

they are classified as 'patent or proprietary preparations' through the arbitrary use of these terms in our pharmacy laws or through a conversion of the meaning of these terms to suit the purposes of manufacturers."

THE IDEA AND THE TASKS OF THE HISTORY OF PHARMACY.*

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While attending last year's convention of the AMERICAN PHARMACEUTICAL ASSOCIATION in New York, I answered Dr. Ireland's wish by speaking extemporaneously about the tasks of the History of Pharmacy. I could only touch the subject lightly. The interest I found encouraged me to go into the matter more fully and to point out its principal characteristics.

It is an old-established principle of all scientific research work to take nothing for granted, but to examine the contents and the interpretations of all traditions as to their definition. We are justified to use a definition only if we have satisfied ourselves that it is scientifically irreproachable.

In our case, we have to ask first, what is "Pharmacy," considered comprehensively, and how can we apply this designation. There are two different interpretations which have been asserted through the ages and have been sometimes the subject of long discussions. The one intended to give "Pharmacy" the rank and the dignity of an autonomous science and in this way a place among the other autonomous sciences, *i. e.*, Chemistry, Botany, Zoölogy, etc. The other saw in "Pharmacy" an art based on a series of autonomous sciences without being such a science itself.

The significant trait of an autonomous science is that it is a branch of the tree of knowledge and is working out and following its own system of research work without any regard to the possibilities of practical use. This theory has proved to be correct for philosophy, mathematics, physics, chemistry, botany, zoölogy, and to a certain extent, medicine but does not include Pharmacy.

On the other hand, Pharmacy cannot be included among the arts since it is as Frederking said in 1874, "a part of the practical application of natural science as a whole."

The definition of a profession best suits Pharmacy since it is a combination of sciences and arts and is based upon a practical application of both to "a highly specialized calling," to use the words of LaWall. Pharmacy is given a broad definition in Leaflet 14—Pharmacy—as issued by the Office of Education of the U. S. Department of the Interior, in the following wording:

"Pharmacy, as generally practiced, may be defined as the science and art of preparing from crude vegetable, animal and mineral substances and chemicals, materials in suitable and convenient form for use as drugs; the compounding of drugs; the dispensing of drugs and medicines according to prescription; and their distribution in other ways. . . . As practiced in all of its branches, Pharmacy also

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embraces the collection, identification, preservation, analysis and standardization of drugs and medicines; the synthesis of medicinal chemicals; and the preparation of biological products."

Because it distributes commodities in addition to furnishing professional service and advice, it has been suggested that Pharmacy be defined as a trade. Dr. W. W. Charters disposes of this proposal in clear and forceful language in "Basic Material for a Pharmaceutical Curriculum."

"After a careful and open-minded study of the Pharmacy curriculum for a period of more than two years, the director of the study is definitely convinced that Pharmacy is a profession rather than a trade. The materials that the pharmacist deals with are in many cases so dangerous in their effects upon physical well-being, and the problems that face him in handling these materials and in his contacts with the public require so much intelligence—if they are properly performed—that it is absolutely essential for him to have a rather wide and intimate acquaintance with the fundamental sciences upon which the art depends; and since the distinction between the trade and the profession lies essentially in the fact that the trade needs to know only the methods in order to be proficient while the profession needs to know the principles upon which the methods depend, it follows that Pharmacy is a profession rather than a trade."

The delicate wording of such definitions is not only of theoretical importance. Their significance for the History of Pharmacy is in establishing boundaries in that all subjects, not covered by the designation "Pharmacy" must not be dealt with in the History of Pharmacy.

That means, that the history of remedies as a whole is no essential part of the History of Pharmacy. The history of remedies of chemical origin, the ways to their discovery or invention are to be explained and understood only in connection with the development of chemistry as a whole and with the change in chemical ideas. The *Materia Medica* of vegetable and animal origin and its development has to find its place in the History of Pharmacognosy. Flueckiger has indicated in his "Pharmacognosie des Pflanzenreiches" and Tschirch has shown in his admirable "Handbuch der Pharmacognosie" the way this can be done. The changes of theories with regard to the therapeutic value, the ideas in various historical periods as to the effect and the application of remedies belong to the field of the History of Medicine or Pharmacology.

It stands to reason that, nevertheless, the remedies must have their place within the History of Pharmacy. It is the duty of a pharmaceutical historian to determine the time when the individual remedies of importance or certain groups of them came into use, whether they remained on the stage or disappeared, which part they played in the official and unofficial *Materia Medica* and in the trade with remedies, and the change in form and method of their preparation; shortly the pharmaceutical historian has to find out and to describe their importance within the scientific calling, "Pharmacy."

To give a few examples: The time when opium and its derivatives came into medical use, the official and unofficial books in which these products are mentioned, the forms and kinds of its preparations in their chronological order and the names of the men who have played a part in the respective scientific research work, all these facts belong to the History of Pharmacy. The description of the cultivation

of poppy for the purpose of securing opium and of the attempts to find other ways of producing opium, and the determination of its geographical distribution through the ages are a part of the History of Pharmacognosy.

The alkaloids used in medicine, the synthetic sedatives and antipyretics have their place in the History of Pharmacy as far as the dates of their discovery or invention are concerned, the names of the discoverers or inventors, the fate of and their introduction, duration or disappearance in the official or unofficial pharmaceutical literature. The study of the often very complicated ways, means and considerations, leading to such discoveries or inventions as Antipyrine, Atophan, Veronal, etc., belongs to the history of pharmaceutical chemistry. This study must be based on the history of the fundamental units of Organic Chemistry (urea, benzol and phenol) and cannot be understood otherwise.

The history of the so-called chemotherapy, the history of the work of Ehrlich, consisting in the gradual elaboration of chains of organic arsenic compounds crowned by the preparation of salvarsan, the history of the serums and vaccines and their medical application belong to the History of Pharmacology. Thus the boundaries are precisely established. The history of the basic sciences of Pharmacy, such as Chemistry, Botany, Physics, Zoölogy and medicine is a segment of the History of pharmacy only as far as the respective facts play or have played a part in the practice of Pharmacy. This part has to be the subject of pharmaceutico-historical investigation and description.

This allotment of historical research work to the historians of the respective sciences or professions means no restriction for the history or the historians of Pharmacy. It gives the basis for coöperation to the benefit of all. Here is the ground where the respective historians meet. Here they learn appreciation and respect for the background and the tasks of the allied sciences and professions.

It is evident that just such a kind of historical treatment of remedies within the History of Pharmacy requires a thorough investigation of pharmaceutical scientific literature, especially a study of the Pharmacopœias, Dispensatories, official and unofficial formulas. You all know the continuous and meritorious work of Dr. Kremers of Wisconsin in the historical study of the Pharmacopœias in America.

As we have defined Pharmacy as a scientific calling, the development of this calling has to be the principal subject of the pharmaceutico-historical research work and description. The field is extraordinarily large.

Which influences have shaped scientific and practical Pharmacy and where did they come from? It is obvious that this question is of the greatest importance to American pharmacy and requires a very thorough investigation. The development of pharmaceutical training, the history of the Schools and Colleges of Pharmacy, the work of the teachers of Pharmacy and its effect, have to be recorded. The laws concerning the practice of Pharmacy and their effects, the development of pharmaceutical practice, the uses and abuses, have to be the subject of research work and description. What part has the pharmacist played as a citizen? What place has he taken and held in the civilization and culture of his country? Remarkable pharmacies, pharmaceutical interiors, utensils, etc., have to be described and, if possible, to be shown in illustrations. What part has the pharmacist played in literature, in the works of the poets and as a poet himself, in art, in political life and so on? The pharmaceutical industry, its growing up out of Pharmacy and its

influence upon the scientific, commercial and ethical development of Pharmacy have to be investigated. What has industry given to and what has it taken from Pharmacy? With this outline we have shown the extent as well as the boundaries of the History of Pharmacy. But another and most important question arises. How should this superabundance of material be arranged in order to give a real history and not the usual collection of "stories?"

We have seen how many different subjects belong to the field of our historical research. They are of scientific, commercial, technical, cultural and artistic nature. Is it possible to pay to all these subjects the attention which they deserve, to show their development and their importance in and for pharmacy, when writing the History of Pharmacy in the hitherto usual manner of going through the ages from century to century and combining all facts and events of each period?

You all know the fundamental "History of Pharmacy" written by my late friend and master, Herman Schelenz. It embraces an astonishing amount of material, but if you wish to know the development of the *Materia Medica* and the *Pharmacopœias*, the changes in legislation concerning Pharmacy, the progress of and in pharmaceutical education and so on, you have to extract the individual data within the different centuries and periods, as this book gives no definite coördination. I once called the amazing book of Schelenz the historical Bible of Pharmacy because it embraces all elements of the historical life of Pharmacy just as the Bible embraces all elements of ethics and humanity. But the analogy goes further. In Schelenz' book all subjects are recorded just as they happened or occurred to him, just as the Bible tells of the acts of the Apostle Lucas and goes immediately over to the epistles of Paulus to the Romans and the Corinthians. The same observation can be made in looking over all the comprehensive books on the History of Pharmacy.

The superabundance of material demands a precise and clear division. All facts, events and persons in any way connected with the History of Pharmacy must find their fixed place. Only thus can they be appreciated and shown in their real importance.

How can the desired survey of the development in each single segment of Pharmacy be achieved? The answer is: by division of the material in those segments and a monographical description of each of them.

The individual monographs are to be arranged in a logical order so that their succession gives a full conception of the comprehensive work.

The material is in my opinion and according to my experience to be divided as follows:

I. The *Materia Medica*: This part includes the chapters:

1. The general development of the *Materia Medica*
2. *Pharmacopœias*, antidotaries, Dispensatories, herbals
3. Specialties, proprietary remedies, "Quack" medicines
4. By-roads of Medicine.

II. The Profession of Pharmacy: This part includes the chapters:

1. The laws concerning Pharmacy
2. The management of the pharmacies and the trade with remedies within the pharmacies
3. The commercial trade within the pharmacies
4. The trade with remedies outside the pharmacies

5. Hospital Pharmacy
6. Pharmaceutical education and the Colleges of Pharmacy
7. The employees in the pharmacies
8. The relations of the pharmacists to the physicians
9. The pharmaceutical associations
10. Pharmacists in the service of their state
11. The pharmaceutical journals and newspapers
12. Pharmaceutical literature.

III. Pharmaceutical Technique: This part includes the chapters:

1. Pharmaceutical apparatus, utensils and processes
2. Weights, balances and measures.

IV. Pharmaceutical Industry and Wholesale: This part includes the chapters:

1. Pharmaceutical industry
2. Pharmaceutical wholesale.

V. Pharmacy and Civic Life: This part includes the chapters:

1. Remarkable pharmaceutical buildings, interiors, furniture and utensils
2. The pharmacist as artist and poet and as the subject of art and poetry
3. The pharmacist as a citizen.

VI. Pharmaceutical Biographies: This part includes the chapters:

1. Famous pharmaceutical practitioners
2. Pharmaceutical teachers
3. Pharmacists famous for non-pharmaceutical accomplishment.

This arrangement orders and places the whole material in such a way that nothing can be neglected. The idea and the tasks of the History of Pharmacy are now evident without further explanation. General history is to be divided in two parts: the political history and the history of culture. The characteristic of political history is the ambition of power even if the price for it is death. The characteristic of the history of culture is the development of humanity. Here life is not the price to be paid but the prize to be won. Pharmacy, standing and working in the service of life and of its protection and preservation, is doubtless an important part of the history of culture. Its idea is a cultural one and the History of Pharmacy serves the realization of this idea.

And the tasks of the History of Pharmacy are to show truthfully and clearly the development of Pharmacy throughout the ages and therewith the various ways which have been trod.

Thus it may be possible to avoid old mistakes and to find new and better ways to the invariable aim, which has to keep the pharmacists aware of the responsibility toward their predecessors and successors in order that Pharmacy may maintain the high rank which it deserves.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

SECTION ON MEDICAL SCIENCES (N)—SUB-SECTION ON PHARMACY.

REPORT BY ARNO VIEHOEVER, SECRETARY PRO TEM.

The Sub-Section on Pharmacy met on Monday morning, June 27th, in Ottawa, Can., with twenty-two persons from both Canada and the United States attending