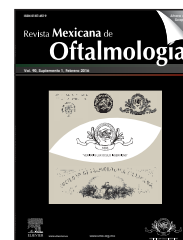




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## HISTORY OF OPHTHALMOLOGY IN MEXICO

### Documents and authors in New Spain ophthalmology

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The appearance of medically-themed printed books in Mexico came quickly after the Spanish troops conquered this land. A list of them appears below.

In 1578, Alonso López de Hinojosos released his *Summa y Recopilación de Cirugía con un arte para Sangrar muy útil y Provechosa* [Compendium and Compilation on Surgery with a very useful and Beneficial skill for Bleeding]. This was a medieval anatomy and physiology following the descriptions of the authors in vogue.

The work of López de Hinojosos was republished with substantial additions in 1595, trying to advance the theory of Luis Lobera de Ávila, physician of Carlos V, on the common origin of the multiplicity of disease in the rheum (or fluid) of the elderly. He maintained that this watery substance flowed from the head to the extremities and caused its effects sometimes by coagulation and other times by heat. He attributed a large percentage of symptoms to this cause, from colds to pneumonia, hemiplegia, cataracts, nasal polyps, toothache, liver stones and gallstones, hernias, varicose veins, rectal prolapse and chest cancer.<sup>1</sup>

In 1552, the *Libellus de medicinalibus indorum herbis* was written (Fig. 1), better known as the Codex Badiano, which compiled the herbal medicine used by the ancient Mexicans and that by means of its sources, undoubtedly allowed historians to pass on to us everything they knew on the subject.

During the 16th, 17th and 18th centuries, the New Spanish physicians worked tirelessly, resulting in the publication of several medical texts in New Spain. Francisco Bravo was one of these doctors, author of *Opera medicinalia* (Fig. 2), published in 1570 by Pedro Balli's press. There is only one copy in Mexico, written in Latin, in the Biblioteca Lafragua in the city of Puebla. It discusses typhus, the vein that must be bled



Figure 1

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Figure 2

in pleurisy, the critical days, and sarsaparilla, a Mexican plant.

*Tractado Breve de Anothomia y Chirurgia y de algunas enfermedades que mas communmente suelen hauer en esta Nueva España* [Brief Treatise on Anatomy and Surgery and some diseases that are more common in this New Spain] (1579) by Agustín Farfán appeared, *Primera Parte de los Problemas y secretos maravillosos de las Indias* [Volume One on the Problems and marvelous secrets of the Indians] (1591) by Juan de Cárdenas, *Tractado Brebe de Medicina, y de todas las enfermedades* [Brief Treatise on Medicine, and all the diseases] (1592) by the abovementioned Farfán, and also *Secretos de chirurgia, especial de Morbo Gálico y Lamparones y Mirrarchia* [Secrets of Surgery, especially Morbus Gallicus and Scrofula and Mirachia], by Pedrarias de Benavides.

In the seventeenth century *Verdadera cirugia, medicina y astrología* [True surgery, medicine and astrology], by Juan de Barrios; *Sitio, naturaleza y propiedades de la Ciudad de México* [Site, nature, and properties of Mexico City], by Diego de Cisneros, *Tesoro de medicina para las diversas enfermedades* [Thesaurus of medicine for diverse diseases], by the venerable Gregorio López, and *Principia medicinae, Epitome et totius humani corporis fabrica*, by Ossorio y Peralta emerged from the New Spain publishers.

Years later, the following appeared: *Florilegio medicinal*, by the Jesuit Juan de Esteyneffer, in 1712; *Cursus medicus mexicanus*, by José Salgado, in Latin, in 1727, the first physiology book printed in America; *Compendio medicinal* [Me-

dicinal compendium], by Francisco Capello, in 1737; *Peregrinus protomedicus...*, by José Antonio de Pérez Cabeza de Fierro; *Alexipharmaco de la salud* [Alexipharmakon of health], by José Francisco de Malpica Diosdado, in 1751; *Epítome perpetuo de los días decretorios que se consideran en las enfermedades...* [Perpetual epitome of the critical days considered in diseases...], by Felipe de Zúñiga Ontiveros, in 1755; *Remedio natural para precaverse de los rayos y sus funestos efectos...* [Natural remedy to protect against the sun and its terrible effects...], by Juan Antonio de Revilla Barrientos; *Virtudes de las aguas de Peñol reconocidas y examinadas por orden de la Real Audiencia...* [Virtues of the waters of Peñol recognised and examined by order of the Royal Court...], report written by Nicolás de la Torre and José Dumont in 1752; *Noticia importante al público, relativa a la epidemia llamada "Matlazáhuatl"* [Important notice to the public, regarding the epidemic called "Matlazáhuatl"], by José Antonio de Alzate y Ramírez, in 1772; and *Instrucción que puede servir para que se cure a los enfermos de viruelas epidémicas...* [Instruction that may serve to cure the epidemic pox diseases...], by José Ignacio Bartolache, in 1779.

The text by Esteyneffer, as indicated in the work's title, is a collection that reflects the thinking and medical practice of the second half of the 17th century and the beginning of the 18th century in Europe, adapted to the exigencies and particularities of New Spain. It is enriched with the knowledge and practice of New Spanish and Mestizo-Indigenous medicine. It is a summary of the in-vogue knowledge, and it is also the fruit of the author's personal experience over 13 years of living in the North-east of the current Mexican Republic, in the regions of Sonora, Sinaloa, the Tarahumara area, and probably Baja California.

In 1698, friar Agustín de Vetancurt published his work *Theatro Mexicano* [Mexican Theatre]; in it he informs us about the use of copalquahuatl to cure "clouds"; chicalotl and esquahuatl for eye inflammation, and tlacopatli, which clears vision.<sup>2</sup>

In the state of Yucatan, in the current Mexican Republic, *El Libro de los Médicos Yerbateros de Yucatán* [Book of Medicinal Herbalists of the Yucatan] was probably written. The following medicinal remedies for the eyes are specified: xanancueny and katz, for eye pain; chacpheelche for eyelid styes; xanabmucui to clean and clear vision; yalcecel for eye pain; sapote oil for cataracts; basil for any eye problem; fennel clears the vision; lemon is a great eye drop for the eyes; virgin honey from the rosemary flower relieves blurred vision and clears vision; rue also cures ophthalmia.<sup>3</sup>

It is important to remember that in those times, doctors and surgeons were scarce in the viceroyalty of New Spain, and those there were charged high fees for their services, so these domestic medicine guides were of great value.

During the viceroyalty period the following were released from the New Spanish presses: *Yoannis Brunonis Elementa Medicinae*, by José María Amable y Urbina; *Elementos de Medicina* [Elements of Medicine] by Dr Juan Brown, in 1803; *Tratado de la calentura amarilla o Vómito Negro...* [Treatise on yellow fever or Black Vomit], by Anacleto Rodríguez Argüelles, in 1804; *Cartilla nueva, útil y necesaria para instruirse las matronas que vulgarmente se llaman Comadres en el oficio de Partera* [New, useful and necessary notebook to instruct the matrons that are vulgarly called Midwives in the



profession of Obstetrics], in 1806; *Avisos importantes sobre el Matlazáhuatl*... [Important notices about Matlazáhuatl], by Luis Montaña, in 1817; and *Proelecciones et concertaciones medicae*..., by Luis Montaña, in 1817.<sup>4</sup>

In addition, two medical journals were published, *Gaceta de Literatura de México* [Literature Gazette of Mexico] by José Antonio de Alzate y Ramírez and *Mercurio Volante* [Flying Mercury] by Ignacio Bartolache.

Of course, not all the above mentioned works contain ophthalmology topics, but they give an example of the great concern that existed amongst the medical and surgical personnel of the era to learn about innovations that arrived from the mother country.

In 1647, Juan de Correa, surgeon of the Royal Tribunal of the Inquisition, performed the first autopsy in New Spain. He also wrote *Tratado de la Qualidad manifiesta que el Mercurio tiene*... [Treatise on the clear Quality that Mercury has...], in which he certainly described, for the first time in Mexico and

possibly in America, what he found in the optic nerves, the brain and the spinal cord, which he supplemented with a magnificent, full size illustration of the optic chiasma, indicating that, after opening them "I found gaps, with orifices where a thin straw fit, their coverings hardened like parchment".<sup>5</sup>

## THESIS

The work DOMINO DOCTORI FRANCISCO HILDEPHONSO A VILLAGRA REGIO SENATORI RECTORIQUE (sic) DIGNISSIMO NOSTRAE ALMAE ACADEMIAE BACHALAV reus Ferdinandus Rangel supplex dedicat (Fig. 3), which is a folio sheet printed on a single side, in Roman letters, in a single column and for which the conclusions follow the transcribed heading, and DEFENDITVR DIVINO FAVENTE NVMINE IN REGIA nostra Academia sub praesidio sapientissimi Domini Doctoris & Decani meritis-

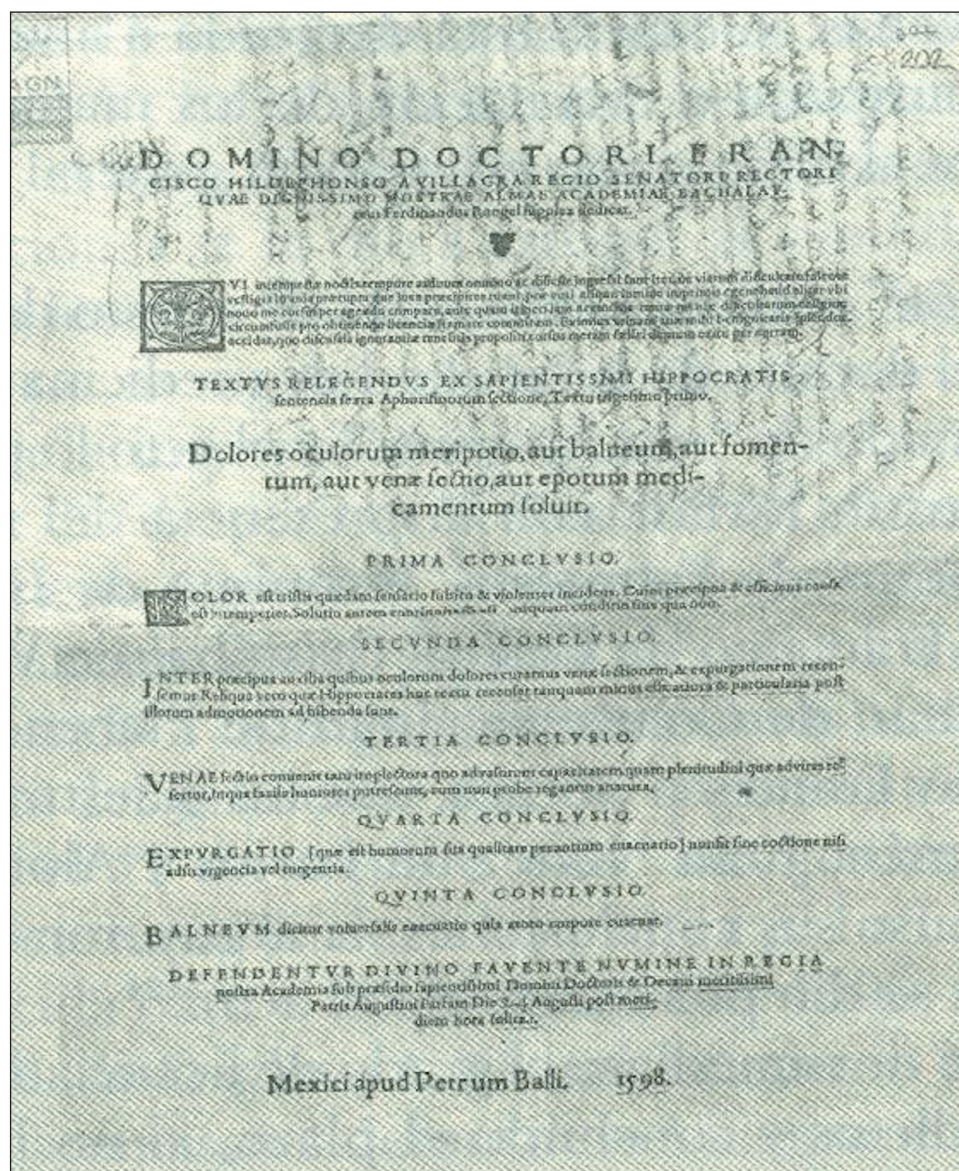


Figure 3

simi Patris Augustini Farfam Die 24 (manuscrito) Augusti post meridiem hora solita. Mexici apud Petrum Balli, in 1598,<sup>6</sup> which discusses *Dolores oculorum* (eye pain), is the first text on ophthalmological topics that was presented before the Royal and Pontifical University of Mexico to obtain a degree in its Faculty of Medicine.

It is not very clear if this defence was the final act to obtain a degree in medicine, and it refers to the analysis of one of the maxims by Hippocrates on eye pain; the act was presided by the wise doctor and dean Agustín Farfán, author of two books on medicine printed in Mexico in the 16th century, and it is one of the more modest theses printed in terms of its presentation and ornamentation.<sup>7</sup>

Fernández de Recas refers to its author as the graduate Hernando Rangel, study of the Faculty of Medicine, who received the degree of doctor in medicine on 27 September 1598.<sup>8</sup>

This contradicts a note published years ago, which mentions that in 1687 the *Prima de Medicina* professorship remained vacant due to the death of its holder, Doctor Juan de Torres Moreno. Dealing with the most important subject in the branch of medicine, in January Diego Osorio de Peralta, José Díaz de Brizuela and Juan de Brizuela, professor of *Methods*, the professor of *Surgery and Anatomy* José Montañón, and the graduate Juan José Brizuela stood in competition. The development of this competitive hiring process was of interest, and José Díaz de Brizuela was the winner. He gave a scholarly argument on the 45th aphorism of Hippocrates, *De dolore oculorum*,<sup>9</sup> which to the author's knowledge is the first reference to the present topic of study.

To put the momentum gained from new knowledge about anatomy and physiology into practice, ophthalmologists had

to wait until the Royal School of Surgery was founded in 1768, which amongst its texts included *Institutiones chirurgicae*, by Lorenz Heister.

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