

their health. It is the normal practice, when employing anyone in the nursing of patients with pulmonary tuberculosis, to give her before she commences her duties special instruction in the nursing of her patients and in personal prophylaxis.

We want to appeal to any trained nurse who can be spared for this work to take it up. In particular we want the student nurse who is just finishing her training and is wondering where to get her post-training experience seriously to consider taking up a post in a sanatorium. The work there affords excellent experience and it is varied. There is both acute surgical work and medical work. It is in every sense the best type of nursing. Above all there is work to be done now. In other services at the moment there is necessarily a certain amount of "standing by." In sanatoria there is work—urgent work—to be done now.

We plead with our Registered Nurses to see that it is done. To serve humanity is our highest privilege. No other profession is quite so honoured.

### CHRISTMAS GIFTS.

In spite of the manifold difficulties arising under war conditions, Miss Isabel Macdonald has been able again to produce the Christmas calendar from the sale of which cheques are sent to a large number of sick and aged nurses (who are in straitened circumstances) to provide for comfort and cheer on Christmas Day. The subject of the Calendar this year is "Immortality," and it must have proved a somewhat difficult and laborious task to find 365 quotations all dealing with one subject. Still, such labour will be well repaid if, in addition to its original purpose, the Calendar may, in some cases, bring comfort to those whose hearts have been torn by terrible bereavements in the last two years.

There are quotations from the Scriptures, from "the myriad-minded Shakespeare," from the sublime Bagavadgita of Ancient India; from Whittier, who wrote so beautifully of the things that pertain to Life and Death. After the first quotation (the first verses of the Gospel according to St. John) the place of honour is given to Wordsworth's Ode which, Emerson said, was the best essay on immortality ever written, and, of course, Tennyson, with his sublime faith in a future life, comes with his words of hope and consolation. There are quotations from older writers also, who lived in ages when humanity had a nobler, deeper understanding of death than that which has invaded the human mind in these materialistic times. Not the least noble are the quotations from the great Montrose and Sir Walter Raleigh, when their enemies had made death take visible shape to them.

The cost of the Calendar is 1s. 7d., a moderate one seeing that the costs of printing and postage have increased so greatly. Those who purchase it should send postage, as it was not until the price of the Calendar had been settled that it was discovered that an extension of the Purchase Tax had added about 3d. to the cost of each copy over the price of last year. The postage of each copy is 3½d., but it falls proportionately according to the number of calendars posted in one parcel. By putting the Calendar into an open envelope and tying a piece of string round it, to prevent letters from getting inside the envelope in the post, the stamp required is only one for 2½d.

### MEASLES.\*

By GEORGE B. LOGAN, M.D.

Measles is an acute communicable disease from which nearly every inhabitant of the civilised world suffers some time during his life. It is one of the most contagious of the communicable diseases. Very brief contact seems to be sufficient for the spread of measles from an infected person to one who is susceptible.

Death occurring as the result of uncomplicated measles is uncommon. Most of the deaths attributed to measles are due to the presence of some complication such as bronchopneumonia. Peribronchial infiltration is often noted in uncomplicated measles. Encephalitis seems to be occurring more frequently or else is being recognised more generally among children who have measles. Patients having this complication often recover, although subsequent mental retardation, behaviour problems, and death have been reported among them. When death from measles occurs, it is almost always among children less than three years of age and among those who are otherwise sick or debilitated when they contract the disease.

It is characteristic of measles that it occurs in epidemics every two to three years. Apparently this length of time is necessary for the appearance in a community of a sufficient number of susceptible persons to make an epidemic possible.

#### Etiology of the Disease.

Since the time of Sydenham in the seventeenth century measles has been known as a distinct disease. During the eighteenth century its communicability was recognised, but it was not until the early part of the twentieth century that Hektoen and others definitely proved the transmissibility of the disease. Even now measles remains one of the few communicable diseases about which doubt still exists concerning the nature of its etiologic agent.

Tunncliffe, Ferry, and others have published data which seem to uphold the theory that measles is produced by a diplococcus, streptococcus, or other bacterium, but as far as is known at the present time a bacterium is not being seriously regarded as the primary causative agent of measles. It must be admitted, however, that green-producing streptococci possibly may play a secondary role in the disease, the exact nature of which is still obscure.

The virus theory of the etiology of measles has been generally accepted. This acceptance has been largely due to the fact that measles has been transmitted from one subject to another by means of transfer of blood plasma or nasopharyngeal washings that have been passed through a Berkefeld filter.

Although a variety of laboratory animals has been used in the study of measles, critical analysis of the results reveals that the monkey is the only animal that apparently is susceptible to the disease. It is a well recognised fact that a virus cannot be successfully propagated unless it is grown in association with living cells. Measles virus, isolated from the blood or nasopharyngeal washings of human patients, has been propagated by serial passage using the chorioallantoic membrane of the developing chicken embryo as the culture media. The virus has been introduced into monkeys and has produced a disease indistinguishable from that brought about by the injection of material obtained from cases of human measles. The virus has been reisolated from the infected monkeys and again propagated in the fertile hen's egg. This work is the most convincing positive experimental evidence to date that the virus theory of measles is correct.

#### Prevention.

*General Measures.*—Before considering the available prophylactic agents against measles it seems pertinent

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