

WAR AND INFECTION.

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As each week goes by with its fresh tale of previously unthinkable savagery perpetrated by those with whom we are at war, it becomes more and more evident that it is possible for no one who has the interests of his country at heart to regard this struggle with an air of detachment. Only by realising to the full the effects of this orgy of strife can we make ourselves ready to deal with its possible consequences as they arise.

It is now the part of every one either to fight or to protect. Obviously fighting is the more necessary and important, and the attack can be carried on not only by soldiers and sailors, but also by all who make munitions of war or supplies, or who help in any way to "deliver the goods."

Still, we must remember that a war of this type—waged, if ever war was, against the powers of Hell itself let loose—also kills or harms those who stay at home, and it is necessary that these should be protected from its ravages if only for the reason that they must be the parents, or future parents, of the stock which will be required to fill the gaps in our nation's manhood.

Hand in hand with war goes her sister disease, and much of this disease is infectious, doubly dangerous because it attacks not only the individual, but the community. It seems to me, therefore, that a few thoughts on the nature of infection in general and the means employed to deal with it may not be out of place at the present time.

The first point that I would make is that infection is not merely an attack; it is a fight. The general public is nowadays learned on the subject of germs, and is apt to regard the presence of a microbe as synonymous with an outbreak of the disease which that microbe produces. Hence, it thinks that all that is required to keep off infection is to kill the germ, which it proceeds to do by sprinkling a bottle of its pet disinfectant about the room, or even by emptying it down the nearest drain!

Now, it cannot be too emphatically stated that for a person to contract an infectious disease we must have not only the presence of the particular microbe, but also *some weakening of the patient's powers of resistance to that microbe.*

Let us take a simple analogy:—Suppose a neighbourhood to be infested with a gang of burglarious thieves, who are perpetually prowling about the streets waiting for an opportunity to enter houses and take what they can find. It is obvious that the mere presence of the gang does not mean that everybody in the neighbourhood will necessarily lose their property, but if for some reason or other, the otherwise adequate force of policemen is withdrawn, it follows that the thieves will find several houses unprotected, and *then* property will disappear. In other words, what matters is the weakness of the police.

So it is with micro-organisms. In point of fact they are almost ubiquitous, as we see when we take a culture of the dust in any ordinary room, and find the tube in twenty-four hours in all probability teeming with germs of all kinds. From a healthy mouth, too, many most objectionable microbes can usually be grown without difficulty. In fact, the only objects that are free from them are those that have been recently sterilised.

Obviously, we cannot get away from the *possibilities* of infection, but what keeps us as a rule free from it is the healthiness of our own "policemen," the white blood corpuscles.

These are, as a rule, quite capable of destroying microbes which gain entrance to the body. Thus, the average healthy man frequently cuts or scratches himself with dirty, germ-laden objects, and often does not make any attempt to disinfect or even cover up the wound, and withal suffers no harm, and a nurse who takes care to keep herself "fit" may perhaps spend two or three years nursing infected children in a fever hospital, and never "catch" anything. In both these instances there are microbes in abundance but no disease.

Now one effect of war is to *lower resistance*, and this may be brought about in various ways. Apart from the obvious factors on the battlefield itself, such as exposure, loss of blood through a wound, and the hardships and privations incidental to all campaigns, we must not forget that the civilian population suffers also. The harm is done here, not only by poverty and want, and the rise in prices of provisions, all of which act by diminishing the quantity of food which is available for the nourishing of the blood corpuscles, but even by mental factors, such as worry, anxiety, bereavement, and—especially in this war—by the perpetual wondering as to what fresh horror the morning news will bring forth. These act partly by producing loss of appetite, though there can be no doubt that mental impressions have also

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