Sanitary.

YELLOW FEVER: ITS PREVENTION AND TREATMENT.

THE present epidemic of Yellow Fever is exciting, as well it may, the most careful interest and study of physicians. While little may be done to stay its present progress, yet the fact that it so often recurs and is, as shown by statistics, especially apt to recur for several years after a general epidemic ought to command the most expert investigation.

While it is prominent by its virulence, in most respects it does not differ from what we may call the toxic diseases. As in cholera, typhoid fever, etc., some intense poison enters from without. That there should be such a poison among the disease poisons is no stranger than that strychnine and prussic acid should excel other poisons in rapidity of action. Its study divides itself (*a*) into a study of its origin, (*b*) of the laws of its propagation, (*c*) of the intensifying conditions either in the surroundings or in the individual himself, (*d*) of its symptoms, (*e*) of its treatment, and (*f*) its prevention. As to its origin, it is first agreed that its home is in the West Indies and lands adjacent; just as the home of cholera is in India. Like an exotic plant, it may be transplanted. The question is still an open one whether it ever originates in the United States, most claiming that it can always be traced to an outside source; and even when not traceable the specific germ has been kept alive over a season. It is hard to destroy an invisibility; and yet quarantines, fumigation, *et cetera*, render it probable that by such methods it is often limited or destroyed.

(*b.*) The law of its propagation is between the question of contagion and infection. Most physicians regard it as not contagious—*i. e.*, not communicable from the individual in the sense that small pox is; but that it is infectious in the sense that the clothing and other materials about the person contain the germs of the disease. It is, therefore, said to be propagated by infection so that the person having it may transport it; but in no sense different from that by which his companion, dressed in his clothing, will also transport it.

(*c.*) The intensifying conditions are some of them quite pronounced. Dry heat and freezing cold will destroy it, while moist heat is probably an indispensable prerequisite. But careful study of all the epidemics and the places of their occurrence also show that the condition of locality has much to do with its spread. There are diseases which, like foul seeds, once introduced, will disseminate. But whether they still flourish or decay, be exuberant and pestiferous or stunted and finally eradicated, will depend very much upon the

amount of organic matter or filth found to feed upon. While it is not known that any amount of unsanitary condition can originate yellow fever, any more than a pig sty can originate the Jimson Weed, yet the dimensions are greatly affected by the soil. Perchance, as it is wafted, it may here and there grow where we would not have anticipated. But the rule of exuberance, and so of malignancy, is nevertheless very definite. So every such epidemic is an argument for the most scrupulous attention to civic cleanliness.

Besides the intensifying conditions outside, there are also some intensifying conditions inside, which, no doubt, make individuals or certain classes more susceptible and more subject to severe attack. While, in hasty generalization, we are apt to say that such diseases make no distinction, yet the accurate student, not only of varied municipal conditions, but also of classes as to their habits, rearing, proclivities, is able to detect underlying laws which show purity within and without to be a great resister of epidemics. It has more laws of choice than the laity think.

(*d.*) Variation of symptoms is no new thing, although so much dwelt upon in this epidemic. The same poison acts very differently in scarlet rash and malignant scarlet fever; and, besides, each epidemic, as a rule, has some variation. Miasmatic or paludial influences seem to join in more at sometimes than others. There are hybrids in disease, and most writers recognize various shadings from the Dengué or break-bone fever to the intense yellow fever, with black vomit in 24 hours.

It is generally ushered in by a chill, followed by intense fever. Pain in the back and limbs, headache, a burning skin, and a quick, soft pulse in all severe cases show at once that profound toxic impression is being made upon the vitals. The watery eye and the whitish tongue, going on to a "cottony" coat with red border, and the tendency to sick stomach early mark the disease. Where there is puffiness over the abdomen and an irritated stomach the black vomit is often an early indication of blood changes of a serious nature. Sometimes, as in the Memphis epidemic of 1878, not the black vomit, but albuminuria and suspended action of the kidneys are the fatal sign. The yellowness of the skin does not appear in more than 20 per cent. of the cases, and is only one of the symptoms of grave suspension of the functions of vital organs. Treatment in severe cases is hopeless, merely because the patient too often begins to die when he begins to have symptoms. The juices of life are changed, and that blood which Mephistopheles calls the "peculiar juice" has already too ceased to be "the life." Medicine, like other things, must be absorbed, and the system must have the capacity to appropriate it in order to get service from it.

Treatment varies much. Effort is made by cold to reduce the high temperature; but a succeeding sweat does not often bring relief. The quinine treatment, the cold spray treatment, the cathartic treatment, and the free application of external stimulants and thorough nourishing by broths—all have their advocacy. Having no antidote to the poison and having to deal with a body in which vital forces are already so far deranged, we must meet symptoms more by caring for the skin, cooling the body, nourishing and nursing than by medicine. Some have claimed for iodide of potassium and small doses of arsenic good results. The latter does help to allay stomach irritability. Our chief hope is in sanitary science and preventive treatment. By an intelligent marine service guard the approaches. Keep the Southern cities cleaner. When the epidemic breaks out, isolate as far as possible from the infected house, but cordon the locality, and place all under that treatment by arsenic, chloride of iron, chloride of potassium, quinine, or other of those articles which, if used in advance, are believed to guard the avenues of approach and militate against those changes which the particle of poison seeks to initiate.