

K.C.B.'s., or K.C.M.G.'s., being bestowed on any one of the host of our confreres who have become disabled during their efforts to preserve the lives of Her Majesty's subjects? Or can you point to families of those who have suffered martyrdom through fatal contagious affections, and say our country has done its duty towards her defenders?—*Canadian Practitioner and Review*.

#### REPORT OF 78 CASES OF PULMONARY TUBERCULOSIS TREATED WITH WATERY EXTRACT OF TUBERCLE BACILLI.

A report of 78 cases of Pulmonary Tuberculosis, treated at the Winyah Sanitarium, at Asheville, N. C., in 1898, with Watery Extract of Tubercle Bacilli, by Dr. Karl von Ruck, appears in the February number of the *Therapeutic Gazette*.

The author giving due credit to the advantages of the favorable climate of the Asheville plateau as well as to the systematic employment of hygienic and dietetic methods, in a special institution, shows nevertheless by his results the unmistakable favorable influence of this preparation, which he perfected in his Laboratory in February, 1896.

He with many others, notably Professor Koch, have long realized that the bodies of tubercle bacilli contain a soluble substance, a proteid upon which the curative action of all tuberculin preparations and modifications must depend, small and variable quantities of which were thought to enter into the culture fluid from which the tuberculin preparations are made.

Experiments upon animals have shown that the injection of dead tubercle bacilli produce both curative and immunizing effects, but they have always produced abscesses at the point where they were injected and often spurious tubercle in the animals experimented upon, conditions which seemed to preclude their use in the treatment of human tuberculosis.

A solution of the tubercle bacilli, without injury to the curative proteids was therefore naturally sought for, and in April, 1897, Professor Koch announced that he had accomplished this in the production of

Tuberrulin R., which was then given to the profession.

Several weeks later Dr. von Ruck announced his success in also making the experiments and methods in a paper read before the American Climatological Association and published in its transactions for 1897 and also in the *Therapeutic Gazette* for June 1897. His method of preparation differs from that published by Professor Koch and is briefly as follows:

The tubercle bacilli are filtered out of the rapidly growing and highly virulent culture. After washing with distilled water for the removal of the remains of the culture fluid, they are dried in a vacuum dessicator. Next they are powdered in an agate mortar and then extracted with sulphuric ether. This extraction removes the fats. They are again dried and powdered as before and their further extraction takes place in sterilized distilled water over a water bath with a temperature of 120°F. The proteids becoming dissolved in the distilled water, the fluid is then decanted and filtered through porcelain, when finally the amount of proteids is determined and the preparation standardized to a certain per cent.

Prof. Koch simply triturated his tubercle bacilli and then put them into distilled water and separated the undissolved germs with a centrifugal machine. His preparation did however not pass through a porcelain filter and it was subsequently shown that when an attempt of filtering through porcelain was made, a residue collected in the filter consisting of Tubercle Bacilli.

Virulent infection followed the injection of this residue in animals and for this reason Professor Koch was obliged to withdraw his Tuberculin R., it being an emulsion of tubercle bacilli and fragments of such, rather than a true solution.

Koch's claim that in a true solution of the tubercle bacilli the final perfection of a specific remedy was attained, would appear to be verified by the results which Dr. von Ruck reports.

He treated with his Watery Extract 20 cases in the early stages, all of which recovered, with an average gain of 11 pounds in weight, and subsidence of all symptoms.