

the fact that of 2,697 cases of tuberculosis in adults 159 or 5.9 per cent. showed the primary lesion in the intestine. While statistics on this point are not uniform in the different countries of the world, or even in all parts of any given country, they show conclusively that tuberculous food plays a considerable role in the spread of tuberculosis in children, and possibly also in adults, although children are by far the most vulnerable to infection through this source.

ISOLATION OF BOVINE TUBERCLE BACILLI FROM HUMAN LESIONS. The most direct and positive proof that bovine tuberculosis is responsible for a certain amount of tuberculosis in man is given by the finding of the bovine bacillus in human lesions. With this object in view I began, in 1900, to look for cases of intestinal tuberculosis in children as those most likely to be caused by the bovine bacillus. In June, 1901, I succeeded in isolating from the mesenteric glands of a child sent to me by Dr. Alfred Hand, from the Children's Hospital in Philadelphia, a culture which has been designated BB. This culture showed a most intense virulence for cattle, killing two calves in 17 and 27 days respectively, and a six year old cow in 17 days. Excepting in the first generation, when some irregularity of staining was noticed, this culture has always shown every characteristic of the bovine tubercle bacillus, and must be regarded as having come directly from cattle. I have since isolated two other cultures from mesenteric glands of children which have unusual virulence. Culture U was considered an ordinary human culture until it was used in some feeding experiments on dogs, when it showed such unexpected virulence that I inoculated a calf with it. The animal was killed after 46 days, as it was moribund. The autopsy showed a general infection.

Recently I have obtained another culture which lies between BB and U, which I consider bovine. It produces general infection and death in rabbits on subcutaneous inoculation and killed a calf weighing 255 pounds in 35 days. The late Dr. De Schweinitz isolated the bovine tubercle bacillus twice from intestinal lesions in children, and Dr. Theobald Smith has found it once in such cases. In Europe, Febiger and Jensen report having found it three times, and Kossel speaking for the German Tuberculosis Commission, tells us that out of 16 children examined, four proved to have been infected by the bovine tubercle bacillus. Two of these four cases are described as "miliary tuberculosis," one starting from a bronchial adenopathy, and the other from a mesenteric adenopathy. The remaining two were intestinal tuberculosis. It appears from this that even those cases which show the primary lesion in the bronchial glands and are considered to be so cer-