

school. . . . It is entirely clear that large expenses for service, which the hospitals would have to incur under any other system whatever, are avoided by the establishment of a training school, and a very considerable sum is thus made available for the instruction and training for which the labour of pupils is asked, and is so freely given.

"What seems to be needed now is a truer conception of the responsibilities which are inevitably assumed in attempting to direct, control, and develop in any adequate way this large, complicated, and most vital branch of professional education, and ability to face the situation squarely and recognize that adequate funds are just as necessary for the proper maintenance of training schools for nurses as they are for medical, engineering, or any other professional schools.

"No equitable and stable adjustment can ever be made between hospital and training schools until this fact is understood, accepted, and made to bear upon the whole scheme of training. . . .

"Though hospitals are constantly and properly making the public acquainted with their needs, I do not remember ever hearing of any instances of hospitals asking for funds for the maintenance of their training schools.

"Yet I can hardly imagine any branch of their work for the maintenance of which they could with better grace turn to the public. There are literally thousands of men and women who owe their health or their lives to the skill, knowledge, and devotion of nurses. There are those among them who have given liberally to other forms of education, and would, I am confident, willingly contribute to the education of nurses were they but made aware of the need. . . .

"I firmly believe that generous financial help would flow into our training schools from private sources were the need fully recognized, and I see no reason whatever why schools rendering an important public service should not also secure substantial aid from public funds."*

Miss Nutting emphasises that from whatever source funds may come, they are necessary to place schools on a secure and dignified foundation, and to release them from their present helpless and ignominious position, due largely to an entirely unsound economic status.

* [In Great Britain Lord Knutsford has succeeded in obtaining a grant from the Board of Education in connection with nursing education at the London Hospital. There appears, therefore, no reason why other training schools should not have similar advantages.—Ed.]

OUR PRIZE COMPETITION.

WHAT IS THE DIFFERENCE IN THE NATURE AND ACTION OF A VACCINE AND AN ANTI-TOXIN SERUM? WHAT IS A COMMON DOSE OF DIPHTHERIA ANTI-TOXIN? HOW WOULD YOU PREPARE THE SKIN FOR THE INJECTION?

We have pleasure in awarding the prize this week to Miss J. G. Gilchrist, Gillespie Crescent, Edinburgh.

PRIZE PAPER.

A vaccine is a prepared culture of the actual germs of a specific disease drawn from an infected animal.

For inoculation purposes dead germs are used, which, though having no power to multiply and thereby produce an overdose of the poison of the particular disease, yet retain the active toxic principle of their life, which, upon injection into a person, excites the cell defenders and tissues to manufacture antidotes as weapons of defence to counteract the effect of the invading toxins produced by the presence of the foreign harmful bacilli. In this manner a degree of active resistance is created in a person—an acquired immunity, preventive and protective in action, either serving as a complete resistive force to the disease though in close contact with it, or so modifying an irresistible attack that the person is able to completely recover.

Vaccination against smallpox is one of the best-known examples of vaccine immunity by inoculation, millions of lives having been saved and protected since its introduction many years ago in the eighteenth century.

Scientific investigation has since produced vaccines of other diseases of our present time, notably the anti-typhoid vaccine, which has done so much to safeguard the health and well-being of the fighting men and others who are placed in untoward environments. The correct dose of dead germs and their toxins has been found out; also that the protection is increased by a second dose twice as strong as the first, given after a short interval of ten days.

The method of vaccination is to smear the infective agent over a prescribed area of prepared skin on the arm or leg, the top layer or scarf skin having first been scraped away by a knife or scarifer to the exposure of the true skin. The vaccine is there allowed to dry, and as it circulates with the blood through the system, constitutional effects are evidenced more or less in different individuals, with more or less local pain and discomfort at the site of inoculation, the attack passing off in the course of twelve to fourteen days completely, sometimes only manifest for a few days.

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