

Current Literature.

Infectious Disease: Bed Isolation of Infectious Diseases in Fever Hospitals.—In *Public Health* for May, 1920, Dr. J. T. C. Nash, C.M.O., Norfolk, revives the question of bed-isolation in fever hospitals. The author points out that Dr. Crookshank's contribution to the subject as published in 1910 was preceded by his own article on "Scarlet Fever and Diphtheria from a Public Health Point of View," published in the *Practitioner* on January, 1909. In that article Dr. Nash insisted on the following points:—

- (1) The strict limitation of the numbers admitted to a fever hospital.
- (2) Recognition of the principle that "in a common ward each patient, to a certain extent, is a source of possible detriment to others."
- (3) Careful supervision and instruction of nurses with reference to their duties, so that they regard each patient as possibly harbouring some form of infection which might be transferred to another.
- (4) Antiseptic precautions in which the nurse or medical attendant disinfects the hands, etc., before attending each patient.

In his address delivered before the Royal Society of Medicine on January 28, 1910, Dr. Crookshank raised the question whether in small hospitals, at any rate, cases of scarlet fever and diphtheria and measles, etc., might not be safely treated side by side; he also showed that he had himself at Mortlake treated cases of diphtheria, typhoid fever, erysipelas and puerperal fever in one ward—treating each case with surgical precautions.

In 1912, a paper on the "Bed Isolation of Cases of Infectious Diseases," by Drs. Rundle and Barton, was published in the *Lancet* (Vol. ii, p. 720). The predominant note of the paper was insistence on surgical cleanliness.

The routine of Dr. Rundle's method (which closely resembles that of Dr. Nash), was described in an address by Dr. Rundle before the Royal Society of Medicine in April, 1912, and the chief points in the procedure are traversed in the article under review.

Dr. Nash re-affirms his belief in the prime importance of sufficient cubic space for each occupant of a fever hospital; not less than 2,000 cubic feet as the L.G.B. "wisely insisted." He doubts, however, whether some diseases, like chicken-pox, are spread by aerial convection, and thinks that the nurse is generally to blame and possibly, on occasion, flies.

Dr. Rundle's experience at the Fazakerley Hospital, Liverpool, is quoted in justification of his scepticism concerning the spread of chicken-pox by the air.

It seems that at Fazakerley forty-one cases of varicella were treated in the "bed isolation ward" during 1910 and 1911 without a single instance of cross infection occurring.

On the other hand, varicella was accidentally introduced into the ordinary wards on twenty-one occasions during the same period of time, and cross infection occurred in every instance but one.

Influenza: (A) Ætiology.—In the June number of the *British Journal of Experimental Pathology*, Paul Fieldes and James McIntosh conclude their critical review of the ætiology of influenza (159-174).

(1) Despite the remarkable unanimity with which investigators in nearly every country have been attracted with the concept of an ultra-microscopic virus as the cause of influenza, the authors consider that this theory can no longer be accepted on scientific grounds.

"The positive results of the filter passing work upon influenza are unconvincing. The characteristic microbe adduced is indistinguishable from undoubtedly inanimate particles which are found in albuminous fluids. The attempts to demonstrate life in these consist in observing the development of cloudiness in other albuminous fluids after inoculation with the particles; . . . we ourselves when engaged upon other work have seen such opacities develop spontaneously in Noguchi medium."

"Arkwright, in his attempt to grow the virus of trench fever and influenza in Noguchi's medium, observed these opacities in inoculated or uninoculated tubes."

The authors state that Arkwright examined the preparations and cultures of Bradford, Bashford and Wilson, and found that the bodies described by these investigators as the virus of influenza and of other diseases were identical with the bodies in uninoculated tubes. Also the cultures said by them to be pure were considered by Arkwright to be contaminated with ordinary bacteria.

(2) As regards the *incidence of B. influenzae* in influenza, the authors consider that, with a satisfactory technique (particularly altered blood as opposed to unaltered blood for the growth of the bacillus), the bacillus can be "demonstrated in such a large number of cases that it qualifies for being considered of ætiological importance as far as Koch's first criterion is concerned."

It is accepted that the bacillus is also found in a large number of conditions not influenzal and in many normal persons during epidemic periods, but these facts are not considered to invalidate the general proposition.

(3) "An association of *superimposed infection of various other bacteria* (pneumococci, staphylococci, streptococci, etc.), which resulted in an increased virulence of the disease, was a feature of the recent epidemic."

(4) "Though there is no satisfactory evidence that *B. influenzae is pathogenic to man* so far as the inoculation of cultures go, nevertheless the constant occurrence of antibodies to this bacillus in the serum of patients makes it clear that it has a definite pathogenic action which cannot, however, be reproduced. The presence of the antibodies may be taken as evidence that the bacillus is a pathogenic bacillus such as might be the cause of influenza, but not that the characteristic lesions of the disease are due to this pathogenic bacillus."

(5) As regards *evidence of pathogenicity to animals*, the authors think that "fairly constant lesions may be produced by certain cultures applied in particular ways to susceptible animals. The most characteristic lesion to be observed is a broncho-pneumonia."

(6) The authors finally conclude that:—

"In the absence of precise knowledge, then, we may define influenza as an infective illness which is extremely difficult to transmit wilfully to another person. Its characteristic lesion is an inflammation of the respiratory tract, especially of the trachea and bronchioles in more advanced cases. Depression and intoxication are also conspicuous. Finally the disease is liable to acute outbursts, during which the benign character changes, and then it becomes associated with numerous septic bacteria."

Malaria: Anti-Mosquito Measures in Egypt.—The Anti-malarial Commission appointed by the Government of Egypt has recently issued its report and perhaps one of its most important recommendations is that "the Commission should sit permanently in order to exercise general control over the campaign."

The Commission begin by showing that a study and proper understanding of the rôle of the Nile is essential in the attempt to control or modify the malaria situation.

For example: through the process of silting the Nile, like other large rivers, has raised itself above the level of the surrounding country so that the land on either side becomes permeated with water under the static pressure exercised by

the river. This subsoil sheet of water rises with the flood of the river, producing pools and marshes; the fall of the river, however, is not followed by a corresponding declension in the marginal waters. The reason assigned for this is that as the river water filters up through the sandy soil of its marginal lands it carries a certain amount of detritus with it. These small particles tend to reduce the porosity of the soil and to obviate the return of the subsoil water; the return flow of surface water is also prevented by the deposition of mud under pressure whereby the pools or marshes become "puddled."

As regards *rainfall*, the Commission consider that the subsoil water derived from the rainfall is negligible as far as malaria is concerned except "in the hills or in the higher ground in the deserts in certain districts."

Some of the *oases* appear to be hotbeds of malaria and more particularly those in which the surface spring or well waters are not harnessed for use but run to waste and form ideal breeding pools. In five out of twelve inhabited areas in the El Dakhla Oasis the children have a splenic index of over seventy.

As to the *principles governing anti-malaria works* the Commission says: "Filling-in is the simplest and best solution. It is, however, obviously so expensive that it is only suitable for small sites.

Where filling-in cannot be undertaken recourse must be had to drainage. Two general methods have been tried. In the first, an attempt is made so to lower the general level of the subsoil water that it will not outcrop at any part of the area dealt with.

In the second, the subsoil water is allowed to attain its own level and is then run off from the places in which it appears into a system of drainage pipes."

Referring to *drainage of swamps* it is suggested that: "Lowering the water level in the Ismailia Canal and branches, particularly the Suez branch. Flow would then be more rapid and the growth of weeds and reeds would be reduced. There would be less seepage and also the level of the subsoil water would fall. If necessary, drains might be made parallel with the Suez branch to catch subsoil and seepage water, and divert it at intervals into the Maritime Canal."

Malaria: Prevention by Treatment.—C. C. Bass in the *American Journal of Public Health* for March, 1920, discusses the "Cure of infected persons as a factor in malaria control." He concludes:—

(1) Cure of infected persons is an important factor in control of malaria. Its usefulness depends upon the extent to which it is carried out.

(2) If the physicians would cure all the cases of malaria they treat, this alone would result in a reduction of approximately 90 per cent in the prevalence of the disease in a period of ten years.

(3) If all persons who treat themselves for malaria as well as those who are treated by physicians took proper treatment when infected, this would result in a reduction of 90·89 per cent in the prevalence of the disease in three years.

(4) By proper intensive survey and treatment it is theoretically possible to eradicate malaria entirely from any given region. A reduction of 89·9 per cent followed carrying out this method in an area of 100 square miles in Sunflower County in 1918.

Identity of Malarial Parasites.—In the *Compt. rend. de l'Académie des Sciences*, vol. 168, p. 419, 1919, Armand-Delille discusses the identity of the parasites of malignant and benign malarial fevers. The author thinks that this theory is strongly suggested because, during August to October, 1916, *Plasmodium falciparum* was found in the blood of more than ninety-five of the malaria patients examined, whereas, before August and after October, *Pl. vivax* was found almost exclusively. A similar seasonal incidence was noted by Teissoniere in 1917 and 1918. Armand-Delille thinks that possibly *P. falciparum* represents the originally infecting form of the parasite, and that *P. vivax* is a secondary form which has been modified by the formation of antibodies.