

completed, as to their distribution in England and other European countries. American investigators have also established the important point that there are two distinct types of toxin, distinguished by the letters A and B, and that the antitoxin of type A does not protect against the toxin of type B. Immune sera have been prepared, the most suitable animal being the goat, and the antitoxin so produced is valuable for treatment if the condition is recognised early enough. The occurrence of different types makes it necessary that polyvalent sera should be employed.

Concerning the possibility of outbreaks in this country the following facts have to be kept in mind. It is well known that the poisonous effects are due to the development of a powerful toxin by the bacillus, and that the spores of the bacilli themselves are harmless when taken by the mouth. The bacillus is a saprophytic anaerobe and produces its toxin outside the animal body. In the older outbreaks in Germany and other parts of the Continent these conditions were provided by the stacking of bacon or other food under faulty conditions which restricted air access. In the more recent outbreaks the anaerobiosis is obtained in the sealed-up jars of fruit or vegetables. Exactly what were the conditions which caused infection and favoured toxin production in the Loch Maree outbreak must remain uncertain until after the results of the judicial inquiry. The possibility of outbreaks of botulism resulting from the enormous importation of canned fruits from California to this country has recently been discussed³ by Dr. Savage. His view is that the risk is a small one provided all unsound or doubtful food is rejected. The gist of his argument may be put thus. While direct examination and experimental investigation have shown that *B. botulinus* may be isolated from canned fruits or other foods which are perfectly sound in every way, the bacillus under such conditions is present in the sporing state and almost always in small numbers only. Such spores may develop into bacilli and produce extremely poisonous toxins under suitable conditions, but they will not do so in the animal body. Botuline spores in moderate number can be swallowed with impunity; danger only arises when the numbers are so large that the toxin in the spores themselves is sufficient to produce symptoms. On the other hand, if such spores find conditions suitable to their growth and develop, they will, it is true, produce potent toxins, but the process will be accompanied—usually but not invariably—by a physical alteration of the outside of the tin (blown or springy condition), and invariably by a rancid odour. In other words, the dangerous tins are also physically unfit, and in most, if not all, the recorded outbreaks associated with fruit or vegetables the danger signal has been neglected. These considerations refer to canned fruit or vegetables. How far they apply to preserved meats or other

foods, the flavour of which may mask the odour of botuline growth, is uncertain and requires investigation.

A NEW RESIDENTIAL CLUB FOR NURSES.

A new residential club for nurses has been opened within the past few weeks at 25, Devonshire Terrace, Lancaster Gate, under the superintendence of Mrs. Dawes.

This club should prove a great asset to private nurses, for Mrs. Dawes is out to make them comfortable. She has been a private nurse herself and knows how much a nurse's happiness depends on the thoughtful study for her creature comforts, when she comes in weary and often overwrought from her case. "The little more how much it is" has been thoroughly studied at 25, Devonshire Terrace.

First on the list a very good cook; every bed as soft and comfortable as good hair mattresses can make them; a hot bath whenever required for the modest sum of 2d., by means of a geyser (penny-in-the-slot system), real hot water, and plenty of it—not forgetting a generous supply for the early morning ablutions, taken round to the bedrooms; plenty of cupboard and wardrobe space which can be rented and retained for £1 rs. yearly, and for the more affluent, single rooms can be retained for £12 yearly and cubicles for £10, which is, of course, absurdly cheap for any part of London in these days, and this locality may be styled as very desirable. The bedrooms are thoroughly comfortable and tastefully furnished with pretty bedspreads and flowery crockery. Some are single rooms, others contain two or three beds, the necessary privacy being secured by means of charming coloured screens. The drawing room is well supplied with luxurious chairs and couches upholstered in blue, and with delightfully heavy silk velvet curtains of the same shade in the long windows. Touches of brilliant orange here and there supply the necessary contrast. The dining room is supplied with small tables, and an ingenious lift through the floor into an alcove brings the food straight from the kitchen, so that hot meals are ensured.

The walls of this room are distempered in soft cream colour, which, with the dark brown woodwork gives a very pleasant effect. In the basement arrangements have been made for the washing and ironing of small articles, which, in these days of ruinous laundry prices, should be greatly valued by club members. Here also are commodious store cupboards, already stocked with home-made jams, for Mrs. Dawes is "house proud." It is evident that every department is personally supervised by her, and that she spares neither time, thought, or money in her efforts to make the club a success. It only remains for the members to rally round and assist her in this enterprise. It should be added that the terms are moderate, as has been instanced in the retaining charges for bedrooms.

³"Botulism and Canned Fruits and Vegetables," *Medical Officer*, July 15th.

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