



# “The medical books I have read so far”.

## A research into the books read by Maimonides (1138-1204) for his medical education

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Received: Sept. 2011.  
Approved for publication:  
Nov. 2011.

### Abstract

This research work is aimed at identifying the books mentioned by Maimonides (Cordoba, 1138 - Fustat, 1204) in his extensive medical bibliography as a source of his knowledge on health, disease, diagnosis and treatment. To that extent, a thorough investigation was carried on over ten of his medical texts: *Treatise on Asthma*, *Treatise on Poisons and their Antidotes*, *Treatise on Hemorrhoids*, *Treatise on Cohabitation*, *Commentary on the Aphorisms of Hippocrates*, *Glossary on Drug Names*, *Medical Aphorisms*, *Extract from Galen*, *Regimen on Health* and *On the Causes of Symptoms*. We were able to establish that his sources of medical education were 4 books of Aristotle, 2 of Al Rhazi, 2 of Ibn Sina, 1 of Ptolemy, 9 of Hippocrates, 3 of Al Farabi, 96 of Galen (which will be subject of another paper), 5 books attributed to this latter author but apocryphal, 1 of Aharun, 2 of Ibn Zuhr, 1 of Ibn Messue, 1 of Al-Tamimi and 1 of Asklepiades. We characterize these texts, some them less known to medical historians, in order to understand the composition of the syllabus for medical education in the Arabic-speaking world during the second half of the 12<sup>th</sup> century. This paper is part of a wider project intended to understand where did Maimonides learn medicine, a question first posed in 1903 by Yellin and Abrahams which we are trying to answer.

### Keywords

Maimonides, medieval medicine, medical education.

## **“Los libros de medicina que leí hasta el momento”. Una investigación sobre los libros leídos por Maimonides (1138-1204) para su educación médica**

### **Resumen**

Este trabajo de investigación intenta identificar los libros que fueron mencionados por Maimónides (Córdoba, 1138 – Fustat, 1204) en su amplia bibliografía médica como fuente de conocimiento de temas de salud, enfermedad, diagnóstico y tratamiento. Para ello se realizó una investigación cuidadosa en diez de sus textos médicos: el *Tratado del Asma*, el *Tratado de los Venenos y sus Antídotos*, el *Tratado de las Hemorroides*, el *Tratado del Coito*, el *Comentario sobre los Aforismos de Hipócrates*, el *Glosario de los Nombres de las Drogas*, los *Aforismos Médicos*, los *Extractos de Galeno*, el *Régimen de Salud* y *Sobre las Causas de los Síntomas*. Hemos podido establecer que sus fuentes de educación médica fueron 4 libros de Aristóteles, 2 de Rhazes, 2 de Avicena, 1 de Ptolomeo, 9 de Hipócrates, 3 de Al Farabi, 96 de Galeno (los que serán objeto de otro artículo), 5 libros atribuidos a este último autor pero que resultaron apócrifos, 1 de Aharún, 2 de Avenzoar, 1 de Ibn Messué, 1 de Al-Tamimi y 1 de Asklepiades. Hemos descrito estos textos, algunos de los cuales son poco conocidos por los historiadores de la medicina, con el objeto de comprender el repertorio de la educación médica en el mundo de habla árabe de la segunda mitad del siglo XII. Este artículo es parte de un proyecto más amplio destinado a entender dónde aprendió medicina Maimónides, una pregunta que fue formulada por primera vez en 1903 por Yellin y Abrahams y que estamos tratando de responder.

### **Palabras clave**

Maimonides, medicina medieval, educación médica.

## I. Introduction

In 2008 we began a research project intended to establish the sources of Maimonides' (Cordoba, Spain, 1138 – Fustat, Egypt 1204) medical education, which are yet to be understood in full. To that end we made an extensive research into ten of his medical books, being *Treatise on Asthma*, *Treatise on Poisons and their Antidotes*, *Treatise on Hemorrhoids*, *Treatise on Cohabitation*, *Commentary on the Aphorisms of Hippocrates*, *Glossary on Drug Names*, *Medical Aphorisms*, *Extract from Galen*, *Regimen on Health* and *On the Causes of Symptoms*, all them written between 1185 and 1204, using the critical editions prepared by Fred Rosner in the period 1971-1994 and some of the newer critical editions prepared by Gerrit Bos in 2009-2010.

One part of our investigation was focused on the *books* or *texts* he mentions as a source of his own medical thinking. As a result of that, *we were able to establish a list of the books or texts on which Maimonides found himself based for his medical ideas*. Many of them are well know, whilst some of them are not so. We would like to contribute to the understanding of the nature and extent of the medical curricula in the Arabic speaking world of the second half of 12<sup>th</sup> century. Because of the abundance of material and its complexity, we decided deliberately to exclude from this paper the names of the books of Galen (96 books) and those attributed to Galen (5 books) we found; they will be the subject of a forthcoming paper. Working with edited primary sources, our findings follow.

## II. The texts

### 1. Texts of Aristotle

#### 1.1. Perception and the perceptible

In Hebrew the text was called *Sefer HaJush Vehamujash*; in Arabic, *Kitab al-has wa-al.machsas*; in Latin *De sensu et sensato* (Rosner, 1990, p. 49, note 17) or *De sensu et sensibilibus*. In English *Sense and the senses*, *Sense and the sensible*, *Sense and sensibilia*, *On sense and what is sensed*, *On sense perception*. In Spanish, *Sobre el sentido y lo sensible*. Was commented by Alexander Aphrodisius, Averroes and Thomas of Aquino.

### 1.2. *Liber Animalium*

The *Liber Animalium* known to Arabs was a combination of three Aristotelian works: *De animalibus historia*, *De partibus animalium* and *De generatione animalium* (Burnett, 1982, p. 36, note 193). Abu 'Ali 'Isa Ibn Zur'a, a Jacobite Christian (Baghdad, August 943 – Baghdad, April 1008) translated to Arabic the zoology writings of Aristotle from the Syriac version of Nicolaus of Damascus. We are not sure whether this was the version Maimonides did use in his writings (Kraemer, 1992, p. 165-166).

### 1.3. *De demonstratione*

*De demonstratione* is the other name given to the second part of Aristotle's *Analytics (Analytica Posteriora)* (Febrer Romaguera, 2003, p. 465, note 411). The text is part of the *Organon* and deals with demonstrations, definitions and scientific knowledge. Demonstration is a syllogism that produces knowledge, whilst definition is the affirmation of the nature of a thing, of the meaning of a name or nominal equivalent formula. In *Analytica Priora* syllogistic logics is considered in its formal aspect; in the *Analytica Posteriora* is considered regarding its matter.

### 1.4. *Philologismi Rationales*

I was unable to identify this text of Aristotle, mentioned by Maimonides.

## 2. Texts of Al Rhazi

### 2.1. *Aforisms of Razi*

Although there seems to be no book of aphorisms by Rhazes as such, it is possible that Maimonides refers to *Liber medicinalis Almansoris*, one of the three texts – together with *Al-Hawi* or *Liber Continens* and *Book of Pestilence* or *Treatise on Smallpox and Measles* – best known written by this author. The book was called *Kitab al-Mansuri* in Arabic; as soon as Gerard of Cremona translated it to Latin in 1170 it became a very influencing book among the European medieval physicians (Lain Entralgo, 1978, p. 159-160).

### 2.2. *Book of the Repulsion of the Damage of Nutriment*

This book was, according to Leibowitz and Marcus, mentioned by Brockelmann, 1937-1942 I: 420 (38) (Rosner, 1990, p. 159 note 129).

### 3. Text of Ibn Sina

#### 3.1. *Treatise of the remedies of the heart*

It refers to the famous *De viribus cordis* (García del Moral & Fernández Dueñas, 1991, p. 212).

#### 3.2. *Aphorisms of El Susi*

It is possible that Maimonides is writing here on Ibn Sina, author of *Aphorisms of the Soul* (Rosner, 1989, p. 1, note 3). If so it is difficult to establish the nature of this text. It might refer to a versified compendium that physicians were requested to learn by mouth called *Poem of medicine*, written by Avicenna, and mentioned briefly by Laín Entralgo (Laín Entralgo, 1978, p. 174-176).

### 4. Texts of Ptolemy

#### 4.1. *Al-Magesti*

Ptolemy (c. 90 C.E. – c. 170 C.E.) was one of the greatest astronomers of Antiquity. His *Syntaxis Mathematica*, later on known as *Almagesto*, contains all the mathematical knowledge needed to understand astronomy. It was preserved in Arabic manuscripts and was translated to Latin by Gerard of Cremona in the XII century (Babini, 1960, p. 65).

### 5. Texts of Hippocrates

#### 5.1. *Aphorisms of Hippocrates; second section of Hippocrates' Aphorisms*

This text contains eight books; till the end of Middle Age it was considered the quintessence of Hippocratic medicine and commented hundreds of times from 300 B.C. and on. More than 140 Greek codexes are extant, together with translations to Arabic, Latin and Hebrew (Castiglioni, 1941, p. 161-162).

#### 5.2. *Epidemiae or Epidemiarium; Epidemiae book VI*

The books of *Epidemics* are of the most precious extant Hippocratic writings. Consensus exist in considering authentic the first and third of a total of seven books. The books attempt to group diseases

according to symptoms and specific phenomena, and the causal relation between diseases and climatic conditions (Castiglioni, 1941, p. 160).

### 5.3. *Peri diaites oxeon* or *Book of acute illnesses*

This book proposes treatments based on clysters, emetics, baths, barley, wine, hydromel and oxymel (Jones, 1868, s/e). Maimonides refers to a book of Galen that Muntner identifies with *Περί διαίτηζ οξέων* (Muntner, 1956, p. 126). They are five books translated to Aramaic by Iob and then by Hunain and to Arabic by Isa ibn Iajía.

### 5.4. *De aeris, aquis et locis I*

*Airs, waters, places* is one of the first examples of rational attempt to establish a direct and causal relationship between macrocosmos and microcosmos. The first part of the book is a text on climatology, which relates the diseases of a region to its climatic position and seasons of the year. The second part deals with the difference between Europe and Asia, connecting external causes, diseases origin, human constitution and ethnological features of the nations (Castiglioni, 1941, p. 158-160).

### 5.5. *The nature of man*

This book describes the foundations of humoral physiology. Blood, phlegm, yellow bile, black bile; the idea of bodily balance as the cause of health and misbalance as the source of disease; the reciprocal relationship between organs and the sympathy of humors (Castiglioni, 1941, p. 155).

### 5.6. *Prognostikon*

*Prognostics* is a collection of abridged prescriptions or notes for scholastic purpose. Hirschfeld believed that they derived from the Cos temple inscriptions, but Castiglioni rejected this theory (Castiglioni, 1941, p. 161).

### 5.7. *Peri chymon I*

It is the *Book of Humors* of Hippocrates.

### 5.8. *Pains of the ischial region*

According to Maimonides, it is the text also called *Pains of the women*, attributed to Hippocrates, commented by Galen and translated by Hunain under the title *Pains of the ischial region*.

### 5.9. *De crasibus [of Hippocrates]*

I was unable to identify this text among the Hippocratic books. It seems to be, however, a text of Galen (Naumann, 1854, p. 159).

## 6. Texts of Al Farabi

### 6.1. *Commentary on the Analytica*

It is a commentary to Aristotle's *Analytica Priora*. The text was published in English: *Al-Farabi's Short Commentary on Aristotle's "Prior Analytics"*. Rescher, N. translated from the Arabic, with Introduction and Notes. Pittsburgh (University of Pittsburgh Press), 1963.

### 6.2. *Book of elements*

I cannot identify this text as Al Farabi's. There is a *Book of elements* of Isaac Israeli, the Neo-Platonist physician who was inspired by al-Kindi (Cardini, 2001, p. 92). Maimonides mentioned this writing in his introduction to the *Guide of the Perplexed* discouraging its reading arguing that Isaac was just a physician and not a philosopher. There exists also a *Book of elements* by Euclid, the mathematician (Hoyrup, 1994, p. 183).

### 6.3. *Aphorisms*

Al Farabi seems to have written a series of aphorisms related to politics and the political man under the name *Fusul al-Madani* (Dunlop, 1961; Butterworth, 2001).

## 7. Texts of Aharun

### 7.1. *Book of Aharun*

Aharun, Aharon or Ahron was a Christian physician and priest who lived in VII century. He wrote a book in Syriac, the *Pandects*, which contained the first description of smallpox, a disease unknown to Greek medicine. A Persian Jew, Masarjawaih, translated *Pandects* from Syriac to Arabic; this text is considered the oldest scientific book in this latter language (Meyerhof, 1957, pp. 406-409 cited by Dalma, 1964, p. 11-13). *Pandects* or *Medical Pandects* comprised thirty books (Rosner, 1995, p. 191). Aharun's *Pandects* were often cited by later Arab authors, especially by Rhazes (Castiglioni, 1941, p. 255).

## 8. Texts of Ibn Zuhr or Avenzoar

### 8.1. *Al Teisir or Al Taysir*

It is the main book of Avenzoar, which brought him fame as clinician, pharmacologist and hygienist (Láin Entralgo, 1978, p. 161.). The complete title of the book seemed to be *Kitab al-Taisir fi al-Mudawat wa al-Tadbir* ("The book of simplification of therapeutics and diet") (Aslam, 2009, p.1).

### 8.2. *Concerning the food substances and Concerning the eatable substances*

It is possible that both titles refer to a single work of Avenzoar, the *Kitab al-Aghziya*, which describes several types of food and medicine and their effects on health and human body.

## 9. Texts of Ibn Messue

### 9.1. *Aphorisms of Ibn Messue*

Yuhanna or Yahya ibn Masawaih was the first Syrian scientist who wrote medical books in Arabic. He was Christian and practiced medicine in Baghdad; physician to Caliph Al-Ma'amun, in 830 he was entrusted the direction of a school of translators who were asked to translate Greek manuscripts purchased in Asia Minor and Egypt to Arabic. This doctor was known in the Italian literature as Mesué the Old and also as John Damascenus or John of Damascus. He died in 857 and left many works on dietetics and gynecology, from which the most relevant are *Aphorisms*, published for the first time in Bologna in 1489 (Castiglioni, 1941, p. 255; Rosner, 1989, p. 1, note 4).

## 10. Texts of Al Tamimi

### 10.1. *Murschid or Specific properties of food*

*El Murschid* or *Murschid* means "the mentor" or "the guide". *Murschid* has been preserved in the form of manuscript (n° 2870) in the National Library of Paris (Rosner, 1989, p. 341, note 436). The text is also available in manuscripts Leningrad 5414 (2), ff. 204-272; British Library Or. 9010, Hamarneh n° 80 in folia containing the last 7 treatises (Hamarneh & Anees, 1984, p. 89). Based on Ead I assume that the book Maimonides mentions under the title *Specific properties of food* correlates to *Kitab al-murshid ila jawahir*



*al-aghdhiya wa quwa-lmufradar*, i.e., "Guide to the understanding of food and simple medicines understanding", abridged as *El-Murshid* (Brockelman, 1898, p. 237).

## 11. Texts of Asklepiades or Asklepios

### 11.1. Commentary on the book "De ossium reparatione" attributed to Hippocrates

Asklepiades' work is only known from the quotes of Galen, Celsus and other authors, and in fragments collected by G. Gumpert and published in Weimar in 1794 (Castiglioni, 1941, p. 197-198).

Rosner renders this author as "Asklepiades" (Rosner, 1989, p. 255) whilst Bos translates "Asklepios" (Bos, 2010, p. 69). Bos further brings a discussion on the similarities and correspondence between the authors mentioned as Senflious, Herilius, Sterilius, Simplicius, Sinblicius, Simplikios and Asklepios in sources of al-Razi and Ibn-al-Nadim (Bos, 2010, p. XIV).

## III. Conclusions

In this paper we were able to establish the written medical curricula that contributed to the medical education of Maimonides (1138-1204). Being an avid reader, his library consists of Aristotle, Al Rhazi, Ibn Sina, Ptolemy, Hippocrates, Al Farabi, Aharun, Ibn Zuhr, Ibn Messue, Al-Tamimi and Asklepiades, together with books of Galen and some other attributed to Galen on which we shall deal elsewhere. The investigation allows modern researchers to draw a more accurate map of the syllabus and medical curricula for students of medicine and physicians alike in the second half of XII area in the Arabic speaking Mediterranean area. Whilst several works are widely known to modern research and did experience many publications, some of them are only extant in a few manuscripts across European repositories and that would deserve better attention and some others are known nowadays only from indirect references. Our intention here was to shed additional light on the process of loans and acquisitions of medical knowledge in this specific moment and place of the medieval times. Further historical and lexicographical research will be needed to arrive at a better knowledge of the less known documents and establishing critical editions, opening for new research projects in field.

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## Notes

A first version of this article was presented at the VI Meeting of the International Society for the History of Medicine held in Barcelona (Spain) from 7 to 10 September 2011.

The author declares there are no potential conflicts of interest involved in the writing of this article. This research did not receive financial support from any institution.