THE BADIANUS MANUSCRIPT, AN AZTEC PHARMACOPŒIA.*

BY EMILY WALCOTT EMMART.[1]

We are so accustomed to think of the introduction of Spanish culture into Latin America during the 16th century that the reciprocal transmission of Aztec learning into Europe has long been a neglected subject. In but one branch of learning, the field of medicine, Mexico has left her stamp upon the pages of European history. Among the works of the great herbalists, Carlos Clusius, Gaspard Bauhin, Colonna, Monardes, Hernandez, Gerard, Parkinson, and others of the 16th and 17th centuries, we find many references to Aztec medical practices. Of these only the volumes of Hernandez and Monardes were devoted entirely to the medical practices of Latin America. These, however, presented native medicine as seen through the eyes of Europeans. Only one Aztec written medical text has thus far come down to us. For the sake of brevity this manuscript has been referred to as the Badianus Manuscript.[2,3] This beautiful little manuscript holds the unique position of being the earliest herbal and pharmacopœia written on this side of the Atlantic and contains the earliest illustrations of some 204 plants and trees of Mexico, together with a list of ailments and diseases and the mode of treatment. The original text is the possession of the Vatican Library where its identity has been obscured by the title "Codex Barberini, Latin 241." The precise title of the manuscript is "A book of Indian Medical Herbs composed by a certain Indian physician of the College of Santa Cruz, who is not theoretically learned, but is taught only by experience. In the year of our Lord Saviour 1552." Plate I.

Until approximately six years ago the codex was unknown to the world at large. At that time it was discovered independently and almost simultaneously by Dr. Lynn Thorndike and Dr. Charles U. Clark. Dr. Clark brought back to the Smithsonian Institution a photographic copy and it has been from photostats of this that the present study and translation has been made.

The Badianus Manuscript is the work of two Indians who had been educated in the College of Santa Cruz, Mexico City. The text was originally written in Aztec by Martinus de la Cruz whose name appears in the dedication. From the postscript we learn that within the same year the work was partially translated into Latin, July 22, 1552, by one, Juan Badianus, a native of the district of Xuchimilco and reader in the College of Santa Cruz. Plate II. The manuscript is fittingly dedicated to Francisco de Mendoza and to his father, Antonio de Mendoza, first "Viceroy of this India" who according to the historian Mendieta, founded the college with his own funds. From the dedication also we learn that the book was intended as a gift to his "Holy Cæsarian Royal Catholic Majesty"—Charles V.

The manuscript is a complete book possessing a table of contents and is divided into thirteen chapters. As in some of the European herbals, there is an attempt to group ailments according to the region in the body, beginning with the

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* Section on Historical Pharmacy, A. PH. A., Portland meeting, 1935.

[1] The Johns Hopkins University.

[2] Emmart, E. W.—1935, Concerning the Badianus Manuscript, an Aztec Herbal, "Codex Barberini, Latin 241" (Vatican Library). Smithsonian Miscellaneous Collections, Vol. 94, No. 2, May 18, 1935.

[3] Emmart, E. W.—1935, "An Aztec Medical Treatise: The Badianus Manuscript," Bulletin of the Institute of the History of Medicine, Vol. 3, No. 6, June 1935.

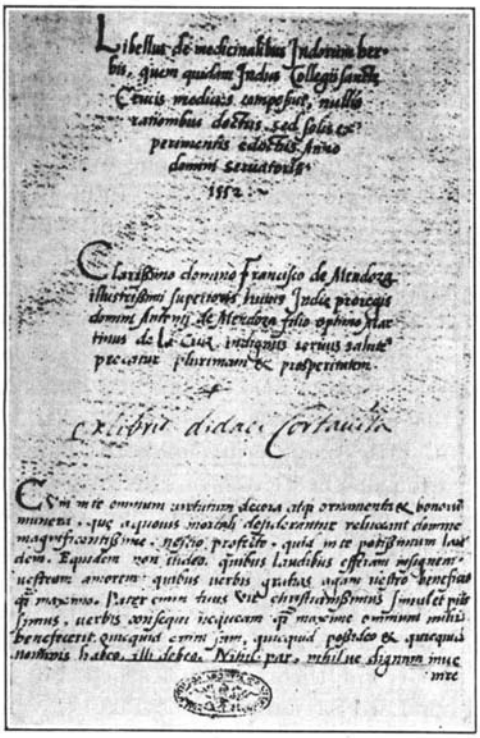

Plate I.

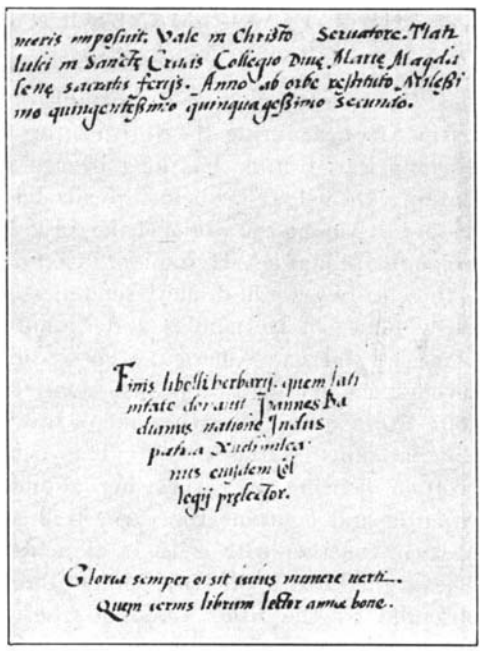

Plate II.

Plate IV.

Plate III.

Plate I.—Facsimile of the first page of the Badianus Manuscript (Codex Barberin, Latin 241). Plate II.—Facsimile of the last page of the Badianus Manuscript, showing the signature of Joannes Badianus (6th line). Plate III.—Badianus Manuscript, page 96. Remedy for warts. Plate IV.—Badianus Manuscript, page 110. Remedy for tubercules of the breast.

head and proceeding to the feet. In several chapters, however, this arrangement is vague. The plants which are in brilliant colors[1] are usually arranged at the top of the page above the description of the usage. Since the translation was made with the use of Pliny no equivalents could be found for the Aztec plant names so that these have remained unchanged along with the names of numerous stones and animals. There are in fact some 313 Aztec words in the manuscript, many of which do not appear in any dictionary. A complete analysis of the etymology of these words has been made and this has been of great assistance in identifying the plants botanically. Aztec nouns, as in German, are built upon descriptive roots so that the analysis of the word may relate to the color of the flower or its location or perhaps to some characteristic of the plant itself such as spiney, small, large, climbing or creeping, etc.

Not infrequently Aztec symbols are incorporated in the illustrations. For example, a small tree called Couaxocotl[2] is depicted as having two serpents climbing up in the tree toward the fruit. The word couaxocotl literally means serpent-fruit since coua is derived from coatl-serpent (Sim. 101)[3] and xocotl is the Aztec word for fruit (Sim. 705). Ants are sometimes shown climbing up the stem of plants possessing nectaries or clambering over the roots of others which grow near ant hills. The Aztec water symbol is frequently drawn under the roots of plants growing near running water.

Among the many interesting remedies there are treatments for mange, scabs, falling hair, cataract, tumor of the eyes, cold in the head, quinsy, fever, fatigue, for helminth infections, dysentary, hemorrhoids, medicine to produce lactation and numerous other remedies. The last chapter ends very fittingly with "certain signs of approaching death." Usually a page is given over to a single treatment with the principal plants illustrated at the top of the page. For example, above the remedy for warts is found the plant Tzotzocaxihuitl or wart-plant (tzotzocatl-wart, Sim. 670 and xihuitl-plant, Sim. 699). Under the picture of the plant one reads:

WART.

"A warty person is healed if you apply to the warts the leaves of helioscopium (wartwort) ground in water, so that the warts will become putrescent and so may be lifted off. It will be helpful also to rub the warts with water in which a human body has been washed." Plate III, Badianus Manuscript, page 96.

For tubercules on the breast we read as follows:

"The juice of ground cedar leaves and cones, of the leaves and root of Quauhy-yauhtli (wild-incense), of the herbs Elocacatl (maize flower), the rush, Pocahucaliz-xiuhtontli (rare-little-plant) and Totecyxiuh (Herb of Totec, God of the Gold-smiths), stops a tumor growing on the breasts, if the swelling breasts be smeared with it." Plate IV, Badianus Manuscript, page 110.

Many of the remedies include ingredients which have long been of medical

[1] Through the kindness of Dr. Charles G. Abbot of the Smithsonian Institution, colored sketches of these plants have been obtained and it is hoped that the necessary funds will some day be obtained for a complete facsimile reproduction in color with introduction and foot-notes complete.

[2] Emmart, E. W., "An Aztec Medical Treatise: The Badianus Manuscript," Bull. of the Institute of the History of Medicine, Vol. 3, No. 6, June 1935, page 498, Pl. 5.

[3] Simeon, Reni, Dictionnaire de la Langue Nahuatl. (Paris, Imprimerie Nationale, 1885).

usage. Among them salt solution, a form of soil containing a large quantity of soda, onions and honey water, oil of indigo, egg white or yolk, charcoal etc. Numerous unguents were used as well as plasters with a base of feathers or hair or rubber. The bezoar stone, especially that from roosters, was of frequent usage. Numerous stones and variously colored earths and native wines were frequently mixed with the juices of plants and frequently parts of animals. Probably the earliest record in America of the use of Datura as a narcotic is to be found here, also the use of vanilla plant and the cocoa.

That the knowledge of medical plants and treatments of disease was considered equal to if not superior to that of Europe is indicated by the fact that the early Franciscan friars included Mexican medicine in the curriculum of the College of Santa Cruz. Even more significant is the fact that Philip II sent Dr. Francisco Hernandez, under the title of Protomedico of Spain to New Spain with orders to travel throughout Mexico and collect data on native plants and their usage. History records the fact that after the trade routes were established between the New World and Europe, roots, bark and herbs were shipped to Europe in large quantities. The spreading of Aztec medical knowledge to Europe was accomplished by the writings of Friar Bernardino de Sahagun, Dr. Francisco Hernandez and Dr. Nicholas Monardes, and by the tales of ship captain, travelers and merchants. A careful cross-referencing of the present herbal with other sixteenth century writers of Latin American botanical texts shows but little relationship except with that of Sahagun. This would be expected since he resided at Tlaltelolco during a large part of his life in Mexico, and may have been at one time the teacher of Aztec and Latin to both Martinus de la Cruz and Juan Badianus.

THE PHARMACIST AND THE PODIATRIST.*

BY W. F. AMBROZ.[1]

Heretofore, we as pharmacists have been detailing the doctors, the dentists, the veterinarians, the oculists, and all the while passing up the podiatrists. In this field yet untouched or merely scratched, pharmacists have an opportunity to practice the principles they have learned in manufacturing and dispensing pharmacy. Why not apply that knowledge and technique and in return establish a practice that will compensate for the time spent?

The podiatrist or chiropodist belongs to that branch of public health service, the same as the doctor, dentist or nurse. Some practicing physicians now refer cases to the podiatrist for treatment. Pharmacists, therefore, have another channel to work in a well-established and recognized field.

Each state has its own rules and regulations dealing with the podiatrist. Their state boards usually consist of two members of the medical state board and two practicing podiatrists. They have their code of ethics or trade laws which are similar to those of the medical profession governing their practice. In most states they are allowed to write prescriptions for external application. Podiatry schools

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