

from that country, and driven from fair to fair for sale?

"The rationale of all such being cause and effect, certain conditions given produce certain effects."

"I distinctly disagree with the statement (as to spontaneous development being impossible), so far as Ceylon is concerned, as I have known the disease break out in several instances where no known cause of contagion existed. I quote one instance:—

In January, 1877, when on my way to Colombo, at Nawalapitiya, I found all approaches to Railway Station and all around in a very filthy condition, owing to the large concourse of carts and bullocks conveying the abundant coffee crop of that year, Nawalapitiya being then the Railway Terminus.

On seeing this state of things, I was at once impressed with the danger of an outbreak of rinderpest; and made all inquiry (being an interested party) if disease existed, but could hear of none: some hundreds of cart-cattle were standing ankle deep in their filth, with the vile emanations arising therefrom, under a powerful sun.

I spoke to several people and pointed out the danger, went on my journey, returned in about 8 days, to find the large concourse of cattle and carts utterly dispersed.

Rinderpest, meantime, having broken out, all fled who could. I lost six pairs of bullocks out of twelve pairs I had at work, they being quite well as I passed them on their way to Station the day I left. All after-inquiry could in no way elicit any other cause for the sudden appearance of the disease in its most virulent form except that of spontaneous outbreak.

I also know of many instances of cattle being driven from the lowcountry tanks, where all the meat supply of Ceylon are fattened.

Owing to the hardships of travel and sudden exposure in the higher regions, the cattle often standing without shelter, all night during the monsoon rains, rinderpest breaks out.

I have many cases on record, some of single animals suddenly brought from the hot lowcountry and exposed to the cold of higher regions, developing rinderpest after weeks of change.

I am unable to account for such outbreaks in any other way than by spontaneity.

(To be continued.)

TO ESTIMATE BUTTER FAT IN MILK.

Before its examination the milk must be thoroughly mixed, 10 cc. should then be drawn up into a pipette and run into a graduated tube. Now take 10 cc. of ether and add it to the milk in the tube. Close the tube with a well fitting cork or the thumb and shake well, the gas being allowed to escape by removal of cork or thumb, and the tube again shaken, and so on until the ether and milk are thoroughly mixed. Then add, by means of pipette 10 cc. of 91 per cent. alcohol and continue the shaking. During the shaking the cork or thumb must be several times removed. The tube should then be closed with the cork and placed in the water at 100 degrees to 110 degrees F.

Soon after the insertion of the tube in the warm water, small fat globules will be seen rising

to the surface, where they unite to form a clear layer. When, after five or ten minutes, no more globules of fat are seen rising the tube may be placed in the glass cylinder, which has been filled beforehand with water at 70 degrees F. In most cases the layer of fat will somewhat increase, at first it will be cloudy and then become clear. The quantity of fat can then be read off, as indicated by the graduated lines in the tube, each division representing $\frac{1}{10}$ cc. and the corresponding number indicating the amount of fat per cent. in the milk. The addition of 3 or 4 drops of a solution of Potassium Hydrate to the milk and ether before they are shaken, will facilitate the process.—*Australian Agriculturist.*

MEAT AND PARASITES.

A large quantity of buffalo meat is palmed off as prime ox-beef in many towns. It has been found, for instance, that rather more than 25 per cent. of the carcasses exposed for sale at Perambore, the chief cattle slaughter-house in Madras, are those of the buffalo. As far as nutritious qualities are concerned, there is probably no difference between the beef obtained from these two animals; but as the buffalo is a foul feeder as compared with the ox, the flesh of the former is less palatable.

2. As there are so many diseases and parasites which are communicable to man from cattle and sheep, it is very important that the animals to be slaughtered should be examined by a Veterinary Officer or any other duly qualified man, both before and after the slaughter. The parasites commonly found in the carcasses of cattle and sheep are—(1) The different species of *Tœniada* in their various stages, and especially the hydatid of the *Tœnia echinococcus*, called *Echinococcus veterinorum*; (2) *Distoma hepaticum*; (3) *Amphistoma conicum*; and (4) *Cœstrus ovis*. Of these the most dangerous to mankind are the *Tœniada* or tapeworms of which there are three kinds that occur in man, the commonest being *Tœnia Solium* which originates from *Cysticercus cellulosæ*, the hydatid found in "measly pork."

3. *Echinococcus Veterinorum* is the most widely-distributed of all the hydatids or cystic forms of the *Tœniada*, and is therefore very important from a sanitary point of view. It is found mostly in the liver and in the lungs of cattle, and occurs more frequently in old animals than in young.

Great care should be taken to instruct all men in the slaughter-house, even the coolies, as to the appearances of these pests. A large chatty of water should be constantly kept boiling in a corner of the yard, and as soon as any of these parasites are noticed, that part of the carcass containing them should at once be cut out and placed in the boiling water. This recommends itself as a very safe and ready method of destroying them and is practised in many parts of India at the suggestion of Captain Mills of the Bombay Veterinary College.

Dogs being the chief hosts of tape worms and the chief medium for the propagation of the *Echinococcus veterinorum*, they should be strictly kept out from the slaughter-house.