

altered and rendered useless or absorbed. It should be powerful enough to at least prevent development of pathogenic germs and at the same time *non-poisonous to the system or injurious to the digestive ferments.*

The properties of thymol seem to fit it pre-eminently for the work of intestinal disinfection. It causes the disappearance of phenol—one of the resultants of intestinal decomposition—from the urine. It has no action on enzymes while a 1 to 1,340 solution prevents bacteria in broths and so small an amount as 1 in 80,000 hinders their growth materially (Brunton). Its insolubility permits it to travel well down the intestinal tract before being absorbed. The iodine preparations have a strong action on enzymes; 1 in 4,125 hinders diastase, 1 in 1,000 invertin, 1 in 4,166 ptyalin, and 1 in 7,817 pepsin. So that while iodine may be a good preventive of germ growth, 1 in 5,000 hindering the growth of anthrax, its destructive action on the normal ferments should prohibit its use. Carbolic acid is not so powerful, 1 in 660 preventing growth of bacteria in broth and 1 in 200 killing them. It also has the disadvantages of hindering the conversion of starch into sugar and albumin into peptones. Creosote has little or no action on enzymes, but I have observed a foul diarrhoea come on while it was being taken in large doses. It is said to kill bacteria in a 1 in 1,000 solution. Salicylic acid acts on the digestive ferments; 1 in 7,600 arrests the action of emulsion; 1 in 5,100 arrests the action of diastase; 1 in 1,250 arrests the action of ptyalin; 1 in 9,000 arrests the action of pancreatine. It prevents bacteria in broths in a 1 in 1,003 and hinders their growth in a 1 in 3,300 solution, but from its action on the digestive ferments its effect is doubtful where there is such poor digestion and so much waste as in typhoid fever.

Bismuth salicylate when broken up into its constituents will simply give us the effects of bismuth and salicylic acid.

Salol breaks up in an alkaline medium into salicylic and carbolic acids. It passes through the stomach intact but has to traverse a long tract of bowel, with alkaline secretions before reaching the ulcerations.

When broken up we have its actions as referred to above.

Naphthol is very sparingly soluble and acts throughout the whole intestinal canal.

Fifteen or twenty years ago Robert Bartholow suggested a mixture of carbolic acid and iodine as an intestinal disinfectant. This treatment was given for some time with the apparent result of lessened delirium, clean tongue, absence of tympanites and a moist skin. The cases, however, ran their usual course as regards time. I am not aware