

results, without comment, as it would be premature to draw definite conclusions with such meagre data on a matter of such great complexity. However, in view of the last results there is justification in assuming that the appearance of this third organism is not due to a contamination, and that it strengthens the theories, so often hinted at throughout bacteriological literature, that the acid-fast organisms and the streptothrices are closely related, and that at certain phases of their existence no sharp line of demarcation exists.

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NOTE ON MIXED CULTURES.

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Several years before the war Mr. Thompson stated that while working as chief bacteriological assistant in these laboratories, he had inoculated cultures of *B. tuberculosis* with *B. proteus*, and that an acne-like organism had appeared in the tubes after the death of the *B. proteus*.

I was asked to investigate the matter, and made some mixed cultures. The phenomena described by Mr. Thompson occurred in one of the tubes of an early series. Several weeks after the mixed culture was made the *B. proteus* could no longer be recovered by subcultures, and there were present in large quantities strictly anaerobic bacilli which were Gram-positive, not acid-fast, and, morphologically, closely resembled the acne bacillus. I made several hundred experiments with different strains of *B. tuberculosis*, using cultures of *B. proteus* plated many times, and also a culture obtained from what appeared under the microscope to be a single *B. proteus*. In three of these experiments the second anaerobe made its appearance. Every ordinary bacteriological precaution to eliminate the possibility of contamination was used; the anaerobe could not be seen in smears made either from the separate cultures of *B. proteus* or *B. tuberculosis*, or from mixed cultures during the first week of incubation.

This anaerobe is practically unknown as a contamination in the multitude of cultures and sterility tests made in these laboratories in connexion with other work. Pure cultures of the anaerobes were injected into small animals; these remained healthy and were eventually killed. I was not satisfied that any pathological changes were present, though the bacillus was found aggregated in some of the glands and organs. Large doses of the organisms were injected into several guinea-pigs. It was not possible to demonstrate any alteration of resistance to infection by cultures of *B. tuberculosis*, which were subsequently injected.

The anaerobe never appeared in my cultures of *B. proteus* with various Gram-negative organisms, nor in those containing *B. tuberculosis* and Gram-negative organisms other than *B. proteus*.

Neither Mr. Thompson nor I could arrange the conditions of the cultures so as to ensure the appearance of this organism in every experiment. The results were very irregular, some series of many tubes failing entirely to give the results sought for. It was felt that it would be undesirable to publish these results unless one could describe the conditions with sufficient accuracy to enable the experiments to be checked by other workers. With the hope of being able, eventually, to control the conditions, the work was continued as opportunity offered, until the war stopped it. Mr. Thompson has now left these laboratories, and wished to publish the preceding note.

The change from the aerobic acid-fast organism to the anaerobic non-acid-fast Gram-positive one appears to be so opposed to the whole of general experience that one naturally inclines strongly to the assumption that the organism was a contamination. Yet the organism has never been found as a contamination in thousands of sterility and other tests made here in the course of many years, and it made its appearance despite every ordinary bacteriological precaution against contamination.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

LARYNGOLOGICAL CONGRESS.

THE second Summer Congress held by the Section of Laryngology took place on June 24th and 25th under the chairmanship of Mr. MARK HOVELL, and was in every way a success. A valuable aspect of the Congress was the full discussion of subjects intimately associated with the specialty—such as "Cancer of the Throat"—which the ordinary clinical meetings only incidentally raise in connexion with particular patients and specimens. Important addenda were a museum of pathological drawings and specimens (which was kept open for a week) and an exhibition of surgical instruments and drugs. There were a number of American and European visitors at the meetings.

Sir CHARTERS SYMONDS read a paper on Total Laryngectomy, in which he dealt in detail with the indications for operation, the special dangers, and how they could be met. He laid particular emphasis on the after-treatment, designed to ensure the greatest possible comfort to the patient and his participation, as fully as might be, in active pursuits. If the patient could breathe sufficiently well to carry him through the operation the speaker dispensed with preliminary tracheotomy. He showed two patients who were able to make themselves clearly heard years after the operation.

Sir ROBERT WOODS (Dublin) gave his experience in 25 cases, and described the after-treatment. Drainage of the pharynx afterwards he regarded as very important. He preferred total laryngectomy to attempts to get the growth away by median thyrotomy.

Sir WILLIAM MILLIGAN did not do tracheotomy beforehand unless it was urgently needed. He laid special stress on a thorough examination of the region with the œsophagoscope before deciding on the operation, as it was sometimes found in this way that the growth had a much greater extension downwards than had been suspected. The difficult part of the operation was the suturing of the mucous membrane of the pharynx.

Dr. F. LEMAÎTRE (Paris) favoured tracheotomy 14 days before the major operation in these cases. He used local anaesthesia.

Sir JAMES DUNDAS GRANT pointed out the type of cases in which simple thyrotomy sufficed for the removal of the malignant disease, and expressed the hope that this operation would retain its place for suitable cases.

Dr. J. J. KILLEEN (Chicago) said the results in the kind of cases under discussion which he had seen in America, where they were usually dealt with by the general surgeon, were very poor. There was now a growing tendency to refer them to the specialist, especially in New York.

Dr. IRWIN MOORE said that 30 years ago of 163 cases 41 per cent. died from the operation and 28 per cent. more were dead within a year.

Mr. WILFRED TROTTER discussed a measure of pharyngotomy for the exposure of large growths of the epilaryngeal region; it consisted of a minute examination of the various routes and their suitability in particular cases. The contribution was fully discussed, and Mr. Trotter further elaborated his methods in his reply.

Dr. LOGAN TURNER gave a series of illustrations of carcinoma of the post-cricoid region and upper end of the œsophagus, and submitted tables of sex incidence and age of onset. He also dealt with the symptoms according to the situation of the growth.

Mr. E. D. DAVIS read a paper on the Early Diagnosis of Carcinoma of the Oral and Laryngeal Pharynx, in which he drew attention to the value of a direct examination, either by suspension laryngoscopy or by means of the œsophagoscope.