

work began first in mathematics, chemistry, and ferments. It was Pasteur who discovered the *bacillus lactis*, which is responsible for the souring of milk.

Out of this arose the study of small points connected with germ life, such as the action of germs, which turn jam mouldy and meat bad.

Davaine's work on anthrax was the first which proved a germ to be the cause of a specific (splenic) fever, in 1863.

The work of Lister, the great surgeon, who went to Glasgow in 1862 and to Edinburgh in 1870, went hand in hand with that of Pasteur, who was sick in a post mortem room, and could not go round a surgical ward. In 1875 things began to widen out. Those interested in research could not advance very far until they could get the germs to grow outside the body. At first they were grown in fluid, such as broth, but the difficulty was tremendous. When Professor Koch was able to cultivate them on slices of potato, and on gelatine or jelly, it was a great advance. Koch in 1878 worked out ways of staining the bacilli so that they were easily visible under the microscope. Then the ways in which the new knowledge began to tell on mankind became apparent.

When Lister came to London the war began between those who were ready to die for Listerian principles and those who were indifferent to them.

The figures elicited at a Local Government Board Enquiry at that time in connection with eight of the principal London hospitals show that from 1869 to 1878 921 deaths occurred from pyaemia and septicaemia, and that return took no account of the months of pain, and the exhaustion from suppuration which occurred in a large amount of cases from these causes.

The operation for empyema is one of the simplest and easiest in the world; even a clumsy surgeon can perform it. It is as old as Hippocrates (460 B.C.), whose instructions concerning it were to wash the patient with warm water, shake him to get a splash, open the pleura, keep the wound open (with a solid rod, not a tube), and to irrigate the cavity on the tenth day. It was quite correct surgical procedure.

Then in 1820 someone—who ought to have been hanged—invented the aspirator. What simpler than to insert the needle and evacuate the pus? The apparatus was never surgically clean, and the results were most fatal. On the first occasion the pus was sweet, the next week it smelt, the third it stank, later the patient became hectic, and usually died of septic absorption. In a series of cases of Sir Astley Cooper's every one died. Another medical man recorded a case which was cured after sixteen months, after fifty-eight punctures, as quite an ordinary result.

The outcome of the germ theory was the introduction of the serum treatment, which was founded and built on the germ theory and proved by it. So we arrived at vaccine therapy.

To take one instance of the application of the germ theory. Koch, through the examination of sputa, discovered the germs of tuberculosis. From this has arisen the testing of cattle, the testing of milk, the notification of phthisis, the isolation of cases of this infectious disease, and disinfection of infected material and of dwellings.

Preventive inoculation followed the isolation of the *bacillus typhosus*. It was first used on a large scale in the South African War, and there was some disappointment as to its results. As knowledge advanced the results were better, and a striking example occurred last year in France during an outbreak of typhoid at Avignon. Of some 2,000 men in the garrison, 1,360 were protected by inoculation, and 680 unprotected. Amongst those not protected were 155 cases and 21 deaths, amongst the protected not one.

The bacillus of diphtheria was isolated in 1883, the use of antitoxin was adopted on the Continent in 1893, and in this country in 1894. The average mortality in the hospitals of the Metropolitan Asylums Board before its use in all cases of diphtheria was 30.4 per cent. This had come down to 8 per cent., and the average mortality in tracheotomy cases had come down from 70 to 20 per cent.

Equally striking results have been obtained in cases of spotted fever.

A cordial vote of thanks was accorded to the brilliant lecturer, whose discourse was keenly appreciated.

We regret that, owing to pressure on our space, we are unable this week to insert the interesting information from the Nurses' Social Union in Somerset.

## RECIPROCAL TRAINING.

The Metropolitan Asylums Board have acceded to the petition of some of their fever-trained staff nurses to be placed on the same level, as regards pay, as staff nurses who have received general training, and who have lately been given an increased rate of pay. While there is no doubt that nurses who have received their training in the Board's hospitals know more of the special line of work in the wards than nurses with general training who have not had this special experience, still the policy of placing wards in charge of nurses with general training is a wise one. But before being given charge they should have some insight into this special branch. Equally, if the nurses trained in the Board's hospitals subsequently obtained general training, they would be invaluable officers if they returned to the Board's service. We are once more brought up against the question of reciprocal training, which is most desirable in the interests of both general and fever nurses.

[previous page](#)

[next page](#)