

THE UNITED STATES NATIONAL MUSEUM PHARMACY COLLECTION
—ITS AIMS, PROBLEMS AND ACCOMPLISHMENTS.*

BY CHARLES WHITEBREAD.¹

The older pharmacists of the United States, and particularly those who have been pestered with never-ceasing requests for the contribution of material, and coöperation in other forms, will need no introduction to the national pharmacy collection of the Division of Medicine, United States National Museum, which they have helped to develop.

It is no secret that every museum must depend to a greater or lesser extent upon the interest manifested by and the assistance received from the devotees of an art, industry or science, which it endeavors to illustrate. Ordinarily the scientific staff of a museum is small, so that even if there are ample funds and other personnel, which is only rarely the case, still great dependence must be placed on outside help.

The pride of any group in its chosen calling can be fairly well gaged by what it does in the way of improvement; by the extent to which it endeavors to portray its accomplishments of the past and present for the benefit of posterity; and the honors which it bestows on its leaders by means of museum and other types of memorials. It seems to me to speak exceptionally well for the pharmacist's pride in his profession when we recall that the oldest building of the United States National Museum proper was completed in 1879, and the original Section of Materia Medica, made up of the pharmacist's stock in trade and consisting largely of material contributed by pharmacists, was established in 1881.

ORIGIN OF NATIONAL PHARMACY COLLECTION.

In 1882 the drug collection which had been exhibited at the Centennial Exposition at Philadelphia in 1876 was transferred to the Museum by the United States Department of Agriculture. For a time the efforts of the Section of Materia Medica were confined almost exclusively to procuring authentic specimens of medicinal materials. Some years later the development of a history of medicine series was suggested, and Dr. James H. Flint, the first curator of the section, took up the new feature of work without delay. During the remainder of his term of service, Dr. Flint spent the greater part of his time perfecting that part of the exhibition series. The magic and psychic medicine exhibits, as well as the cases illustrating the medical practices of the ancient Egyptians, Hebrews, Greeks, Romans and American Indians, were the results of his efforts. In 1898 the more comprehensive name of Division of Medicine was substituted for the "Section of Materia Medica" theretofore used.

After Dr. Flint's retirement, in 1912, considerable time elapsed before much could be done to carry on the work which he had started, due in great part to the fact that congestion of the Museum's single building made further development impossible at that time. Soon after the Natural History Building of the present Museum group was completed the administration of the Division of Medicine

* Section on Historical Pharmacy, Baltimore meeting, 1930. For an illustration, see June JOURNAL A. PH. A., page 647.

¹ Assistant Curator, Division of Medicine, United States National Museum.

was transferred from the Museum's Department of Anthropology to the Department of Arts and Industries. The removal of the natural history collections to the new building relieved the congestion in the older building, and in 1916 the scope of the Division of Medicine's activities was enlarged again, this time to include the history of pharmacy, public health and sanitation.

It will be noted, therefore, that pharmacy has been represented in the national collections from 1881 to the present time. During the intervening years, pharmacists have responded most generously to every request for coöperation in the courteous and patient manner for which the profession as a whole is famous. Unfortunately there have been periods since the inauguration of the collection when the Museum has been so congested that very little could be done in the way of further development of any section. As luck would have it, several exceptionally fine lots of material, and tenders of coöperation, offered during these periods of congestion, by the AMERICAN PHARMACEUTICAL ASSOCIATION, its individual members and others could not be accepted until additional space was available. The result has been that this material which could not be added to the national collection has been distributed elsewhere, forming the nuclei of other pharmacy collections throughout the country, which is not such an unhappy consequence after all when we realize that more pharmacy museums are needed. So it has not been due to any delinquency on the part of the Museum or pharmacists that the national collection is not more pretentious, or has not been developed more rapidly.

AIMS OF THE NATIONAL COLLECTION.

The diffusion of a more general culture, which forms the basis of professional perfection, has the effect that certain provinces of knowledge, which in former times were reserved for the professional man only, are becoming the property of every educated person. This broadening of knowledge does not mean a restriction of science for professional men. On the contrary, they are enabled to follow the progress of science more closely by receiving a more careful training for their profession, and they can obtain better results with the help of a more educated public, when called upon to make a practical use of their professional knowledge and skill. This development of knowledge has taken place in a very marked degree until one ought to be able to say, or to suppose at least at the present time, that every educated person has some knowledge of pharmacy, medicine, hygiene and sanitation. As the first aim of a national museum is the promotion and furtherance of scientific doctrines, one of its chief responsibilities, therefore, is to select from the whole realm of science those matters which demand public attention and which should be known everywhere, and to present them in a manner intelligible to all.

Having been established before the days of pure food and drug legislation, and at a time when the adulteration of imported vegetable drugs was one of the most serious and annoying problems with which the pharmacist had to contend, the original objective of the Section of *Materia Medica* was to collect and exhibit authentic specimens of official drugs of this kind. The drugs collected were exhibited under a botanical classification of families, genera and species. Specimens of materials, less costly and more readily obtainable, with which drugs were found to be adulterated were also collected and exhibited. The collection aimed to give the general public an easy reference to specimens of official medicines; warn against

the dangers of adulteration; encourage the growth of drug plants in the United States to make our country as independent as possible in this particular; create a higher regard for the profession of pharmacy and its responsibilities; and to play a part in developing the sentiment which was necessary before protective legislation, such as the Pure Food and Drug Act and other necessary laws, could be enacted.

Another primary aim of the national collection was to impart more general knowledge of the immense scope of the profession of pharmacy. It was not sufficient to show a collection of crude vegetable drugs and let the matter rest there. With the passing years an increasing number of ways was found to illustrate many of the various ramifications of this essential and important art and science. The crude vegetable drug collection had shown pharmacy's interest in biology, the science which deals with all kinds of life; botany, the science of plant life; and pharmacognosy, the science of crude drugs. To this nucleus was added, as soon as time and opportunity permitted, a collection of drugs from the animal kingdom; a series of exhibits picturing mineral drugs; and finally a collection of synthetic medicines. The addition of this material was necessary to supplement the original collection; to round out and balance the display; and to further the object of teaching that the profession of pharmacy also included a knowledge of that part of biology which treats of animal life, as well as the science of mineralogy which deals with the inorganic substances of the earth. A collection of this kind required something to show the pharmacist's daily use of the sciences of chemistry and physics. While these two subjects do not lend themselves readily for exhibition purposes, yet it has been possible to illustrate some of the processes and apparatus necessary to convert crude drugs into the various forms into which medicines must be prepared for administration. This then led to the addition of type specimens of these various medicinal forms; a therapeutic classification of a few of them; and material to demonstrate the standardization of medicines, another important function of the profession of pharmacy. A few of the various specialties of the pharmaceutical industry, such as the manufacture of pills and tablets, plasters, capsules, ampuls, etc., are now represented in the collection, until it can be said that this phase of pharmacy is as well illustrated as any industry here.

It seems to be the consensus of opinion now-a-days that a student should be taught the different phases through which the branch of science which he selects as his life work has passed from its origin to its present condition. A pharmacist will have a deeper regard for his profession if he has some knowledge of its evolution, and undoubtedly there will be times during the course of his professional career when it will be as important for him to be as well acquainted with the errors and misleading theories which have prevailed in regard to it, as with the steps by which real progress has been made. So we see more and more colleges giving attention to the historical side of the teaching of science, both by the addition of brief historical courses, and the development of museum collections to be used as a necessary adjunct thereto. An attempt to illustrate the history of pharmacy was not undertaken at the United States National Museum until 1916. Since that time a series of exhibits, entirely separate from the history of medicine, has been installed.

While a national museum must be concerned chiefly with the collection, identification, preservation, installation and description of material for the education and benefit of the general public, still it would not fulfill all of its functions if it did

not aim to be useful as a research and reference center. One of the later additions to the national pharmacy collection is the pharmaceutical library, which consists of both domestic and foreign books and journals pertaining to the subject, and which are consulted freely by those interested in pharmaceutical research.

RESPONSIBILITIES AND PROBLEMS OF DEVELOPMENT.

The specific responsibilities of a museum are to advance learning by the diffusion of knowledge; to stimulate research; to record the stages in the history of man and his work; to serve as an adjunct to schools and colleges; and to impart general and specific information to the public. The national pharmacy collection has been developed for the purposes mentioned.

The problems which have been met and overcome in the development of the pharmacy collection have not differed materially from those which have had to be contended with in the development of other parts of the national collections. When a museum is started, a task is begun which will never be finished, and the chief problem of a museum, particularly a rapidly growing one of a general type, is to keep its building program apace with its development. The United States National Museum has grown very rapidly, and there have been only brief periods in its existence when space has not been at a premium. The pharmacy collection, however, has not suffered any more for the need of additional space than have the other divisions and sections.

There are few historical pharmacy collections in the United States. Every one admits there should be more. Surely pharmacy has had a sufficiently long and honorable history that its record should be fittingly illustrated. There is ample material in the possession of individuals throughout our country to at least appropriately record the history of pharmacy in the United States. The trouble is that the material is scattered about in small lots where it does very little good. In fact, it is not such a difficult task to locate specimens necessary for the development of public collections. The big problem, after you have found them, is to pry them loose from their resting place in the attic or basement where it is not possible for them to serve any good purpose, and to get them into a public collection where they are needed and will be most useful. While material of a historical nature pertaining to pharmacy is needed in the national collection, still it is not so much a question of which particular museum should get the material, as it is that it should be placed in some museum. Exchanges between museums are one of the principal means of mutual development, and as the only object in keeping duplicate historical material is to be in position to give help in the establishment of like collections, if the problem of getting the material to some museum can be met, then the matter of exchanging it or diverting it to the place where it is most needed can be attended to by the museum.

The problem of keeping the collection of drugs, chemicals and pharmaceuticals in a good state of preservation so that they will always be truly representative is one which can only be met by making the necessary replacements whenever required. The devising of ways and means of illustrating the art, science and industrial phases of modern pharmacy is new work which will test anyone's ingenuity.

DEVELOPMENTAL ACCOMPLISHMENTS.

As has been stated, up to 1916 the National Museum's pharmaceutical activities were limited to the collection, exhibition and preservation of official drugs, common adulterants, etc., of civilized countries. Since 1916, when it was possible to add the subject of history of pharmacy to the scope of the Division's activities, the work of development has gone forward until at the present time the collection is fairly well-balanced, with the necessary flexibility to allow the required augmentation when circumstances will permit. The collection may be briefly outlined as follows:

General Facts.—Myths of pharmacy; prehistoric pharmacy; pharmacy of the ancient Egyptians and Hebrews; some drugs of the ancient Egyptians and Hebrews; pharmacy of the ancient Greeks and Romans; some drugs of the ancient Greeks and Romans; pharmacy at the beginning of the Christian Era; pharmacy of the Middle Ages; separation of pharmacy and medicine; origin of apothecary shops; early American pharmacy; the first American college of pharmacy.

Evolution of Pharmacopœias and Formularies.—Comparisons of photographic sections of one of the earliest books on pharmacy and medicine, the Papyrus Ebers, 1550 B. C., with fore-runners of the first U. S. Pharmacopœia, and the first and subsequent editions of the U. S. Pharmacopœia, National Formulary, various dispensaries, etc.

History of Pharmaceutical Apparatus and Utensils.—Scales; balances; weights; mortars; pestles; suppository molds; tablet machines; pill machines; stills; patent models; etc.

Illustration of Pharmaceutical Processes.—Distillation; evaporation; sublimation; filtration; dialysis; sterilization; precipitation; maceration; grinding; sifting; percolation; testing; etc.

History of Drugs.—Specimens, drawings, illustrations and historical sketches of drugs used in all parts of the world, such as: Aconite, belladonna, hyoscyamus, stramonium, opium, rhu-barb, strophanthus, nux vomica, etc.

America's contribution to *materia medica* in the form of specimens, illustrations and historical sketches of such drugs as: Cinchona, ipecac, coca, jalap, vanilla, sarsaparilla, etc.

Indigenous drugs of the United States, such as: Sassafras, witchhazel, hydrastis, mandrake, scullcap, sanguinaria, lobelia, etc.

History of Galenicals.—A unit of the collection designed to show the origin and history of some of the most commonly used official medicinal preparations to which the names of the originators still cling, such as: Vinegar of squill, by Pythagorus, 500 B. C.; Diachylon plaster, by Menekrates, 40 A. D.; cold cream, by Galen, 150 A. D.; etc., up to the present time.

A record of the years when medicines were made and sold by letters-patent, and specimens of some of the oldest patent medicines still in use, such as: Haarlem oil, 1672; Hooper's pills, 1743, etc.

Modern Pharmacy.—Crude vegetable drugs; common adulterants; crude animal drugs; crude mineral drugs; serums; vaccines; antivenin; etc.

Specimens of the typical forms into which crude drugs are prepared for administration; pharmaceuticals of all kinds.

Outline classification of medicines by therapeutic effect, with type specimens of the various classes, such as: anodynes, narcotics, sedatives, etc.

Progressive steps in the manufacture of pills and tablets, capsules, plasters, vaccines, serums, surgical dressings, etc.

Pharmaceutical Library.—A large collection of books, periodicals and journals—both domestic and foreign—of particular interest to those engaged in pharmaceutical research.

●
CONCLUSION.

The national pharmacy collection is in the Arts and Industries Building of the United States National Museum. Nearly two million visitors passed through the Museum buildings last year. Surely one is justified in predicting an increasing usefulness of this pharmacy collection for the instruction of intelligent laymen who

desire to know the part which pharmacy has taken and is taking in the conquest of disease. The formation of the national collection has been essentially a matter of teamwork between pharmacists and the Museum. What has been done here should be done elsewhere, until there are more and better pharmacy collections distributed throughout the United States.

A NOTE ON AN ANCIENT POISONOUS PLANT OF ASIA MINOR.*

BY L. E. WARREN.¹

Plutarch relates² that when Antony was retreating from his fruitless invasion of Media his soldiers were threatened with famine. They were constantly harassed by the Parthians in superior numbers, so that they could not make extended foraging expeditions. In part the account reads:

"And when they tried vegetables and roots, they found such as are commonly eaten very scarce, so that they were constrained to venture upon any they could get, and, among others, they chanced upon an herb that was mortal, first taking away all sense and understanding. He that had eaten of it remembered nothing in the world, and employed himself only in moving great stones from one place to another, which he did with as much earnestness and industry as if it had been a business of the greatest consequence. Through all the camp there was nothing to be seen but men grubbing upon the ground at stones, which they carried from place to place. But in the end they threw up bile and died, as wine, moreover, which was the one antidote failed."

Not being familiar with any plant having such peculiar pharmacologic properties as those described by the historian and being curious to know its identity, I consulted several works on poisonous plants. I assumed that Plutarch's description was accurate and that the plant must long since have been identified or, at least, conjectures as to its identity must have been made by students in toxicology. So far as the literature on poisonous plants was available I found no reference whatever to the plant mentioned by Plutarch.

In the hope of obtaining some enlightenment on the subject I brought the matter to the attention of several well-known authorities on vegetable drugs and poisonous plants, particularly to those that had made a study of ancient drugs. None of these were able to offer more than conjectures on the problem. One suggested that the plant might have been cannabis; others henbane; I wondered whether it might not have been one of the mandragoras. However, a comparison of the symptoms known to be caused by these several named poisons with the illness recorded by Plutarch shows clearly that none of them can have been the plant under discussion. Two theories are possible to account for the failure of moderns to identify the Medean plant—(1) the plant may have become extinct since Roman times; (2) the symptoms may not have been described completely or accurately by Plutarch. Having no more than a passing interest in subjects of this nature I leave the matter to the Historical Section for further study if it be deemed worth while.

* Section on Historical Pharmacy, A. PH. A., Baltimore meeting, 1930.

¹ Food, Drug and Insecticide Administration, Washington, D. C.

² Plutarch: "Life of Antony."