

De la Cruz-Badiano Codex: a medical text from XVth Century New Spain

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Introduction

In 1990 Pope John Paul II returned to Mexico a text that may be the first one composed on medical matters in New Spain [1].

According to reputable scholars, this codex was composed under the inspiration of Don Francisco de Mendoza, son of the then Viceroy Antonio de Mendoza. Fray Jacobo de Grado, of the order of San Francisco, commissioned its writing to the "principal Indian" Martín de la Cruz, who composed it in Nahuatl and Spanish. It was Juan Badiano, native of Xochimilco, who put it in Latin, concluding it in Tlatelolco, in the College of Santa Cruz, in the feast of Santa Maria Magdalena in the year 1552. It is not possible to know if the Latin text is a translation of a pre-existing one or a transcription of an exposition in Nahuatl.

It is a codex, unprinted but bound text, of 70 folios (140 pages), on Italian paper, bound in the European style, measuring 15.2 cm × 20.6 cm × 2 cm. The text is written in XVI century chancellery calligraphy. It contains 244 plant names and only 185 illustrations, of indigenous origin, reproduced with their glyphs and characteristics of the environment in which they live and their therapeutic indications. It is distributed in 13 chapters, which begin with prescriptions for head ailments and conclude with the signs of death. Although it seems to follow a traditional distribution of "*a capite ad calcem*", there are interpretations that link the number of chapters and their arrangement to aspects of Mexica cosmology and that highlight the role of graphic representation in Mesoamerican cultures, culturally different from that prevailing in the European world [2].

History

Discovered in the Vatican Library by Charles Upson Clark in 1929, there is an incomplete copy in the Windsor Library, found around the same time.

It is unknown how this precious text arrived in Spain, although it is very likely that Juana of Austria, sister of King Philip II, who ended up professing at the Imperial Monastery of the Descalzas Reales, had it in the repository of this institution until her niece, the Infanta Margarita of Austria, who also professed as Sister Margarita de la Cruz, gave it to her grandmother as a gift, gave it as a gift to her personal apothecary, Diego de Cortavila y Sanabria, a respected member of the courtly intelligentsia and assiduous follower of "spagyrics", a discipline between alchemy and science, as well as a member of Madrid cenacles enthusiastic about the new Renaissance airs, with serious danger of denouncing him to the inquisitorial authorities.

It is reasonable to suppose that when Francesco Barberini, nephew of Pope Urban VIII and member of the Academia dei Lincei, visited Madrid at the beginning of the 17th century, he did so accompanied by his friend and fellow student Cassiano Dal Pozzo, who had received from Prince Federico Cesi, founder of the Academia dei Lincei, the assignment to collect materials on botany and medicinal herbalism. Dal Pozzo took to Italy the Tesoro Messicano, an abridged text by Nardo Antonio Recchi of the monumental work of the protomedic Francisco Hernandez de Toledo on medicinal herbs of the New World and the copy of the Libellus that perhaps was sold by Cortavila to the bibliophile.

The codex became part of the Barberini Library until 1902, when it was incorporated into the Vatican Library, where it was discovered in

1929. It is plausible to suppose that Cassiano dal Pozzo ordered the preparation of the copy acquired by the English King George III, discovered in Windsor by Giuseppe Gabrieli. There is news of another copy made by the mathematician Francesco Stelluti, also of the Academia dei Lincei, which has not been found.

Previous editions

José Sanfilippo Borrás [3] describes the editions that the codex has had since its discovery. Of note are the Gates edition of 1939, published in Baltimore by The Maya Society and Johns Hopkins University [4], an unpublished Mexican edition of the same year by Demetrio S. García and the best known edition by Emily Walcott Emmart of 1940, a facsimile with translation entitled *The Badianus Manuscript* (Codex Barberini, Latin 241) Vatican Library. An Aztec Herbal of 1552). Also mentioned are the Mexican editions of 1952, by Francisco Guerra [5], and that of 1964, sponsored by the Mexican Institute of Social Security, with translation by Angel Maria Garibay and extensive studies [6] Then there are the editions of the Fondo de Cultura Económica of 1991, of the Ministry of Health of 1992, an electronic one of 2008 on CD with an explanatory booklet by Carlos Viesca, an English one of 2009, that of the journal *Arqueología Mexicana* of 2013 [7], that of the Mexican Pharmaceutical Association of 2017, that of the Ministry of Foreign Affairs of 2021 and the last and definitive one of the Faculty of Medicine of the UNAM and the Palace of the School of Medicine of 2022, on which this commentary is based [8].

It is surprising that the codex, called in this last edition "De la Cruz-Badiano", was prepared in a single copy, since there was already a printing press in New Spain since the 1530's. This makes it doubtful that it was only a text of "materia medica" in the style of the European herbal treatises. It is probable that its very rich ornamentation was destined, more than to the diffusion of a properly medical knowledge, to be a gift for the emperor Carlos V with the purpose of highlighting the work of the Santa Cruz de Tlatelolco College and its indigenous academics and to obtain financing and privileges, as indeed it happened during the reign of Felipe II. In addition, two significant facts support this presumption. The plants are designated by their Nahuatl names and although they do not all come from the Valley of Mexico but also from distant regions, it is unlikely that they could be found in Europe, especially if their designations have been a problem for their correct botanical identification. On the other hand, it is not a simple list of species of medicinal value, but a recipe book that contains indications for treatments of conditions that are not always identified with the European Renaissance humoral nosology, sometimes combining herbs with other treatments such as minerals and other substances [9].

The existence of its promoters and authors is accredited, as well as the work of the Franciscan college of Tlatelolco, founded by the viceroy at the request of Fray Juan de Zumárraga, which could be considered a sort of university for the principal Indians in whose classrooms a syncretic medicine was also taught until several years after the codex was written. It is significant that Bernardino de Sahagún, who compiled medical information from various informants from 1558 onwards, does not mention either Matías de la Cruz or Juan Badiano, which indicates that this codex was not integrated into the conventional medical collection.

Open questions

The main question raised by this valuable document concerns the integration of knowledge. Beyond its therapeutic relevance and considering that its intentions could be related to the desire for fame of the Mendoza family (Francisco de Mendoza, nephew of Viceroy Antonio, who later would also be Viceroy of Peru, died the same year of its composition), without ignoring the possibility of an import business of medicinal herbs, interpretations should not overlook the fact that it is a work that combines the traditional knowledge of the *ticitl* (Mexica healer) with the conceptual scaffolding of European medicine. The keys to an integrative reading are a permanent challenge. For Mesoamerican cultures, the European idea of book was not unknown, as evidenced by the word *amoxtli*, which literally meant "sheets of paper glued together" according to the scholar Miguel León-Portilla [10]. However, it should be noted that the image and its interpretation could have cultural meanings that should be investigated since iconography not only seemed to have mimetic or aesthetic value but also symbolic in pre-Hispanic Mesoamerica [11]. It is for this reason that the "reading" of the codex demands an immersion in the cultural journey and in the cosmovision of a culture that was in the process of absorption by the European hegemony and its ways of saying and conceptualizing.

The search for conceptual bridges cannot be circumscribed only to the interpretation in terms of the medical heritage. The notions of cold and hot, which still survive in popular conceptions of health and disease, the need for lasting testimonies (such as spelling and writing), the fusion of languages and their apparent connotations in translational attempts at translation, are essential factors in the process of interpretation and understanding that the plurality of intellectual universes confronting the history of knowledge demands. Reducing the "De la Cruz-Badiano" codex only to its eventual value as a "*liber medicus*" seems to narrow the scope of its implications and limit the expansion of cultural horizons it offers. The biography of its creators is documented [12] and a complete understanding of its relevance needs a reappraisal or medical and cultural notions [13]. This implies a recognition that a truly ethical enterprise in search for understanding should focus on the ways the past is understood in the light of changes in scientific practices and, in particular, pharmacological developments [14, 15].

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Competing interests

The author declares no conflicts of interest.

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