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## HISTORY OF OPHTHALMOLOGY IN MEXICO

### Mexican ophthalmological knowledge and the origins of the REVISTA MEXICANA DE OFTALMOLOGÍA [MEXICAN JOURNAL OF OPHTHALMOLOGY]

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The 19th century is a very significant century, both for the history of Mexico and for the history of modern medicine. It is during this century that our country put an end to the colonial era after three centuries and achieved its independence from the Spanish crown. Without a doubt, this process brought with it several problems for establishing an identity as a nation and an agreed-upon path for self-government. Several political and social events, as well as various conflicts and key figures, intervened in the formation of the Mexican nation and its integration within the world order of the time. A similar development occurred in the medical field and its consolidation as a scientific discipline. The case of ophthalmology, and particularly the appearance of the first specialised Latin American publication on the topic, represents a concrete example of this parallelism.

The first publications that circulated European science in American territory arose in the 18th century. The works by the learned criollos from colonial Mexico are true highlights for the history of the science and the culture of our country, as demonstrated by *El Mercurio Volante con noticias importantes i curiosas sobre varios asuntos de física i medicina* [The Flying Mercury with important and curious news on several topics of physics and medicine] (Fig. 1), published between 1772 and 1773 by Dr José Igancio Bartolache. It is considered to be the first medical (and scientific) paper in the Americas, along with the famous publications directed by José Antonio Alzate. This printed evidence of New Spanish

scientific practice reports on true communication with the advances happening in Europe and the need to spread and exchange knowledge through periodical publications free of the clerical control of the university. As stated by Martha Eugenia Rodríguez (1992), in the times of New Spain, the ideas from the European Enlightenment permeated critical endeavours of the men of science from that age, as shown by the opposition to humoralism and the enthusiastic welcome for the new physiological mentality, surgeries and dissections that were printed in those publications.

As mentioned by Rolando Neri-Vela (2011), before the Mexican Society of Ophthalmology was founded in 1893 and its first journal *Anales de Oftalmología* [Annals of Ophthalmology] appeared in 1899, Mexican ophthalmological knowledge as a specific topic was spread in publications such as the *Periódico de la Academia de Medicina de Méjico* [Journal of the Academy of Medicine of Mexico], in which contributions appeared such as: "Cauterisation of the cornea in the treatment of amaurosis and mydriasis (sic)", by Serre; "Amaurosis secondary to frontal contusion", by Villete; "Blepharoplasty (sic)", by Jobert; "Means to diagnose cataract", by L.P.; "Treatment of strabismus"; "Opaque staphyloma of the cornea", by Agustín Andrade; and "Strabismus operation in Mexico", by Luis Muñoz. For its part, *La Unión Médica de México* [The Medical Union of Mexico] published: "The ophthalmoscope" by Ángel Iglesias; "The cataract operation", by Francisco Gargollo; "Method to treat ulcers of the cornea", by

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Luis Hidalgo y Carpio; “New Cause of amblyopia or the translucent cataract” by Manuel M. Carmona; “Eye exam by the ophthalmoscope”, by Folin, translated by Ángel Iglesias; and “The importance of the ophthalmoscope in the exams of the eye’s interior” by Manuel M. Carmona. In *Gaceta Médica de México* [Medical Gazette of Mexico], works appeared such as: “Symptomatic amblyopia”, by Fernando Leguía; “Physical phenomena of the physiology and pathology of the eye”; and “History of two cataract operations” by Ángel Iglesias, among numerous other examples.

The scientific advances in medicine happening in the Old World continued to have a direct impact on the training of doctors in Mexico after independence was achieved, and contact with Europe was critical for the development of the specialty in ophthalmology. Therefore, the role of the doctors trained on the other side of the Atlantic, regardless of their origin, as well as the printed circulation of discoveries and new mentalities were essential. In Europe, ophthalmology courses had already existed since the 18th century, but it wasn’t until 1834 that Ángel Binhagi, an Italian doctor, unsuccessfully lobbied the competent authorities to create an ophthalmology course. The main reason for the refusal was the apparent futility of the initiative, since the structure, function, diseases and surgical knowledge necessary for the hu-

man eye were topics studied in the already existing courses on anatomy, physiology, pathology and surgical medicine. The doctors who graduated from the National School of Medicine and who were interested in this area had to travel to Europe to be trained, and upon their return they responded to the need to consolidate the specialty in Mexico (Neri-Vela, 2013).

The great progress in medical knowledge stopped taking place only in hospitals, making way for laboratories, beginning the onset of the pathophysiological mentality. The importance the experimental laboratories started to have on the discoveries and advances in the medical field in Europe enabled Hermann von Helmholtz, one of the exemplary students of the distinguished German physiologist Johannes Müller, to conduct research that led to the invention of the ophthalmoscope in 1851 (Fig. 2). The ophthalmoscope gave doctors the possibility of seeing the magnified fundus of a patient’s eye, which had previously been impenetrable. This invention was propagated throughout the scientific community of the era and Mexico was no exception. In 1856, the first text about the use and advantages of Helmholtz’s invention appeared in *La Unión Médica de México* and was written by Dr Ángel Iglesias y Domínguez (Fig. 3), as already mentioned above, who had learned about the device during a stay in Europe (Martínez, 2011). This politically conservative doctor was the first to perform a cataract operation with the von Graefe procedure in Mexico, in addition to having been the general practitioner for Maximilian of Habsburg (Neri-Vela, 2013).

The positivism introduced by Augusto Comte provided a philosophical framework for the restored Republic, promoted by Benito Juárez after Maximilian was executed by firing squad and the second Empire ended, and its influence increased during the Porfiriato. One of the main reasons for this influence rests on the liberal premise of the secular State, which was coupled with the positivist secular precepts. One of its main proponents in Mexico was the famous doctor Gabino Barrera (Fig. 4), who was the professor of José Ramos, one of the founders and the first president of the Ophthalmological Society of Mexico. These precepts

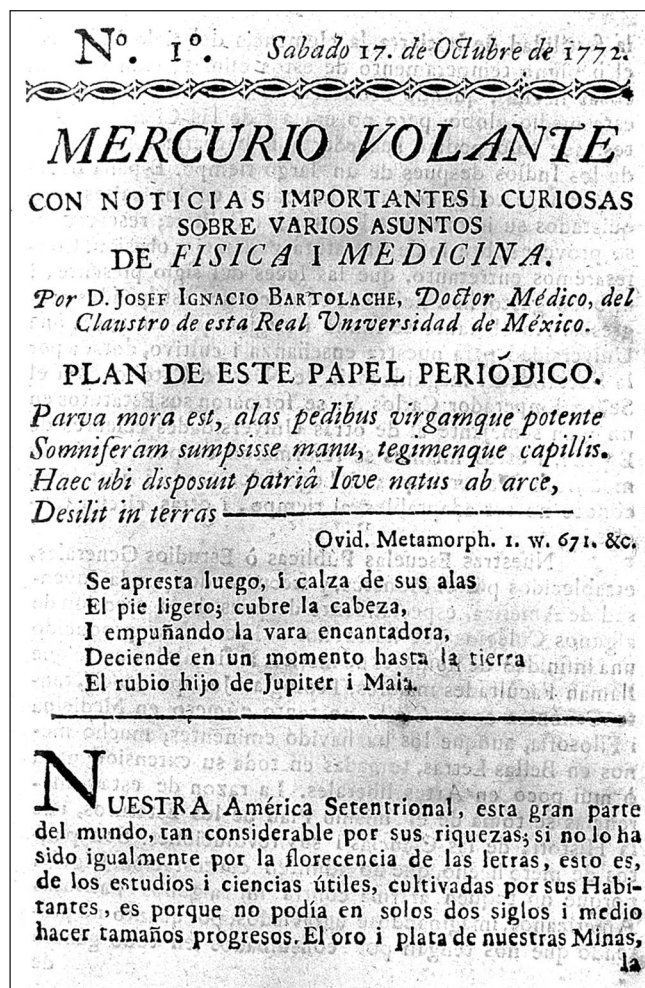


Figure 1 *El Mercurio Volante* [The Flying Mercury].



Figure 2 Ophthalmoscope Helmholtz.

justified the separation of Church and State into different spheres, including education, and advocated a modernising mentality, a philosophy of science linked to progress and scientific specialisation. Without a doubt these propelled the creation of that association, the oldest in Latin American in this specialty.

During the early years of the 19th century, ophthalmology was taught in the Royal School of Surgery, where, among other things, the students learnt how they should “couch cataracts”. In the medical practice of that time there were already groups of surgeons dedicated exclusively to practising this art. In this sense, the Hospital de San Andrés merits particular mention. Located in the middle of Mexico City’s historic centre, at the end of the 19th century this was the largest medical centre in Mexico and it was there that the Instituto Valdivieso was founded in 1875, located in the lower part of the Hospital, occupying the land left by the demolition of the church de San Andrés, where the body of Maximilian of Hapsburg was displayed. The church was demolished in a single night by Juan José Baz, since Juárez did not want it to become a place of worship for the emperor. Eight years after the demolition, the Eye Annex was built thanks to the Mexican diplomat Ignacio Valdivieso, who bequeathed an income for poor eye patients in Mexico. Dr Agustín Andrade, a physician in the Hospital de San Andrés

with an interest in ophthalmology, was appointed the first director.

The Instituto Valdivieso was the point of reference for most Mexican ophthalmologists of that time, some of which would go on to found the first Mexican ophthalmological organisation. The meeting to formalise the Society took place in the home of Dr José Ramos on 18 February 1893. Five years after the Society had been founded, the first issue of its journal appeared in July 1898, with the name *Anales de Oftalmología* [Annals of Ophthalmology] (Fig. 5). For the first 17 years the journal was issued monthly. This took considerable effort, both because of the small number of Mexican ophthalmologists as well as the frequency and persistence with which it was published. It was only towards the end that it presented several delays as a direct consequence of the Mexican Revolution. After the first year of its publication, some foreign journals, such as *Clinique Ophtalmologique* from Paris and the *Annals of Ophthalmology* from the United States, announced the Mexican publication. For their part, the *Recueil d’Ophtalmologie*, *Archivio di Ottalmologia* and *Bolettino d’Oculistica* analysed the original works that appeared in the journal, serving as a testimony to the spirit of circulation and communication among the members of the international scientific medical community.

One of the main driving forces of the Society was Dr Uribe Troncoso, who emigrated to New York for political reasons in the middle of 1916. The following year, the *Anales* were merged with the *American Journal of Ophthalmology* from



Figure 3 Dr Ángel Iglesias y Domínguez.



Figure 4 Dr Gabino Barreda.

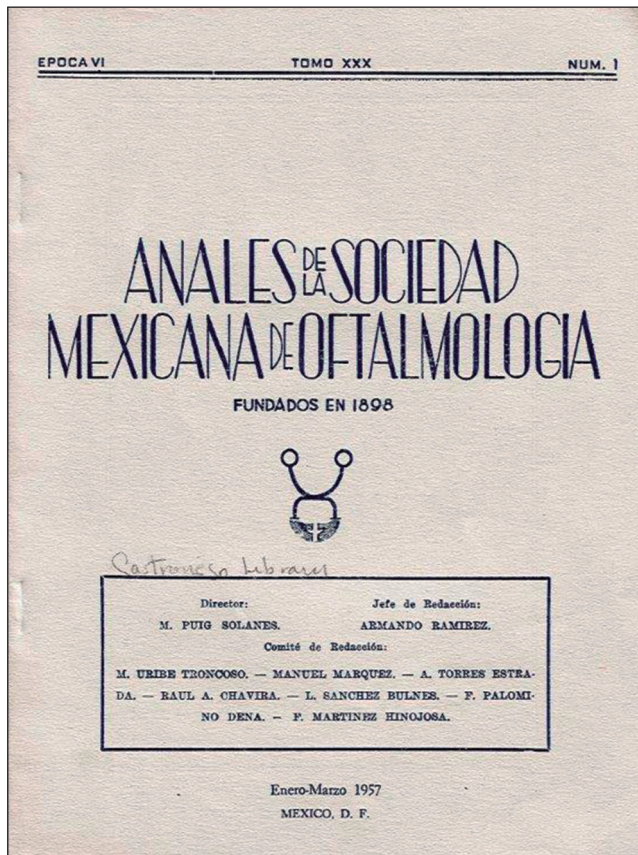


Figure 5 *Anales de Oftalmología* [Annals of Ophthalmology].

New York. Likewise, in 1987 it merged with the journal *Archivos de la Asociación para Evitar la Ceguera en México* [Archives of the Association for the Prevention of Blindness in Mexico] and changed its name to the *Revista Mexicana de Oftalmología* [Mexican Journal of Ophthalmology], although it kept the older numeration from the previous journals that came before.

The first journal of ophthalmology in the world was founded in 1801 in the city of Braunschweig, Germany, by Carl Himly and Johann Adam Schmidt, under the name *Ophthalmologische Bibliothek*, and its first issue came out in 1802. Although the first Latin American publication came out 96 years later in Mexico, this delay is in response to a century of social and political conflicts as a consequence of a historic context of fighting for the consolidation of the Mexican nation. These conflicts would continue during the following century, but at the same time follow a specific juncture and time, in which the key figures protected by a stimulating philosophical framework favoured the creation of the first

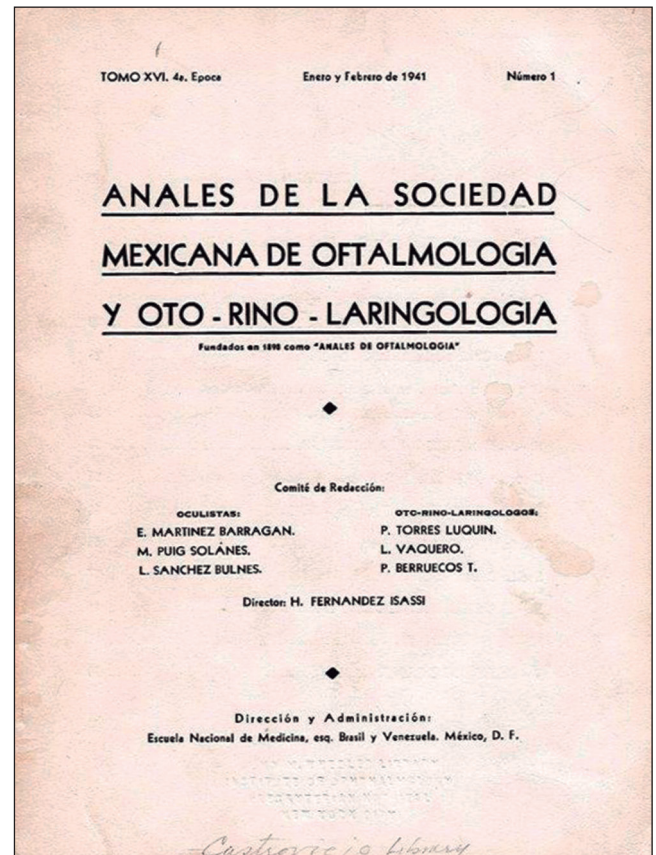


Figure 6 *Anales de Oftalmología y Otorrinolaringología* [Annals of Ophthalmology and Otorhinolaryngology].

publication, and, therefore, the consolidation of ophthalmology as a field of scientific study in the region.

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