

Now as there are no effects without causes, so, where causes abound we must expect to find effects, more or less marked. Where cows are kept in conditions as above mentioned—in conditions which are known to give rise to tuberculosis, shall we not find the disease, in an incipient stage, at least, amongst such cows? Large numbers of cows kept in a like way in New York city and Brooklyn have been found badly affected with it. Furthermore, if in the cities in Canada there are tuberculous milch cows, we might naturally expect to find, were we to investigate and look for them, cases in which this disease has been communicated to the human organism by means of their milk, or, when fattened and slaughtered, by means of their flesh. Especially would we be likely to find these consequences following the use of such milk by young and delicate children, with unhygienic environments, in whom the powers of resistance to this or any other disease are low—in whom contagions of all sorts find fitting soil or food for development, growth and multiplication.

Now there is reason for believing that *many* of the contagious diseases which affect the human organism may in a more or less modified form affect different animals. If, as seems more than probable, all contagious diseases, or their symptoms, are the effects of the presence in the organism of different sorts and forms of bacteria—of living organisms, it is but reasonable to suppose that these living bacteric parasites may find a fitting place for propagation as well in the fluids of the bodies of some of the inferior animals as in those of man. And when we know for a fact that some

diseases which are contagious, such as hydrophobia, glanders, some skin diseases, and, doubtless now, consumption, do affect, and similarly, both animals and men, it is natural to conclude that other contagious diseases, those which often prevail epidemically, such as scarlet-fever, measles, typhoid fever and whooping cough, may sometimes affect the lower animals. If, I say again, the specific contagions of such diseases are minute, living organisms, of the very lowest type, which will, as appears to be well established, accommodate themselves to greatly varied conditions, it seems to be a fair inference that these organisms may find a fitting soil, and take root and grow and multiply, in the bodies of some at least if not all of the domestic animals, and be by these again communicated to men. If such be the case, the fact would help to explain the origin of some cases of the diseases above mentioned which have apparently arisen *de novo*, but which, it is now very generally believed, never do arise purely in this way.

The above may seem to some only pure conjecture, but I think, gentlemen, it is a fair and reasonable inference; and it has been my desire in this brief and imperfect paper to draw more attention, and if possible some investigation, to this important subject of the communicability of the contagions of diseases from men to animals, and *vice versa*.

Before concluding, I desire to say, in reference to typhoid or enteric fever, if faecal matter is the special soil on or in which the enteric poison or mildew takes root and flourishes, if this excreta is the great substrate which everywhere supplies this poison, especially