

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.

aqueous solution of phenol, one can put in each bottle a quantity of phenol liquefactum and after that fill them with water. We have a 200-liter cask supplied with a tap and a gage-glass. On the gage-glass lines are graduated according to a certain cubage. In this cask the solution is prepared, sufficient for some tens of bottles, each containing 3 liters and in very little time the contents of the cask are filled into bottles. All the empty bottles, returned from the departments, in which disinfectant solutions have been delivered, are once more refilled with the same solution. The selection of these bottles is made easier by use of differently colored labels attached to the bottles; the labels of the same color for different liquids are thus marked, so that the contents of the respective bottles are readily recognized. Related methods economize the work in a pharmacy, and it is the pharmacist who has to point out such improvements to his staff.

When in a pharmacy, ointments are regularly prepared that contain sulphur as an ingredient, the ever-returning sifting of the sulphur and the careful rubbing of the sulphur with the fat can often be conserved by keeping a very carefully-prepared and high-percentage mixture of sulphur with the ointment constituent in stock. When it involves a rather large quantity, a similar rubbing can be done mechanically. By such improvements there is economy of time and also the patients are more promptly served.

The foregoing are among the important activities of the pharmacist; he has also the duty, because of the requirement of Dutch legislation, to examine the purchased medicines. The pharmacist-assistants are responsible for the prescriptions they prepare, in so far as this concerns correct preparation; for the purity and the preservation, however, only the pharmacist is responsible.

The hospital pharmacist finds in this part of his task a great satisfaction, for most of the medicines used in a pharmacy are not to be found in the Pharmacopœia. Hence, in this respect, he has the opportunity to look up various references in literature or, eventually, to devise an examination scheme himself.

As has been stated in the preceding article, the hospital pharmacist will often buy large quantities of medicine, sometimes in preemption, such as hundreds of kilos of phenol or barium sulphate, and in this case it is worth while to make a comparative examination as to the qualities of the different samples. Many medicines, belonging to the packaged medicines, will frequently be called for in a pharmacy. Often these medicines can easily be replaced by medicines prepared in a pharmacy; moreover, no end of expense can be avoided in this way. A closer contact with the physicians will sometimes occasion a more extensive examination as to the possibility of giving a certain medicine a form in which it can be applied. As the pharmacist is not infrequently the only person in the hospital who has received a thorough education in chemistry, he can often assist the physicians, who want to do chemical-clinical work themselves, and that is why the pharmacy can be charged with the supply of simple solutions or of chemicals for analytical purposes. Also, because of his chemical education, the hospital pharmacist is often charged with the forensic examinations which regularly occur in each hospital.

In many Dutch hospitals the pharmacist does the clinical examinations, and sometimes he can utilize persons trained in chemistry. This, however, is not the case in the pharmacy of the University Hospital at Leyden. A special laboratory, under the direction of a medical man, is to be found there for such examinations.

On the other hand the pharmacist is charged to inform the pharmacy students relating to practical pharmacy. This institution added to the pharmacist's education some years ago. For an extended explanation of the pharmaceutical study in Holland, we refer to the article that appeared in the *Pharmaceutical Journal and Pharmacist* of March 31, 1928. To this study the following has been added, namely, that the students, after having completed the first part of their examination are required to work in the hospital pharmacy for three months. Here they are instructed in the dispensing of medicines, they prepare a number of galenical preparations and have the opportunity of participating in the dispensing of medicines in the pharmacy; in this way they can follow the practice of their future profession.

Finally, the important assistance the pharmacist can lend to the managers of the hospital respective to the purchase of foodstuffs should be pointed out. Some pharmacists are *f. i.* charged with the regular chemical and bacteriological examination of milk, or with that of butter, cheese, etc. On behalf of the technical department, they can occupy themselves with examining the water or the softened water for washing purposes and, in general, their assistance is called for concerning all those problems for which chemistry can or cannot find any solution.

Thus the daily work of the hospital pharmacist, no doubt, gives all possible satisfaction, and it can be stated—that in the Dutch hospital the pharmacist finds an opportunity to work out more closely all the branches forming part of his study. I desire to point out minor differences between the work of a private pharmacist and a hospital pharmacist in Holland. My present work does not differ very much from that I practiced in a private pharmacy in Amsterdam. That pharmacy had many patients inscribed in insurance companies; large quantities of medicines had to be purchased and other medicines were closely examined.—That is why I disposed of a well-appointed laboratory, and, hence, I could also make other examinations, most of them on behalf of the small industry.

Finally, the place the hospital pharmacist occupies in the hospital organization should be pointed out. If one has, as is the case in some hospitals, a director who is at the same time physician of the hospital, one can be certain that this director knows all about the patients and their nursing, and the pharmacist will be a co-operator of this director.

In other hospitals, as in Leyden, where the director is exclusively a commercial leader, the pharmacist occupies a different place. There, by virtue of his work, he gets in touch with the professors, working in the clinics and with their medical assistants; moreover, with the manager, the head of the nursing departments and the head of the technical department, he is put under the director of the hospital.

In this hospital, he only carries the responsibility for everything concerning medicines elsewhere; for instance, in the Hague the hospitals have not a pharmacy of their own, but the medicines for all the hospitals and for the employees of the municipality are prepared in a central pharmacy. For this purpose, the pharmacist has a budget quite his own, the bookkeeping is thus regulated, that the money spent for medicine for each hospital is reëntered in the budget of the municipal pharmacy; in consequence, the pharmacist is also entrusted with the commercial direction.

Whatever the regulations may be in a hospital pharmacy, one always finds an opportunity to work on behalf of suffering mankind, the manager being charged with the responsibility of the economical direction of the whole hospital.

As the pharmacist is in constant contact with the doctors, he can cooperate with them; usually, circumstances render a fruitful cooperation possible. That is the reason every pharmacist will be satisfied with his work in a hospital, and everyone who started upon his study with ideals is certain to enter upon his duties in a hospital with great enthusiasm.



THE MEDICAL HALL, EASTLEIGH, ENGLAND.

Last fall, window dressing contests were held in various parts of England. "The Hospital Committee Challenge Cup" was won by Idwal Rees, pharmacist on High Street, Eastland, with 81 marks out of 100, the window being dressed by Mr. Rees. It will be seen that the display is largely historical but shows action—note the figure, percolation, etc. Mr. Rees stated that the effort was to show professional pharmacy by apparatus used in dispensing. In commenting on the window one of the judges said Mr. Rees had gone to the foundation of the drug business for his display and conveyed the message of pharmacy.

#### FOOD AND DRUG ADMINISTRATION CONFERENCE.

A conference was held on January 18th of the Administration and drug importers, and those not present may submit views in writing.

At the present time, in suitable cases, after proper application, parcels of certain crude drugs violative of the Food and Drugs Act, because of excess of foreign organic and (or) inorganic matter are allowed conditional release for recleaning.

It is now proposed to discontinue conditional release in such cases and to require exportation in all instances where crude drugs violate the Food and Drugs Act because of excess over the National Formulary or United States Pharmacopœia requirements of acid-insoluble ash or foreign organic matter.