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THE DOCTRINE OF CONTAGIUM VIVUM—FEVER IN A BOTTLE.

ADDRESS DELIVERED AT THE MEETING OF THE BRITISH MEDICAL ASSOCIATION, MANCHESTER, AUG. 7TH TO 10TH, 1877, BY WM. ROBERTS, M.D., F.R.S., PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY; PROFESSOR OF CLINICAL MEDICINE IN OWENS COLLEGE, ETC.*

GENTLEMEN,—The notion that contagious diseases are produced by minute organisms has prevailed in a vague way from a remote age; but it is only within the last twenty years—since the publication of Pasteur's researches on fermentation and putrefaction—that it has assumed the position of a serious pathological doctrine. In the last decade, startling discoveries of organisms in the blood have given this doctrine the support of actual observation; and its application as a guide in the treatment of wounds by Professor Lister has made it a subject of universal interest to medical practitioners.

The resemblance between a contagious fever and the action of yeast in fermentation—or the action of bacteria in decomposition—is in many points so striking that it is difficult to avoid the impression that there is some real analogy between them. If, for example, we compare the action of yeast with small-pox, this resemblance comes out very distinctly, as the following experiment will show. I filled two pint bottles, A and B, with fresh saccharine urine, and inserted a delicate thermometer in each. A was inoculated with a minute quantity of yeast, but nothing was added to B. Both bottles were then placed in a warm place in my room, at a temperature of about 70° Fahr. In order to get a correct standard of temperature for comparison, I placed beside these a third bottle (C) filled with water, and inserted a delicate thermometer in it. All these bottles were carefully swathed in cotton-wadding, for the purpose of isolating their individual temperatures, and to obviate, as much as possible, the disturbing effects of the varying temperature of the room. For twelve hours no change took place; but, at the end of this time, A began to ferment, and the thermometer marked a distinct elevation of temperature. On the second day, A was in full fermentation, and its temperature was 2·7° above B and C. This disturbance continued for five days, the temperature ranging from

* From Medical Times and Gazette.