

treated while in the tube with about 3 cc. of a 5 per cent. caustic potash solution, is mixed up thoroughly by giving a good shake, and is left for two or three minutes. The tube is then filled up to the 15 cc. mark with distilled water and centrifuged for about 20 minutes. If now the supernatant fluid be taken off, the minute quantity of the debris at the base of the tube can be examined at once, or if the material be required in a still purer condition completely free from caustic potash, a series of dilutions and centrifugations with distilled water can be carried on.

By this method a film can be made upon a slide or coverslip which is free from fat and proteid granules, and which contains only the bacteria present together with any solid debris which may be in the milk or other fluid. To get rid of this foreign matter, if present in any large amount, one may safely filter the fluid at the beginning of the process through the finest gauze. It is wholly unnecessary, I find, to treat milk with sulphuric ether in order to separate off fats, the caustic potash being useful to remove both fats and proteids from the deposit after the first centrifugation in a way that is completely satisfactory.

I have employed this method and have been able to detect bacilli in the milk in which they were present in such small numbers that Dr. Martin, inoculating 15 to 35 cc. of the same milk into a series of over 50 guinea pigs and rabbits, has only once obtained a development of tuberculosis, and I will go so far as to say that this fact indicates that the method affords a more sure diagnosis of the presence of bacilli in milk than does inoculation. It may be added that using this same milk I have concentrated down 70 cc. using distilled water alone and have inoculated the deposit into a rabbit which now after 14 days is showing definite emaciation and indications of the progress of tuberculosis.

It is scarcely necessary to add that this same simple method can be most satisfactorily employed for the detection of tubercle bacilli in other animal fluids; it gives excellent results for example, with sputum from suspected cases of tuberculosis, and although as yet I have had no undoubted example of tuberculous urine, I have found that it gives a very clear precipitate of bacteria in urines containing a large amount of mucus and pus.