

recovered. One experiment was performed on tame mice by feeding; one died, and in cultivations from the heart's blood the micrococcus was recovered, but accompanied by a small bacillus. Four experiments were made in calves, two by inoculation and two by feeding. The two experiments by inoculation were performed on four animals; all showed some symptoms of indisposition; in some the temperature rose; in three, bare, scaly, or sore patches appeared on the skin on about the tenth or twelfth day; the fourth became rapidly ill, and was killed on the eleventh day; there were extensive inflammatory hæmorrhagic lesions of the lymphatic system, and pericarditis. Cultivations made from the blood of this calf yielded the micrococcus scarlatinæ and a more rapidly-growing micrococcus, which liquefied gelatine. The two experiments by feeding were performed on four calves; in two, bare, scaly, or sore patches appeared; in one case in which cultivations were made from the pericardial exudation and from the heart's blood, those made from the exudation were all fertile, yielding the micrococcus scarlatinæ in all cases contaminated with a more rapidly-growing micrococcus. All the calves in both series of experiments were killed, and presented lesions of the same order as those above described. Dr. Klein found a micrococcus the same in microscopical appearances, in its mode of growth, and in its effect on animals, in a particular brand of tinned milk which had been suspected by Dr. Corfield to have produced an epidemic of scarlatina; the same micrococcus was also obtained by cultivation from the heart's blood of a monkey which died of fever during an epidemic of scarlet fever.

From these researches of Dr. Klein, coupled with the evidence collected by

Mr. Power and published last year, Dr. George Buchanan, F. R. S., draws the following conclusions:—

"(1.) The disease in man and the cow alike is characterized by closely similar anatomical features.

"(2.) From the diseased tissues and organs of man and cow alike the same micrococcus can be separated, and artificial subcultures be made from it.

"(3.) These subcultures, no matter whether established from man or cow, have the property, when inoculated into calves, of producing in them every manifestation of the Hendon disease; except sores on the teats and udders; no doubt for the reason that the milk apparatus is not yet developed in calves.

"(4.) But—and this I learn from Dr. Klein's later observations while this report is in preparation—the subcultures made from human scarlatina and inoculated into recently calved cows, can produce *in those cows*, along with other manifestations of the Hendon disease, *the characteristic ulcers on the teats*, ulcers identical in character with those observed at the Hendon farm.

"(5.) The subcultures, established either from the human or the cow disease, have an identical property of producing in various rodents a disease similar in its pathological manifestations to the Hendon disease in cows and to scarlatina in the human subject.

"(6.) Calves fed on subcultures established from human scarlatina obtain the Hendon disease.

"(7.) Children fed on milk from cows suffering from the Hendon disease obtain scarlatina.

"The above combine, I think, to form a mass of evidence to show that the Hendon disease is a form, occurring in the cow, of the very disease that we call *scarlatina* when it occurs in the human subject."