

and see that his share of the profits are secure. Until that is done there can be no amicable arrangement which will be mutually satisfactory.

It is hardly in accord with the eternal fitness of things to pronounce an operation successful if the patient dies. What business needs is a major operation from which recovery is certain. It is said that during the past 40 years there have been seven periods of depression. From these recovery has been made, although the period of convalescence has in some instances been more or less prolonged. That business will recover from the present slump—there is not the slightest doubt and, while there may be obstacles to overcome in the immediate future—sound business principles will prevail and we shall emerge victorious.

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### PHARMACY IN A DUTCH HOSPITAL.

BY T. POTJEWYD.\*<sup>1</sup>

In 1926, Miss Bertha Ott<sup>2</sup> and Miss Frances Greenwalt<sup>3</sup> described in *THIS JOURNAL* the position of pharmacists in American hospitals; in connection with these papers I will endeavor to give an outline of the pharmacist's life in a Dutch hospital.

Unlike the situation in America, the hospital pharmacy in Holland differs very little from that of retail pharmacies. The reason is, that the dispensing pharmacists in Europe do not know about soda fountains, the selling of candies, cigars, etc. Most pharmacists in Holland have chiefly a dispensing department and in a small way they sell package medicines, toilet requisites and surgical appliances. Although the dissimilarity of Dutch pharmacies and those of the United States may not be great, the Dutch hospital pharmacy may present striking differences; one is that in the Dutch pharmacy not only pharmacists, but also pharmacist assistants, are employed—persons who have passed examinations far less exacting than those required of chemists. That is the reason assistants are not given the privilege to prepare medicines, except under the supervision of a pharmacist. Most hospitals employ only one or two pharmacists and four to ten assistants. Moreover, men servants are often employed who are trained in designated work (such as preparing, disinfecting and other solutions), and photographic developers; besides, they deliver the medicines to the clinical departments. To the profession of the pharmacist belongs first of all: the giving of instructions to his employees; secondly, the supervision of the preparation of medicines and, lastly, his watchfulness for a good supply of medicine to the hospital. He is also charged with buying the medicines and, therefore, he frequently finds an opportunity to make use of the commercial side of his career. Although the private pharmacist buys nearly everything from the wholesale dealers, the hospital pharmacist can order his ingredients direct from the producers and, as the annual consumption of many articles is almost constant by a large preemption, this results in a considerable saving of money and the purchase is simplified by it.

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\* Pharmacist, University Hospital, Leyden, Holland.

<sup>1</sup> Secretary-General, International Pharmaceutical Federation.

<sup>2</sup> *JOUR. A. PH. A.*, May 1926, page 391.

<sup>3</sup> *Ibid.*, page 394.

Naturally and of necessity, the quality of many of the ingredients must be examined, so that in the compounding and preparation of medicines one may be certain of having used the best of components. This necessitates that the pharmacist must keep up a card index of the stock and purchase of drugs and chemicals that can be employed in a well-appointed laboratory. Moreover, the hospital pharmacist will have these preparations standardized so that both a galenic and analytical laboratory are necessary. Hence, a laboratory with distilling apparatus, kettles, drying closets, etc., is installed. The dispensing pharmacy requires a place where the utensils can be cleaned and where, at the same time, empty pots and phials can be stored. Moreover, the pharmacy is equipped with spacious store-rooms for medicines and a suitable depository for easily inflammable goods.

The University Hospital was built in Leyden during the World War and gradually completed after 1922. In 1930 the pharmacy of the old building was removed to the new building. The old building was erected in 1880, according to the views of that period, *i. e.*, all the different branches of the medical profession were in different wings of one and the same building; the departments for the new Hospital consist of different buildings, and only otiatrics and dermatology are united in one building. The professors have their special clinics, and next to the said building for otiatrics and dermatology are buildings for internal medicine, women's diseases, surgery, children's diseases, ophthalmology and psychiatry.

A separate building contains other service branches of the hospital, as the kitchen, storerooms, technical departments, etc. A second building, which gives the impression of the main building, is for the director and the administration of the hospital, and the pharmacy is also to be found there. As the latter, with regard to its appointment, was brought absolutely up-to-date, here is a pharmacy not to be paralleled.

The work is arranged as follows: In the morning, about 10:30 the daily demands for medicines from the departments must be in the pharmacy. The requirements are recorded in books; in a few of the departments the demands are entered on the previous evening, so that the books are in the pharmacy by 8:30 of the next morning. One of the assistants begins by writing the required labels for the phials and boxes, and these labels are divided among the assistants, who do the practical work and who, respectively, have special assignments. Some of them only prepare solutions and mixtures; others, powders, pills and ointments. This distribution of work rotates, so that each assistant is informed relative to all divisions of the work of the pharmacy. Another assistant lists the orders for packaged medicines and phials of sterile solutions and other medicines kept in stock. A second list includes wound-dressing requisites. Finally, in every book a printed list is to be found, on which the nurses of the departments can enter their requirements, such as ether, oil, glycerin and disinfectants. At about 10:30 A.M. all orders have come in and shortly after that the administration is completed and the assistant in charge can begin collecting the medicines in stock on the basis of the first list. All packaged medicines, sterile solutions and ointments are then assorted for delivery in a designated place; moreover the assistant has instructions relative to the refilling of phials, which have been sent to the stock-room.

During the lunch hour, from 12:00 to 1:00, there is only one assistant on duty; the last prescriptions are prepared, so that by 2:30 P.M. everything is ready. The

prepared medicines are then put in a place fixed for each of the departments; verification is made by comparison with the books in order to be assured that the prescriptions are correctly copied from the books on to the labels, and whether all the phials and boxes are ready for the departments requiring them. Finally, at about 3:00 o'clock all orders have been filled, and one of the men-servants is called, who comes to the pharmacy with a delivery cart, takes all the medicines and the books of the pharmacy and delivers them to the different departments. The nurses of the departments receive the medicines and divide them among the patients. Preceding the latter carting, all the medicines and disinfectant solutions that were ordered on the demand-lists have been delivered. These solutions are kept in stock and are always ready for delivery, so that when at 1:30 the men-servants return from their off-time, they can be delivered.

The pharmacy is open from 8:00 o'clock A.M. until 10:00 P.M., but all the assistants have an eight-hour working day. In turn, each of the assistants is resident in the hospital for a week; also, during night duty, the assistant has an eight-hour working day; however, for the greater part, not at the same time with her colleagues, as her task includes being on duty from 6:00 to 10:00 in the evening and during lunch time. Moreover, she is also on duty on Sundays, the pharmacy being open from 9:00 to 1:00 o'clock and from 6:00 to 7:00, while during the hours when the pharmacy is not open, the assistant must be within reach, *i. e.*, she is allowed to go out of the hospital, provided she has left her address.

In this article the distribution of the work in a pharmacy has principally been dealt with; in the next contribution the position of the pharmacist will be considered.

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### THE DUTCH HOSPITAL PHARMACIST.

BY T. POTJEWYD.\*<sup>1</sup>

In the preceding article<sup>2</sup> the organization of the medicine supply in a Dutch hospital was described and also, requirements that the hospital pharmacy must meet. In this paper more attention is given to the status of the pharmacist in the hospital life, so that this article can constitute a supplement to the excellent article by Misses Bertha Ott and Frances Greenwalt in the JOURNAL of 1926.

As has been explained in the preceding article, one of the foremost duties of the pharmacist is to give direction to the work of his employes. The latter are, as before stated, not exclusively assistant-pharmacists, whose work principally consists of preparing the medicines, but also men-servants, who do the coarser work.

It is often possible for the pharmacist to introduce simplification of methods, which bring about economy and conservation of labor. Considering that every day a number of bottles of oil, ether, glycerin, etc., are required, it will be economical if a larger number of bottles than immediately required are filled at the same time. One day 200 bottles of oil are filled; the next, 300 bottles of ether, and so on. This has advantages over the old method of each day filling only as many bottles as are wanted for the delivery. When a number of bottles have to be filled with

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\* Pharmacist, University Hospital, Leyden, Holland.

<sup>1</sup> Secretary-General, International Pharmaceutical Federation.

<sup>2</sup> See January JOURNAL.