

large proportion to a fermenting or putrid solution, both processes cease indefinitely.

Alkalies added in small proportion to a fresh solution hasten its putrefaction and prevent fermentation. Added in large proportion they prevent fermentation and quicken putrefaction, *minus* its usual sensible properties. Added in small proportion to a fermenting solution, fermentation is arrested and outrefaction induced. Potash added in small proportion to a putrid solution exacerbates putrescence. Added in excess, putrefaction is soon expended.

From the foregoing remarks it will be seen that, where circumstances admit, we have it in our power to induce fermentation at will, should that be deemed preferable to putrefaction, or to prevent both. But it may be urged, may not a fermenting fluid be as objectionable as a putrefying one? I think not. Putrescent matter, evolving nauseating effluvia for nearly twelve months, must be more hurtful than fermenting matter almost odorless, and being fully decomposed in about three months, while the torulæ found in this fermentation are identical with those swallowed alive by the million by beer drinkers, and the other fungi with those present in butter-milk, cheese, fruits, etc., which are also swallowed with impunity.*

I now come to the second division of the subject, and proceed to consider:

1st. THE NATURE OF CONTAGIA.—So little is known of the essential toxic principle of contagia that this part must be treated briefly. As with putrefaction, we have here also two shades of opinion, one is that contagia are of the nature of fungi, or allied to bacteria, perhaps bacteria themselves. Sanderson is of opinion that the latter may constitute communicable poison, or are probably the carriers of it. The other opinion is that contagia consists of minute particles of albumenoid matter in an unknown state of synthesis. Thus the same origin is assigned to zymotic disease as to putrefaction; while, to complete the analogy, as Dr. Bastian showed that the putrefaction may arise *de novo*, Dr. Richardson and others hold that contagia may be spontaneously evolved.

*At this point of the paper, thirty-six tubes were shown, containing uniform portions of a solution of blood serum, and of a chemical substance. The mixtures had been in the tubes for fourteen months, and presented a varied appearance to the naked eye. The tube with benzoic acid was conspicuous from its being the only one free from haze and sediment. Its contents were as fresh and clear as on the day when the tube was filled. This substance is certainly a powerful antiseptic. See "Putrefiers and Antiseptics," *Glasgow Medical Journal*, Nov., 1872, and Feb., 1873.