## Fevers and Fever Mursing.\*

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HESE, then, comprise the main symptoms which are common to the general state of fever.

Now, it will be interesting to inquire, what are the main points which serve to distinguish the infectious fevers from the large class of inflammatory diseases, such as gout or peritonitis, which have this in common, viz., that they are also attended with the signs of fever.

There are, certainly, five such distinctions, concerned with the nature and development of these diseases. There are, probably, others, but the following five may be taken as characteristic of the group, according to the present state of our knowledge :---

 $(\mathbf{\bar{i}})$  They are specific.

(2) Their cause is extrinsic.

(3) They are communicable.

(4) They run a definite course.

(5) They are more or less protective.

Now, a few moments devoted to the consideration of these distinctions will not be thrown away.

(1) They are specific.—There is considerable difficulty in accurately defining the term specific disease, in view of the fact that every living thing in nature is in a developmental phase, and is constantly changing. But, for our purpose, a specific disease may be defined as one in which the phenomena or symptoms are practically constant in each case, and dependent on the operation of a like cause, which is different from that of any other disease. That is, that the specific diseases always breed true. Scarlet fever will only breed scarlet fever-not measles. Measles will only breed measles-not scarlet fever. The attack of measles is always due to the infection of measles, and so on. Ergo, if a disease is specific, its cause also must be specific.

The question now arises—What is the nature of these causes of the specific febrile diseases? And that involves our second distinction, viz. :—

(2) The cause is extrinsic.—Now in gout, rheumatism, peritonitis, and other inflammatory diseases the cause is engendered within the body, owing to some perverted action taking place in the blood, organs or tissues themselves; but in the infectious fevers the symptoms are referable to the inception from without of some cause which was previously external to the individual, and which, by its operation, is responsible for the specific appearances characteristic of the disease in question.

It is obvious that these causes must be capable of indefinite multiplication within the body, and are therefore living causes; for no merely chemical substance of an inanimate character is adequate to explain the development and transference of these infectious diseases.

You have, no doubt, heard a good deal about microbes, germs, bacteria, with their various distinctions in form, such as micrococci, bacilli, and other shapes; and in certain infectious diseases, to wit-diphtheria, enteric fever, cholera, influenza, and others, their presence has been actually demonstrated in the blood, organs or tissues; and these minute particles, when cultivated outside the body, and injected into the system of a susceptible animal, have been followed in the animal experimented on, by the appearance of the symptoms of the disease in question. These experiments have rightly confirmed the claim of the microbes to be considered as the cause of that particular disease, and, in the sense we have already described, their specific cause.

In some of the specific diseases, however—for instance, typhus, scarlatina, small-pox—no such specific cause has yet been actually isolated; but we are justified in the inference that these diseases also are really due to the presence of some such cause, and our failure to find it, is only owing to the inadequacy of our methods of research. Each succeeding year brings new triumphs, and, during the last year, measles and influenza have been added to the list.

Some of these microbes are exceedingly minute bodies, and to even render them visible is a tax upon the highest powers of the modern microscope.

The bacilli of influenza are so minute, that it would require between 20 and 30 thousand of them, laid endways, to measure one single inch.

The popular belief about these microbes is somewhat erroneous; they are usually regarded as quite large animals—perhaps the size of a maggot—and are also credited with heads and tails, and even legs. The popular conception of a microbe would appear to be founded upon the large advertisement pictures

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<sup>\*</sup> Being a Lecture delivered at a Meeting of the Royal British Nurses' Association, on Thursday, March 23rd, 1893.

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