Browne, *Arabian Medicine* (Cambridge: Cambridge University Press, 1926), p. 23.

[22] According to E. G. Browne, citing Theodor Nöldeke, the name Bokhtishuʿ is composed of *Bokhtān*, delivered, saved, and *Isā* or *Ishu*, Jesus. The meaning is 'Jesus hath delivered'. See Edward G. Browne, *A Literary History of Persia, 4 vols.* (Cambridge: Cambridge University Press, 1902-1924), vol. I: *From the Earliest Times until Firdawsi*, p. 344. The Bokhtishu (arabised: Bokhtishuʿ), were a physician dynasty of Persian extraction and of Christian creed established at Jondishāpur and lasting several centuries. It seems that the first Bokhtishuʿ who served the ʿAbbāsid caliphs was Jorjis, son of Gabriel, who was called to Baghdad in A.D. 765 to attend the Caliph al-Mansur. See Dominique Sourdel, "Bokhtishu", in *Encyclopaedia of Islam*, 11 vols. (Leiden: E. J. Brill, London: Luzac, 1960-), vol. I, p. 1298. As was the custom of the time, the same first names, such as Jibril (or Gabriel), Jorjis, etc. were borne successively by the sons and the grandsons, which can be very confusing for the reader.

[23] The son of Gabriel was ʿUbaydullāh who died in A.D. 941. See Browne, *A Literary History of Persia*, vol. I, p. 367.

[24] Mohammad b. Tāher Sajestāni (from Sistān in East Iran), known as Abu Soleymān and living in Baghdad under the ʿAbbāsid caliphate, was a learned man knowledgeable in several sciences including medicine. He was honoured and respected by the ʿAzod al-Dowleh (r. 950-983) of the Buyid dynasty, and many scholars studied with him. At the time he went to Rayy, this city was one of the most prosperous centres of the Buyid dynasty under ʿAzod al-Dowleh. Abu Soleymān died in 380H /990AD. Cf. ʿAbdol Hamid Al-Aluchi, *Tārikh al Tibb al ʿErāqiya*, (History of medicine in Iraq) (Baghdad: Saad Press, 1967), p. 441. See also Mahmud Nadjmābādi, *Tārikh-e tebb dar Iran pas az eslām* (History of medicine in Iran after Islam) (Tehran: Tehran University Press, 1366/1987), p. 674. According to this book the death of Abu Soleymān occurred in 370/980-981.

since that position was extremely eminent, involving supervision of the work of forty famous doctors. If he had rejected the offer, saying that the vizier proposed him for this position in order to get rid of him, no one would have believed him.[25] Therefore, Abu Soleymān left Baghdad to serve at the Rayy hospital.

In the register[26] of the hospital of Kāshān, under Majd al-Molk,[27] which was functioning for a long time in that paradisical[28] city, it is mentioned that the hospital had an annual income of twelve thousand *tomans*[29] from its properties. Four thousand *tomans* were designated for the salary of the doctors and other employees, four thousand *tomans* were spent on victuals, and the remaining four thousand were spent

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[25] In other words, since the position of a physician at that hospital was greater than in a court, nobody could believe that in order to dismiss Abu-Soleymān from a post, the Caliph would offer him a higher position.

[26] *Surat-e daftar* (lit. "Register of details of income and expenses of the hospital").

[27] He might be the same Majd al-Dowleh (997-1029) from the branch of the Buyid dynasty in Rayy. See Bosworth, *The Islamic Dynasties*, p. 95.

[28] Although the author by qualifying Kāshān with the adjective *minu-neshān* (like paradise) demonstrates his taste for rhyming of words, it is noteworthy that under the Buyids who reigned for 110 years from 945 onwards, Iran became prosperous; only after the series of invasions of the Turco-Mongols, starting with the Ghaznavids and the Seljuqs, did the wealth of flourishing cities of Iran such as Rayy and Kāshān decline. It is, therefore, likely that the details, described by our author, about the hospital of Kāshān are correct.

[29] According to Ebrāhim Purdāvud, the *toman* was introduced into Iran after the Mongol invasion in A.D. 1219. But if Majd al-Molk, mentioned by the author of our manuscript, was a Buyid prince, and if we believe what he says about the register of the hospital of Kāshān at that period, the *toman* as currency existed long before the Mongols. In the Mongol language *toman* meant 10,000 and was used for a military division of 10,000 men. *Toman* sometimes also meant "tribe" (*il*) as well as "domain" or "jurisdiction." The province of Persian Iraq (or ʿErāq), for instance, was divided in 9 *tomans*. During the same period, *toman* was a gold coin valued at 10,000 *dinārs*. Cf. Ebrāhim Purdāvud, *Hormazdnāmeh* (Tehran: *Anjoman-e irānshenāsi*, 1331/1952), pp. 236-237. As a gold coin *toman* was used in Iran until 1927. Cf. *Oxford English Dictionary*. But it seems that it was withdrawn when the *riyāl* (of Spanish origin) was acknowledged in 1929 as the monetary unit in Iran and since that time one *toman* has been worth 10 *riyāl*. (Purdāvud, *Hormazdnāmeh*, p. 233).

Throughout its history, the *toman* constantly depreciated in value. We do not know at what value our nineteenth-century author rated the *toman* during the Buyid period (10th and 11th centuries). According to Franklin, writing in the 1780s, one *toman* was the equivalent of about 13 rupees or 13 piastres: William Franklin, *Observations Made on a Tour from Bengal to Persia in the Years 1786-7* (London: 1790), p. 46. According to the Dictionary of Anenderāj, published in India in 1889, one *toman* was the equivalent of 20 rupees. In 1849, one pound was worth about 2.3 *tomans*. See Fereydun Adamiyat, *Amir-Kabir va Iran* (Tehran: Khārazmi, 1354/1975), p. 300. According to Rawlinson, writing in 1838, one toman was equal to 10s. of English money (cf. Henry Creswick

on medicines. In addition, from its inception, all sorts of compound and simple drugs were stored [there] and the remote provinces were informed that, [8] if chronic or complicated diseases afflicted the paupers, thus requiring expensive drugs, the pharmacy of Kāshān would not fail to send immediately the required quantity of drugs, whatsoever they were. Perhaps the saying of Saʿdi[30]—"before the *teryāq* (theriac)[31] arrives from Irāq[32] the snake-bitten would die"—refers to this hospital; otherwise, what would *teryāq* have to do with ʿErāq?[33]

In sum, the expansion of hospitals in Iran during several centuries is too obvious to require further explanation and evidence or to allow one to think otherwise. A proof of this is the abbreviated name *mārestān* [i.e. *bimārestān* (hospital)], which is used in several foreign languages. It is quite surprising that nowadays about 50,000 hospitals have been constructed throughout the world in imitation of the Iranians, but not one of them is in Iran. [9] It was written in one of the newspapers that an old Jewish woman at her deathbed bequeathed in her will 130,000 tomans for the construction of a hospital. Praise be to God that the young King, inspired by his royal nature, ordered the implementation of this act of charity and we hope that this work will be spread to all Iranian cities.[34] Had the previous functionaries not been

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Rawlinson, "Notes on a March from Zohāb, at the foot of Zagros, along the mountains of Khûzistān (Susiana)… in the year 1836…," *Journal of the Royal Geographical Society*, 9 (1839); 26-116, p. 27). In 1858, Simmonds in his dictionary equated one *toman* to 12s. 6d. Eight *tomans* was about £3 and 16s.

[30] Mosharraf al-Din b. Mosleh al-Din ʿAbdollāh (d. ca. 1291), born in Shirāz, the capital of Fārs province in southern Iran, was one of the greatest poets under the Mongols. As he was taken under the protection of Saʿd b. Zangi, the Atābek (governor) of Fārs (ca. 1226-1271), he took the pen name of Saʿdi in honour of this governor.

[31] *Teriyāq* is opium or the fruit of the poppy that was extensively used both as a painkiller and as drug by addicts. But it would also mean the complex compound drug, known in Latin as *Electuarium Andromachi*, used in traditional medicine. (See below, footnote 44.

[32] At that time, Kāshān was situated in the province of Iranian Iraq (ʿErāq). In the Medieval period, ʿErāq was a large province covering parts of modern Iraq, called ʿErāq-*e ʿarab*, and the western and central provinces in Iran, including Kermānshāh, Qazvin, Zanjān, the present province of Arāk, the district of Farāhān and the cities of Malāyer, Brujerd, Ispahan, Hamadan and Kāshān, called ʿErāq-*e ʿajam* (Iranian ʿErāq).

[33] In other words, the link between *teryāq* and ʿErāq, made by Saʿdi was not for rhyming purpose; it indicated that this medicine (i.e. *teryāq*) was made in and exported from Kāshān (part of ʿErāq).

[34] This allows us to suggest that some almshouses or hospitals could have been

remiss, this good custom [of hospital construction], which keeps alive the traditions of the ancient kings, would have prevailed. The number of 50,000 hospitals, which we mentioned above, is not pure fancy or a vague estimation but, to the knowledge of the Geographers,[35] there are even more. Some of them belong to the state (*dowlati*) and others are private (*ra'yati*). The expenditure of each one is fixed and is given to their superintendents daily. Endowments and alms offered by the dignitaries of the state and by the subjects are spent in these hospitals, and each one [10] possesses large pharmacies, treasuries full of money and precious properties.

I would like here to indicate the extent to which the Iranians have neglected the offer of charity. On the Festival of Sacrifices,[36] when as many as 200,000 sheep are slaughtered and the meat of half of them becomes putrefied and is thrown away, I went to the hospital and the superintendent told me that "today there is no meat in the bazaar". I was surprised at the level of his intelligence, because he did not use some of those sheep which were available; I was also astonished at the level of other people's intelligence, because none of them [who donated a sheep as a sacrifice] had the idea of offering their sheep to the hospital which, in addition to [taking care of] the soldiers, provides housing to paupers and strangers and refuge to amputees, vagabonds and other seekers of charity.

Since the purpose of this treatise is to highlight some of the benefits of having a hospital and to explain [11] the rules of its maintenance, I will content myself here with providing only an outline as a model,

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created by private benefactors. However, from what the author recounts it is not clear whether he gives an example of charity, or the bequeathed money was used, by the order of the Shāh, for the establishment of the royal hospital in question (*marizkhāneh-ye dowlati*) or for the construction of another hospital.

[35] *Arbāb-e joghrāfiā* (lit. masters of geography). This statement indicates that the geographical literature was an important source of information on hospitals. Obviously, the author referred to contemporary Geographers, about whom we do not know; but his medieval sources are likely to have included the following: Yāqut Hamavi (thirteenth century), *Mu'jam al-buldān*; Abol-Qāsem b. 'Ali Ibn Hawqal (tenth century), *Kītāb surat al-arz*, french translation by M. J. Goeje and G. Weit, *Configuration de la terre,* 2 vols. (Paris: 1964); 'Abdollāh Ibn Battuta (d. 1377), *Rihla,* English translation by H.A.R. Gibb, *The Travels of Ibn Battuta,* 3 vols. (Cambridge: Hakluyt Society, 1958-1971); Ibn al Faqih al-Hamadāni, *Kītāb al Buldān,* French translation: (*Abrégé du Livre des Pays*) by Henri Massé and revised by Ch. Pellat (Damascus: Institut Français du Damas, 1973).

[36] *'eyd al-azhā*, or *'eyd-e qorbān* (the Feast of Sacrifices) is observed on the 10th of the Islamic lunar moon of Zolhajjah.

given that its full explanation requires an entire book, and that my aim here is to write down the statutes of a public hospital.[37] The benefits of such a hospital are twofold. The first kind of benefit goes to soldiers, employees, homeless[38] and the poor, and the second one is for the government itself, which I shall discuss in the second chapter.

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[37] *Qavā'ed-e marizkhāneh-ye dowlati* (lit. "rules of the state hospital").

[38] *Ghorabā* means people who are far from their homeland. It implies travellers and immigrants but especially those who had no home and could not afford accommodation while travelling. By *ghorabā* va *bichāregān*, the author meant people who came to Tehran either to seek work or to beg. They were without any family who could protect them. In any case this passage indicates that the hospital in question had the same connotations as a hospice for homeless people.

I

On the benefits of the hospital for soldiers, the homeless and the poor

There are twelve benefits. It is evident that, of the natural sciences,[39] the one that has self-evident usefulness and an unmistakable great purpose, the science, which is the indisputable helm of the globe, is medicine, desired by all people and agreeable to every taste. Nowhere in the inhabited world is medicine not glorified and the physician not considered noble [12]. [This is] because health is the greatest treasure and the most desirable goal of all nations. Its conservation when it exists and its recovery when it declines depend on this noble art. To tell the truth, even thinking about a doctor brings a patient comfort to his body and relief to his depressed mind. He who refuses the doctor['s attendance] wise men consider ignorant and a denier of God's precious wisdom. Therefore, he who has the greatest dignity and the most significant power displays greater consideration towards the doctor. Those amongst the persons of wealth and fortune who pass their life without a doctor['s care] will leave sorrow, regret and remorse to their descendants. Therefore, as the king and other dignitaries of the state, at the time of illness in their family, endeavour to bring the most able and skilful doctors to the patient's bed, it is incumbent upon those who are the benefactors of the army and the custodians [13] of their subjects, to do the same for the patients among these groups. Firstly, [it is incumbent upon them] not to be sparing with their resources and fortunes for the education of physicians. Secondly, they ought to appoint trained doctors to attend patients among the army and among the other subjects. Thirdly, they ought to prohibit unknown and unqualified persons, who are as harmful to the bodies of the patients as detrimental to their pockets, from providing medical treatment, because the physical and financial damage they cause to them [the patients] is greater than that which bandits and highway robbers create: "A thief pillages the highway at night, what you do is daylight robbery."[40]

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[39] *Fonun-e tabāyeʿ* (lit. branches of the natures). But the author does not explain what these natural sciences are. In the fourteenth century, Āmoli divided the sciences of nature into ten branches: *tebb* (medicine), *kimiyā* (alchemy), *simiyā* (talismans), *ʿelm-e taʿbir* (the science of interpretation), *ʿelm-e farāsat* (psychology based on physiognomy), *ahkām-e nojum* (astronomy), *khavāss-e ashiyā'* (properties of things, including animals and objects), *ʿelm-e heraf al-tabiʿa* (the natural sciences, including the art of veterinary medicine, cleaning clothes, agriculture and husbandry, etc.) *ʿelm-e dam* (the mastering of breath), and *ʿelm-e vahm* (imagination) developed in India. See Āmoli, *Nafāyes al-fonun*, vol. 3, pp. 109-365.

[40] *Dozd shab rah mizanad—to ruz-e rowshan mizani.*

What we have said brings to light several aspects of the benefits of the hospital. First, able and skilful doctors who can diagnose diseases with similar symptoms and who are capable of curing dangerous illnesses are very few and [almost] non-existent. Therefore, it is impossible to employ experienced and skilful physicians for all the regiments. Consequently, even if there is a doctor assigned to [14] a regiment, blunders and mistakes will usually occur in diagnosis and in medication, thus rendering treatment ineffective.[41] It is therefore convenient to appoint [to a hospital] a sagacious and competent doctor who, in the case of an outbreak of dangerous diseases, attends patients carefully according to the rules of the art and implements rational treatment. Moreover, [if] a number of military doctors always reside at the hospital, when the need arises, they can certainly advise each other on diagnosing diseases, deliberate together carefully to find a cure and co-operate in treating and nursing the patients; [in this way,] they can provide, thanks to the Shāh, a service to a simple soldier, that [ordinarily] is only accessible to very few [noble, wealthy] people in the country.

The second benefit. Assume that within the regiment there is a skilled doctor who can diagnose diseases in the best way. Even so, the correct treatment outside [15] the hospital is impossible for various reasons. The most important [reason] is that he cannot supply medicine, because he is paid only thirty tomans per year to provide it, while if he wished to supply his patients in the regiment with medicine according to the [established] medical method, even one hundred or two hundred tomans would not suffice. Therefore, he would necessarily have to prescribe [drugs] which not even one per cent of the soldiers can afford, especially if the drugs are rare and expensive. And even if they [the soldiers] can afford it, a soldier does not know how to take medicine correctly so as to obtain a good result. He therefore could be risking his life in the hope of recovery, and many cases have occurred where poisonous medicines have been given to soldiers, who perished as a result. The worst is that the apothecaries of the capital

[41] The general idea of the author is that there were very few able and skilled doctors and the majority of those working for the army were unqualified and therefore it was necessary to train doctors. But the rhetoric used to explain this idea is misleading and unclear. The literal translation of the above phrase is: "supposing that there is a special doctor within the regiment, mistakes...happen usually...but it is easy to appoint a sagacious and skilled doctor who, in the case...".

are so heedless and greedy that they sell defective and corrupt medicines to all[42]—even the noble of the city [16] are not immune from this situation. Our apothecaries[43] give not the slightest thought to putting their medicines in some order! Only the superior authorities can do something to prevent so much harm from being incurred on the people. These needy people pay visiting fees (*haqq al-qadam*) and government taxes, and in exchange receive decomposed drugs; instead of reaping recovery, they suffer great loss. But in a public hospital this sort of damage cannot be imagined, because, thanks to the Shāh, all of the expensive simple and compound drugs, *teryāqāt*,[44] and essences in common use are selected and neatly stored in the pharmacy and can be provided when necessary.

The third benefit. As we have seen, since the regiment's doctor cannot provide the required drugs, which in the case of many patients are too expensive for them to afford, inevitably the disease grows worse. The physician alone is not sufficiant to ward off [17] most diseases; he needs the help of the pharmacy.[45] [Without this,] the patient loses his strength, his illness is aggravated and this leads to his death. It is for this reason that, for example, most light agues and minor diarrhoeas evolve into dropsy and similar diseases and kill the patient. As we saw under the second benefit, thanks to [the endeavour of] the Shāh, this

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[42] *Belā tahāshi* (lit. without exception).

[43] *Atebbā-ye mā* (our doctors). The activities of a doctor and a pharmacist overlapped in the middle of the nineteenth century in Iran and it is noteworthy that our author, according to what he described in his treatise, was both a pharmacist and a physician.

[44] *Plural of teriyāq*. From the poppy were derived various products, different in both quality and composition and used against different diseases. The most famous, *teriyāq-e fāruq* (Electuarium Andromachi), was used as an antidote, since it could induce the person, who had swallowed opium in order to commit suicide, to vomit. Cf. Johan Schlimmer, *Terminologie Médico-Pharmaceutique et Anthropologique Française-Persane* (Tehran: Lithographie d'Ali GouliKhan, 1874), pp. 41 and 224. In Iran, every high-ranking physician composed his own formula with specific amounts of different components for different diseases. For example, against cholera, the recipe of Seyyed Mozaffar al-Din Shafā'i comprised various elements including pill of snake, black pepper mixed with china root, rose petals, turnip seeds, etc... [According to Shafā'i] it has to be used within six months of its production and its effect lasts up to sixty years. See ʿAqili, *Majmaʿ al-javāmeʿ dar amrāz-e mofradeh-ye gheyr-e mokhtasseh* (Calcutta: lithograph edition, 1275/ 1858-59), vol. 5, p. 207.

[45] *Sanāʿat* (art, industry) in this context means the art of pharmacy, because in the first part of the sentence the author mentions that in cases of serious disease the doctor alone (without drugs) cannot treat them. *Sanāʿat* would also mean "practice" or "practical experience" versus "theoretical knowledge", or *ʿelm*.

vice has been completely removed in the hospital, with the result that they [the doctors] use all sorts of expensive drugs without restraint at the time of need.[46]

The fourth benefit. Since usually soldiers do not trust the doctor of their regiments, when they fall sick they seek another physician, resulting in much harm. One of the damaging results is that they become involved with quacks[47] and plunge into the gulf of perdition, as has been witnessed many times.

The fifth benefit. The soldier on campaign travels lightly, [whereas] in time of illness he inevitably needs a special diet and drugs [18] whose preparation requires dishes and the like; but, due to the lack of these utensils [on campaign], the preparation of medications becomes impossible.[48] Thanks to the Shāh, all types of food useful for patients and for the disabled are to hand in the hospital and are provided punctually without any difficulties or delays. Details of the food [in the hospital for lunch] are the following:

Bread with broth (*nān ābgusht*); bread with cedrat jam (*nān-morabbā-ye bālang*);[49] bread and pistachio jam; bread with cheese; bread with oxymel; bread with barberry jam; simple broth; almond pottage; delicious soup (*āsh-e laziz*); *sholeh* [soup consisting of rice, oil and vegetables]; pudding made with starch and cooled (*yakh dar behesht*); bread with kebab; *fereni* [a kind of pap or pudding made of ground rice, milk and sugar]; melon with sugar; *harireh-bādām* [a kind of pap made of flour, milk and almond]; *harireh neshāsteh* [pap made of rice and milk]; rice-milk; plum pottage; egg yolk; soup of lentil and vetch;

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[46] This sentence is in the past perfect implying that "the vice" has been removed. We should, however, bear in mind that while the aim of this treatise is to write down the statutes of the public hospital, it is a panegyric and therefore praises the Shāh for the realization of the rules that in reality were not fully, or even partially, implemented. Consequently many verbs in the past, indicating accomplished works, could also be translated as the future tense. We can thus translate this sentence as follows: "if thanks to the Shāh this vice is completely removed [the doctors] will use all sorts of expensive drugs without restraint at the time of need".

[47] *Jāhelān-e tabib-surat* (lit. ignorant people who look like physicians).

[48] The Persian sentence is grammatically incorrect and for this reason its literal translation is somehow unintelligible: "Since the soldier on campaign carries few things, in time of illness he inevitably needs a special diet and drugs the preparation of which requires dishes and the like and due to the lack of these utensils [on campaign], the preparation of medications becomes impossible."

[49] *Bālang* or *bādrang* (a variety of the citron or lemon). The Iranians sometimes eat its fresh pulp with sugar, but they also transform it into a delicious compote. See Schlimmer, *Terminologie médico-pharmaceutique*, pp. 139-140.

decoction of chickpeas; pomegranate soup; barberry soup; tamarind soup; sour milk soup; simple soup;[50] young chicken soup;[51] pear and sour orange; water-melon juice.

For supper, in addition to what was mentioned for lunch: [19] *pilau* with egg yolk or with meat; *chelow* [cooked rice] with camomile and *behesht* (?); *chelow* with plums.

In addition to all of these, if necessary, dishes of any sort should not be spared. And if the need of further nutriment [for the sick] arises, kebab of young chicken, of partridge and the juice of meat as well as quality wines like those from Europe, such as brandy, port and madeira,[52] should be served.

The sixth benefit. The soldier, because he travels lightly, has no bed-clothes except for a quilt, and most soldiers do not even have a quilt. During illness, when the constitution and the temperament of both the feeble and the strong become fragile, bed-clothes are vital for preserving the body from ephemeral fever or sore muscles,[53] because the slightest cold air[54] transforms a minor illness, which can be cured by a bowl of warm soup and the process of perspiring,[55] into such a serious disease [20] that it becomes absolutely untreatable. In the opinion of this slave of the court,[56] it is for this reason that many people die

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[50] The handwriting is hardly legible. If the reading *āsh-e somāq* is correct, it would mean "simple soup".

[51] *Ab-e jujeh* is a sort of broth made of a young chicken.

[52] In the text, it is written "Madrid", which seems a spelling error, or possibly this was how the fortified wine "Madeira" was pronounced in nineteenth-century Iran.

[53] *Tasarrof-e havā*. The literal meaning of this term is "the influence of air or a draught", but in traditional medicine it denotes extreme lassitude, fever or sore muscles due to cold or fatigue. See Schlimmer, *Terminologies Médico-pharmaceutique,* p. 162; Francis Steingass, *A Comprehensive Persian-English Dictionary* (London and New York: Routledge, Iran University Press, 8th impression, 1998), p. 305; Alexandre Manuila and M. Nicoulin, *Dictionnaire médical* (Paris, Milan, Barcelone: Masson, 7th edn, 1996), p. 97. However, it seems that, for our author, *tasarrof-e havā* signifies simply a draught as he adds in this sentence that it transforms a slight fever into a serious illness.

[54] As mentioned in the previous footnote, by *tasarrof-e havā* the author means cold weather.

[55] *ʿAraq-kardan* (perspiration).

[56] *Bandeh-ye dargāh* (slave of the court) means also servant of the court, which refers to the author. In the court milieu, this term was usually used by the high-ranking servants, including the Prime Minister. In Iran (especially after the introduction of Islam) and in the Ottoman Empire, some promising young boys (of aristocratic or, less often, unknown families) were brought up at the court and trained to serve the state. In the Ottoman Empire and during Safavid times in Iran, slaves taken from the Balkan countries or from Armenia and Georgia were also trained at court for the

every year. Particularly in 1268 [1852-53], dysentery spread among the regiment of the tribes of Qazvin to such an extent that every day we had 200 sick people. Some of them, when their disease and weakness was most severe, and in the absence of bed-clothes, because of the draught,[57] were attacked by pneumonia and their infirmity prevented blood-letting and, therefore, their treatment became impossible and their situation became terminal. But thanks to the Shāhanshāh, there are plenty of bed-clothes and other necessities in the hospital, providing soldiers, in this respect, with comfort.

The seventh benefit. One of the procedures in treatment is to ventilate the room[58] and change the patient's clothes. Everyone knows that a soldier [21] cannot change his clothes [frequently enough] and keep them clean. But the government authorities provide clothes, so that, according to the demand of doctors and the rules of the hospital, an attempt can be made to change and clean the soldiers' clothes.

The eighth benefit. It is evident that all diseases result from a disorderly diet and that most of them can be healed by medical device (*tadbīr-e sanā'i*) and the administration of food according to the rule of the art.[59] Since people such as soldiers are from the uneducated classes, in satisfying their desire to eat, they are similar to animals and never observe a diet. And at a time of illness, when the appetite for food is normally reduced, they remember their home cooking and long to eat *āsh-e kashk* (soup with diluted dried whey) and *halva* made of grape syrup.[60] And their friends, who act as nurses, in order to satisfy the patient's desires, try to acquire these foods and eat a couple of spoonfuls, while exclaiming [how good they are], so as to encourage the patient to eat more. No patient can escape from this calamity [22]; I remember many cases like this, and if I describe them extensively here it would be thought an exaggeration. However, in a royal hospital, this sort of blunder would not happen, [because] the

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purpose of serving the state. Cf. William L. Cleveland, *A History of the Modern Middle East* (Boulder, San Francisco, Oxford: Westview Press, 1994), p. 48.

[57] See notes 53 and 54.

[58] *Ta'dīl-e havā* literally means moderating the temperature. But in this context, the author implies regulating the temperature and humidity of the patients' room by ventilation.

[59] The original sentence is not intelligible. In order to understand this sentence better, it should be read as we have suggested in the Persian edition, footnote 10.

[60] *Halvā-ye dushāb*.

guard[61] does not allow anyone other than the servants of the hospital to bring in food or drink.

The ninth benefit. Since the majority of diseases have dangerous and frightening symptoms and occasionally a disease[62] strikes in such a way that the patient collapses like a dead person, if in fact one does not endeavour to restore health immediately, the task would become very difficult within one hour. [So,] since doctors do not reside all the time with the regiment, the majority of these symptoms [diseases] send the sick soldiers to their death. But, at the public hospital, the day doctors and the night doctors observe every accident and event. Here I am obliged to relate one incident. When this least slave of the court of His Majesty was working round the clock at the hospital, [23] at midnight I heard the news of the death of one Mohammad ʿAli belonging to the royal regiment.[63] I was surprised, since at nightfall I did not anticipate such a critical state. I went to his bedside for a diagnosis and [at first] I found him already lost and his eyes and mouth closed. I decided, therefore, to return home, but I was plunged again into thought and asked about the circumstances of the incident. When it was described, I doubted [that he was dead] and conjectured that it was rather an apoplexy and, after some inspection, I demanded that he be unbound[64] and began to meditate [upon this matter]. It was before sunrise that signs of life reappeared in him and hope and the promise of life returned to the eyes of the patient's despairing brother. Within three days the treatment was completed and the sick man recovered. However, in the right part of his body, a slight paralysis was produced that I think, if he is still alive, he probably still has. [The number of cases] in which the patient, at the moment of crisis, was supposed already dead and was mourned for loudly and, after becoming aware of the event, this least slave of the court cut short the lamentation [of the sick's entourage by showing that the patient was alive], are not just one, two [24] or ten. God is aware of truth and falsity.

The tenth benefit is the greatest one. In most seasons of the year,

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[61] About the guard, see below, chapter IX.

[62] ʿ*araz* (lit. "onset, occurrence, accident, form, appearance") but medically it means "symptom". In traditional medicine, symptoms are taken to be the diseases themselves. Thus, in this text, ʿ*araz* means "disease", and not symptom in its modern sense.

[63] *fowj-e khāsseh* (special regiment), here meaning the regiment of the Shāh or royal guard.

[64] In the belief that he was dead, it seems that the sick soldier had already been prepared for burial.

transmissible and contagious diseases[65] like (dry) scab, typhoid[66] and various diarrhoeas[67] spread amongst the regiments of Tehran: from one person to a group of ten (*daheh*) and from *daheh* to *dasteh* (squadron) and from squadron to regiment and from one regiment to another, so that in this way the calamity ravages all the regiments. The opposite of this situation occurs when the commanders of the army and the generals of the regiments and even the lesser officers pay heed to the preservation of the soldiers from falling into these dangerous and complicated diseases in the following way. Every morning they call the rolls, and whoever seems tired and ill is sent by the commander of the *daheh* to the sergeant (*vakil*), then by the vakil to the *Ārdel-vakil* and finally by the latter to the sergeant-major,[68] and, when it becomes

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[65] The terms used are: *mosriyya* (transmissible), *maʿdiya* (from *maʿda* (or *meʿdeh*) stomach: relating to the digestive tract) and *vāfida* (contagious). As to the contagious connotation of *maʿadiya*, see below, footnote 67.

[66] *Motbeqa*. We do not know to what the author was referring in considering *motbeqa* as a contagious disease. He might have been referring to Dr Polak's lectures at the Dār al-Fonun, in which he explained that *motbeqa* was typhoid. In his book, also written in 1865, Polak translates *motbeqa* as typhoid or typhus. Cf. Jacob Polak, *Persien, das Land und Seine Bewohner*, Persian translation (*Safarnāmeh-ye Polak: Iran va Irāniān*) by Keykāvoos-e Jahāngiri (Tehran: Khārazmi, 1361/1982), pp. 427, 501. According to Avicenna, however, *motbeqa* was not typhoid but inflammatory continuous fever (Schlimmer, *Terminologie medico-pharmaçeutique*, pp. 192-197). Nevertheless, although our author confused different maladies, there is no doubt that he was talking about contagious diseases and probably about typhus which, as Schlimmer informs us, spread frequently among the troops at the end of the winter and the beginning of the spring (*ibid.*, pp. 196-97).

[67] Our author brings diarrhoeas under the heading of contagious diseases, probably considering that cholera was one of the variants of diarrhoea. This is an example of nineteenth-century physicians confusing dysentery and cholera. It might have been in response to this confusion that one of the traditional physicians of the Qājār period, Mirzā Mohammad Taqi Shirāzi, wrote a treatise to distinguish cholera from diarrhoea. See Hormoz Ebrahimnejad, "Un traité d'épidémiologie de la médecine traditionnelle persane: *Mofarraqon heyzeh va'l vabā* de Mirzā Mohammad-Taqi Shirāzi (ca. 1800-1873)", *Studia Iranica*, 27 (1998), pp. 83-107.

[68] *Vakil-bāshi*. These grades were introduced into the army probably in mid-nineteenth century, if not earlier, in order to modernise it. They are mentioned in the anonymous manuscript in 1857, ("On diseases commonly affecting soldiers in the barracks", ca. 1857, Tehran, Library of Majles, MS 506, fols. 31-32). In a treatise, written in 1281/1864-5 by [the order of] Mohammad-Khān Qājār Sepahsālār-e Aʿzam (the minister of war), the grades of military personnel are set down in the following way: "*sarbāz* (soldier), *sarjuqeh* (corporal), *vakil* (sergeant), *nāyeb*2 (lieutenant), *nāyeb*1, *sar-dasteh* (captain), *yāvar* (major), *sarhang* (colonel), *sartip*3 (general), *sartip*2, *sartip*1, *amir-tumān—or toman* (commander of the Army, usually commander of a division consisting of 10,000 men), minister of war." See *"Ketābcheh-ye qānun-e nezāmi"* (booklet of the rules in the

certain that he is sick, they transfer him immediately to the doctor. It is by means of this wise management that the regiments have always [25] been preserved from the above-mentioned diseases, and this by itself is the greatest advantage of the hospital. For this reason, the heads of the victorious regime, including the ministers and the commanders of the countless troops, instead of neglecting to send patients to the hospital, should ask for its development.[69]

The eleventh benefit. When one of the regiments, resident permanently or temporarily in the capital, is sent on a mission, there are usually among its soldiers those who are in such bad health that they cannot move at all. And, since it is evident that these soldiers have no accommodation in the capital where they can rest and indulge themselves for a day or two, they die of their illnesses. A hospital provides them with shelter and a place of safety, so much so that at the present moment there are only a few victorious regiments [in Tehran] that have not yet enjoyed its many benefits.

The twelfth benefit. During the spring and the equinox, when the ants and the snakes are active, paupers from all places and regions come to Tehran for work and other business[70] [26] in order to earn some money and release themselves from the wretchedness of beggary. These people usually fall sick at the height of the heat and, weary, lonely, suffering and helpless, hide in the shadows of decaying walls. In spite of the fact that the hospital is neither well known nor well funded, every year about two or three hundred patients are treated and healed there, and with great rejoicing they pray God to increase His Majesty's fortune and luck and then return home. It was strange that[71]

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army), Tehran: National Library, MS 2979, pp. 43-45. Each grade was divided into several subgrades. The grade of *vakil*, for example, was composed of 1-*vakil*, 2-*ārdel-vakil*, 3-*vakil-bāshi*. (See MS 505, p. 24.) *Ardel* was a servant sent to call out an army or a convict. (Dehkhodā, *Loghatnāmeh*, vol. 1) *Ardel-vakil* would have been a grade between *vakil* and *vakil-bāshi*.

[69] The term used is *qarār-e marizkhāneh* (lit. establishing a hospital), but in this context it means the development of hospitals in general.

[70] Here the author displays his skill in rhyming words with each other, as was the style of Persian writers, just for the purpose of saying that, with the end of winter, the poorest class of people pour into Tehran for work.

[71] This is the literal translation of *'ajab ānkeh*. The author, by this expression, wants to give an example of the suffering sick poor who were in need of shelter and treatment. In this context, we can translate this passage as "among the regrettable things that happened to the poor people who went to Tehran for work is that some time ago some homeless…".

some time ago some homeless people were abandoned in the agony of death behind the wall of the hospital and no trace of the perpetrators of these acts was found. However, most of these abandoned ill people, thanks to the might of God and to the care of the Shāh, recovered and went about their business. Some of these acts were committed by those who employed different contrivances to strip the helpless people of their belongings and then left them in that state.

In sum, the benefits [27] of the hospital are manifold, and what we have mentioned above is enough to demonstrate this fact.

II

Benefits of the Hospital for the Sublime Government

These benefits are also numerous, but we will confine ourselves again to describing only some of them by way of illustration.

The first benefit. In our time, all governments in the world, weak or strong, with religion or without religion,[72] acknowledge that the development of three institutions[73] brings progress and education to the state[74] and that every government that does not strive for the management and implementation of these important matters is doomed to misfortune. The first of them is the Dār al-Fonun [polytechnic],[75] the second, the hospital, and the third, the library. Nowadays, in every country where these three important [institutions] are progressing, the nobles of that country boast of their endeavour. Therefore, it is worthy that the executives of the sublime government, in observance

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[72] By "state without religion" the author alludes to the non-Islamic countries in general and perhaps more specifically to European countries, such as France, where the fundamental law was lay and the state was separated from the Church.

[73] The term used is *kār* (work or career). The author uses three different words for explaining the same idea that implies institution: *kār*, *mohemm* (important or principal) and *shoghl* (occupation, job).

[74] *Tarbiyat-e dowlat.* In today's language, one would translate this term "education of the country or the people". But the literal meaning is more accurate here and closer to what the author meant in the nineteenth century, when the terms the government or the state were better understood by contemporaries than the terms "country" or "society" as we understand and express them today by "civil society" and "nation".

[75] The Dār al-Fonun was modelled on French polytechnics. It was not a university in the usual sense.

of "you do to them as much as (or the same that) they do to you",[76] should try to strengthen the foundations of these three institutions without taking into account their other benefits;[77] they should strive for the consolidation of each of these three institutions more than for any other[78] in order to enhance the rank and dignity of their government [28] in the mind of others.

The second benefit. To intelligent people it is no secret that the Europeans, who are completely fascinated by the outward beauty [of things] and even confine their view of the world to what can be perceived by the senses, consider that the development of the hospital unmistakably results in welfare and prosperity and believe that hospitals are the place where prayers are answered,[79] and [therefore] they dedicate all their efforts and attention to this task. In fact, as the genuine traditions indicate, the realisation of the prayers of the patients is palpable and obvious [in the hospital] from both rational and traditional viewpoints.[80] Therefore, if soldiers, thanks to His Majesty,

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[76] *al zamuhum min haith al zamukum*. This sounds like the saying from the Holy Testament: "Do unto others as you would have them do unto you". The relevance of this maxim to the above paragraph is however hardly understandable. Perhaps the author wants to say that you should do at least what the others do in other parts of the world in relation to the hospital.

[77] *Bedun-e mollahezeh-ye digar favāyed*. This means there are many other benefits, which are not mentioned here.

[78] *Qavāʿed*. Perhaps the author alludes here to the religious or other civil or individual rules traditionally important to the elite of the country.

[79] *Mahall-e ejābat-e doʿā* (lit. "the place where prayers are listened to and accepted"). In Islamic medical books there is a considerable chapter on the treatment of diseases by prayers and other supernatural methods. There are many *hadis* (or *hadith*, traditions reported from the Prophet and the saint Imams) according to which each *doʿā* (prayer) recited either from the Koran or from the sayings of the saints, was of special or general use in the cure of illnesses. ʿAli b. Vāʿez-e Kāshefi in his book entitled *Ādāb al-asʾhāb*, devotes one chapter (*bāb*) to visiting the sick. Seven rules are explained in seven sections. In section six, Kāshefi advises that the visitor should pray for the sick and the sick also should pray for the visitor. Because "the wish (or prayer) of a sick person is very close to being accepted." In support of this statement Kāshefi quotes a tradition of the Prophet that said: "when you visit a sick person ask him [or her] to pray for you because the prayer of the sick is as efficient as the prayer of the angels." Cf. ʿAli b. al-Hoseyn al-Vāʿez al-Kāshefi, "*Ādāb al ashāb*" (Rules of etiquette of the companions), written or copied ca. 18th century, St Petersburg, National Library, MS хан 9, ff. 29-240 (see fols. 148-150).

[80] *ʿaqlan va naqlan*. This expression alludes to the two main branches of Islamic sciences, *maʿqul* (object of reason) and *manqul* (knowledge based on what is derived from the traditions, *sunna*, of the Prophet and the first four caliphs). As the traditions refer to the life of the saints and especially of the Prophet, they were conceived as

find relief in the hospital and, in both prosperity and poverty, pray for the prolongation of his life and his good fortune, the effect of those prayers will be realised in His Majesty's prosperous life.

In short, one can explain the reason for the good fortune[81] of the Europeans and prove the wisdom of numerous traditions[82] [about the hospital] by the following argument: the alliance of soul and body and the connection of that spiritual and luminous being [29] to this material and opaque form are based on order, good function[83] and equilibrium of temperament. It is obvious that the more balanced the temperament, the finer the exultation of soul, and the greater the neglect and forgetfulness of the spiritual universe.[84] [But] when one is ill, the temperament is corrupted and loses the harmony and integrity of its elements, while the soul, which, through the faculties[85] and

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guidelines for the believers in their everyday life. But the term *naqlan* is used here for what is reported in history in general and in a broader sense it means "experience" of human society and not particularly the traditions of the saints.

[81] *Hosn-e ettefāq* (lucky chance). *Ettefāq* means hazard, accident, luck, gathering, solidarity, society. This expression would also mean, in the author's sense, "good social system" in Europe, resulting from, and/or in, the construction of the hospitals.

[82] In fact this entire paragraph is a scholastic analysis and interpretation (*estedlāl*) —based on Islamic traditions (see the account of Vāʿez-e Kāshefi in footnote 79 above)—to elucidate how the Europeans have achieved wealth and well-being because of their belief that the development of hospitals contributes to their welfare and prosperity.

[83] *khedmat* (lit. service).

[84] *mabādi-ye ʿāliyeh*. The author means that in a state of health, physical comfort and well-being, mental jubilation causes the individual to forget or neglect the spiritual universe. This statement, however, is in contradiction with the previous sentence.

[85] *Qowā*. In traditional medicine, the constitution of Man has seven components. 1. Elements (fire, air, water, earth); 2. Temperament, which is of nine sorts; 3. Humours (blood, phlegm, bile, melancholy); 4. Fundamental organs (such as bones, flesh, etc); 5. Spirit (natural, vital, psychic); 6. Faculties (the natural, the vital and the psychic); 7. Function (of attraction and of repulsion). See Cyril Elgood, "Tibb ul-Nabii or Medicine of the Prophet, being the translation of Tibb ul-Nabii of Al-Suyuti, and Tibb ul-Nabii of Al-Chaghhāni", *Osiris* 14 (1962): 33-192, pp. 49 ff. However, no clear distinction is made between Spirit, Faculties and Soul and, according to many sources, the human body has three components rather than seven: Organs, Spirit and Humours. (*"Resāleh-ye ʿEmād al-Din Mahmud"*. Persian manuscript, WMS.Per.293 (A), The Wellcome Trust Library). The definitions of *ruh* (spirit) and *qovā* (faculties) therefore overlap. The philosophical and medical connotation of spirit in Galenio-Islamic medicine is based on Aristotle's philosophy, but it is explained in different ways. Generally, *ruh* or "spirit" denotes a pure substance like a vapour that is produced in the heart and circulated throughout the body through the veins and nerves. The organs are animated thanks to the spirit. Although "spirit" is single and unique it functions differently according to the organ. For instance in the brain, it is at the origin of the faculty of rationality; while in the eyes, it produces the visual faculty, etc. See

external and internal perceptions is plunged into material pleasure, ends its attachment to corrupted matter, and, as it reduces this dependency, it increases its connection to spiritual elements and realms of the soul. And, if in this situation, [the patient] receives from someone relief and tranquillity and implores God, from the state of [being in close relationship with] spiritual elements, to help and assist, because of this proximity [to spiritual elements], his prayer[86] will be granted and the wishes of those who provide relief to the paupers will, like a seedling, come to fruition.

The third benefit. If the hospital is set up properly, and the soldiers recognise the immense favour of His Majesty [30] towards the patients and see them resting on beds with bed-clothes in clean rooms and attended by the doctors, nurses and employees of the hospital, who treat them as their own brothers, these soldiers, thanks to the Royal grace, attain happiness and tranquillity, and soldiering and self-sacrifice for His Majesty will seem to them a small service and they will devote their earthly and eternal life to serving the government.

The fourth benefit. It is obvious that, if one makes an effort in preparation of the equipment of the hospital and in its construction on the basis of medical canons and instructions of the art, and if the able doctors, thanks to His Majesty, do their utmost to treat the sick, mortality amongst the soldiers will decrease. This implementation of medical rules in preserving the health and in eliminating disease would increase day after day the power of the country and the population [31]. In this case, the subjects'[87] general benefit will thus be furthered, since they would not suffer by providing soldiers.

The fifth benefit. If rules for preserving health and eliminating illness become firmly established in the army, and if the affairs of the

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"Fehrest-e rashahāt al-fonun" (A table of the branches of knowledge), anonymous Persian manuscript, 1227/1812, St Petersburg, National Library, MS HC.529, fol. 38. According to *Zakhirah-ye Khāwrazmshāhi*, "spirit" is of three kinds: 1. "Natural spirit" resides in the liver and is carried through the veins to the other organs of the body; 2. "Animal spirit", resides in the heart and is carried by the arteries throughout the body; 3. "Psychic spirit", *ruh-e nafsānieh*, resides in the brain and is carried by the nerves throughout the body. See Dehkhodā, *Loghatnāmeh*, 8, p. 12311.

[86] *Esteʿā va estemdād-e ruz-e mabādi* (the prayer and the request he made initially or in the state of being close to the superior elements.)

[87] *Raʿyat* (lit. "peasant", "farmer"), but usually means "subject" and designates the population of cities and villages as well as the nomads and tribes who annually provided soldiers for the state.

hospital are organised in due form, the state's doctors will work on the treatment of patients from morning to evening and, with right discernment and perfect competence, diagnose diseases and distinguish symptoms and, in the case of similar diseases and contradictory signs, deliberate with each other in accordance with the canons of medicine and instructions of the art[88] and write down the diseases' causes and describe their characteristics as far as their discernment and experience allow them, and so increase their knowledge. [In such a way,] before long skilled doctors and masters of diagnosis [of the diseases] will appear in the country.[89] After all, the Iranians were those who led the way in medicine for the elite and erudite of Greece. How can it be that nowadays the European doctors [32] are proud of having invented new methods and modern treatments, while the Iranians are still imitating the elementary [in medicine]? I hope that, if the officials of the sublime government pay the least attention to the army, Iranian medicine will be elevated and the art of our doctors[90] will be approved by the elite and commoners alike and will shine in the traditions of [future] times.

There are also other benefits for the description of which one needs audacity of pen and extensive discourse. For instance, the salary paid to the doctors of the army will not be a waste of money. In the past, about 200 individuals, on account of their medical and surgical services in the army, received stipends, including salaries, rations and fodder [for

[88] *Qānun-e ʿadli va nazm-e senāʿi* (lit. "law of justice" and "order of the art"). By *dastur al-ʿamal-e senāʿi* or *nazm-e senāʿi*, he would mean the order set up for the practice of medicine, versus the state of anarchy in which everyone practises without training. The author believed that there was a just and right medicine practised by trained and skilled doctors and a false medicine practised by ignorant ones. Therefore, *qānun-e ʿadli* would mean "just medicine", or medicine based on the writings of the masters such as Galen and Avicenna. As we see throughout the text the author frequently uses the term "canon", referring to both "Law" in general and to the Canon of Avicenna. The author also aimed to show the importance of the rules in order to distinguish official medicine from irregular medicine. In expressions such as *qānun-e daf'-e maraz* (the rule of elimination of disease or "the art of therapy"), pp. 60 and 67, *qānun* means "rule" of medical practice. Medicine was considered a science and an art with definitive rules that the physician should apply to its practice. There is also the term *qānun-e sehhat-e nezām* (p. 33), which refers to the rules of public health.

[89] *Dowlat-e ʿelliyeh* (sublime government), here means both country and government. The project of our author was that the state should set up proper institutions and schools for medical education and bring medical practice fully under its control by training skilled doctors and employing them.

[90] *Tabibān-e imāni*, literally means "religious doctors".

their animals]. Half of this number bore the title of doctor illegally[91] and half of those who attended the review[92] bore the title of doctor without deserving it. The remaining fifty individuals did not provide any service, except for seven or eight of them who accompanied the high-ranking[93] officers and received perhaps [33] about 10,000 tomans from the state treasury for the cost of medicine, although not even one *dināŕ*[94] of that amount was spent on the soldiers. But today, thanks to His Majesty, every doctor of the army is a source of service proportionate to his ability, which he progressively increases and for which he deserves to earn a higher salary.[95] As to the cost of medicine, they receive payment for it only during their mission, and yet they spend it properly.

If the rules of [public] health in the army are laid out judiciously, a pharmacy will be created and will buy medicine annually from the money hitherto wasted and will store the medicine and give it to doctors when the regiments set off for the campaign. Yet such medications should be used according to the rules, as will be mentioned below. In this way, medicine will not be wasted, but stored in a large pharmacy containing simple and compound drugs. This is one of the good deeds of the government of Nāser al-Din-Shāh, may God prolong his life[96] [34] and bring it close to eternity.

It is better to content ourselves with what we have enumerated so far as the benefits of the hospital. [However], against this opinion some would object that the construction of a hospital will result in annual

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[91] *Esm-e belā rasm*.

[92] *Sān*. It would mean that not all those who were supposed to be present in the regiments were always there, while they continued to receive their stipends. The division of these 200 individuals is unclear. Apparently 100 of them were more regularly present in the army and of these only fifty attended the review. Of this number only seven or eight, who were attached to the high-ranking officers, were skilled. See below footnote 95.

[93] *Ma'qul* (lit. reflecting mind, reasonable).

[94] A *dināŕ* was valued at a penny or less.

[95] Sani' al-Dowleh, in his *Mer'āt al-boldān* in which he indicates the events of each year, notes that in the fifth year of the rule of Nāser al-Din-Shāh (1852), in order to prevent people without medical qualifications from signing up as regimental physicians, a rule was instituted that regimental doctors should be registered at the office of Dr Kazullani, the chief physician of the army, and should be appointed by him. See Mohammad-Hasan-Khān E'temād al-Saltaneh (Sani'al-dowleh), *Merāt al-boldān-e Nāseri*, 4 vols. (Tehran: 1295/1878), vol. 2, p. 76. About the importance of this measure in medical institutionalisation under the Qājārs, see Chapter Four, Part One.

[96] (Lit. "his days and nights").

financial loss to the government. There are [in fact] two disadvantages in the creation of hospitals, which are rather minute in comparison with their benefits: The first one is that the physicians and the executives, the servants and the nurses at all times, and particularly at the outbreak of gastric,[97] transmissible and contagious diseases, are exposed to the danger [of contagion], so that few of them escape from suffering the effects of these diseases. But the truth[98] is that fear of danger while in the service of the government is typical of the idle and weak in nature. God knows that the position of those who serve the hospital, for God's sake and for the reward of the next world, is a high one. Moreover,[99] the preceding [35] and the ancient doctors prepared themselves as much as they could for these dangers and thought about how to fight them off. [Besides], whenever one [a doctor] is not overzealous in sensual desire and gluttony and respects the rules[100] during his service at the hospital, then that individual remains safe from contamination, unless it happens that he treats smallpox.[101]

At the same time, doctors [also] receive benefits, which, if they

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[97] In the nineteenth century, gastric diseases, especially what traditional physicians called *heyzeh*, a kind of *cholerin*, frequently spread due to malnutrition and famine, so that it became *vabā'i* (epidemic). One of the traditional doctors, Mirzā Mohammad-Taqi Shirāzi, argued that the *heyzeh* was not *vabā'i* even when it was widespread. On this subject see: Ebrahimnejad, "Un traité d'épidémiologie", pp. 83-107.

[98] *Ensāf* (lit. justice).

[99] *Sahl ast* (lit. "it is easy, there is more.")

[100] Lit. "Whenever one is not greedy in sensual desire and gluttony and respects the *qānun-e senā'i* (rules of the profession) in entering and leaving the hospital...". *Qānun-e senā'i* (lit. industrial rules) here means technical and administrative rules set up for managing the hospital.

[101] *tabib-e ābeleh shavad* (lit. "he becomes a small-pox doctor.") The contagiousness of diseases was feared by many physicians and there are many discussions in traditional medical literature about it. Mirzā Mohammad Taqi Shirāzi in his *"Tā'uniya"* (Treatise on plague) criticised practitioners who avoided treating plague because of its contagiousness. Cf. *"Tā'uniya"*, in Arabic, written in 1831-32 (Tehran: lithographed edition, 1866), Library of Majlis. About the question of contagion in Islam, cf. Lawrence Conrad, "A Ninth-Century Muslim Scholar's Discussion of Contagion" in L. Conrad and D. Wujastyk (eds), *Contagion: Perspectives from Pre-Modern Societies* (London: Ashgate, 2000), pp. 163-177. It is also noteworthy that the question of the medical profession taking risk during epidemics is discussed as one of the areas of "negotiation" between medical institutions and states by Daniel M. Fox, "Medical Institutions and the State", in William F. Bynum and Roy Porter (eds), *Companion Encyclopedia of the History of Medicine* (London: Routledge, 1993), vol. 2, pp. 1204-1230. See also Fox's other article "The Politics of Physicians' Responsibility in Epidemics", in Elizabeth Fee and Fox (eds), *Aids: the Burdens of History* (Berkeley, London: University of California Press, 1988), pp. 86-96.

consider intelligently, render all of the above-mentioned perils rather insignificant. As will be said in the [chapter relating to] qualities of doctors,[102] one of the conditions and rules of the practice of medicine is being resident in the hospital.[103] Those who are able to make sacrifices should beg for the favour of being able to enter and work at the hospital, [because there they will be able] to observe the method of treatment according to the relevant rules.[104] To this they should devote approximately two years before deserving the title of doctor. Since, [in addition to what they learn at the hospital] in compensation for their service they receive from the state a remuneration, they must necessarily disregard the danger, as, according to the aphorism *molāzamat al-moluk, nisf al-soluk* [36],[105] they benefit from both [serving the king and obtaining financial reward].

The second disadvantage [of the hospital] is the anxiety and fear created in the soldiers, because the members of the regiment in the barracks, (especially) the sick ones, are not informed of the death of [one or more of] their fellows, while in the hospital, when a person dies, promptly all of the patients are informed and fear that they will be the next to die. Moreover, several regiments reside permanently in the capital, and their very ill members[106] are always in the hospital. Once every few days and during epidemics even every day or every two days, a cadaver must necessarily be transported across the parade ground.[107] Consequently, those in the regiment who are sensitive (*maʿqulin*) take one death for four and panic takes over the army. In truth, the dominance of terror, especially at the time of disease, produces a negative result. Avicenna says in his Canon: "The apprehensions, in and of themselves, agitate the humours".[108] [37] We have seen so many patients, in critical conditions, who, thanks to the artifice of the doctor and the enchantment of the nurse, deemed themselves healthy, occupied themselves with amusements and pleasures, and

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[102] *Dar owsāf al-Atebbā.* These are explained below, in chapter V and particularly in chapter VI.

[103] *Hozur-e mārestān.*

[104] *Qānun-e ʿadli* (lit. just rules).

[105] This literally means "attendance of the kings is half way", or, by doing this the job is accomplished half way through.

[106] Lit. "their heavy illness."

[107] *Meydān-e mashq* (drill-square).

[108] *Inn al awhām anfusahā taharruk al-akhlāt.*

were released from the grasp of illness and sat in the hands of health. [On the other hand,] we have many times observed that some people, with slight deviation in their temperaments, were dominated by panic and felt themselves ill and tired, and eventually gave up and joined the eternal world. But our ancient doctors, guided by their golden wisdom, have found the best precautions against this problem. If, thanks to His Majesty, the affairs of the hospital are set in order correctly, in the near future its fame will spread to such an extent that the sick person will come eagerly there of his own accord and when, thanks to the monarch, he recovers[109] and returns to his regiment, he will stimulate his friends' [interest in the hospital].

All of these works [mentioned above], thanks to the might of God and the government of His Majesty, will be, in the opinion of this least slave of the court,[110] an easy task. [38] It is convenient to indicate here a summary of the rules for preservation of health in the army, so that they can be implemented, as they will be ordained.

III

On the appointment of the Chief Health Officer for the preservation of the health of civil society and of the army

[For the society at large:] It is obvious that the development of the provinces and [maintenance of a sufficient] number of troops depend on the enforcement of regulations for the preservation of health and the warding off of disease. The more one endeavours to promote the rules [of public health] and strengthen their foundation, [the better] one provides relief for both nobles and commoners. For this reason, a capable superintendent and counsellor[111] deserves to be appointed to this eminent position who, in accordance with his genuine character, would implement the above-mentioned task.[112] He should appoint as many honest doctors as possible for the treatment of people in the

[109] Lit. "becomes fat."

[110] *Bandeh-ye dargāh-e jahāniyān-panāh* "this least slave of the court, refuge of the world."

[111] Lit. "counsellor who is looking for a signal and who is the harbinger of luck." These qualifications, expressed in rhyme, seem superfluous to us, yet they serve a stylistic purpose in appealing to the poetic taste and meeting the literary requirements of the time.

[112] Lit. "who looks at this eminent occupation according to the pure temperament

provinces, the cantons and the towns, and not entrust the respected lives [of the subjects], which are in fact deposits [39] from God and confided to the monarch's care, to ignorant people who pretend to be physicians. In such wise will he improve the provinces of their benefactor and remove the perils from the deposits of God [the subjects].

As to the army, the commander in charge of the preservation of health in the army in other countries is an officer of the rank of minister and commander. He must be an experienced person, knowledgeable and familiar with human customs, clear-sighted, of good moral conduct and of a generous nature; he should have an instinctive loyalty to the affable and tender-hearted monarch, and be anxious about human affliction and perdition and abhor even any molestation and harm of animals.[113] If a person of such a pure temperament is elevated to this noble post, he will consider his position the greatest one, because health in security or, in other words, [40] health in the shadow of the monarch's kindness, is in fact the greatest favour God can bestow. The chief officer [of the public health in the army] should necessarily hold a high position and recruit his assistants and employees from amongst righteous persons who are endowed with praiseworthy virtues and admirable ethical values and do not yield to fatigue and suffering and devote their days and nights to complete the conditions and requirements of this service. The number of his aides and subordinates, however,[114] will be by necessity decided by His Excellency the minister of war.

A hospital worthy of the name is necessary in every region or town where a regiment or a larger division of the victorious armies[115] reside,

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(*fetrat-e pāk*)." It is worth mentioning here that, in Islamic medicine, temperament, the second component of the human body, was of nine sorts. The most balanced temperament was that of the Prophet. Cf. Elgood, "Tibb ul-Nabii", p. 49.

[113] It was a usual tenet of classical Islamic law that while animals were at the disposal of mankind they must not be made to suffer. Hence Imam-Rezā (766-819), the eighth Emām of the shi'as, amongst other qualifications, was surnamed *zāmen-e āhu* (the protector of the gazelles). In the Islamic period, physicians also treated animals, but the importance of their treatment came after that of non-Muslims, Muslims being given priority. See Issa Bey, *Histoire des Bimāristāns*, p. 90.

[114] The term used is *pas*, which means "therefore." In Old Persian there is no punctuation. The sentences are sometimes necessarily very long; but they can be separated by different prepositions, such as *va* (and), and *pas* (therefore) that indicate the beginning of the sentences and in this case, they do not have the force of their literal meaning.

[115] In addition to different sorts of divisions like *savāreh* (cavalry) and *jamā'at*

either at times of war, inside or outside the citadels and in the hidden encampments or, at times of peace, for protecting the borders or waiting for a new mission or maintaining order in the provinces and preserving the cities [41] from sedition and malevolence or for the practise of techniques of drilling and guard duty. In addition, mobile hospitals are also instruments for the preservation of health for the temporary encampments.[116] In every hospital established on the basis of the above-mentioned rules, the personnel—consisting of the commander, the chief physician,[117] the doctors, the surgeons and the pharmacists, then the secretaries and nurses—should be recruited in proportion to the number of patients in the regiments.

The regions of the sublime state where the construction of hospitals is necessary are the following: The *Dār al-khalāfeh* of Tehran,[118] the *Dār al-saltaneh* (the house of the dynasty) of Tabriz, the *Dār al-dowlat* (the seat of government)[119] of Kermānshāh, the *Dār al-saltaneh* of Espahan, the *Dār al-ʿelm* (the abode of science) of Shirāz, Bushehr, Mashhad, Kalāt, Kermān and the border cities of Rasht, ʿArabestān, Zohāb.[120] In each one of these places a suitable hospital, [42] according to the

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(infantry?), subdivided into several smaller groups (*dasteh*), under Nāser al-Din-Shāh, there were ten *tumān* (or *toman*) of various sizes and each *tumān* was divided into several regiments (*fowj*). The first *tumān* comprised eleven regiments, the second *tumān* was formed of seven regiments, the third *tumān* of ten regiments and so forth. At the head of a *tumān* was an *amir-tumān* and at the head of a regiment (commanding officer) was, according to its size and importance, an *amir-tumān*, a *sarhang* or a *sartip*. Cf. Eʿtemād al-Saltaneh, Appendix to *Kheyrāt-e ehsān* (Tehran: Lithographic edition, 1304/1886), pp. 20-22.

[116] *Orduhā-ye moteharrek* (lit. "mobile encampments").

[117] *Raʾis-e moʿālejeh* (lit. "chief of treatment"). It is worth noting that, although our author was a traditional doctor and that from an institutional viewpoint *hakim-bāshi* was a key position in traditional medical system, the invention of the term "*raʾis-e moʿālejeh*", which was synonymous with *hakim-bāshi*, might indicate an attempt at renewing traditional institutions.

[118] *Dār al-khalāfeh* (House of the caliphate) was the common term (sometimes alternating with *pā-ye takht*, the pillar of the throne) for the centre of political power from the time of the ʿAbbāsid caliphate (749-1258). Tehran was named the capital of Iran for the first time by the founder of the Qājār dynasty, Āghā Mohammad-Khān (reigned 1794-97).

[119] Every major town was named after a particular characteristic. It seems that Kermānshāh was named *Dār al-Dowleh* because Mohammad ʿAli-Mirzā *Dowlatshāh*, son of Fathʿali-Shāh and one of the powerful Qājār princes, governed there from 1806 to 1821, when he died of cholera.

[120] These three regions were called *sarhadd* (borders) because they were situated at the frontiers of the country: Rasht in the north, Zohāb in the west and ʿArabestān in the south west.

views of the commander-in-chief, should be constructed in order that the sick of the army can take repose. Among other places and cities where the construction of a hospital would bring considerable reward and great fame to the eminent government are the holy shrines [of Baghdad, Karbalā and Najaf]. As in the holy shrine of Mashhad, in these saintly places, particularly in the sublime Karbalā, which is usually the abode of sick pilgrims, large completely equipped hospitals should be established, all the more because the construction of a hospital [in these places] is possible at the expense of pious foundations and without any expense to the government.

The direction of these affairs should be entrusted to a sound chief officer in order that, when a soldier from a given regiment falls ill and his hospitalisation becomes necessary, the officer of the regiment of that soldier may remove him from his regiment and transfer him to the group under the health officer.[121] Then he would send him to the hospital, accompanied by a sergeant (*vakil*) who will deliver him to the chief physician and receive a document signed by the health officer and bring it back to his commander. It is clear that the health officer and the chief physician will include the sick soldier in their own group and use their entire diligence for his care and medication. The chief physician in particular [43] should not allow [any] negligence whatsoever in providing the necessities for the tranquillity [of the sick soldier], since the least negligence in the health service would result in calamity and danger. Then, the chief physician should entrust the patient to one of his subordinates and receive a document indicating the situation of the sick [man] and archive it, as will be explained later.

The Functionaries of the hospital:

The Chief Health Officer, who is the director of all the Health Officers,

The Chief of Medical Treatment, who is the "chief physician"[122] and responsible for all matters of healing,

The First Physician, who is entrusted with the treatment of humoral diseases,

The Second Physician, who resides in the hospital by rotation,

The Third Physician, who is assistant to the doctors in treatments,

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[121] *Kār-farmā-ye ʿāfiyat*, is a literal translation of the French *officier de santé*. It indicates the influence of the French system of public health.

[122] *Ra'is-e moʿālejeh*. See above, footnote 118.

The First Surgeon, who performs the manual treatment,
[44] The Second Surgeon, who is assistant in surgery,
The Third Surgeon, who dresses wounds,
The First Pharmacist, who manages the drugstore,
The Second Pharmacist, who is assistant to the first pharmacist in compounding drugs,
The Third Pharmacist, who distributes the drugs,
The First Secretary (*Mirzā*), to whom are entrusted the records of the hospital,[123]
The Second Secretary, who supervises food preparation in the hospital and is entrusted with the foodstuffs,
The Third Secretary, who is the keeper of funds and goods and the Assistant to the Supervisor (the Second Secretary),
The First Nurse, who keeps accounts,
The Second Nurse, who endeavours to improve the quality of materials and distributes medicine and food [to the patients],
The Third Nurse, who takes care of the patients.

Now, I shall explain separately the ethics, manners and duties of the health officers of the hospital [45], so that everyone will become aware of his responsibility and that the affairs of the hospital will be organised as desired.

IV

On the attributes, ethics and duties of the Chief Health Officer of the army

I have taken the liberty in the [last] chapter to point out that the health officer should be knowledgeable, intelligent and naturally inclined in favour of human health and even avoid destroying animals of any kind. He should be honest, trustworthy, pious and possess the qualities essential for leadership and for implementing the rules of politics.[124] The authorities of the Sublime state entrust the life of the victorious armies' patients to a person of such qualities, upon whom the following duties are incumbent:

The first duty: he must be very careful in the recruitment of his assistants and subordinates and exclude unworthy, extravagant and

[123] Another possible meaning is "who is responsible for the bureaux of the hospital".

[124] *Ahkām-e siyāsat* (lit. "political directives.")

irrational, untruthful, self-indulgent and mischief-making people [46] from the circle of the health officers. He should select his personnel from amongst the people whose qualities will be described below. Although he entrusts the Chief Physician with the hospital's affairs, he should never neglect to supervise the patients and the health officers [himself].

Second duty: He should endeavour to implement the rules in the hospital, to put every person in his specific post and to make sure that his assistants and subordinates fill their positions without neglect and sluggishness; he should not forgive whenever he observes the least fault, especially if it causes damage to health.

Third duty: he should go to the hospital for one hour every day and investigate [47] the work of his assistants and the pace of their labour.

Fourth duty: he must keep records of the preceding day's events and incidents in detail and report them in a separate journal for the authorities of the state.

Fifth duty: he must assign a separate person to submit a list of the daily expenses of the hospital and to give a copy of that list to the cashier the next day.[125]

Sixth duty: he must examine and endorse the miscellaneous expenses registered in a separate record.[126]

Seventh duty: he should be informed of all the expenses of the hospital paid by the government.

Eighth duty: as he finds it necessary to punish any misconduct in service, he should also keep the good employees happy by promises and [should] ask the authorities to reward and honour them if they render great services.

Ninth duty: he must secure funding for the entire expenses of the hospital.

Tenth duty: he receives [from the state treasury] rations and sala-

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[125] The literal meaning of the sentence is "he requires the list of daily expenses from a separate person and gives its side to the Cashier the next day." By "side", the author means the edge of the list, kept to make a duplicate of the record. (Also see the following footnote).

[126] If the "daily expenses" of the fifth and the "miscellaneous expenses" of the sixth point are the same, these two points could be related and translated, therefore, as follows: "he (the Chief Health Officer) appoints a person who prepares the list of daily expenses of the hospital in two copies and, after having them verified and endorsed, delivers one copy to the cashier the next day."

ries [48] according to the rules established by the state, and pays his employees regularly so that they can work with tranquillity and without allowing anxiety about earning a living to prevent them from fulfilling their responsibilities.

Eleventh duty: he organises the facilities for the patient's leisure whenever necessary and orders replacement of utensils and materials when they are worn out, especially clothes and bed-clothes, observance of which [rule] is a must.

Twelfth duty: whenever he notices cracks in the rooms, doors and walls of the hospital, he should order their repair.

Thirteenth duty: he should sometimes visit food and drugs preparation unannounced, so that certain employees do not behave wickedly out of greed.[127]

Fourteenth duty: when complicated diseases appear, he should meet with the medical council[128] and urge them to work with resolution and equity so as to preserve health in the barracks under their control.

[49] Fifteenth duty: he should send a doctor to the barracks whenever it is necessary.

Sixteenth duty: when epidemic and gastric[129] diseases break out, he should make efforts to set up rules of health amongst the regiments.

Seventeenth duty: when the troops set out for campaigns, the appointment of the doctor and the surgeon [to go with them] should be made by him with the advice of the Chief Physician. Also, all of the instruments for use in treatment should be prepared according to his orders with the interference of nobody else.

V

On the qualities, disposition and duties of the Chief Physician of the army

As we mentioned above, this profession is one of the most important, because if one entrusts inexperienced and wicked doctors with the lives of paupers, one causes God's displeasure. Therefore, the nobles of the government and the executives of the hospital and other grandees

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[127] In other words, "that some people do not steal".

[128] *Showrā-ye Atebbā.* This indicates that before the formal establishment of the *majles-e hefz al-sehheh* (sanitary council) masterminded by the French physician Joseph Tholozan in 1868, some public health councils attached to the government existed. On this question see Chapters Two and Three of Part One.

[129] For the epidemic form of gastric diseases see above, footnotes 67 and 97.

are urged to pay careful attention to the *curriculum vitae* of the doctor, and especially the chief physician of the hospital, and to investigate their past occupations. [50] As [what he does at] present is isolated [and would give no evidence about his past], they should see what his endeavours and his words were [in the past].[130] If he dedicated his past life and time to the study of the works of the great doctors, ancient and modern, if in his leisure time he does not find anything worse to do than reading books, they should form a good opinion of him. But if he has wasted his time otherwise, especially if he was a lover of wine or a gambler, they should not take any interest in him and should let him find another job. Yet, even of those who spent their life in studying medical treatises and books, they should assess their level of intelligence and their ready wit, to see what is the level of their comprehension of rational and empirical sciences;[131] and what is their method of analogy and their aptitude for acquiring knowledge. If they find in him the ability of analysing and synthesising,[132] [51] refuting (*radd*) and criticising (*naqd*), or strength of intellect in resolving difficulties and in understanding (*rashf*) the rational sciences (*ma'qulāt*), then they should form a high opinion of him.[133] But if, in spite of his life spent [in studying], they find him stupid, they should consider him unsuitable for work and ignore him. Even with his having spent his life in studying, in discussing and in perfecting [his knowledge of]

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[130] Lit. "they should see to what his endeavours and his words refer."

[131] *'olum-e 'aqliyeh va fonun-e nazariyeh*. *Nazariyeh* also means "theoretical" but in a medical context, it implies empirical knowledge.

[132] *Hall va 'aqd*. Another reading would be *hall-e 'aqd* (resolving the intricacies).

[133] The emphasis on these points relates to the curriculum of traditional education, which included all these branches of knowledge. 'Aqili in his *Kholāsat al-hekmat* mentions that a doctor, in addition to medicine, must incorporate ten sciences, namely: the science of religious jurisprudence and traditions (*'elm-e feqh va hadis*); the science of ethics (*'elm-e akhlāq*); philosophy (*'elm-e hekmat*); logic (*'elm-e manteq*); natural science (*'olum-e tabi'i*, because medicine is a branch of natural science); geometry (*'elm-e hendeseh*, necessary in the study of forms and the size of the simple and compound organs as well as in anatomy and surgery); astronomy (*'elm-e hey'at*, allowing to learn about the four seasons in order to know the times of bloodletting, purging, vomiting...); astrology (*'elm-e ahkām-e nojum*, for the influence of the stars and the times of bloodletting and other treatment according to the constellation of the planets); arithmetic (*'elm-e hesāb*, to calculate the measures of the compound drugs); the science of conjecturing and divination (*'elm-e kehānat va farāsat*, enabling the doctor to learn about the patients based on their physiognomy and appearance, etc...) Cf. 'Aqili, *Kholāsat al-hekmat*, p. 6-7.

the principles of medicine; [even] with his inspiration, intelligence and shrewdness, they should see if he had discussions with the great masters, if he frequented the doctors' offices and the hospitals. One should see how many patients, of all sorts of diseases, have been healed or perished under his hands; whether he has examined[134] many patients and recited the [Koranic] verses: "turn to its right and to its left".[135] And [they should see whether they] find in him all sorts of knowledge and recite [the expression]: "All quarries are in the stomach of the onager."[136] Over and above these three features, which encompass all the qualities needed in medical practice, the [Chief Physician] should also have the godly quality of Christ and be tender [even] towards animals,[137] so that he could, [like] the heavenly inspired,[138] in addition to all his knowledge, [52] discern[139] scientific truth.[140] Only one or two such physicians are found in each epoch.

Therefore, if there is no one who embodies these qualities, the doctor familiar with books is necessarily preferable to one who is not

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[134] Lit. "Turn the patients to this and to that side".

[135] *Nuqallabuhum zāt al-yamin va zāt al-shemāl.* (Koran, sura *al-kahf*, verse 18).

[136] *va kull al-sayd fi jawf al farā* (lit. "every kind of game is in the belly of the wild ass"), means here "it covers everything". Concerning the origin of this expression, see: Almaydāni (d. 518/1124), *Majmaʿ al-amthāl*, collection of proverbs, 2 vols., ed. Mohammad Muhi al Din ʿAbd al-Hamid (Cairo: Matbaʿ al-sunna al-Mohammadiya, 1955), vol. II, p. 136. This expression was used in traditional education to describe the erudite who had a vast knowledge. Talking about the qualities of a physician in his *Chahār Maqāla* (Four Discourses), Nezāmi-ye ʿAruzi of Samarqand, a contemporary of Avicenna (or Ebn Sinā), mentioned that he "should master the books of Hippocrates, Hunayn b. Is'hāq, Rāzi, Thābit b. Qurra, Ebn Sinā (etc.). And if he needs to dispense with all of these books, it suffices to master the Canon of Ebn Sinā as it covers everything (*va kull al-sayd fi jawf al farā*'). See Nezāmi-ye ʿAruzi-ye Samarqandi, Ahmad b. ʿOmar b. ʿAli, *Chahār Maqāla,* edited by Mohammad b. ʿAbdol-Vahhāb-e Qazvini, (Leiden: Brill, 1909), pp. 70-71. For the English translation of this book see: Nidhāmi-i ʿArudi-i Samarqandi, *Chahār Maqāla* ("Four Discourses"), translated into English by Edward Browne (London: Luzac, 1900), p. 110.

[137] As we have seen earlier in this text, the author emphasises several times that the physician should be tender towards animals, let alone humans. Here he is drawing attention to the harshness with which physicians of the time carried out their treatment, often causing the patients more harm than good.

[138] *Molhem-e gheybi.* It seems that the author here refers to Jesus Christ.

[139] *Biyāmuzad* (lit. learn, understand.)

[140] *ʿelm-e lāribi* (lit. indubitable science or knowledge). This sentence is hardly intelligible, unless one infers that by "indubitable science" the author means divine knowledge. In this case, by *molhem-e gheybi* (heavenly inspired) he refers to Jesus Christ endowed with *ʿelm-e lāribi.*

familiar with them, and the intelligent is better than the foul ignoramus. The doctor who is intelligent and explores the great physicians' works is better that the others, even if in his observation and treatment at the hospital he is not very assiduous, as one cannot trust an illiterate and simple-minded person or a non-Muslim.[141] What could result from the work of an illiterate and stupid person whose mind is not engraved by the experiences and sayings of [his] predecessors? Or, what would a person produce who passed his life in debauchery and libertinism? Of course, one cannot entrust such an unworthy person with the life of a respected individual, especially the life of many people, particularly when that individual's life can give rise to many other lives. Therefore, the presence of a Chief Physician (*hakim-bāshi*) endowed with the above-mentioned laudable qualities in the highest degree is one of the requisite[142] conditions [for the establishment of the hospital] of the government.

[53] Let us now describe the duties of such a physician. If a physician in the hospital is endowed with the above-mentioned qualities he would know all the rules very well, but I shall explain them here as a reminder. The chief physician, in compensation for the knowledge (*'elm*) the blessed and exalted Lord has bestowed upon him and in return[143] for the favour that His Majesty has lavished upon him, should never neglect the army's patients, especially those who are admitted to the hospital, because the least carelessness could cost life. The verse, "the person who kills a believer purposely, his reward will be hell",[144] applies to him. The chief physician should, therefore, bring together with extreme diligence and attentiveness and with maximum prudence the means of treatment [as follows]:

First: he should search for as many as possible of these physicians and surgeons; otherwise, he should recruit amongst men of science and of intelligence those whom he will train in a short time in the manner he desires.

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[141] *Zemmi*. In early Islam, a *zemmi* (*dhimmi*) was a person (usually a Christian or a Jew) who was tolerated by Islamic Law on the payment of an annual poll tax. This is not unrelated to the religious notion of purity and impurity, which is reflected in the understanding of health and disease in Islamic medicine. The fact that the Muslims considered the non-Muslim physicians to be impure, affected the doctor-patient relationship in those cases.

[142] *Maqbulah* (lit. accepted, admitted).

[143] *Mennat* (lit. obligation, grace, favour).

[144] *Va min yuqtilu mu'minā mu'tamidan fajazā'ahu jahannam* (Koran: Sura *al-nisā'*, verse 93).

Second: [54] he should never neglect drugs and foodstuffs, since without putting them in order, all of his efforts would dissipate and all his knowledge would become useless, especially concerning drugs, as the danger of their scarcity (*noqsān*) or decomposition is great. The pharmacist should not be impious; his knowledge, comprehension, intelligence and trustworthiness should be almost equal to the qualities mentioned for the chief physician. Moreover, the pharmacist and the chief physician should collaborate[145] with each other, so that danger will be removed and treatment will not cause peril. All of what has been explained about drugs is also relevant for foodstuffs.

Third: when the minor and major conditions[146] for medical treatment are prepared as he (the *hakim-bāshi*) desires and the patient, with the permission of the commander-in-chief of the army and in conformity with the rules of admission explained later, enters the hospital and is placed in a special room for diagnosis, the Chief Physician, accompanied by [other] doctors, should visit the patient [55] and carefully examine his situation, the symptoms and the reasons for the disease, and perform his observation according to the season, and the severity or benignity of the disease and on the basis of its differences [from] and resemblance [to other diseases].

Fourth: once he has diagnosed the disease, he should send the patient to a doctor or to a surgeon, according to their specialities, so that the surgeon or the doctor transfers the patient, wearing a number, to a special room for treatment.

Fifth: he should never put the patients affected by gastric, contagious and transmissible diseases together with other patients in the same room. Also he should not give the clothes and the bed-clothes of the patients suffering from contagious diseases to the others.

Sixth: he should screen the patients for whom there is no treatment in a special room, so that the other patients are not informed of the state of the dying patients, since fear of death aggravates illness. [56] After cleaning the bedclothes of the dead, he should expose them to air for several days.

Seventh: at the beginning of each week, he should order the change of the patients' clothes.

Eighth: once every three months he should have the clothes thoroughly beaten.[147]

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[145] *Jalis bāshand* (lit. sit together).
[146] *Ajzā' va arkān* (details and principles).
[147] *be zadan dahad.*

Ninth: he should register the number, name, age, birth date, place of birth and temperament of the patient as well as his disease, its causes and its symptoms, and note down every day the drugs and foods given according to the changes in symptoms and other conditions and preserve his notes. Every day, he should visit the patients in this way.

Tenth: after the completion [of the above tasks], he should check the medications of each patient and hand them to a trustworthy nurse. Most of the drugs should be given to the patients in the presence of either himself, the duty physician[148] or the physician who specialises in that disease.[149]

Eleventh: after the distribution of drugs, he should deal with the patients' food.

Twelfth: he should not automatically trust the duty physician, but should sometimes check the food unannounced, because the bad and the good reputation or the fame and the infamy of the hospital [57] reflect on himself.

VI

On the grade, qualities and duties of the hospital's doctors

The division of the hospital doctors into three grades is one of the just and reasonable regulations and its usefulness in the implementation of the rules of treatment and other principles is accepted by all nations.

The First Physician[150] is the *moʿālej* (general practitioner). Whatever had been said about the Chief Physician applies also to him. He should at least be able to diagnose the diseases and to distinguish the symptoms. And this is possible once he has familiarised himself with the five branches of medicine[151] by the careful study of reliable

[148] *Tabib-e nowbati*. This was to ensure that no substitutions or blunder in giving drugs had been made.

[149] Although according to the received idea medical specialization was common place in medieval Islamic medicine, reference to specialists treating particular diseases and keeping record on various stages of illness in traditional medical literature is extremely rare. In fact, the questions underlined in the ninth and tenth points represent a novelty in traditional medicine.

[150] *Tabib-e avval*.

[151] *Fonun-e panj-gāneh*. There were different branches of medicine, according to different authors. Our author does not mention what these branches were. In describing the duties of the surgeon (p. 63), he mentions four specialities: medicine, surgery,

sources such as the *Canon* [of Avicenna (Ebn Sinā)] and *Kāmil al-sanāʿah* [of al-Majusi]. Although medicine can be learned in any language, yet the subtle points, marvellous style[152] and elegant expressions that are observed in Arabic books enhance the keenness, intelligence and comprehension of the physician, [58] while medicine in the Persian language[153] is declining and failing in the opinion of learned physicians. For this reason, Hunayn b. Is'hāq,[154] who translated medical books from Latin, Greek, Hebrew, Chaldean [Syriac], Coptic and other languages into Arabic, is praised by the physicians, because these books in their original languages are not so accurate as in Hunayn's version. On the other hand, Thābit b. Qurra,[155] who translated these books

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ophthalmology and pharmacy. Āmoli divided medicine into eight parts: 1. science of natural matters such as the elements of fire, water, earth, air and the temperaments; 2. science of anatomy; 3. science of health, disease and their symptoms; 4. science of preservation of health; 5. science of treatment by medicine and diet; 6. science of treatment by hand (surgery); 7. treatment of eyes (*kahhāli*); 8. pharmacy. Cf. *Nafāyes al-fonun*, vol. 1, p. 20.

[152] *Vosuqāt-e aniqeh*.

[153] *Tebb-e fārsi* (lit. Persian medicine).

[154] Hunayn b. Is'hāq (767-835), according to the *Loghatnāmeh* of Dehkhoda and the *Dāyerat al-maʿāref* of Masāheb, was an Iranian Christian born in Neyshābur, north-east Iran, but his family emigrated to Hirah in Mesopotamia. Rezā Qoli-Khān-e Hedāyat also believed that Hunayn was from Neyshābur. Cf. *Fehres al-tavārikh*, edited by Abdol-Hoseyn Navā'i, M. –H. Mohadess (Tehran, *Pajuheshkadeh-ye ʿolum-e ensāni*, 1373/1994, p. 66). However, no historical evidence sustains this assertion. Most likely he was a descendant of *ʿebād*, Arab tribesmen who once embraced Christianity and remained faithful to the Syrian Nestorian Church after the rise of Islam. Cf. Jamāl al-din al-Qifti, *Tārikh al-hokamā*, Persian translation of 1688, edited by Behin Dārāyee (Tehran: Tehran University Press, 1371/1992), p. 239; G. Strohmaier "al-Qifti" in *EI*, vol. 2, pp. 578-581. Hunayn studied medicine with Ebn Māsawayh. The Caliph al-Ma'mun appointed him to translate medical books from Greek and Syriac into Arabic and under the Caliph al-Mutawakkil, he was appointed chief physician to the court. He was a contemporary of Jebre'il (Jibril) Bokhtishuʿ who also worked in Baghdad. For Hunayn's translation also see Lawrence I. Conrad, "Arab-Islamic Medicine" in *Companion Encyclopaedia*, vol. 2, pp. 676-727, see pp. 694-95; For Hunayn's scientific work see collected and reprinted articles by Fuat Sezgin... [et al.], *Ḥunain ibn Is'ḥāq (d. 260/873): texts and studies*, (Frankfurt am Main: Institute for the History of Arabic-Islamic Science at the Johann Wolfgang Goethe University, 1996); Manfred Ullman, *Islamic Medicine*, translated by J. Watt (Edinburgh: Edinburgh University Press, 1978).

[155] Thābit b. Qurra (834-901, or 211-288/826-900), a Sābi'an (star-worshipper) from Harrān, was a mathematician who also wrote on medicine. The book of *Zakhirah*, Treasury (not to be confused with the *Zakhirah-ye Khāwrazmshāhi* of Gorgāni), is attributed to him. Amongst the medical sources recommended to the students by Nezāmi-ye ʿAruzi figures also *Zakhirah* of Thābit b. Qurra. See above, footnote 136. See also Ibn Qayyim al-Jawziyya, *Medicine of the Prophet*, translated by Penelope Johnstone (Cambridge: Cambridge University Press, The Islamic Texts Society, 1998), the Translator's Introduction, p. xxix.

as well as Hunayn's Arabic translations, into Persian,[156] although he was one of the erudite, is now considered, by the learned men, to be vile and disreputable, because, due to the inadequacy of the [Persian] language, some points have been omitted [in his translation]. In sum, the specialists in medicine know well that Arabic books boost the intellect and astuteness of the physicians. Although the illiterates[157] would not accept this remark, it is evident that those who are unable to read the *Canon* cannot be practitioners.[158]

The Second Physician is the *modāvi* (healer),[159] who should also study the five branches of medicine, but he has not yet mastered the distinction among the diseases and recognition of [59] symptoms, and once the First Physician (*moʿālej*) diagnoses the disease and provides him [the healer (*modāvi*)] with indications (*sar-reshteh*), he should put the rules of [medical] science astutely into practice.[160]

The Third Physician is the *moʿāven* (assistant) [of the *moʿālej* (Practitioner) or First Physician], who has not completed the five branches but is intending to achieve this grade. He communicates the Practitioner's prescription to the patient and the patient's state to the Practitioner.

The main benefit[161] of these divisions resides in the following fact: currently in the Iranian provinces, the practitioners who can distinguish and recognise the causes [of diseases] are so few as to be—to

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[156] This is a blatant mistake by our author. Thābit b. Qurra had not translated the Arabic books into Persian, but he had translated from Greek into Arabic. About his works and career see Lucien Leclerc, *Histoire de la médecine arabe. Exposé complet des traductions du Grec, les sciences en Orient, leur transmission à l'Occident par les traductions latines*, 2 vols. (Paris: Ernest Lereux, 1876), vol. 1, pp. 365-68; Ullman, *Islamic Medicine*, pp. 78 and 88; Mahmud Najmābādi, *Tārikh-e tebb dar Iran pas az Islām* (Tehran: Tehran University Press, 2nd edition, 1397/1998), pp. 168, 271-281.

[157] By illiterate, he would mean those who did not know Arabic, since mastering this language was a mark of scientific distinction. The stamp of "illiterate" would be accurate if one considers that almost all of those who had some level of education had to know Arabic. The negative comments of the author on Persian language seems to contradict his frequent references to the glory of Pre-Islamic Iran (see Part One, p. 52).

[158] This sentence suggests that, in the author's era, the Arabic language still remained very important despite the increasing number of Persian medical sources. It also indicates that either there were many illiterate practitioners or those who were not able to read Arabic medical sources were considered illiterate.

[159] *Modāvi* (lit. "the person who heals by the help of medicine").

[160] The other possible reading of this obscure sentence is "like the *moʿālej* he should diagnose the disease and provide a clue [to the disease] and be strong in putting the rules of medical science astutely into practice."

[161] *Asl-e maqsud* (lit. "the main purpose or the main objective").

tell the truth—non existent. But if this order is respected, the mistakes in treatment will decrease. The other benefit [of this division] is that the doctors, in acquiring the art, endeavour to attain the stage of perfection, so that eventually there will be no difference between the *moʿālej*, the *modāvi* and the *moʿāven*.

The duties of the physicians of the hospital:

They should arrive at work early in the morning and take charge of the responsibilities assigned to them. [60]

First, they should be present at the bedside of the patients entrusted to them by the Chief Physician.

Second, whilst the Chief Physician has the authority for treating all the patients, the doctors, surgeons and practitioners can only take charge of the patients assigned to them.[162]

Third, early in the morning doctors should administer drugs and meals appropriate to their patient unless they observe some unexpected symptoms[163] during the illness. In such a case, they should ask the advice of the Chief Physician.

Fourth, they should observe, according to the *Canon*, the symptoms during the illness and record in a report the prescribed drug and diet. They should also report on a numbered sheet[164] the list of administered food and drugs together with the symptoms they observed on that day. If they have any doubt about it, they should consult other doctors. [61] They should write their daily report so clearly that any of the doctors who make the round of patients can understand the disease and define the treatment without needing to ask questions.

Fifth, after prescribing drugs and diet, they should hand the daily record of foodstuffs to the Supervisor[165] and the record of drugs to the Pharmacist, enabling them to prepare drugs and meals according to instruction.

Sixth, every doctor should transmit his daily prescription to the duty physician. Once he has performed this task, he can occupy himself with other works at the hospital after informing the Chief Physician and the duty physician about it.

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[162] This sentence could be translated "…just as the Chief Physician has the entire authority for treating all the patients, the doctors, surgeons and practitioners can also have the entire authority for treating the patients assigned to them."

[163] *ʿaraz*.

[164] *Lowhe-ye shomāreh*.

[165] *Nāzer*. For this position see below, Chapter IX.

Seventh, as has been said under the duties of the Chief Physician, every day one Doctor, one Surgeon and one Pharmacist should reside in the hospital. They are not allowed to leave the hospital for home until the time of the next shift. [62] They can have their lunch and dinner and other necessities provided by the kitchen of the hospital at the level of the [military] commanders' portion.

There are many obvious benefits from the doctors being resident at the hospital. For example, sometimes the malignant symptoms[166] become so severe that, if it is not treated without delay, it will become fatal within an hour. Or some patients are not able to come to the hospital in the morning and they come at noon or during the afternoon. Or acute and severe disease sometimes occurs and the patient is [urgently] transported to the hospital. All these cases require that the three above-mentioned doctors stay at the hospital.

VII

On the qualifications and the duties of the surgeons of the hospital

At times of war the presence of the surgeons is of the greatest necessity. Therefore, I shall provide here a description of the attributes and the virtues of the Chief Surgeon.[167] As has been mentioned concerning the Chief Physician,[168] [63] the Chief Surgeon should also be endowed with the same characteristics as those of the Chief Physician. It appears that this profession is one of the branches of medicine, even though science, knowledge and art[169] are not here as valued as in medicine; however, trustworthiness, piety and knowledge of the experience and laws of the ancients are [a must].[170] It is necessary that the surgeons

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[166] *ʿavārez-e maraziyyeh.* As we mentioned above, the symptoms, *ʿavārez*, were more talked about in traditional medicine than the diseases themselves and were usually mistaken for diseases. The term *ʿavārez-e maraziyyeh* in this sentence means both the manifestation of disease and malignant symptoms or illness.

[167] *Jarrāh-bāshi.*

[168] *Hakim-bāshi.* The terms *jarrāh-bāshi* and *hakim-bāshi* are the only traditional terms employed in the text.

[169] *Honar.* This term literally means "art and skilfulness" and has the same connotations as in the English "honour" and the French "honneur". But although its general meaning in the text is the art of medicine, in this sentence, it implies rather ability and skilfulness.

[170] This sentence is left uncompleted.

spend their time in study, discussion[171] and especially in observation, which is, in manual operations, the principal [pre] condition.

In spite of this, surgery in Iran is in a worse state even than medicine is, because the masters of medicine have not soiled their mantle of knowledge with surgery and instead the rabble and ignorant have been inclined to this profession. For this reason surgery has declined, and this is in fact the fault of Hippocrates since, before him, the Chief Physician was at the same time physician, surgeon, ophthalmologist and pharmacist of a hospital. Hippocrates in consideration of [his] dignity and rank appointed three of his students [64] to these occupations [i.e., surgery, ophthalmology and pharmacy] and devoted his own work to the treatment of humoral diseases.[172] Although the presence of surgeons in the hospitals at times of peace is not that indispensable, since the majority of wounds and ulcers in the time of peace are produced usually by humoral diseases for which the treatment is to balance the humours, sometimes manual operations are necessary, for instance, in extracting cysts and stones, in opening, piercing, trepanning[173] and in cutting veins[174] and polypody.[175] Consequently, the presence of three surgeons in the hospital[176] is necessary. As in the classifica-

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[171] *Mobāheseh* (lit. art of disputing and debating). This was probably what was called *berierminus* in the classical sciences in Iran and classified under the pre-Islamic (i.e. non-Islamic) sciences. Cf. Āmoli, *Nafāyes al-fonun*, vol. 1, p. 19. *Berierminus* should be a Persian word derived from the Greek "*Perihermeneias*", the name of Aristotle's work on interpretation. (I am obliged to Charles Burnett for the information about Aristotle's book).

[172] Obviously, the author refers here to a specific episode of Hippocrates' life, but it is unclear which episode. Whatever the case may be, the statement of the author corresponds to one of the articles of The Oath: "I will not cut, even for the stone, but I will leave such procedures to the practitioners of that craft." Cf. *Hippocratic Writings*, edited by G.E.R. Lloyd, translated by J. Chadwick et al. (London: Penguin Books, 1983), p. 67.

[173] *Bazl*, operating with a trepan, an early type of trephine, a cylindrical surgical instrument especially used to cut a hole in the skull. *Bazl* in general means lancing, piercing, cutting.

[174] *Batr-e vesel*. The author uses here the English term "vessel" for vein. *Batr* means cutting the artery by width and breadth.

[175] *Tashmir*. If *tashmir* (polypody) is the right reading, the author has made a medical error, since polypody or *polypodium* is a large and widely distributed genus of ferns, of various forms, growing on moist rocks, old walls, and trees (*Oxford English Dictionary*). If the spelling is *tamthir* or *tamshir*, it is unrecognisable. Polyp would make more sense if that were what the author meant.

[176] *Mārestān-e Soltān*, the hospital of the Shāh, that is, the public hospital in the author's sense.

tion of the physicians, the first [surgeon] is the *moʿālej* (practitioner), the second the *modāvi* (healer), and the third one the *moʿāven* (assistant or dresser). The practitioner is expert in all manual operations; the healer masters the operations in some cases and in others is a lesser associate of the practitioner; and the assistant should clean, put plaster on, and dress, the wounds. The duties of the surgeons are the same as the physicians' ones.

VIII

[65] *Qualities and duties of the pharmacists of the hospital*

In the treatment of humoral diseases, the need for a trustworthy doctor is obvious. But the need for a pharmacist is no less than that for a physician. Therefore, in every hospital the presence of two classes of professionals for treatment is required: the physicians, as was mentioned above, and the pharmacists in the same order [as for the physicians].

First, it is the pharmacist who knows the temperament and properties of all the drugs used at the hospital. He knows the rules for choosing, selecting, bottling, stocking and conserving the simple drugs and understands properly the laws of compounding, mixing and refining. He is well experienced in everything necessary in this art, such as washing, refining, simmering,[177] decomposing, [66] rubbing, grinding and pounding (*sahq-o salāya*), peeling,[178] *talbib*,[179] distilling, melting, and cooking. As in the royal hospital,[180] given the climate of Tehran, the essences which have appeared recently[181] are not employed that much, so we really do not need the techniques of extracting essences and the like; but for what is now in use the endeavour will be made

[177] *tarshih*, brewing gradually.

[178] *Taqashshar* (to be peeled, skinned), but it must be *taqshir* (peeling).

[179] Unknown word. *Talbib* means collar. It seems that this is a mistake and the author probably constructed this term from the word *laban* (milk) and it would mean "changing into, or extracting, milk".

[180] *Mārestān-e soltāni* that was usually called *marizkhāneh-ye dowlati* (state hospital).

[181] *Jowhariyyāt-e now-zohur*. In the nineteenth century the word *jowhariyyāt* (essences) was used for the newly-introduced substances obtained by chemically altering their simple or compound components, although extracting the essence of plants, fruits or other substances was not unknown before the nineteenth century in Iran.

to acquire the best ones.[183] Honesty and piety of the pharmacist are amongst the requirements.[184]

The physician without the pharmacist ['s help] is like a man with only one hand, or like a barber without a razor, or like a blood-letter without a lancet. Whatever we have said about the qualities of physicians should also be observed for the pharmacist. For this reason, this least servant of the court[185] has never entrusted the pharmacy of the hospital to someone else. Even when three of my relatives (including my brothers) entered in service [67] at the hospital to be sacrificed for His Blessed Majesty, I never neglected to come and inspect the drugs myself. I regret that I do not now have any trustworthy person for the pharmacy and, therefore, I have myself assumed the responsibilities of the First Pharmacist.

[Tasks of the First Pharmacist are that he] should verify the simple drugs in use one by one according to the rules of pharmacy and preserve them from putrefaction and, at the time of compounding, have them blended [by his subordinates] in his presence in accordance with the laws of pharmacy. As to the Second Pharmacist, he also should know about the laws of the art of pharmacy[186] and of what was mentioned about [the tasks of] the First Pharmacist; his task consists in the collection of drugs, their preservation and their division as well as in their mixture and compounding. But the tasks of the Third Pharmacist are [entirely] manual and consist in packing the medicines [68] and in taking them to those to whom they are to be administered.

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[183] This passage is very interesting in the light of the opposition of traditional medicine to the European drugs known as *jowhariyyāt* (essences). Once more we find our author mid-way between traditional and modern medicine. His traditionalist colleagues categorically rejected the use of essences. For example, Mohammad-Jaʿfar Astarābādi, (*"Safineh-ye Nuh"* (Noa's Arch), written ca. 1310/1892, Qom, Library of Ayatollāh Marʿashi, fol. 3), argued that "the European essences, extracted from European plants and herbs, are not suitable for Iran because of the different climate (*āb va havā*) in Europe." Our author in this passage shares Astarābādi's opinion, pointing out that "because of the climate of Tehran, the essences recently appearing are not used... and we do not need the science of extracting essences (*'elm-e jowhar-keshi*)", though at the same time he advised that "the endeavour will be made to acquire the best ones."

[184] This apparent digression while talking about the techniques of pharmacy is not irrelevant to the subject. It indicates that honesty was regarded as a necessary prerequisite for preparing drugs, so that for instance the pharmacist did not defraud patients by introducing adulterated or cheap materials instead of the genuine ones.

[185] That is, the author.

[186] *Qavānin-e sanāʿat-e davāsāzi.*

The duties of the pharmacists:

Since the authorities of the sublime government have not yet ordered the construction of a pharmacy and the collection of the necessary drugs for the hospital, I have myself established a small pharmacy. Although I appointed my brother to be responsible for the drugs, in order to be diligent in this matter I personally control the pharmacy, so that no drug is bought without my superintendence and I supervise the composition of compound drugs (*morakkabāt*) as well as the production of essences (*jowhariyyāt*),[187] concentrates, juices and whatever can be produced in Tehran. Nearly all decoctions, syrups and tablets are made under my supervision. If the authorities of the sublime state order the construction of a drugstore, three classes of pharmacists would be appointed to run it.

The benefits [69] of the state pharmacy are manifold, and the greatest of them is that, while during the expeditions of the army, the money paid to the doctors for drugs is misused, if this money is paid in proportion to the [required] drugs and if the list of the [consumed] drugs is checked by the officer [of the regiment], then all of the provided drugs will go to the soldiers.

IX

On the attributes and duties of the First Secretary who is the [financial] Inspector[188] *of the hospital*

The qualities described for doctors should also apply to the inspector of the hospital, including piety and faithfulness, since, in serving the preservation of health, treachery will be detrimental to the body. It is obvious that the duties of the First Secretary are to keep the accounts and the books of the hospital:

First, the record of all furniture and equipment of the hospital such as bed-clothes and patients' garments, [70] nurses' clothes, beds, woven

[187] See above, footnote 183.

[188] According to the subsequent description provided by the author, the *moshref* was responsible for the finances and accounts of the hospital. The division of duties and the description of grades given by the author using the old titles lead to confusion. For example, he uses *moshref* (inspector, observer or an officer in a treasury who authenticates accounts and writings) for the First Mirzā but *nāzer* (supervisor, superintendent) for the Second Mirzā (see below).

floor mats,[189] copper utensils and other necessary vessels.

Second, the book of miscellaneous expenditures for refurbishment of the buildings, repair of worn clothes and bed-clothes, repair and lining of copper utensils.[190]

Third, the book of daily costs of medicines, foodstuffs and so forth.

Fourth, the book of treatment in which the daily records of doctors and surgeons are registered word for word.

First duty. He should be present at the hospital at dawn. Once the doctors have finished visiting the patients, they should hand their journals of drug and foodstuffs, written separately, to the Pharmacist and to the *Nāzer* [Supervisor or the Second Mirzā], all under the First Secretary's oversight.

Second [duty]. When the Second Mirzā wants to supply the servants of the hospital with the victuals for [preparation of] food, he should inform the First Secretary.

Third [duty]. If he does not trust the duty physician and the Supervisor, he should be present during the distribution of food.

Fourth [duty]. He should prepare the daily journal, [71] indicating the names of the regiments, the number of patients, a description of their diseases, the number of those present in the morning and in the evening, the number discharged after being restored to health, the number of those who have been admitted, the number of deceased and a description of other incidents that have occurred at the hospital, and the expenses of the day. Then he should have this journal sealed by the Chief Physician and should send it to the Health Officer.

Fifth [duty]. He should duplicate daily whatever is recorded in the four [above-mentioned] books.

Sixth [duty]. He should write down the expenses of the day and, after affixing his, the physician's and the duty physician's seals, deliver it to the Supervisor who, the next morning, should hand it over to the Health Officer, who will keep it for inspection.

Seventh [duty]. At the beginning of each month, he should copy the data from the journals of the previous month onto a table divided

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[189] *Farsh-e hasiri.*

[190] Utensils used for cooking were usually made of copper and then covered and lined on the inside with tin. The wearing away of the tin after a period of use was repaired by adding a new layer of tin.

vertically into the number of the days of that month and horizontally into six parts. The first part for those present in the morning, the second for those present in the evening, the third for the admitted, the fourth for the deceased, [72] the fifth for the cured and discharged and the sixth for the expenditures. He should prepare two copies [of this document] and have them sealed by the Chief Physician and by himself. Then he should give one copy to the Health Officer and the other to the Supervisor [the Second Mirzā or Secretary].

X

On the ethics and duties of the Second Secretary, who is the Supervisor of the Hospital

Whatever has been argued regarding the honesty and piety of doctors and other medical staff is, in the case of the Supervisor, of the first and foremost priority, as negligence and treachery with regard to the patients' food will be detrimental to the body and will bring shame on the Chief Physician and on other practitioners. The duties of the Second Secretary are the following: First, he should store sufficient amounts of non-perishable drugs of all varieties, which are necessary for the hospital. Second, the stored items should be selected from amongst the best specimens of each material. Third, he should keep the drugs in clean and healthy premises and receptacles in order to [73] preserve them from putrefaction. Fourth, he should keep the warehouse sealed at all times. Fifth, he should be present every morning at the hospital before other functionaries. Sixth, since the practitioners prepare their journals late, he should have ready some victuals that are not perishable in one day, such as meat and vegetables, before the news[191] [(the instructions of the physicians) arrive]. Seventh, once the journal of foodstuffs is received from the chief physician or the duty physician, he should deliver straight away the readied items to the servants [of the kitchen]. Eighth, he should give the items to the cook and the keeper of syrups[192] in the presence of the duty physician and

[191] The handwriting is *akhbār* (lit. information, news).

[192] *Sharbatdār*. This usually means "bar-keeper", but in this context it means "the person in charge of the medicine chest or other syrups." In the hospitals (or *bimārestāns*, a term also used in other Islamic countries) established during the Middle Ages, *sharbatdār* meant pharmacist and *sharbatkhānah* pharmacy. See: Issa Bey, *Histoire des Bimaristans*, pp. 84, 90.

the First Mirzā. Ninth; he should give priority to the cuisine and the syrups. Tenth, he should prepare the meals of lunch and dinner as scheduled. Eleventh, at the time of a meal, once food and drink are ready, he should inform the duty physician. [74] Twelfth, since some patients who need purgatives do not have lunch, he should get their meals ready for serving in the afternoon. Thirteenth, when drinks, such as tea and coffee (brewed with cinnamon and ginger), juice of watermelon and so on, are required instead of a meal, they should be given at prescribed hours and in the presence of the second Mirzā. Fourteenth, he should be the first of the functionaries to enter and the last of them to leave the hospital.

XI

The duties of the Third Mirzās (or the Cashiers)[193]

First, they should endeavour to keep the furniture of the hospital [in good condition]. Second, when some defects occur in the equipment, they should repair them themselves. Third, the cashiers should not store dirty garments and bed-clothes in the warehouse. Fourth, after having these clothes washed, they should carefully check them and whatever needs to be repaired should be given by them to the cleaners for patching. Fifth, if garments and the like are stored during a certain period without being used, they should aerate them. Sixth, they should inform the Second Secretary (*nāzer*) any time they notice some defect in the furniture and equipment.

XII

[75] *On the duties of the nurses in the hospital*

From the point of view of the public, working at the hospital and nursing the patients is quite difficult, because laymen think that all diseases are contagious and believe that whoever works in a hospital falls sick after a short period. As yet, the state authorities regarding the nurses have done no solid planning. [However,] I need to point

[193] *tahvildārān*. However, in this context, the *tahvildār* (cashier) mainly keeps utensils, furniture and other equipment, not money.

out here that nursing is one of the main necessities and one of the most important conditions for treatment, to the extent that unless this matter is attended to it is unlikely that any proper treatment can be carried out. At the current hospital there are sometimes more than one hundred patients and, in case all of them are gravely sick, one nurse is needed for every two or three of them. And sometimes the inpatients are reduced to twenty [76] and in this case five or six nurses suffice. Therefore, as the eminent intention [of His Majesty] is to put in order the affairs of the hospital so that the sick soldiers can always come to the hospital, it is necessary that nurses be trained. The nurses should be divided into two categories: the first category should reside permanently at the hospital; the second group should be hired from amongst the regiments that send sick soldiers.

The first category should be divided into three grades. In the first grade are the chef and cook. In the second position are those who prepare and distribute foods and drugs. The ventilation of the rooms also falls within their responsibility. The third rank pertains to those who clean the rooms and other parts of the hospital and wash garments and bedclothes. Amongst them there should be those who, by use of the trowel, make repairs [77] in order to keep the premises [neat and] sanitary. They should prepare fire, water and light for the patients and help those who cannot move. The duties of the chief nurse in the state hospital are the following:[194] At dawn, after his first prayers, he should visit the kitchen to see whether the workers are present. Then he could say the remainder of his prayers[195] in the patients' rooms and, with the assistance of nurses, cause them to perform their prayers.[196] Second, he should order the nurses to clean the rooms before the morning and the evening visits of the doctor as well as after lunch. Third, he should keep an account of the beds, so that when the doctor decides, for instance, that a patient should stay in the room reserved for typhus,[197] he could say that, for example, the fifth bed in the second room is vacant. Fourth, during the distribution of meals he should visit the patients, [78] so that nobody inadvertently remains without food. [In the evening,] after he lights the lamps, he

[194] Lit. "Nowadays in the state hospital the director (chief nurse) whose order is obeyed by all nurses [has to do the following]."

[195] *ta'qibāt.*

[196] *Farāyez* (religious duties).

[197] *Motbeqa.* About this question, see above, footnote 66.

should visit the rooms. Fifth, he should make an inspection at the time of going to bed and designate the duty nurse for the night. Sixth, he must be present during the replacement of the duty nurse, so that the rooms of the patients with severe illnesses are never without a duty nurse. The patients should be under his supervision or control.

XIII

[79] *On the duties of the guards of the hospital*

The office of guard of the hospital is an important responsibility, especially at the time of outbreak of contagious and epidemic diseases. Appropriate attention should therefore be paid to this question. It is not suitable frequently to replace the guards of the hospital, because getting used to the customs and habits of the hospital takes time. The duties of the guards are the following: First, the superintendent of the guards should be reasonable, honest and able to read and write. [80] Second, he should endeavour to protect the hospital's gate in order to prevent people entering or leaving the hospital without permission. Third, he should appoint honest guards at every place where there is a depository for state property[198] sealed by the Second Secretary. Fourth, at the time of the changing of the guard, he should show [the guard] the seals [in place].[199] Fifth, as there will be established a pass or a ticket for [entering] the hospital, he should not permit people—except the functionaries of the hospital—to enter or leave [without this pass]. Sixth, if somebody under the pretext of illness comes to the hospital's gate without a ticket, he should guide the solicitant to a special room, until the Chief Physician or the duty physician comes to examine him (her). Seventh, if a person arrives possessing a pass, he should lead him to wherever he needs to go. Eighth, he should not let the patients leave the hospital except in the early morning, when cured persons are discharged. Ninth, at the time of a patient's departure, [81] he should be careful that he does not smuggle out any hospital property in his luggage. Tenth, he should do what is necessary to clean the outside of the hospital. Eleventh, he should appoint guards for day duty and night duty at the entrance to the latrines, so that nobody could relieve themselves in places other

[198] *Anbār-e dowlati* (lit. state depository).
[199] So that the guards could not claim that the seal was broken.

than the designated toilets. Twelfth, when one of the personnel wants to leave the hospital at an unauthorised hour, he should ask the reasons for his leaving. Thirteenth, he should prevent the people from taking furniture or victuals and beverages out of the hospital without the permission of the Second Secretary. Fourteenth, after the Chief Physician and [other] employees leave the hospital, he should close the gate and entrust it to the guard-on-duty. In this way, he will be kept informed of the people who enter and leave the hospital.

Oh God, how felicitously you bring things to their conclusion.

PERSIAN TEXT

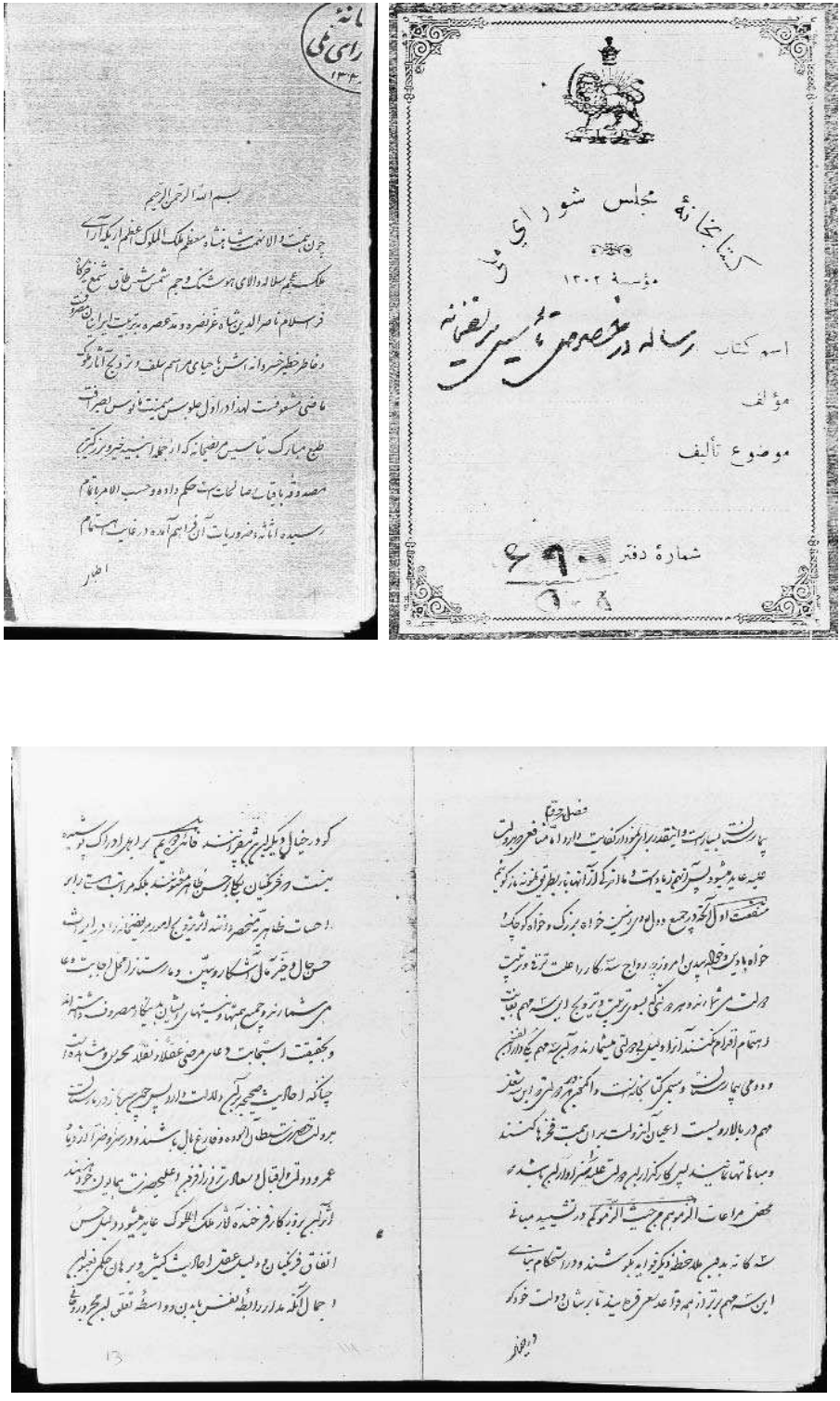

Fig. 8. Manuscript 505 on the Establishment of Public Hospitals.

[در قواعد و منافع بیمارستان دولتی]

بسم الله الرّحمن الرّحیم

[1] چون همت والا نهمت شاهنشاه معظم ملك الملوك اعظم، اریكه آرای ملك عجم، سلاله ٔ والای هوشنگ و جم، شمس شش طاق، شمع نه خرگاه[1] فراسلام، ناصرالدین شاه عزّ نصره و مدّ عصره به تربیت ایرانیان مصروفست و خاطر خطیر خسروانه اش باحیای مراسم سلف و ترویج آثار ملوك ماضی مشعوفست، لهذا در اول جلوس میمنت مأنوس بصرافت طبع مبارك بتأسیس مریضخانه كه از جمله ابنیه ٔ خیر و بزرگترین مصدوقه ٔ باقیات و صالحات است حكم داده و حسب الامر باتمام رسیده اثاثه و ضروریات آن فراهم آمده و در غایت اهتمام [2] اطبای نظام بمراقبت و معالجه ٔ مرضای سرباز اشتغال دارند. ولكن هنوز مبتنی بر بعضی مساهلات بطوریكه از جانب سنی الجوانب پادشاه دین پناه خلد الله ملكه امر شده بانجام نرسیده بود تا اینكه سركار جلالتمدار خدایگان اعظم، عنوان دیباچه ٔ وجود و همم، بنیان

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[1] همانند متون قدیمی فارسی كه بعلت نفوذ زبان عربی، "گ" را "ك" مینوشتند، نویسنده ٔ این نسخه حرف "گ" را بكار نمیبرد. در نتیجه لغاتی مانند "بزرگ" و "درگاه"، در این نسخه با ك آمده اند كه ما تصحیح میكنیم. بهمانگونه، نقطه گذاری این نسخه بسبك كهن است، بدینمعنی كه تمامی جمله ها با كلمات و حروفی مانند: و، وامّا، پس، لكن و جز آن مشخص شده اند. بنا براین ما بلحاظ تسهیل در خواندن نقطه گذاری مدرن را جایگزین كرده ایم. نویسنده همیشه رعایت علاماتی چون تشدید و همزه ٔ اضافه را نكرده است. لازم بیادآوری است كه در این نسخه دستور زبان فارسی قدیم بكار رفته است. مثلاً همزه (ء) بجای (ای) یا (یی) بكار رفته است؛ گاهی حرف اضافه ٔ "را" كه علامت مفعول بیواسطه است، بكار نرفته است كه ما در داخل [ ] اضافه میكنیم. در بیشتر جاها این كلمه، بسبك فارسی پهلوی، بمعنی "برای" آمده است. نگارش این مقاله همگون بنظر نمیرسد؛ با اینحال بیشتر عبارات بفارسی شیوایی پرداخته شده است اما برخی جملات نه تنها آراسته نیستند بلكه از نظر دستوری هم درست نبوده و معنای روشنی ندارند.

سراچهٔ مجد و کرم، سرکار جلالتمدار سپهسالار اکرم بزعامت سپاه و اسفهبدی بارگاه علم شد، باطن و ظاهر و مدارك و مشاعر را بنظم جیش نصرت پناه و خصب عیش ممالك شاهنشاه مصروف خواست و چون یکی از مهمات این کار استحکام امور مارستانت که آسودگی بیماران لشکر و اطمینان تندرستان سپاه بنظم آن موقوف است اشارت فرمود که رساله گونهٔ در اینخصوص نگاشته معروض دارد تا بدانسان که ارادهٔ خاطرش تعلق گیرد قراری در امور آن بنهند.

بدیهیست که در میان خیرات، و از جملهٔ [3] باقیات صالحات، مریضخانه بزرگترین آنهمه است. چه فایدهٔ اینکار منفعت آثار حفظ صحت مزاج انسانیست که واسطهٔ تحصیل مقاصد جسمانی و مصالح ایمانی و معارف ربّانیست و از اینروی اینکار مطلوب طبایع و مقبول شرایع و پسندیدهٔ جمیع دول و پذیرفتهٔ جملهٔ ملل است. و اینك فرقهٔ فرنگ که ملاحظهٔ ایشان صرفه و غبطهٔ امور خود را معروف و مشهور است و همگان دانند که بگمان دریافت اندك سود از زیان جان نیندیشند در جمیع ممالك و مسالك و مداین و امصار و قراء و دهکدجات مریضخانهای بزرگ اساس برافراشته اند و از برای هر یك موقوفات و خزاین و منقولات و دفاین فرو گذاشته اند چنانکه هیچ دهکدهٔ بزرگی نمانده که مریضخانهٔ در آن نباشد. و نزد متتبعین اخبار و متعلمین آثار ظاهر است که نخست بنای اینکار استوار خیر آثار از دولت [4] علیهٔ ایران برخواسته و تقلید ایشان است که اینگونه فرنگستان را آراسته. دریغ و افسوس بر نام و ناموس که خداوندان ادراك و تعلیم، متوطّنین اعدل اقالیم که جمیع ساکنان مسکونه در جمیع کارها تقلید ایشان کردندی، از مراتب ادارك و ادب برکرانه باشند وتیردلدوز طعن را نشانه و ساکنان اطراف مسکونه که ایشان را بفتوی حکما عبید و خدم اند بدین نوع از میانه بلند آشیانه باشند.

از کتب سیر ظاهر است که از عهد پیشدادیان تا زمان استیلای اسکندر برایران همیشه در امصار و بلدین بلکه در دهات و سایر ممالك ایران بیمارستانهای بزرگ وکوچک بر افراشته بوده و در وقت حرکت اردوها هم مریضخانهایی که آنها را بیمارستان متحرّك

نامیدندی از چادرهای پوش بنا گذاشته و بدانگاه که ایرانیان کواکب سیّاره را وسایط فیض و وسایل افاضات [5] خیر میدانستند به هر یك از آنها نذر کرده جمیع ابنیه و اثاثهٔ آنرا برنگ متعلق به آن کوکب ملوّن میکردند. و در شاهنامه بزرگ گوید[2] بوقتیکه دارا بجنگ اسکندر حرکت نمود سیصد و شصت و شش باب بیمارستان همراه بود که مخارج و ما حضر و مطبوخات آنهمه از مطبخ شاهنشاه داده میشد. و ندانم عهدیرا از عهود قدیمه که اینکار خیر آثار در ایران متداول و استوار نبوده مگر آنکه بعد از استیلای اسکندر برایران اندکی از رونق نخستین کاسته بود. و در زمان استیلای عرب بر عجم با آنکه سیرت ملوك کیان بکلی فرسوده گشت باز در اکثر ممالك این رسم ستوده متداول بود. چنانکه از تذکرةالاطبا روشن میشود که چندین بیمارستان در ایران بوده و جمیع اطبای بزرگ در بیمارستانها مشغول مراقبت مرضی بودند. چنانکه در همان کتاب گوید که چون معتصم [6] ارادهٔ سفر مغرب زمین کرد، بختیشوع بجهت پیری از ملازمت خلیفه باقی ماند و افضل شاگردان خود ابوسعید را با چندین تن از مهرهٔ اطباء در رکاب خلیفه روان ساخت. در وقتیکه بخیشوع را خلیفه تودیع کرد گفت: بچه روی پسر خود جبرئیل را از رکاب دور ساختی و ابوسعید را همراه ما خواستی؟ بختیشوع عرض کرد که بیمارستان جندشاپور بر چون جبرئیلی زیاد محتاجست. از اینفقره بواضحی روشن میشود که بیمارستان در آنزمان چنان معتبر و عظیم الشأن بوده که طبابت آنرا بر طبابت سلطان مقدم میداشته اند وآنرا بزرگترین شغلها می پنداشته اند. و هم در عهد یکی از عباسیه بود که رئیس اطبای بیمارستان ری فوت شد و کسیکه بجای او نشیند نبود. اینمطلب بدارالخلافه عرضه داشتند. خلیفه در این باب با وزیر خود شور کرد. مشارالیه بعلت آنکه ابوسلیمان طبیب [7] در امور وزارت

[2] در شاهنامهٔ بزرگ اینچنین گفته شده است.

تصرفات میکرد عرض نمود که بیمارستان ری جای معظمی است و کسی از عهده اینخدمت جز ابوسلیمان بر نیاید و چون این سخن با طبیب مزبور گفته شد نتوانست بدانمعنی انکار کند چه شغلی بسیار بزرگ بود و چهل نفر طبیب مشهور در زیر دست او کار میکردند و اگر تقریر میکرد که وزیر اینمصلحت بجهت دور کردن من از درگاه میجوید باور نمیکردند. بدون اکراه پی خدمت رفت.

اینك صورت دفتر بیمارستان کاشان که در عهد مجدالملك مدتها در این شهر مینو نشان متداول بوده: در میانست که سالی دوازده هزارتومان مداخل ملکی داشته، چهار هزارتومان بمواجب اطبا و سایر کارگذاران مقرر بوده و چهار هزار تومان بملزومات غذا و معادل آن صرف دوا میشد. با آنکه در اول بناء جمیع انواع ادویهٔ مفرده و مر کبه بقدر کافی در آنجا حاضر داشتند و بر ممالك دور دست انهاء کرده [8] بودند که وقت حدوث امراض مزمن و صعب هرگاه طایفهٔ فقرا را احتیاج بدواهای گران بها و عزیزالوجود اتفاق افتد دواخانهٔ کاشان در رساندن آن مضایقه و کوتاهی نخواهند کرد و هر گونه دوا باشد بلاتأمّل فرستاده خواهد شد. و شاید گفتهٔ سعدی، «تا تریاق از عراق آورده شود مار گزیده مرده باشد»، از اینحکایت یاد دهد و اگرنه تریاق را با عراق چه مناسبت؟ بالجمله تداول مارستان در ایران قرنهای دراز و سالهای فراوان از آن آشکارتر است که احتیاج بگواه و برهان افتد و یا خلاف آن بگمان آید چنانکه نام فارسی آن بتخفیف، یعنی مارستان، متداول چند زبان است. عجب آنکه امروز بتقلید ایرانیان نزدیك به پنجاه هزار باب بیمارستان در سطح کرهٔ خاك بنا نهاده اند که یکی از آن در ایران زمین [9] نبود. در یکی از روزنامها نوشته بودند که پیره زنی از یهود در مرض موت وصیت کرده که صد و سی هزار تومان از ترکهٔ او صرف بنای یك باب مریضخانه نمایند. و الحمدلله که پادشاه جوانبخت بصرافت طبع همایون بدین امر خیر حکم فرموده اند و امیدوار است که بزودی این اثر در همه بلدان ایران مشتهر گردد. و اگر پای مساهله از کارگذاران سابق در میان

نمی آمد این رسم خیر که زنده داشتن آثار ملوك سلف است در ایران متداول می شد. و این پنجاه هزار باب بیمارستان که گفتیم نه صرف تخیل و تخمین است بلکه چنانکه ارباب جغرافیا دانند یقین بلکه بیش از این است که بعضی از آنها دولتی و بعضی رعیتی و هر یکیرا از آنها مخارجی معین که روزبروز بمباشرین آنها میرسد و نذور و صدقات ارکان دولت و آحاد رعیت در آنها صرف میشود و هر یکی را [10] از آنها دواخانه های بزرگ و خزینهای پر از نقود و نفایس اموال موجود است.

میخواهم در اینجا بنکتهٔ اشاره کنم که چگونه ایرانیان از صرف خیرات غفلت دارند. در عید اظحی که البته دویست هزار سر گوسفند در دارالخلافه کشته میشود و گوشت نصف آن عفن و بیرون ریخته میشود، این بنده بمریضخانه آمد. مباشر تقریر نمود که امروز گوشت در بازار نیست. بر ادارك او و سایر مردم تعجب کردم! اما به ادراك او که حوالی ما همه گوسفند بود چرا یکی را نمیگرفت. و اما سایر مردم که یکی بدانخیال نیفتاده بود که گوسفندی برای مریض خانه بفرستیم که، سوای سرباز، مجمع فقرا و ملجأ غربا و بیچارگان است و پناه گاه بیدست و پایان و از وطن آوارگان و نذر و صدقات خوارگان. و چون مقصود از نوشتن این رساله ایراد بعضی منافع بیمارستان و ترقیم [11] بعضی قواعد نگاهداشتن آن است اندکی از آن بطریق نمودار باز می نویسیم که اشباع اینمطلب کتابی میخواهد مبسوط و چون نظر بنگارش قواعد مریضخانهٔ دولتی است. و فایدهٔ آن بر دو گونه متصور است که یکی بسرباز و نوکر و غربا و بیچارگان عاید است و دومی بدولت عاید است لهذا آنرا ایراد در دو فصل می کنیم.

فصل اول در بیان منافعی که بسرباز و غربا و بیچارگان عاید است: و در آن دوازده[3] منفعت است. بدیهی است که از میان فنون طبایع علمی که فایدهٔ آن بدیهی الادراك است و عظم غایت آن بلا شبهت و مسلّم

[3] دوانزده نوشته شده است.

سُکّان کرهٔ خاك است علم طب است که مطلوب همهٔ خلایق و مطبوع همهٔ سلایق است و هیچ نقطهٔ از نقاط مسکونه نیست مگر آنکه قدر این علمرا جلیل شمارند و حامل آن فن را نبیل می پندارند [12] چه صحت بزرگترین نعم است و غایت المرام جمیع امم و حفظ آن بهنگام هستی و ردّ آن بوقت زوال بدین فن شریف باز بسته است. و الحق طبیب اگر بخیال هم باشد راحت جان بیمار و آرام خاطر خسته است و هرگاه کسی انکار طبیب کند جمیع خردمندان او را جاهل انگارند و منکر حکمتهای گران بهای پروردگار مینگارند و از اینجاست که هر کس را عزت بیشتر و قدرت رساتر، در مراعات جانب طبیب اهتمام بیشتر؛ و هر که از اهل ثروت و دولت بدون طبیب گذرد حسرت و اندوه و افسوس و دریغ آن روزگاران در دودمان و اولاد می ماند. پس همچنانکه پادشاه و اولیای دولت در هنگام عروض بیماری در خانوادشان کوششها کنند تا بهترین و ماهرترین اطباء را بسر بیمار ببرند، همچنان بر ایشان که ولینعمت سپاه و نگهبان [13] رعیت اند سزاوار است که این معنی در حق بیماران ایشان نگاهدارند.

اوّل آنکه در تربیت اطبّا از بذل مال و ایثار نوال مضایقه نفرمایند؛ دویّم اطبای تربیت یافته را تخصیص داده و بر مراقبت مرضای سپاه و رعیت گمارند؛ سیم اشخاص مجهول و ناقابلرا که صدمه بر مال و جان سپاه و رعیت میزنند از معالجه منع کنند که صدمه ایشان بر مال و جان مردم بیشتر از راه زنان و غارت پیشه گانست. (شعر): دزد شب ره می زند تو روز روشن میزنی. و از اینجا منفعت مریضخانه بچندین وجه روشن میشود.

منفعت نخستین آنکه طبیب ماهر و حاذق که آنرا قوهٔ تشخیص امراض متشابه و قدرت مداوای علل خطرناك باشد کم و بحقیقت کالعدم است و از آن جهت تعیین طبیب ماهر و حاذق از برای جمیع افواج ممکن نخواهد شد. پس بفرض آنکه در میان [14] فوج طبیب معین باشد اکثر در تشخیص مداوا خطا شود و فایده که بر معالجه مترتب است بحصول نه پیوندد. لکن تعیین یکنفر طبیب فطن و هوشیار ماهر آسان باشد که در زمان وقوع امراض صعب خطیره خود بدقت مراقبت

مرضی نموده موافق قانون صناعت باجراء معالجه معقوله پردازد. علاوه بر این چند تن از اطبای نظام همیشه بمریضخانه اندر مقام دارند و البته در امثال این مواقع در تشخیص امراض با هم شور و در تعیین اسباب بدقت غور و در مداوا اهتمام و به پشتی هم به پرستاری و بیمارداری اقدام میکنند و کاری که کمتر کسی را از وجود مملکت میسّر شود بدولت شاهنشاه روحنا فداه برای یکفنر سرباز فراهم آید.

منفعت دوم: بفرض وجود طبیب ماهر در میان فوج و تشخیص مرض بوجه احسن باز معالجهٔ درست در بیرون [15] بیمارستان میسر نباشد بچندین جهت. عمده آنکه خود نمیتواند از عهدهٔ دوا دادن برآید بموجب آنکه سالی سی تومان قیمت دوا مرحمت میشود و اگر طبیب مرضای فوجی را بطریق قانون دوا دهد، صد و دویست بهیچ وجه کفایت نمیکند. لابد باید نسخه نویسی شعار خود سازد و سرباز[4] از صد یکی قدرت تحصیل دوا، خصوصاً دوای کم یاب گران بها، ندارد و بفرض مکنت و قدرت تحصیل، کجا سرباز دواشناس است که بخیرت دوا بگیرد و از آن نتیجه نیکو برد؟ لاجرم در امید نیکی بدی بیند و بسی اتفاق افتاده که دواهای کشنده بسهو برسرباز داده نفسی بعبث در میانه تلف شده سهل است دوا فروشهای دارالخلافه چنان بی مبالات و حریصند که دواهای پوسیدهٔ فاسد شده را بلا تحاشی بمردم میدهند و از این واقعه معارف شهر [16] هم برکران نیستند و اطبای ما بهیچگونه در اندیشه آن نیستند که لااقل قراری در امر دواهای خودشان بدهند. مگر از جانب[5] اولیای علیه در این باب عنایتی شود که چندین خسارت بیکبار بجان مردم نیاید. بیچارگان حق القدم بطبیب میدهند و تنخواه داده دوای فاسد بعوض میبرند و اکثر عوض سود زیان مشاهده می نمایند! ولی در مارستان دولتی اینگونه ضررها متصور

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[4] واژهٔ "سرباز" در این نسخه هم بمعنی جمع (سربازان) بکار رفته است و هم بمعنی مفرد. بطور کلی نویسنده در برخی از جملات رعایت جمع و مفرد را در صرف افعال نمی کند.

[5] در نسخه حباب خوانده میشود.

نباشد بموجب آنکه، بدولت شاهنشاه، جمیع ادویهٔ مستعمله از انواع مفردات و مرکبات و تریاقات و جوهریات عزیزالوجود و گران بها منتخب و پاکیزه موجود است و بهنگام احتیاج داده میشود.

منفعت سیّم: چون طبیب فوج چنانکه عرض شد خود نمی تواند هر دوا لازم باشد بدهد و بیشتر مرضی را دواهای گران بها لازم شود که سرباز قدرت تحصیل آن ندارد، لاجرم بیماری طول میکشد. و طبیب در دفع [17] اکثر امراض کافی نباشد بلکه احتیاج بمدد صناعت دارد و رفته رفته مریض بی قوت و مرض صعب شده کار بهلاکت کشد چنانکه اکثر نوبهای سبك و اسهالات جزئی بدین علت منجر باستسقا و امثال آن گشته و مریض را عبث کشته و چنانکه از منفعت دوم ظاهر میشود از دولت شاهنشاه این عیب از مریضخانه بکلی بر خاسته[6] چنانکه جمیع ادویهٔ گران بها را بوقت ضرورت بلامضایقت صرف میکنند.

منفعت چهارم: سرباز چون اکثر حسن ظن بطبیب فوج خود ندارند، وقت حدوث بیماری طبیب دیگر جویند و از اینکار خسارت ها آید. یکی آنکه به جاهلان طبیب صورت دوچار شوند و بورطهٔ بلا افتند چنانکه بارها اینمقدمه ملحوظ گشته.

منفعت پنجم: چون سرباز بوقت ماموریت سبکباراست، لامحاله بهنگام بیماری احتیاج به بعضی غذاها و دواها افتد [18] که آنهمه محتاج بظرف و امثال آن باشد و بعلت نبودن آنها تدارك آن میسّر نگردد و بدولت شاهنشاه در جمیع اغذیه که بکار بیماران و ناتوانان بیاید در دارالشفا حاضر است که بدون زحمت انتظار همه در وقت خود داده میشود.

و تفصیل غذا بدین قرار است:

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[6] در نسخه "برخواسته" نوشته شده که اشتباه املایی است.

[7] شامل برنج و سبریجات.

نان آبگوشت	نان مربای بالنگ	نان مربای پسته	نان پنیر
نان سکنجبین	نان مربای زرشك	شوربای ساده[7]	شوربای بادام
آش لذیذ	شله	یخ در بهشت	نان و کباب
فرنی	حریره برروی شکر و نبات	حریره بادام	حریره نشاسته و نبات
شیر برنج	آش آلو	زرده تخم نیم برش یافته	شله ماش و عدس
نخود آب	آش انار	آش رزشك	آش تمر
آش دوغ	آش سماق[8]	آب جوجه	گلابی و نارنج
آب هندوانه			

غذای شام، سوای آنچه در نهار حاضر است: [19] هر پلو، گاهی با زردهٔ تخم مرغ و بعضی را با گوشت بدهند؛ چلوبابونه و بهشت؛ چلومسمای آلو. وسوای آنچه تفصیل داده شد بوقت لزوم از هیچگونه غذا مضایقت نشود و چون بتقویت چنانکه احتیاج افتد کباب جوجه و کبك و آبگوشت جوجه و شرابهای خوب چنانکه بعضی شرابهای فرنگستان از برندی و برطو و مادرید صرف میگردد.

منفعت ششم: سرباز، بعلت سبکباری، اکثر از جنس رخت خواب، سوای بالاپوش، چیزی ندارد، و بلکه اکثریرا آنهم میسر نباشد و بهنگام حدوث بیماری که مزاج علیل و قوی ضعیف گردد، رخت خواب و امثال آن از لوازم حفظ بدن از موجبات تصرف هوا واجب باشد بعلت آنکه اندك تصرف هوا بیماری سبك را صدمه بزرگ رسانیده مرضی که بیك کاسه آش گرم و یك ساعت عرق کردن رفع میشود چنان مستحکم گردد [20] که بهیچگونه قابل علاج نباشد. چنانکه بگمان این بندهٔ درگاه بهمین علت همه ساله چندین تن هلاك شده دفین خاك گشته اند. بخصوص در سنه هزار و دویست و شصت و هشت[9] در میان فوج ایلات قزوین مرض ذوسنطاریا شیوع یافت چنانکه عدد مرضی همه روز در حوالی دویست نفر بود و چند تن آنها بجهت نبودن رخت خواب و اقتضای مرض در بیرون مانده بتصرف هوا در حالت ضعف قوت ذات الجنب گرفته، ضعف قوت مانع از خون گرفتن بود. بهیچوجه اقدام

[8] شامل برنج و سبزیجات و حبوبات و سماق.

[9] برابر با 1852 میلادی.

بر معالجه نشد و کار بر آن بیچارگان تباه گشته. ولی بدولت شاهنشاه رخت خواب و سایر مایحتاج بقدر لزوم در مریضخانه حاضر است و از این رهگذر مرضای مریضخانه بکلی آسوده.

منفعت هفتم: یکی از اسباب معالجه تعدیل هوا و تبدیل لباس مرضی است و سرباز چنانکه [21] همه کس دانند بهیچوقت قدرت به تبدیل و تنظیف و پاك داشتن لباس ندارد و لکن از جانب اولیای دولت لباس مرحمت میشود که بر حسب تجویز اطبا و اقتضای قانون مارستانی در تنظیف و تبدیل لباس آنها سعی خواهد رفت.

منفعت هشتم: بدیهی است که جمیع امراض از اختلال امر تغذیه اتفاق افتد و در اکثر امراض تدبیر صناعی و پیمودن غذا بر مقتضای قانون فن بحالت طبیعی بر میگردد[10] و چون امثال سرباز بجملگی عوام و دراستیفای شهوت اکل کالانعامند، هیچگاه مراعات پرهیز نمی نمایند و بهنگام بیماری که زمان بطلان شهوت غذاست یاد از غذاهای متداوله وطن کرده طلب آش کشك و حلوای دوشاب همیکنند؛ و دوستارانش[11] که بحساب پرستارانش باشند مراعات خاطرش در تحصیل غذای مزبور کوشند چنانکه از برای زیاد خورانیدن خود نیز قاشقی چند به تحسین و آفرین نوشند و از این بلیّه هیچ بیماری در نمیرهد. [22] و مرا حکایتها از اینواقعه بخاطر اندر است که اگر آنجمله را بشرح نمایم حمل بر مبالغت کنند. ولی در مارستان سلطانی اینگونه خطا نیفتد و قراول بهیچگاه جز خدمهٔ مریضخانه کسی را بآوردن جنس ماکول و مشروب اجازت ندهد.

منفعت نهم: چونکه اکثر امراض را اعراض خطره و هولناك در پی باشد و گاهی چنان عرض حمله و هجوم نماید که مریض را بحالت مردگان در اندازد و اگر فی الواقع در تدارك آن فی الفور نکوشند

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[10] این جمله را اگر بفا رسی مدرن برگردانیم، بهتر مفهوم میشود: « و اکثر امراض به تدبیر صناعی و پیمودن غذا بر مقتضای قانون بحالت طبیعی بر میگردد».

[11] باید "دوستانش" یا "دوستدارانش" باشد.

کار ساعت دیگر دشوار گردد. چون طبیب همیشه در میان فوج مقیم نیست، اکثر اینگونه عرض مریض [را] هلاك و دفین خاك نماید. لکن در مارستان سلطانی طبیب روز و شبان و حوادث اتفاقیه را راصد و ناظر است و بدینجایگاه از ایراد حکایتی ناگزیر است. بدآن روزگار که کمترین بندهٔ درگاه حضرت شهریار آناءاللیل و اطراف النهار در مریضخانه خدمت [23] سپار بود، نصف شب خبر گذشتن محمدعلی نامی را از فوج خاصه بشنید. چون سرشب چنان حالتی را دراو حدس نکرده بود بفکرت اندر شد و تشخیص واقعه را ببالین او رفت. خسته را گذشته و چشم و دهن بسته یافت؛ ارادهٔ بر گشتن کرد. باز باندیشه رفت؛ کیفیت حدوث مرگرا بپرسید. تقریر کردند؛ بشبهت افتاد. نزول ستکه را تخمین نمود، بلکه بعد از اندك تفتیش یقین کرد. بگشودن بندها اشارت کرد و بتدبیر بپرداخت و هنوز سپیده ندمیده بود که آثار حیات پدید شد و در نظر برادر نومیدش همه تن امید و نوید شد و به سه روز معالجه تمام شد و مریض نیك سرانجام آمد ولی استرخائی سبك بجانب راست اندرش بهمرسید که گمانم هنوز اگر هست با وی همراه است. اما آنکه در وقت وقوع بحرانات مریض را مرده انگاشته و نفیر و ناله برافراشته اند و کمترین بندهٔ در گاه از مقدمه آگاه و گریهٔ ایشانرا کوتاه کرده، نه یك [24] و نه دو و سه و ده است. ایزد تبارك و تعالی از صدق و کذب سخن آگه است.

منفعت دهم: که اعظم فواید است آنکه در اکثر فصول امراض مسریه و معدیه و وافده، مانند جرب و مطبقه و اسهالات، بدارالخلافه میان افواج منصوره نزول، چنانکه از یك نفر بدهه و از دهه بدسته و از دسته بفوج و از این فوج بدآن فوج در گذرد و از این رهگذر بلیّه بمیان افواج افتد. بخلاف زمانیکه که برای سپاه و[12] فرماندهان افواج حتی صاحب منسبهای کوچك هم خاطر بمحافظت افراد از ورطهٔ اینگونه امراض صعب و خطرناك بگمارند. بدین طرز که هر روز

[12] "و" در اینجا نابجا و زائد است.

طرف بامداد بحاضر و غایب فوج رسیدگی کرده، هر کس را که خسته منکسرالمزاج دیدند فوراً دهباشی بوکیل، وکیل بآردل وکیل و او بوکیل باشی رسانده، پس از یقین کردن اختلال حال بلا تامل پیش طبیب فرستند و همیشه بدین تدبیر افواج [25] از امراض مفصله مصون مانده اند و این خود بزرگترین فایدهٔ بیمارستان. و بملاحظهٔ همین منفعت باید رؤسای نظام ظفر فرجام، از اولیای دولت و سپهسالار لشکر انجم عدت، استدعای قرار مریضخانه کنند نه آنکه در فرستادن مریض بدارالشفا تهاون ورزند.

منفعت یازدهم :آنکه چون فوجی ازافواج متوقف دارالخلافه و یا عابرین بجائی مامور میشوند، اکثر درمیان آنها بیماران بدحال سنگین بود که ایشانرا اصلاً قدرت حرکت نباشد و بدیهی است که سرباز را در دارالخلافه خانه و سامانی نیست که بلکه دو روزی نفسی برآرند و هوسی گذارند، لاجرم در میانه تلف شوند. و بیمارستان امثال اینطایفه را پناگاهی و مامنی باشد. چنانکه از افواج قاهره کم فوجی مانده که اینقدر منفعت بدیشان نرسیده باشد.

منفعت دوازدهم: بوقت بهار و استواء نهار و جنبش مور و مار بیچارگان از هر دار و دیار برای عملگی و سایر کسب و کار [26] روی بدارالخلافه نهند بلکه چند روزی کار کرده مشتی سیم بدست آورده از ذل سؤال برهند. و اینان در زمان استیلای گرما و شدت حرارت اکثر اوقات بیمارو زار و زرد و نزار گشته در سایه دیوارهای شکسته، درمانده و خسته بی کس و پرستار می مانند. چنانکه با وصف عدم اشتهار و نقد اعتبار مارستان، سالی دویست سیصد تن در مریضخانه خوابیده و شفا یافته با هزار گونه شعف ازدیاد دولت و اقبال حضرت شاهنشاه دین پناه را از درگاه آگه[13] خواسته باوطان خود روند. عجب آنکه در روزگار گذشته چند نفر غریب را شب بحالت احتضار در پشت دیوار مریضخانه انداخته و رفته اند چنانکه هیچ از فاعل آن کار

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[13]. آله یا اله هم خوانده میشود.

اثری پیدا نشده. و لکن اکثر آنها بحول الله و دولت شاهنشاه شفا یافته پی کار خود رفته اند. و بعضی را از اینها قصد ها بوده که بتدبیرات بیچارها را برهنه کرده و بآنحالت انداخته اند. وبالجمله منافع [27] بیمارستان بسیار است و اینقدر برای نمودار کفایت دارد.

فصل دوم اما منافعی که بدولت علیه عاید میشود
پس آنهم زیاد است و ما اندکی از آنها باز بطریق نمونه باز گوییم.
منفعت اول: آنکه در جمیع دول روی زمین، خواه بزرگ و خواه کوچك خواه با دین خواه بیدین، امروزه رواج سه کار را علت ترقی و تربیت دولت می شمارند و هر دولتی که بسوی تربیت و ترویج این سه مهم بغایت اهتمام اقدام نکنند آنرا دلیل بی دولتی میشمارند که آن سه مهم یکی دارالفنون و دومی بیمارستان و سیّمی کتابخانه است. و اکنون در هر دولتی این سه شغل مهم در بالارویست اعیان آندولت بدان همت فخرها کنند و مباهاتها نمایند. پس کارگذاران دولت علیه را سزاوار آن باشد که محض مراعات *الزموهم من حیث الزموکم* در تشیید مبانی سه گانه بدون ملاحظهٔ دیگر فواید بکوشند و در استحکام بنای این سه مهم برتر از همهٔ قواعد سعی فرمایند تا برشأ ن دولت خود، [28] گودر خیال دیگران باشد، بیفزایند.
فایدهٔ دویم: بر اهل ادارك پوشیده نیست که فرنگیان بکلی بر حسن ظاهر مشغولند بلکه مراتب هستی را بر احساسات ظاهریّه منحصر دانند. اثر ترویج امور مریضخانه را در ایراث حسن حال و خیر مآل آشکار و مبین و مارستانرا محل اجابت دعا می شمارند و جمیع همتها و نیتهای ایشان بدینکار مصروف داشته اند و بحقیقت استجابت دعای مرضی عقلاًو نقلاً محسوس و مشاهده است، چنانکه احادیث صحیحه بر آن دلالت دارد. پس چون سرباز در مارستان بدولت حضرت سلطان آسوده و فارغ بال باشند و در سرا و ضرا ازدیاد عمر دولت و اقبال و سعادت روزافزون اعلیحضرت همایون خواهند، اثر آن بروزگار فرخنده آثار ملك الملوك عاید میشود. دلیل حسن و اتفاق فرنگیان ودلیل عقلی احادیث کثیره و برهان حکمی بعنوان اجمال آنکه: مدار رابطهٔ نفس با بدن و واسطهٔ تعلق آن مجرد روحانی [29] نورانی بر این پیکر مادی ظلمانی بضابطه و خدمت و اعتدال است که از مزاج پدید آمده و بدیهی است که هر چه مزاج مستوی تر ابتهاج نفس برآن بیشتر و غفلت و ذهوش از مبادی عالیه زیادتر باشد. و بهنگام مرض مزاج فاسد آمده از وحدت و اعتدالی که در عناصر بهمرسیده بود بیرون

آمدن گیرد و نفس که بتوسط قوی و ادراکات باطن و ظاهر در ملذات مواد منهمك بود تعلق و تدبیر را از مواد فاسده کندن گیرد و هر چه از تعلق کم کند بر اتصال بمبادی عالیه و عوالم قدسیه فزاید؛ و چون در اینحالت از کسی آسودگی و استراحت بیند و از مبادی عالیه بحضرتش استمداد کند بسبب قرب اتصال آن استدعا و استمداد روز مبادی اثر کند و نهال آمال آسوده کنندگان نفوس بیچاره را پر ثمر کند.

منفعت سیم: چون قرار درست در این کار داده شود و آحاد و افواج غایت مراحم [30] شاهانه را درباره مرضی مشاهده نمایند و ایشانرا در اوطاقهای پاکیزه بر روی تختها و رخت خوابها با پاکیزه رختها آسوده خوابیده و اطبا و کارپردازان و پرستاران مارستانرا چون برادران در اطراف و حوالی آنها مشاهده نمایند بعنایات خسروانه خرّم دلی و تن آسایی بهمرسانیده، سربازی و جان نثاریرا در راه چنین شاهنشاه بزرگ کوچك شمارند و در انجام خدمات دیوانی کوشش جانی و جاویدانی بجای آرند.

منفعت چهارم: پیداست که چون در تهیّهٔ مهمات مریضخانه اهتمام بشود و بنای آن بر قانون طبی و دستورالعمل صناعی بانجام آید و اطبای ماهر بدولت شاهنشاه عهد در مراقبت مرضی غایت بذل و جهد بجای آرند البته سرباز کمتر تلف بشود. و همین ملاحظه در حفظ صحت و ازاله مرض آن قانون طبّی ملحوظ گشته روز بروز برعدّت و قوت آنملك افزوده و در اینصورت [31] منفعت کلی بر رعیت نیز عاید میشود که بدادن عوض سرباز نقصان نبینند.

منفعت پنجم: چون قانون حفظ صحّت و دفع مرض نظام قوام گیرد و شغل مریضخانه چنانکه باید انتظام پذیرد، طبیبان دولت از بام تا شام در مداوا و معالجهٔ مرضی نظام اهتمام کنند و با بصیرت درست و خبرت تمام بتشخیص امراض و تمیز اعراض اقدام نمایند و در صورت مشاهدهٔ امراض متشابهه و علامات متناظره بر وفق قانون عدلی و نظم صناعی با هم شور و در تحریر علل و توجیه علامات بقدر علم و عمل غور نمایند، پیداست که بر بصیرت خود فزایند و چندان مدت نگذرد که طبیبان نکته بین و صاحبان حدس و تخمین کاشف از یقین

در دولت علیه بهم میرسد. آخر ایرانیان در علوم طب همانند که راه نمایندگان دانشمندان یونانند. چونست که اطبای فرنگ امروز [32] باختراع قواعد جدیده و ابتکار فواید و معالجات نوظهور مباهات کنند و اینان در سر تقلید اولین بجا بمانند؟ امیدوار است که اگر از جانب اولیای دولت علیه اندك التفاتی شامل اهل نظام شود طبّ ایران بلند مقام و هنرهای طبیبان ایمانی مشهود خاص و عام و مشهور سنن ایام شود.

و در اینجا فواید دیگر هست که در ایراد آنها جسارت مقام و اطالت کلام هست؛ مثل آنکه اطبای نظام مواجب را بیفایده نمیبرند. چه در زمان سابق نزدیك بدویست تن باسم طبابت و جراحی در میان نظام مقرّری از مواجب و جیره و علیق دریافت میکردند و نصف آنها اسم بلارسم داشتند و چند نفر که بسان می آمدند نصف آنها هم از طبابت بجز نامی بهره نداشتند و این پنجاه نفر بهیچگونه منشاء خدمتی نبودند مگر هفت هشت تن که با صاحب منصبان معقول راه میرفتند و مبلغی که شاید [33] نزدیك بده هزار تومان میشد از مال دیوان باسم قیمت دوا دریافت میکردند که دیناری از آن صرف سرباز نمی شد. ولی امروز بدولت شاهنشاه اطبای نظام هر یکی باندازهٔ خود منشاء خدمتی هستند و رفته رفته بر عمل خود می افزایند و استحقاق مقرری بیشتر از اینها دارند و قیمت دوا که بجز وقت سفر نمیگیرند هم بجای خود صرف میشود. و اگر قانون صحت نظام بر وفق عدل انتظام گیرد شاید همین قیمت دوا که سابق در میانه تلف میشد دواخانه بنیاد نهند که سال بسال آنمبلغ بدوا داده جمع نمایند و در هنگام سفر افواج همان دوا به طبیب داده شود و آنهم بر وفق قانون صرف نمایند چنانکه در میان ضوابط عرض خواهد شد. چه[14] از دوا در میانه ضایع نمیشود و پس از مدتی دواخانهٔ بزرگ مشتمل بر جمیع ادویهٔ مرکبه و مفرده در دولت علیه فراهم آید که یکی از محاسن دولت ناصری ادام الله ایّامه

[14]. چه بمعنای "بطوریکه"، "دراین صورت".

[34] ولیالیه و قرن بابقاء والدوام مساعیه شمرده می شود. بهترآنکه از ایراد منافع مریضخانه بدین قدر کفاف رود.

[پاسخ به نظریهٔ مخالفین تأسیس بیمارستان]

و از این فایده جواب آنکه گویند منافع بنای مریضخانه آنست که سالی مبلغی بدولت ضرری ظاهر می شود. و ضرری که در بنای مریضخانه مشهود است و معلوم دو چیزاست که در جنب منافع کلیه آن کالمعدوم است. یکی آنکه اطبا و کارپردازان و خدمه و پرستاران بیماران همیشه و خصوصاً در زمان حدوث امراض معدیه و مسریه و وافده در معرض خطر باشند، که کمتر کسی از ایشان از نتیجهٔ امراض مزبوره قرین رنجه و شکنجه نباشد. ولی انصاف آنست که در خدمت دولت از خطر اندیشیدن کار بطّالان و سست طبعان است و خدای داند که مرتبهٔ کسانیکه بملاحظهٔ رضای پروردگار و تحصیل مثوبات اخروی خدمت مارستان می کنند پیش خدای بلند است، سهل است، اطبای سلف [35] و پزشکان ماضی بقدر وسع و طاقت، تدارك این خطر و اندیشهٔ دفع این ضرر کرده اند و هر گاه کسی حریص بر شهوات نفس و رغائب[15] گلو و بطن نباشد و با قانون صناعی طریق دخول و خروج مارستان را مسلوك دارد از زحمت سرایت آسوده باشد مگر آنکه قضا آید و طبیب آبله[16] شود. و در این ضمن اطبا را خاصه نفعی است که هر گاه با بصیرت نگرند آنهمه خطر را آسان ببینند بعلت آنکه از شروط و آداب طبابت یکی حضور مارستان است چنانکه در اوصاف الاطبا ذکر می شود.[17] و هر گاه

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[15] در اصل نسخه "رغبات" نوشته شده.

[16] در اصل نسخه "ابله" آمده است. این کلمه میتواند هم ابله، بمعنی نادان، خوانده شود و هم آبله. ترجیح ما بر صورت دوّم است.

[17] استدلال نویسنده در اینجا روشن نیست، امّا پائین تر این علت را توضیح میدهد.

کسی یارای ایثار را داشته باشد باید در ورود مریضخانه منتها کشد و خدمتها کند و کیفیت علاج را موافق قانون عدلی مشاهده نماید وسالی دو بر این بگذارد[18] تا نام طبیب بر آن صادق آید. چه جای آنکه[19] اینان باندازهٔ خدمت از دولت منفعت همی برند لاجرم باید این خطر را سهل شمرند[20] تا بمضمون *ملازمة الملوك* [36] *نصف السلوك* در هر دو نشا[21] بهره یاب باشند.

ضرر دویم، واهمه و وحشت سرباز است؛ چه افراد فوج در سربازخانها از مردن سایرین خبر دار نمی شوند و سیما بیماران آنها؛ ولی در مریضخانه چون کسی فوت شود در دم همه مرضی مطلع شوند، دهشت بردارند و خود را ثانی اثنین متوفی می شمارند. علاوه بر این همیشه چندین فوج در دارالخلافه متوقف است و ناخوشیهای سنگین آنها همیشه در مریضخانه است. لاجرم هر چند روزی بلکه در وقت حدوث امراض خطیره همه روزه و یا یك در میان جنازه از آنجا نقل میشود و راه نقل از میان میدان مشق است. لاجرم معقولین فوج یکی را چهار حساب می کنند و از اینمرحله ترسی بدل اهل نظام نشیند و الحق استیلای وهم بر مرد خصوصا در حالت مرض نتیجهٔ بد دهد. شیخ بزرگوار در قانون میفرماید ان الاوهام انفسها تحرك الاخلاط. [37] چه بسیار دیده ایم که بیمار بد احوال بحیلهٔ طبیب و فسون پرستار خود را صحیح المزاج انگاشته و بامثال لهو و لعب خود را مشغول داشته از دست مرض رسته و در دست صحت نشسته است. و بسا مشاهده نموده ایم که باندك انحراف مزاج خود را باستیلای وهم رنجور و خسته دانسته و بالاخره چنانکه خود توهم نموده چشم از زندگی بسته و بسرای جاوید پیوسته است. لکن تدارك این ضرر را

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[18] در اصل "بگذارند" نوشته شده است.

[19] "چه جای آنکه" بمعنی بعلت آنکه.

[20] در نسخه "شمرد" آمده است.

[21] این واژه دانسته نشد. برای مفهوم تخمینی این جمله به ترجمهٔ انگلیسی متن رجوع شود.

هم اطبای پیشین برهنمایی رأی رزین بوجه احسن کرده اند و چون بدولت شاهنشاه قرار درست در امور مارستان داده آید باندك روزی نیك نامی آن بپایهٔ برسد که مریض باصرار کلی و ابرام زیاد خود قصد مارستان کند و چون از دولت شهریار زمانه دستگاه[22] چاق شده بمیان فوج برگردد تحریك همه یاران و دوستان کند و اینجمله بحول الله و دولت شاهنشاه بر کمترین بندهٔ در گاه جهانیان پناه آسان باشد.[23]
[38] اکنون شایسته آن باشد که اندك مایهٔ از لوازم آئین نگاه داشت تندرستی نظام عرض شود تا بهر طرز که مقرر گردد در انجام آن کوشیده آید.

در بیان تعیین کارفرمای صحّت گرای حفظ صحّت رعیت و سپاهی

پیداست که آبادی ممالك و عدت عساکر بر انضباط آیین حفظ صحت و تندرستی و قانون دفع بیماری منوط است و هر قدر که در تشییع قوانین و توثیق موجبات آن زیادتر اهتمام شود سبب آسودگی خاص و عام گردد و پس بهمین لحاظ کفیلی کافی و مشیری اشارت جوی و بشارت گوی از برای اینکار سزاوار باشد که بمقتضای فطرت پاك در این شغل نبیل بنگرد و بقدر امکان درجمیع ممالك و ایالات و بلدین اطبای درست کار خداوند کردار و گفتار بر مداوای مردم گمارد و نفوس محترمه را که ودایع حضرت [39] پروردگارند و سپردهٔ شهریار در دست مردمان جاهل طبیب نما نگذارند تا ممالك ولینعمت خود را معمور و مهالك را از حول و حوش ودایع حضرت عزت دور گردانند.

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[22] دستگاه در اینجا بمعنی قدرت، جاه، جلال و ابهت، و دولت بمفهوم بخت و برکت آمده است.

[23] عبارت "بر کمترین بنده" بمعنی از دیدگاه این کمترین بنده.

[24] در اینجا جملهٔ زیر آمده ولی نویسنده روی آن خط کشیده است: «و بندهٔ درگاه در این باب رسالهٔ معروض داشته امید که مقبول افتد.»

اما در نظام: پس کارفرمای و نگاهدارنده[24] صحت لشکردر دول دیگر صاحبمنصبی باشد بزرگ که او را در سلك وزرا و سرداران محسوب میدارند و باید مردی باشد با خبرت و دانا و بصیر بر رسوم انسانیت، بینا، دارای علم اخلاق، مطبوع بر احسان، مجمول بدولتخواهی سلطان سلیم النفس و رقیق القلب، اندوهناك از مشقت و هلاك انسان بلکه کاره[25] اذیّت انواع حیوان که اینگونه نفس پاك چون بدین شغل نبیل سرافراز شود منصب و رتبه خود را بزرگترین مناصب بیند که بحقیقت عافیت با امن یعنی [40] صحت در ظلّ عاطفت شهریار بزرگترین نعم پروردگار است. و لاجرم فرمان گذار آن صاحب رتبه و مقام باشد. پس اعوان و زیر دستان خود را از مردم نیکوکار و نیك کردار و متّصف باخلاق حمیده واخلاق پسندیده فراهم آرد و تن برنج و تعب داده شبانه روز را صرف تکمیل شروط و لوازم اینخدمت نماید. پس عدد اعوان اتباع و زیر دستان او بموجب ضرورت از جانب جناب وزیر جنگ تعیین خواهد یافت و چون در هر محلّ و شهر و بلد که فوجی و یا بیشتر از عساکر نصرت مآثر متوقف باشد در آنجا مارستان شایسته مقام لازم گردد خواه بروز جنگ در میان ویا بیرون قلعها و در امکنه انتظار فرصت و خواه بهنگام صلح از برای حفظ سر حدات و یا انتظار ماموریت تازه و یا برای نظم ولایات و یا بجهت حفظ شهر [41] و بلد از شرّ و فتنه و یا برای تعلیم فنون مشق و قراولی. و سوای اینها در اردوهای متحرك مارستانهای روان هم از لوازم حفظ صحت باشد. چون مبنای عمل براین باشد در هر مریضخانه کارفرمایی و رئیس معالجه و طبیبها و جراحها و دواسازها، آنگاه نویسندها و پرستارها بقدر اندازه و گنجایش مرضای افواج لازم باشد و آنچه در این دولت علیه بنای مریضخانه در آن امکنه[26] سزاوار است بدین تفصیل است:

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[25] کاره (ناپسند داشتن کاری و روی گرداندن از آن)، در اینجا مخالف بودن با اذیّت حیوانات.

[26] در اصل نسخه "انکه" نوشته شده است که باید اشتباه املائی باشد.

دارا الخلافهٔ طهران	دارالسلطنهٔ تبریز	دارالدولهٔ کرمانشاهان
دارالسطنهٔ اصفاهان	دارالعلم شیراز	ابوشهر
مشهد مقدس	کلات	کرمان
سرحد رشت	سرحد عربستان	سرحد ذهاب

پس در هر یك از این امکنه مارستانی لایق اندازه، [42] چنانکه رای سپهسالار لشکر خواهد، بنا گذارد که مرضای متوقفین سپاه آسوده باشند.

و از جمله امکنه و بلادی که ساختن مارستان در آن برای دولت علیه اجر جزیل و اسم جمیل دارد، عتبات عالیاتست که برسم مشهد مقدس درآن امکنهٔ مقدسّه مارستانی بغایت وسیع بر افرازند و جمیع مایحتاج آنرا مهیا سازند، خصوصاً در کربلای معلی که اکثراً اقامتگاه غربای مرضی میباشد با آنکه[27] برافراشتن دارالشفا و فرانهادن این بنا از موقوفات خاصهٔ این امکنهٔ مقدسه بدون ضرر دولتی میسور است.

و اداره امور اینهمه را بدست کارفرمای عافیت باید گذاشت. بدان غایت که هر کس از افراد سرباز چون از لباس تندرستی عریان شود بطوریکه بستری بودن او محقق گردد از هر فوجی شد صاحمنصب آن فوج سرباز بستریرا موقتاً از فوج خود اخراج انگاشته و جمع کارفرمای عافیت دانسته فی الفور بهمراهی وکیلی او را هر جا باشد بمارستان آن محل فرستاده تسلیم رئیس معالجهٔ مارستان کرده سند قبض نموده، بمهر کارفرمای عافیت رسانده بصاحبمنصب خود سپارد. و بدیهی است که آنوقت کارفرمای عافیت و رئیس معالجه سرباز بیمار را جمعی و سپردهٔ خود دانسته، اهتمام تمام در مراقبت احوالش خواهند نمود. و خصوصا رئیس معالجه [43] که اصلاًدر فراهم آوردن اسباب آسودگی آن تهاون جایز نخواهد داشت که تهاون در جزئیات خدمات عافیت موجب آفت و مخافت باشد. آنگاه رئیس معالجه بیمار را بیکی از زیردستان خود سپرده سندی مشتمل بر احوالات آن بیمار چنانکه

[27] با آنکه بمفهوم "ضمن آنکه".

بعد از این در جدول شرح میشود گرفته ضبط نماید.

عدد کارپردازان مارستان:

کارفرمای عافیت	که رئیس جملهٔ صاحب منصبان عافیت است
رئیس معالجه	که حکیم باشی و جمله امور علاجیه با اوست
طبیب اوّل	که امراض مزاجیه بایشان سپرده می شود
طبیب دوّم	که بنوبت در مریضخانه میمانند
طبیب سیم	معاون اطبا است در اجراء معالجات
جراح اوّل	که اعمال ید باو سپرده میشود [44]
جراح دوّم	که معاون است در اعمال [ید]
جراح سیّم	که بستن و شستن زخم با او است
دواساز اوّل	دواخانه بدو سپرده میشود
دواساز دوّم	بر جمیع دواخانه و ساختن ادویه معاونست
دواساز سیّم	توزیع و تقسیم دوا با اوست
میرزای اوّل	دفترهای مریضخانه باو سپرده میشود
میرزای دوّم	ناظر مریضخانه است که لوازم غذا بدو سپرده میشود
میرزای سیّم	تحویلدار جزء و معاون ناظر است
پرستار اوّل	که حافظ لوحهای شماره دارند[28]
پرستارمرتبهٔ دوّم	که در تقسیم دوا وغذا او اصلاح هوا کوشند
پرستارمرتبهٔ سیّم	که متحمل زحمات بیمارها باشند.

اکنون اخلاق و اطوار و تکالیف کارپردازان مارستان را [45] جدا جدا شرح باید داد تا هر یکی اندازهٔ خود را دانسته نگاه دارد تا کار مارستان بدلخواه نظم گیرد.

در اوصاف و اخلاق و تکالیف کارفرمای عافیت نظام:

در عنوان فصل جسارت شد که کارفرمای عافیت مردی باید دانا و

[28] در اصل نسخه "شماره اند" نوشته شده است.

خردمند، مجبول برحسب تندرستی انسان بلکه مجتنب از ازهاق نفوس انواع حیوان، درست کار، راست گفتار، امین و با دیانت، جامع آداب ریاست و مجری احکام سیاست، که آن گونه شخص را اولیای دولت علیه برجان بیماران عساکر منصوره امین مینمایند. واما تکلیف آن پس از این قرار است که:

تکلیف اوّل آنکه در فراهم آوردن اعوان و زیردستان خود غایت دقت بجای آورد و مردمان نا اهل گزاف کار نا اهل دورغ گوی هوس پیشه و فتنه اندیشه [46] را داخل معرکه صاحبمنصبان عافیت نکند بلکه همه اجزا و اعوان و زیردستان خود را از جمله اشخاصیکه اوصاف آنها در ذیل عرض خواهد شد فراهم آرد و هر چند امور مارستان را برئیس معالجعه خواهد سپرد لکن بهیچگاه از مراقبت بیماران و کارگذاران غفلت ننماید.

دوم آنکه سعی درست در اجراء موجبات نظم مارستان کند و هر کسی را در سر شغل و عمل خود گذارد و چنان کند که همهٔ اعوان و زیردستانش بدون تهاون و سستی پی خدمات مرجوعه و تکالیف مقرّرهٔ خودشان بروند و هر گاه از کسی جزئی خلافی ببیند خصوصا جائی که در کار عافیت زیان باشد از او تجاوز نکند.[29]

سیّم: هر روز ساعتی بمریضخانه رفته بکار و کردار اعوان و انصار و حرکت و سکون ایشان [47] رسیدگی نماید.

چهارم: وقایع روز گذشته را جزئیاً و کلیاً بروزنامه خواسته ضبط فرماید و روزنامه دیگر جداگانه باولیای دولت عرضه دارد.

پنجم: مخارج یومیهٔ مریضخانه را فردی جداگانه خواسته کنارش را صح، بتحویلدار سپارد.

ششم: مخارج اتفاقیه را که در دفترخانه جداگانه ثبت و ضبط میشود ملاحظه کرده، خط صح بگذارد.

هفتم: جمیع مخارج مریضخانه که از دیوان بازیافت میشود باطلاع و استحضار ایشان باشد.

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[29] "تجاوز نکند" بمعنی "از خلاف او نگذرد".

هشتم: چنانکه در هنگام خلاف و سستی در خدمت تنبیه و تغذیر لازم میداند، در وقت ملاحظهٔ نیکو خدمتی مصدر آنرا بامید و نوید دلخوش دارد واگر خدمت بزرگی مشاهد کند انعام و احسان از قبل اولیای دولت دریغ نکند.

نهم: مخارج مارستان را بطریق اکمل برساند.

دهم: جیره و مواجب کارگذاران مارستانرا [48] بقانون مقرر دولتی وصول کرده برساند و باید قراری در این باب گذارد که بتوانند باسودگی مشغول خدمت باشند و خیال تحصیل گذران ایشان را از مراقبت خدمات مرجوعه بازندارد.

یازدهم: موجبات فراغت مریض را بهر وقت که لازم ببیند در فراهم آوردن اسباب آن سعی فرماید و هر اسبابی که ساقط و از درجه استعمال بیفتد بتبدیل آن حکم کند خصوصا در باب رخت خواب و ملبوس که مراعات جانب آنها از لوازم باشد.

دوازدهم: هر گاه در حجرات و اوطاقهای مارستان و یا در و دیوار آن شکستی ملاحظه نماید به تعمیر آن حکم کند.

سیزدهم: گاهی بغفلت در سر دوا و غذا حاضر شود که حرص طمع، سایرین را از درست کاری باز ندارد.

چهاردهم: در هنگام ملاحظهٔ امراض صعب، بشورای اطبا داخل شود و ایشانرا بانصاف و حزم امر فرماید. موجبات حفظ صحّت در میان سرباز خانها بحکم ایشان باشد.

[49] پانزدهم: هر وقت لازم شود که در سربازخانها طبیب سرکشی نماید بفرستد.

شانزدهم: در وقت حدوث امراض مسریه و معدیه اهتمام درست در تنظیم قوانین عافیت بمیان افواج نماید.

هفدهم: در وقت سفر و حرکت سپاه، تعیین طبیب و جراح بصوا بدید رئیس معالجه و ایشان باشد و بالجمله لوازم معالجت بحکم او جاری شود و کسی را در آن مداخله نباشد.

در اوصاف و اخلاق و تکالیف رئیس معالجهٔ نظام

چنانکه بسابق ارشات کردیم این شغل از امور مهمه و مشاغل معظمه است چه نفس چندین نفر مردم بیچاره را بدست طبیب نا کرده کار و نابکار دادن منشاء سخط پروردگار باشد و الله. اعیان دولت و کارگذاران مارستان بلکه همهٔ معارف و اعیان را لازم است که در حالت طبیب مارستان خاصه رئیس ایشان نگاه کنند که روزگار گذشتهٔ خود [50] را در چه صرف کرده و زمان حاضر چون منفرد و متروك بالطبع است همتش و حرفش بچه مرجوعست. پس هرگاه روزگار عزیز و زندگی گرانمایهٔ خود را در تصفّح کتب و نوشتجات اطبای بزرگوار از سلف و خلف بسر برده و چون حال فراغتی پیدا کند بهتر از مطالعهٔ کتب کاری ندارد، در نزد او نیکی گمان کنند. و هر گاه روزگار خود را بجز آنچه ذکر شد صرف و ضایع نموده وچون او را بحال خود گذارند باشغال دیگر پردازد، خصوصا اگر شراب کشد وقمار بازد البته نفعی نزد او گمان نکنند. و نیز باید نگاه کرد در حال کسانی که عمر در تصفّح کتب و مطالعه رسایل اطبا بسر برده اند، که مقدار ذهن و هوش و فطنت و سرعت انتقال آنها در چه پایه است واو را در ادراك علوم عقلیّه و دریافت فنون نظریّه چه مایه. ترتیب قیاسات را بر چه اساس نهاده و ترکیب اقتباسات را از چه مقیاس گشاده. اگر در او قوهٔ حل وعقد [51] و ردّ و نقد و ملکهٔ کشف معضلات و رشف معقولات بینند، از گمان خیر بالاتر روند و نیك و خوب نزد او یقین نمایند. و اگر با وصف صرف عمر ذهنش را بلید یابند کارش پلید دانند و از آن روی برتابند. و نیز با وصف صرف عمر در مطالعات و مباحثات و اتقان قواعد و توقد و ذکاوت و هوشیاری باید دید که با اساتید[30] بزرگوار مجالست نموده وراه مطبهای مشحون با بیماران و مارستانات را بچه پیموده و از هر گونه مریض چندین تن در دست او فرسوده و آسوده، بیماران بسی ازین سوی بدان سوی گردانده و آیت *و نقلبهم ذات الیمین و ذات الشمال* همه روزه خوانده، همه چیز

[30] در نسخه: استادید.

نزد او دانند و *کل الصید فی جوف الفری* خوانند. و باید با این سه وصف که جامع جمیع اوصاف طبابت است، صفت خدای ترسی داشته باشد که دل نازکش با حوال حیوانات سوزد تا ملهم غیبی [52] با همهٔ علمش علم لاریبی آموزد. وآنگونه طبیب بهر روزگاری یکی دو تن باشد. پس اگر جامع این فضایل موجود نباشد، بضرورت ممارس کتب از غیر ممارس بهتر و هوشیار رشید از نادان پلید نیکوتر و چون طبیب خردمند هوشیار، متتبع کتب اطبّای روزگار باشد از دیگران بهتر است اگر چه در مشاهدهٔ مریضخانه و معالجهٔ بیمار کم کار باشد چه عامی و امی و بلید و ذمی اعتماد را نشایند.[31] و بدیهی است که چون کردار وگفتار پیشینیان در نفسی منتقش نشود، از کوشش یکتن عامی بلید چه خیزد؟ و یا کسی که روزگارش را بهرزه گری و یا لهو لعب گذارنده باشد چه چیز انگیزد؟ و البته اینگونه نا اهل را بر نفس محترمه حاکم نتوان کردن خصوصاً بر نفوس کثیره و خصوصاً بر نفسی که تنها حیاتش سبب حیات عالمی باشد. و ازاینجاست که بودن حکیم باشی حضور معدلت ظهور متصّف باعلی درجه صفات مرقومه از شروط مقبولهٔ دولتست.

[53] اکنون آنچه بر اینگونه طبیب لازمست نگارش می یابد. طبیب مارستان بعد از آنکه متصف بصفات مرقومه شد، او خود جمیع قواعد را نیکو شناسد لکن در اینجا جهت تذکره ذکر میشود که حکیم باشی باید بشکرانهٔ علمی که ایزد تبارك و تعالی بدو داده و بمنّت نعمتی که ازجانب شاهنشاه بدو[32] افاضه شده بهیچگاه از حالت بیماران نظام خاصه آنچه داخل مارستان شده غفلت نکند که دراندك تهاون نقصان جان محتمل است وآیهٔ *ومن یُقتُل مؤمنا متعمد الجزائه جهنم* بحال او مشتمل. پس باید درغایت تیقظ و بیداری و نهایت توقد و هوشیاری لوازم علاج را فراهم آورد.

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[31] در فارسی مدرن این جمله باینگونه نوشته میشود: "چه عامی و امی و بلید را اعتماد نشاید"

[32] در نسخه "بر او" خوانده میشود.

تکلیف اول: طبیب و جرّاح بقدر مقدور از آنگونه مردم فراهم آرد و در صورت عدم امکان از صاحبان علم و خداوندان ذکاوت جمع کند که خود تواند باندك مدت اینگونه اشخاص را بدلخواه تربیت کند.

دوم: از کار [54] دوا و غذا بهیچوقت ذهول نکند که بدون انتظام آنها جمیع سعیها هدر است وجمیع علمها بی ثمر و خصوصاً در امردوا که درنقصان وفساد آن خطر بیشتر است. والبته که دواساز نباید آدم بیدیانت باشد بلکه باید در علم و دانش و ادراك و هوش وامانت نزدیك باشد بآنچه در اوصاف رئیس معالجه مذکور شد و باید هر دو با هم جلیس باشند که خطر ازمیان برخیزد ومعالجه مخاطره نانگیزد. و اینجمله که درامر دوا نگارش یافت در کار غذا هم جاری است.

سیّم: چون اجزا و ارکان معالجه را بدلخواه حاضر ساخت و از جانب سپهسالار لشکر حکم بآمدن مریض شد و بقانونی که دربیان علاحدّه برای آوردن بیمار مرقوم میشود مریض به مارستان داخل گردید و در محل معین از برای تشخیص مرض وتعیین منزل نگاه داشته شد[33] باید ببالین سر [55] مریض خود بنفسه با اطبا حاضر آمده بدقت در احوال و علامات و اعراض و دلالات مرض او نظر کنند و موافق حدت وازمان وسهلی وصعبی و تمایز و تشابه مرض طریق مشاهده پیمایند.[34]

چهارم: چون بیماری را مشخص کرد، بهرکس از اطبا و جرّاحین که موافق قاعدهٔ صناعت سپردنی باشد بسپارد تا او باقتضای قانون مارستان بیمار را بمحلّی که سزاوار اوست نقل دهد و بشماره در سرجای خود خوابیدن فرماید.

پنجم: هیچگاه امراض معدیه ومسریّه و وافده را با سایر امراض بیك اوطاق منزل ندهد و همچنین لباس ورخت خواب اینگونه بیماران را بمرضای دیگر نپوشاند.

ششم: مرضائیکه مأیوس العلاج گردند منزل جداگانه معین کنند

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[33] "نگاه داشتشد" و "نگاه داشتند" هم خوانده میشود.

[34] "پیماید" نوشته شده است.

تا بیماران از حالت متوفی بیخبر باشند که استیلای وهم بربیمار از اسباب تزاید مرض باشد. رخت خواب [56] متوفی را بعد ازتنظیف چند روز بهوا دادن لازم داند.

هفتم: در اولّ هر هفته یکبار بتبدیل لباس مریض حکم کند.

هشتم: در هر سه ماه یکبار بزدن دهد.

نهم: شماره، اسم و رسم و سن وفصل و بلد و مزاج و مرض و اسباب و علامات و اعراض مرضی بیمار را ضبط دهد و دوا [و] غذا را روز بروز با تبدیل علامات و دلالات[35] و سایر حالات بنگارد و بدین آئین همیشه همگانرا نگاهدارد و همه روزه بدین نسق سرکشی مرضی کند.

دهم: پس از فراغ بسر دوای بیماران رود و دوای هر یك از آنها را بدست پرستار امین بسپارد و اکثر دواها در محضر خود و یا طبیب نوبتی و یا طبیب معین امراض دادن ممکن باشد.

یازدهم: پس از قسمت دوا بغذای مرض رسیدن کند.

دوازدهم: باید بعضی روزها به طبیب نوبتی مطمئن نشده خود بناگاه در سر غذا حاضر آمده که بدی و نیکی امور مارستان بهر حال بر او عاید و بد نامی و نیکنامی [57] بهرهٔ او خواهد بودن.

در ترتیب و اوصاف و تکالیف اطبای مریضخانه

اطبای مارستان مرتّب بسه طبقه از قوانین صحیح معقول است و درضبط قواعد علاج با ملاحظهٔ اصول دیگر منافع آن پیش جمیع دول مقبول.

نخست طبیب اول است که معالج باشد وهرچه در اوصاف رئیس معالجه عرض شده در خصوص طبیب معالج معتبر است. لااقل آن است که قادر باشد بر تشخیص امراض و تفرقهٔ اعراض و این گاهی ممکن است که فنون پنجگانهٔ طب را بتحقیق از روی کتابی معتبر مثل قانون و کامل الصناعه ضبط نموده باشد. وهرچند تحصیل طب

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[35] در اصل دلات نوشته شده.

بهمه زبان میسر است لکن آن نکات دقیقه ووسوقات انیقه و عبارات رشیقه که درکتب عربیه ملحوظ است بر ادراك و ذکاوت و هوشیاری طبیب میافزاید [58] و طب فارسی پیش دانشمندان صناعت ساقط وهابط است. و از اینجاست که حنین ابن اسحق،[36] که کتب فن را از لطینی ویونانی و عبرانی و کلدانی و قبطی و سایر زبانها بعربی نقل کرد، پیش حکما جلیل القدر است بعلّت آنکه کتب مزبوره در اصل زبان براین مثابه مشتمل نکات ودقایق نبوده. ولکن ثابت ابن قره که کتب مزبور را با کتب مترجمهٔ حنین بفارسی نقل کرده پیش افاضل سفله و ساقط است از آنکه بعلت عدم کفایت زبان بعضی از نکات ترك شده و حال آنکه از افاضل بوده. و بالجمله دانشمندان نیکو شناسند که کتب عربیه بر ذهن وذکاء طبیب بیفزاید و اگر چه بی سوادان این سخن از من نپذیرند، و البته کسی که قوه مطالعه قانون نداشته باشد معالج نخواهد بود.

طبیب دوم مداوی است که آنهم باید فنون پنجگانه را بدرس در نظر گذرانده و لکن هنوز بلکه تفرقه امراض و تعرفه [59] اعراض نرسانده وچون معالج تشخیص مرض کند و سررشته بدست آن میدهد. در اجرای قواعد قوم مقتدر و با بصیرت باشد.

طبیب سیّم معاون است که در فنون پنجگانه مرتبهٔ درست ندارد و لکن درترصّد[37] آنست که قدم بدان مقام گذارد که میتواند واسطهٔ عرض اقوال و احوال میان طبیب معالج و بیمار شود. و اصل مقصود از این ترتیب آنست که طبیب معالج، که مقتدر باشد بتفرقه وتعرفهٔ علل، امروز در ممالك ایران کم و اگر راست خواهی کالعدمست. لهذا اگر این ترتیب ملحوظ شود اکثر آنکه در معالجه خطا کمتر افتد و نفع دیگر از این بهتر آنکه اطبا بکسب هنر کوشند تا بمقام تکمیل

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[36] در اصل حنین اسحق آمده است.

[37] در نسخه مرصد آورده شده که اگر مُرصّد است اشتباه است و اگر بفتح اول و سکون دوم است که در این صورت این اصطلاح از نظر دستوری درست ولی قدیمی است.

رسند و بعد ازمدتی در فضیلت میان معالج و مداوی و معاون فرقی نمی ماند.

تکلیف اطبای مارستان آنکه صبح زود بدآنجایگاه حاضر آیند و هر کس را از آنها که شغل معین است [60] مشغول انجام خدمت باشند. اول، هر کس که رئیس معالجه مریض بدو سپرده اند باید صبح زود بسر بالین او حاضر آید. دوم، هر چند[38] رئیس معالجه در اجراء آن بعموم مرضی مختار است طبیب و جرّاح و معالج هم بمرضائیکه بایشان سپرده اند در آن امر مختارند. سیّم، هر مریضیکه[39] بایشان سپرده شده صبح زود دوا و غذای آن را معین نمایند مگر آنکه در سیر مرض عرضی اتفاق افتاده باشد که متوقع نبوده از انتقالاتی که اکثر اتفاق می افتد که در اینصورت اطلاع رئیس معالجه را لازم داند. چهارم، اعراض مرضیه را در سیر بیماری مطابق قانون دیدند چون،[40] دوا و غذای آنرا بتجویز[41] صناعت بروزنامه ضبط کنند و صورت دوا و غذا را بلوحهٔ شماره با عوارض مرضیه که در آن روزبهمرسیده نقل نمایند و هرگاه درجائی تردید رأی بهمرسد، با اطبای دیگر مشورت [61] و لوحه را چنان واضح بنویسد که هر کس از اطبا بدآنجا گذرد بدون آنکه سؤالی نماید حقیقت مرض وتفصیل علاج را مشخص نماید. پنجم، بعد از تعیین دوا وغذا روزنانهٔ غذا را بناظرو روزنامهٔ دوا را بدواساز دهد که از قرار دستورالعمل بحاضر کردن دوا و غذا مبادرت کنند. ششم، باید جملهٔ دستورالعمل یومیهٔ خود را به طبیب نوبتی حالی نماید. چون از آنجمله فارغ شد و در مریضخانه گمان خدمت دیگر نماند میتواند رفتن خود را برئیس معالجه و طبیب نوبتی

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[38] عبارت "هرچند" باید "هرچه" باشد بمعنای "همانطورکه". در پایان صفحهٔ 64 نیز "هرچند" بکار رفته است. ظاهراً "هرچند" در فارسی قدیم بمعنای هرچه و همانطور که بوده است.

[39] هر مرضیکه آورده شده است.

[40] در پارسی جدید این جمله میبایست بدینگونه باشد: چون اعراض مرضیه را در سیر بیماری مطابق قانون دیدند، دوا و غذای...

[41] در نسخه بتجوز آمده است.

رسانده پی دیگر مشاغل برود. هفتم، تکلیف طبیب و جرّاح و دواساز نوبتی، چنانکه در تکالیف رئیس معالجه ذکر شد، باید هر روز بنوبت یکنفر طبیب و یکنفر جرّاح و یك نفر دواساز بمریضخانه اقامت کنند و تبدیل نوبت بوقت سحر خواهد بود وایشان ماذون نباشند که پای از مارستان بیرون گذارند بلکه تا وقت نوبت ملازم منزل باشند. و غذای [62] شام و نهار و سایر مایحتاج از آشپزخانهٔ مارستان باندازهٔ غذای صاحبمنصبان داده میشود.

و منافع بودن اینها در مارستان آشکار و بسیار است از آنجمله گاهی عوارض مرضیه چنان سخت می آید که اگر فوری تدارك نشود بعد ازساعتی فایده ندهد. میشود که بعضی بیماران را حالت آمدن بوقت صبح ممکن نمیشود؛ در ظهر و عصر مثلا بمریضخانه میآیند و گاهی میشود که مرض صعب حاد اتفاق می افتد که در میان آن بمریضخانه نقل میکنند و اینجمله بودن هر سه نفر را لازم دارد.

در اوصاف و تکالیف جرّاحان مریضخانه

در اوقات حوادث جنگ وجود جرّاح قابل الزم لوازم باشد ودراینجا شرحی از اوصاف و اخلاق جرّاحباشی نوشته میشود. و چون در اوصاف حکیم باشی تفصیلی رفته اینجا نیز عرض میشود [63] که جرّاح باشی نیز باید متصف باشد باوصافی که در حکیم باشی مذکور شد چه اینصناعت چنانکه پیداست جزو فنون طبّیه است اگر چه فضل و سواد و هنر در اینجا بدآن پایه معتبر نیست و لکن امانت و دیانت و اطلاع بر اعمال گذشتگان و قانون پیشینیان است. لازم است که عمر خود را بمطالعه و مباحثه و مشاهده گذرانده باشد و خصوصاً در مشاهده که در اعمال ید مشاهده شرط بزرگ است وعمده است. لکن امر و کار جرّاحی در این ولایت مختل تر از طبابت است بموجب آنکه خداوندان فضل و هنر دامن حکمت بلوث این صناعت نیالوده اند وسفله و جهله بجانب آن میل کرده اند و بدین روی این صناعت ساقط مانده و این خود جریمه[42] بقراطست چه پیش از او رئیس اطبای

[42] این کلمه درست خوانده نشد. میتواند جرمه یا جرم باشد.

مارستان جامع بود میان طب وجرّاحی و کحّالی و دواسازی و او بمراعات جلالت قدر، سه تن از شاگردان خود [64] باینکارها نامزد کرد و خود متحمّل اعمال معالجهٔ امراض مزاجیّه گردید. و هر چند در مریضخانها باوقات صلح وجود جرّاح بدان پایه نیست، چه اکثر جروح و قروحی که بحالت صلح بهم میرسد[43] همه امراض مزاجیّه محسوب میشود که باید باصلاح مزاج معالجه شود، و لکن بعلّت آنکه گاهی اعمال ید هم اتفاق میافتد، از قبیل بیرون آوردن سلعها وسنگها و شکافتن وسوارخ کردن و بزل و بتر وسل[44] و تشمیر. پس لامحاله درمارستان سلطان وجود سه نفر جرّاح شایسته باشد که، بترتیب[45] اطبّا، یکی معالج و دویّمی مداوی و سیّمی معاون باشد. معالج آنکه بجمیع اعمال ید مقتدر باشد. و مداوی آنکه در بعضی اعمال خود صاحب عمل و در بعضی دیگر شریك ضعیف معالج باشد. واما معاون پس کسی باشد که شستن و بستن و مرهم نهادن زخمها شغل آن باشد وهر چند در ذیل تکلیف اطبا تکلیف جرّاحین [65] اشارت شد.[46]

در اوصاف و تکالیف دواسازهای مریضخانه

در معالجه امراض مزاجیه احتیاج به طبیب درست کار بدیهی است ولکن احتیاج بدواساز کمتر از طبیب نیست. پس در هر مریض خانه وجود دو طبقه از اصحاب طبقات معالجه لازم و در کار است. یکی طبیب بدان ترتیب که عرض شد و یکی دواساز هم بر ترتیب مذکور.

اول دواسازیکه جمیع ادویهٔ مستعلمهٔ مارستانرا بطبع و خاصیت بشناسد و قوانین اجتباء[47] و انتخاب و تخفیف و انبار کردن و نگاهداشتن

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[43] در اصل نسخه "بهمیرسد" آمده است.

[44] در مورد مفهوم این عبارات به ترجمهٔ انگلیسی متن رجوع شود.

[45] بتربیت نوشته شده که اشتباه است.

[46] این جمله نامفهوم است. شاید منظور نویسنده را بتوان اینگونه عبارت کرد: "هر آنچه در مورد تکلیف اطبا رفت، در باره جرّاحین هم صادق است."

[47] در اصل نسخه اجتناء آمده است.

ادویهٔ مفرده را آگاه باشد و قواعد ترکیب و تمزیج و تخلیص را بدرستی ادراك کند و آنچه در این صناعت بکار آید از غسل و تصفیه و ترشیح و تجزیه و [66] سحق و صلایه و تقشیر[48] وتلبیب[49] و تقطیر وتذهیب و طبخ نیکو محکم کرده باشد. و چون در مارستان سلطانی بملاحظهٔ آب و هوای دارالخلافه چندان از جوهریات نوظهور مستعمل نمیشود امروز بعلم بجوهر کشی و امثال آن چندان محتاج نیستیم و آنچه را از جوهریات استعمال میشود سعی درتحصیل خوب آن خواهد رفت. و امانت و دیانت دواساز اول از جمله واجبات است و طبیب بدون دواساز بمثابه یکدست است که صدا ندارد بلکه بدون دوا و دواساز چون سرتراشیست که استره[50] ندارد و مانند فصّادیست که نیشتر ندارد. وهرچه در اوصاف طبیب اول گفته ایم در حق دواساز اول هم باید ملحوظ شود وبدین لحاظ کمترین بندهٔ درگاه هیچگاه دواخانهٔ مارستانرا بامّید دیگری نگذاشته .اگر چه سه تن از نزدیکان و برادرانم در سر همین خدمت [67] بمریضخانه اندر تصدق وجود مبارك اعلیحضرت اقدس همایون شدند، لکن همانوقت هم خود از سرکشی دوا غفلت نداشت. واکنون افسوس از آنست که چرا معتمدی ندارم که درسردواخانه بگذارم. بالجمله دواساز اول خود بنده شده. و تکلیف آنکه باید ادویهٔ مستعمله را ازمفردات یکی یکی دیده موافق قانون دوای درست خالی ازعیب نگاهدارد و در زمان ترکیب باز مفرداترا هر یکیرا بقانون صناعی ترکیب نموده در محضر خود بترکیب رخصت دهد.

اما دواساز دوّم: پس اونیز باید مطلع باشد از قوانین صناعت دواسازی بهرچه در اول گذشت: از آنکه جمیع دوا و حفظ و تقسیم آن همه در دست دواساز دویّم است وترکیب و تمزیج دوا هم با او خواهد بودن.

و اما دواسازسیّم: پس کار این طبقه اجراء اعمال یداست که در

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[48] در نسخه تقشر آمده است.

[49] مفهوم این واژه دانسته نشد.

[50] بضم الف و ت.

دواسازی بکار می آید و همچنین بستن و رساندن [68] دواها بصاحبانش بدست اینطایفه خواهد بودن.

و اما تکالیف دواسازها

چون از جانب اولیای دولت علیه تا امروز بساختن دواخانه و فراهم آوردن ادویّهٔ مستعملهٔ مریضخانه حکم صادر نشده و کمترین بندهٔ درگاه خود مختصر دواخانه ای راه انداخته و با آنکه برادرم درسر دواست بعلت اهتمام در امور دوا خود بعمل دوا میرسد چنانکه اصلاً بدون مشاهدهٔ کمترین دوا خریده نمی شود و مرکباترا اکثر خود مباشر ترکیب می شود و جوهریات و خلاصه وربوب آنچه در دارالخلافه ساختنش ممکن است خود مباشر عمل است و اکثر مطبوخات و اشربه وحبوب باطلاع این بنده ساخته میگردد. و اگر چنانچه از جانب اولیای دولت علیه حکم به بنای دواخانه شود البته دواساز درست مرتب بسه مرتبه در سرآن گذاشته می شود.

و منفعت [69] دواخانهٔ دولتی بسیار است. بزرگترین آنهمه اینکه در وقت مأموریت افواج که قیمت دوا باطبا مرحمت میشود در میانه هدر میرود و لکن هرگاه باندازه دوا مرحمت شود و صورت مصرف دوا از طبیب بتصدیق صاحب منصب خواسته شود هرچه دوا مرحمت گردد بکار نوکر برمی خورد.

اوصاف و تکالیف میرزای اول که مشرف مریضخانه است

هر چه درذیل اوصاف اطبّا شرح داده آمد باید مشرف مریضخانه هم بدان اوصاف متصف باشد از تقوی و دیانت و راست قلمی که گذشت؛ که در خدمت حفظ صحت، خیانت زیان جان آرد و پیداست که تکلیف نویسندهٔ اول[51] حفظ محاسبات ودفترهای مریضخانه است. پس باید مشارالیه اوّل دفتر اسباب و اثاثهٔ مریضخانه که صورت آن هر چه باشد ثبت شود از قبیل رخت خواب، لباس مریض [70] و

[51] منظور میرزای اوّل است.

لباس پرستاران و تخت و فرش حصیر و مسینه آلات و سایر ظروف مایحتاج. دوّم، دفتر مخارج اتفاقیه ازبابت تعمیرات ابنیه و اصلاح کردن پارهای البسه و رخوت و رخت خواب و سفید و تعمیر کردن مسینه آلات. سیّم، مخارج یومیه از بابت قیمت دوا وغذا و آنچه بدینها ماند. چهارم، دفتر معالجه که روزنامهای اطبا و جراحین بعینه درآن ثبت میشود.

تکلیف اول: صبح زود در مارستان حاضر شود و چون اطبّا از بازدید مرضی فراغت یافتند و روزنامهٔ دوا و غذا جداگانه نوشته بدواساز و ناظر سپردند اینکارها در محضر او باشد. دوم: ناظر چون میخواهد مایحتاج غذا را بخدمهٔ مارستان دهد باطلاع او باشد. سیّم: اگر اطمینان بطبیب نوبتی و ناظر نداشته باشد باید وقت دادن غذا خود حاضر باشد. چهارم: روزنامهٔ [71] یومیه مشتمل بر تعیین افواج و عدد مرضی و تفصیل مرض وعدد حاضر صبح و حاضر شام ومرخص چاق شده[52] و وارد و متوفی و سایر اتفاقیات که درمریضخانه واضح میشود نوشته ومخارج آن روز را قید کرده بمهر رئیس معالجه رسانده پیش کارفرمای صحت بفرستد. پنجم: هر چه دردفاتر چهارگانه نوشته باشد یومیه ثبت کند. ششم: مخارج آن روز مریضخانه را نوشته خود و رئیس معالجه و طبیب نوبتی مهر کرده بناظر دهد که بصح کارفرمای صحت رسانده برای محاسبه نگاهدارد. هفتم: درغرهٔ ماه روزنامهٔ ماه گذشته را در صفحه ای که طولش مشتمل برعدد ایام ماه میشود و عرضش مشتمل بر شش جدول در هر روز: اوّلی برای حاضرین وقت صبح و دوّمی برای حاضرین وقت شام و سیّمی برای وارد وچهارمی برای متوفی و پنجمی [72] برای شفا یافته و مرخّص [و] ششمی بضبط مخارج نوشته، دو نسخه بدین طرز تمام نموده بمهر رئیس معالجه رسانده وخود نیز مهر کرده یکیرا بکارفرمای عافیت و دومی را بناظردهد.

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[52] چاق شده بمعنی بهبود یافته. در متن خاق شده آمده که اشتباه است.

در اخلاق و تکالیف میرزای دوم که ناظر مریضخانه است
هر چه در باب امانت و دیانت باطبا و سایرین اثبات شده در اینجا بوجه اولی والیق است که تهاون و خیانت در غذای مریض مورث زیان جان وموجب روسیاهی حکیم باشی و اطبای معالج است.

وتکالیف او از این قرار است: اول، باید از هرجنس که در مریضخانه لازم خواهد بود و بماندن ضایع و فاسد نمی شود بقدر کفایت انبار کند. دوّم، باید اجناس انباری آن از هر جنس نوع اعلی آن جنس باشد. سیّم، در جا و مکان و ظروف صالح انبار کند که از فساد [73] محفوظ ماند. چهارم، باید انبارهای خود [را] همیشه ممهور نگاهدارد. پنجم، خود بهر بامداد و پیش [از] سایر کارپردازان حاضر مریضخانه شود. ششم، چون از جانب معالجین دیر روزنامه حاضر میشود، بعضی ضروریات را که بماندن یکروزه فاسد نمیشود پیش از اخبار[53] مقداری حاضر نماید مانند گوشت و سبزیات. هفتم، چون از جانب رئیس معالجه و یا طبیب نوبتی روزنامهٔ حوالهٔ غذا میرسد بیدرنگ اجناس محوله را جمله بخدمه سپارد. هشتم، سپردن اجناس بطبّاخ و شربتدار باید در محضر طبیب نوبتی و مشرف باشد. نهم، بمطبوخات و مشروبات قبل ازهمه کس نگاه کند. دهم، بوقت معین و مقرر غذای نهار و شام را حاضر کردن فرماید. یازدهم، چون وقت غذا رسید و مطبوخات و ماکولات حاضر شد بطبیب نوبتی اعلام دهد. [74] دوازدهم، چون بعضی مرضی را، مانند مسهل خوارندگان، غذای نهار بوقت نهار نباشد، غذای آنها را در چاشتگاه حاضر داشته بعد ازظهر بدهد. سیزدهم، بعضی مشروبات که بعوض غذا میدهند مانند چای و قهوهٔ دارچینی و زنجبیل و آب هندوانه و امثال آن باید در وقتهای مقرر بحضور خود بدهند. چهاردهم، باید اول کار پردازان مریضخانه باشند که بدانجا داخل شوند وآخر ایشان باشند که خارج میشوند

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[53] منظور از اخبار روزنامهٔ معالجین است. این جمله بصورت دیگری هم میتواند خوانده شود، که در این صورت معنای متفاوتی بدست میدهد: "که بماندن یکروز یا بیش فاسد نمیشود از انبار مقداری حاضر نماید."

تکالیف میرزای سیّم که تحویلداران خوانند[54]

اول، باید در نگاهداری اسباب مارستان غایت اهتمام بجای آرند. دوم، بوقت اتفاق افتادن عیوبات در تحویلات خود زود بتعمیر آن کوشند. سیم، تحویلداران البسه و رختخوابها [و] اشیاء چرك و ناپاك در انبار ضبط نکنند. چهارم، بعد ازشستن این اجناس بدقت رسیدگی کرده هر چه احتیاج بتعمیر دارد بجامه شویان دهند تا وصله کند. پنجم، چون مدتی رخت و امثال آن بجهت نبودن در انبار ماند آنها را بهوا اندازند. ششم، چون در تحویلات خودشان نقصی بهم رسد فی الفور بناظر اخبار کنند.[75]

در تکالیف پرستاران مریضخانه

خدمت مریضخانه و پرستاری بیماران در نظر مردم اندکی دشوار است بعلّت آنکه عوام همه ناخوشیها را مسری می دانند و چنین میدانند که هر کس که در مریضخانه اختیار خدمت کند باندك مدت بیمار شود. و تا امروز از جانب اولیای دولت قرار محکمی درباب پرستار نرسیده. باید معروض دارد که وجود پرستار از لوازم و شروط مهمّهٔ معالجه است چنانکه بدون انتظام این امر باور نتوان کردن که معالجهٔ درست اتفاق افتد و چون در مریضخانهٔ حاضر گاهی عدد مریض زیاده بر صد نفر میشود، چنانکه همه آنها سنگین وبدحال میشوند معلوم است که در اینوقت لااقل دو نفر انتها هر سه نفر یك پرستار میخواهد. و گاهی عدد مریض خیلی کمتر میشود چنانکه بیست نفر هم [76] می شود و اینوقت پنج شش نفر کفایت می کند. لکن چون ارادهٔ علیه بر آن قرار گرفته که امر مریضخانه منتظم گردد و مرضای افواج همیشه بمریضخانه آیند، اینوقت انتظام پرستار واجب باشد. و بهترآن است که پرستار دو قسم قرار دهند: یکی آنکه همیشه مقیم مریضخانه باشد، دومی آنکه نظر بقلت وکثرت بیماران از میان افواجی که مریض میفرستند آورده شود.

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[54] در اصل خواند آمده است.

اما طایفهٔ اوّل، پس باید بسه مرتبه مرتب باشند: مرتبهٔ اول سرپرست و طباخ است؛ مرتبه دویم کسانیکه در ترتیب و توزیع غذا و دوا معین اند و بایشان است اصلاح هوائی اوطاقها؛ مرتبهٔ سیم کسانی هستند که در تنظیف و پاك کردن اوطاقها و سایر امکنه و شستن رخوت و البسه و رختخوابها و در میان اینهاست کسانیکه با ماله وگذاشتن و برداشتن [77] موجبات تنظیف پردازند و هم آتش وآب و چراغ از برای مرضی حاضر کنند و در نقل و حرکت بیماران امداد نمایند.

و امروز در مارستان دولتی سرپرستی که حکمش بر همهٔ پرستاران روان باشد وتکلیف اوست که صبح بعد ازادای فرض نخست سر بآشپزخانه کشد که عملهٔ مطبخ در کار خود حاضر باشند. آنگاه تعقیبات خود را در اوطاقهای مرضی بخواند و بیماران را بدستیاری پرستار بر گذاردن فرایض انگیزد. دویم، پرستارانرا پیش ازبازدید طبیب بسحر گاه، شام و بعد ازنهار هم بپاك کردن اوطاقها بر اوطاقها برانگیزاند. سیّم، حساب شمارهٔ تختها بدست او باشد که چون طبیب خواهد مریض باوطاق مطبقه مثلا ببرد، باید او دلالت کند که تخت پنجم مثلاً در اوطاق دویم خالی است. چهارم، هنگام توزیغ غذا سرکشی بیماران کند [78] که بسهو ونسیان یکی در میانه بی غذا نماند. بعد از گذارن چراغ، سرکشی اوطاقها نماید. پنجم، در وقت خواب سرکشی کند و پرستار نوبتی شب را تعیین نماید. ششم، باید در وقت عوض کردن پرستار نوبتی حاضر باشد چنانکه هیچوقت اوطاقها که مریض سنگین دارند از پرستار بیدار خالی نماند. بیماران بدست او باشد. [79]

در تکالیف قراولان مریضخانه

قراولی مریضخانه خدمت مهمّی است خصوصا در زمان وقوع امراض مسریه و وافده. پس باید در این باب اهتمام درست بشود و هیچگاه عوض کردن قراول مریضخانه لازم نیست چه انس بعادات و رسوم مریضخانه مدتی میخواهد.

و تکالیف از اینقرار است: اول، باید صاحب منصب قراولان آدم معقولی، امین و درستکار و صاحب سواد باشد. [80] دویم، باید در

خصوص حفظ دروازهٔ مریضخانه اهتمام کند چنانکه بی اجازت مقرر کسیرا بدرون آمدن و بیرون رفتن رخصت ندهد. سیّم، بهر جا که انبار دولتی و مهر ناظر دارد قراول درست گذارد. چهارم، در عوض کردن قراول مهرها را نشان بدهد. پنجم، چون از برای مریضخانه گذرنامه[55] که باصطلاح بلیط باشد قرار خواهد شد، بدون گذرنامه کسی را جز کارپردازان مریضخانه رخصت دخول وخروج ندهد. ششم، چون کسی با دعای بیماری بدروازه مریضخانه بیاید و گذرنامه ندارد او را باوطاق مقرره برده بنشاند تا حکیم باشی یا طبیب نوبتی بمشاهدهٔ او پردازد. هفتم، چون کسی باگذرنامه بیاید او را بهر جائی که میخواهد بلد شده برساند. هشتم، سوای وقت سحر که وقت مرخص کردن شفا یافتگانست، کسی را از مرضی بیرون رفتن نگذارد. نهم، وقت مرخصی مریض اگر [81] بسته وخورجین داشته باشد ملاحظه کند که چیزی از اسباب با آن بدر نبرد. دهم، در لوازم تنظیف بیرون مریضخانه بکوشد. یازدهم، در معبرهای بیت الخلاء قراول بروز و شب بگذارد تا کسی سوای مکانهای مقرر بدیگر جا ننشیند. دوازدهم، چون از خدمهٔ مریضخانه کسی بیوقت خواهد بیرون رود از سبب رفتن بپرسد. سیزدهم، اگر کسی خواسته باشد اسباب و یا مأکول و مشروبی بیرون ببرد، بدون اجازت ناظر، نگذارد. چهاردهم، پس از بیرون رفتن رئیس معالجه و کارپردازان بیمارخانه، دروازه را بسته بقراول نوبتی سپارد که بدین روش از آینده و رونده مستحضر باشد.

واللهمّ خیر الختام

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[55] در نسخه گذارنامه آمده است.

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GLOSSARY

Most of the terms included in the list below have been translated or discussed throughout the text. The following list, which includes some additional ones, is far from being exhaustive. It is provided here to familiarize the readers with the general and some specialized concepts and technical terms used in this volume. In this list we have been selective particularly with regard to medical terms because most of them cannot be translated accurately by one or two English equivalents, and need to be thoroughly explained. For instance, various kinds of hommā or tab (fever) have been interpreted and translated by different authors who are far from unanimous. We have mentioned those about which there is less disagreement.

Ābeleh: smallpox
Advieh (pl. of davā): medicaments
Akhlāt (pl. of khelt): humours
ʿAlāj: treatment, cure
Amir: commander, governor, prince, the chief military officer of a province
ʿĀmm: public, transmissible, epidemic
Anbār: warehouse, prison
Andām (ʿozv): organ
Āqā: master, chief
ʿAraq: sweating
ʿAraz: accident, symptom
ʿĀrezeh (pl. ʿAvārez): illness, or symptom (s) of a disease
Arkān: elements
ʿAtabāt: the thresholds, referring to the holy cities of Najaf, Karbalā, Sāmara and Kāzemzin in Iraq
Ayālat (eyālat): governorate general, district, province

Bandeh: slave, servant
Bandeh-ye dargāh: employee of the court, minister
Bey or Beg: lord, chief
Bimārestān: abode of the sick, hospital
Bimāri: illness, indisposition
Bohrān: crisis
Boqʿeh (boqʿah): mausoleum

Caliph: leader of the Sunnite community,
Caliphate (Khilāfat): the rightly guided succession

Dā' al-fil: elephantiasis, tubercular elephantiasis
Daftar: register
Dānesh: knowledge, science, learning
Dār al-shifā (see Dār al-shafā)
Dār al-shafā: abode of healing, a hospital
Dargāh: palace, court
Dāru: medicine, medicament
Dārusāz: pharmacist
Dāru-ye qeyy: vomitif
Din: religion, faith (often in name compound, such as Nāser al-Din, victory of religion
Divān: chancery, office, government council, also a collection of poetry or prose
Doʿā: prayer
Dowlat (Dowleh): state, government, dynasty. It means also luck and fortune
Dowlati: of the state, public

ʿElm: science, knowledge
ʿErq al-nesā': nevralgic sciatic
Es'hāl: intestinal catarrh
Estesqā': dropsy

Faqih: jurist
Farangi: Frankish, common term to designate A52Western Europeans
Farmān (firman): decree, issued by the Shāh or the ruler
Fasd: bloodletting
Feqh (fiqh): jurisprudence
Fowj: regiment (in the army)

Gomrok: custom
Gomroki: duties

Hadith: tradition, recorded saying of the Prophet or the Imams
Hajāmat: cupping
Hajj: pilgrimage to Mecca
Hakim: philosopher, physician
Hakim-bāshi: chief physician
Hammām: bath
Haqq ol-qadam: in medical practice, consultation fees
Hasba (hasbeh): measles
Hasbeh: typhus
Havā: air
Havā-ye ʿafan: miasmatic air

Hefz al-sehheh: hygiene, public health
Hekmat: science, as opposed to sanāʿat (art)
Hess-e bāten: internal sense
Hess-e zāher: external sense
Heyzeh: dysentery, diarrhoea
Hijra (Hegira); emigration, flight, withdrawal
Hojreh (hojra): a room in madrasa, or in caravanserai
Hommā: fever

Ibn (Ebn), usually abbreviated (b.): son of
Ilkhān: leader of a ribe
Imam: leader. In Shiite religion, the infallible leader of the Twelver shiʿa community

Jadari (jadri, jodori): small-pox
Jāmeʿ: Comprehensive, comprising all details, the principal Mosque in a city, University
Jarab: dry scab
Jarrāh: surgeon
Jarrāh-bāshi: chief surgeon
Jarrāhi: surgery
Jowhar: substance, as opposed to ʿaraz (accident)
Jozām: Tubercular leprosy. See (Dā'al-fil)

Kabir: the Great
Kadkhodā: head of a ward, mayor of a city or village
Kahhāli: Ophtalmology
Kalāntar: overseer of the wards of a city , mayor
Ketābcheh: booklet, treatise
Khafaqān-e qalb: palpitation of the heart
Khāneh: house, court
Khāss, khāsseh: land or army belonging to the crown
Khāss: individual, non-transmissible, non-epidemic
Khelt (pl. akhlāt): humour, mixtio

Laqab: court title, court position

Madrasa: theological college
Majles (majlis): an assembly, a council, a parliament, a congress
Majles-e hefz al-sehheh: sanitary council
Majmaʿ: digest, confluent
Maktab: traditional primary school
Malek: king, prince
Mālek: landowner

Māliyāt: tax, especially the land tax
Mamālek: realms, provinces
Maraz (pl. amrāz): illness
Mārestān (see bimārestān)
Marizkhāneh: abode of the sick, hospital
Mashvarat, moshāverat: consultation
Masjed (Masjid): mosque
Mellat: community, nation
Mellati: national
Mezāj: physical temperament
Mirzā: son of prince, title used before the name of any gentleman, a clerk
Moʿālej: medical practitioner
Moʿālejeh: treatment
Mohreqah: remittent bilious fever
Molk: kingdom
Monajjem: astrologer
Monshi: a secretary, a clerk
Mos'hel: purgative
Mostowfi al-Mamālek: financial secretary of the state
Motawalli: administrator of a waqf
Motbeqah: continual fever, typhus
Mullah: member of the religious classes

Nabz: pulse
Nāzem: a regulator, a superintendent
Nāzer: a supervisor, an intendant
Nazleh: catarrh, influenza
Nazmiyyeh: police, prefecture
Nazr (plural, nozurāt): a vow, devoting by vow
Nezām: order, military service, army
Nezām-e jadid: the new order, the new military organization in the Ottoman Empire and Qājār Iran
Nowbeh: ague, aguish fever

Ordu: troops, an army, a regiment, a camp

Parastār: nurse
Parastāri: nursing
Pezeshk: physician
Pezeshki: medicine

Qalb: heart
Qanāt: a subterranean water canal
Qānun (Canon): law, usually non-religious law

Qarābādin: therapeutic
Qeyy: vomiting
Qods: Holiness, sanctity
Qowā: (plural of qowvvat): faculties
Qovvah (qovveh): see Ruh
Qovvah-ye nafsāniyeh: vital spirits

Raʿāyā (plural of raʿyat): peasants, subjects
Ra'is: leader, director
Rish-sefid: grey-beards, senior, leader
Ruh: pneuma, spirit
Ruznāmeh: journal, gazette

Sadaqa (sadaqeh): voluntary almsgiving (see nazr)
Sadr: government official in charge of the religious endowments and institutions under the safavids (1501-1722)
Sadr-e Aʿzam: chief minister under the Qājār
Sanāʿi, industrial, pertaining to art, skilled
Sanʿat: art, industry
Sarbāz: soldier
Sardār: commander, generalissimo
Sarkeshikchi-bāshi: the chief of the royal guards
Sekanjebin: oxymel
Sepahsālār: commander of the army
Sepahsālār-e Aʿzam: commander-in-chief of the army
Seyyed (sayyid): one claiming descendance from the Prophet through his daughter Fatima (ʿAli's wife)
Shafā: healing
Shāh: king
Sharbat: syrup
Sharbatdār: pharmacist
Sharʿi: in accordance with the Sacred Law
Shariʿat: the Sacred or religious Law
Shiʿa: party of ʿAli, the son-in-law of the Prophet and the first Imam of the Shiʿas (656-661 A.D.)
Sirat (sirah): biography of the saints and of the kings
Soltān (Sultan): power, authority, ruler, sovereign in Turkish dynasties
Sonnat (sunna): custom, practice of the Moslem community
Sonnati: traditional
Sorkhak: measles

Tab (see also hommā): fever
Tab-e dāyem: continual fever
Tab-e deqq: hectic fever

Tab-e khelti: humoural fever
Tab-e nowbat: intermittent fever
Tab-e nowbeh: malaria
Tadbir-e sanā‘i: skilled treatment, medical insight
Tarbiyat: discipline, education
Ta’rikh (Tārikh): history, chronicle
Tashrih: descriptive anatomy
Tassarrof: possession
Tassarrof-e havā: the influence of air or a draught
Tā‘un: plague
Tebb (tibb): medicine
Tebb-e jadid: modern medicine
Tebb-e qadim: traditional medicine
Tebb-e unāni: Greek medicine
Toman (tumān), unit of currency, equivalent to 1000 dinār; division of an army of 1000 men under the Qājār and before
Tuyul (tiyul): land assignment, fief

‘Ulamā (ulema, plural of ‘ālem, man of science): the religious scholars in Islam
Unāni: Greek

Vabā: cholera
Vabā’i: epidemic
Vakil: agent, representative, sergeant (in the army)
Vazir (vizier): minister

Waqf (pl. owqāf): pious endowment, land or property set aside for religious or charitable purposes

Zahr: poison
Zāt al-janb (barsām): pleurisy
Zāt al-riya: pneumonia

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