

## THE MANAGEMENT OF DIPHTHERIA.

Dr. T. Prangley, in the *British Medical Journal*, gives a record of an outbreak of this disease. As to its management, he says:—

The local treatment I adopted in every case was the application of tincture of iodine (forty-eight grains to one ounce) to every part of the throat covered with membrane, at least once in twenty-four hours, and the inhalation of iodine vapor mixed with steam, but more especially the latter, if the larynx were invaded. If the membrane were firm in texture, and not too strongly adherent, I always removed it and applied the tincture of iodine to the denuded surface, and with the best results; for, although frequently the membrane would reform, yet it never regained its pristine condition. If the membrane were in specks or shreds, I applied the iodine over them, and in general half-a-dozen applications were all that was required to procure their dismissal, and in several instances two applications were sufficient. This local application of iodine acts, not only as a caustic, but, I believe, confers a modifying influence upon the secreting structure, and further brings into action the power of the absorbents; thus tending to retard the spread of the membrane and to promote the removal of that which is formed. I am aware that, in urging this treatment, I am at issue with many who contend that, this disease being a general one, depending upon certain changes in the blood by the introduction of a specific disease-poison, it is useless to attack the local manifestation of the disease any more than the pustules of small-pox. To those I would call attention to John Hunter's axiom, that two similar diseases cannot coexist in the system at the same time.

The general treatment was supporting and stimulating throughout. A liberal supply of beef-tea, wine and milk was frequently and regularly given, to maintain the system against the natural tendency to depression and exhaustion. In medicine, I rely upon chlorate of potash and tincture of steel, from three to five grains of the former with five to fifteen minims of the latter every four hours, according to age. When tracheal symptoms arise, I at once have recourse to the inhaler, beginning with ten drops, increasing to a drachm of the common tincture of iodine to a pint of boiling water, and letting the patient inhale as frequently as possible. In using this, one precaution is necessary, and that is not to begin with too large a supply of iodine, otherwise it is too irritating, causing the patient to cough, and making him unwilling to use it. I have found ten drops well borne to begin with; and, after a short time, we may gradually increase the quantity to a drachm to the pint without inconvenience. If this do good, which it undoubtedly does, it is evident it cannot be by any caustic action, but entirely through its modifying and absorbing influence upon the diseased tissue. I can refer to three cases in which this treatment was of marked utility. In cases where the fits of dyspnoea are severe and frequent, I have found nothing like an emetic of sulphate of copper, which generally expels a quantity of membrane from the

larynx and trachea, and gives relief for a time, at all events.

In tracheotomy I believe we may place considerable reliance, although my experience is limited to one case, and that unfortunately a fatal one; yet I firmly believe that if it be resorted to soon enough, we may rescue many lives.

## ON BACTERIA.

So much having been said lately about bacteria, our readers may be glad to read the following description of them, taken from a lecture by the able physiologist, Dr. J. Burdon Sanderson, published in the *British Medical Journal*.

The first fact that I shall advance with respect to bacteria is, that they are the smallest and least organized of all living beings. As regards size, it is best to judge by comparison with objects with which we are microscopically familiar. The most common rod-like forms are in length about one-third of the width of a blood-corpuscle; i. e., about  $\frac{1}{1000}$  of an inch, so small that, if we examine a liquid containing them, with the ordinary magnifying powers used for histological observations, we can scarcely be said to see them to any practical purpose. It is necessary to have recourse to the best microscopes and the highest powers, if it be desired to observe them in such a way as to arrive at useful results.

What grounds have we for stating that they are the lowest organisms? One is, that they present only very slight differentiation of parts; but in this sense they are certainly not simpler than many other forms that might be referred to. The chief ground for the statement lies in this, that they are much less *specific* in their characters—much more under the influence of the conditions under which they originate and are developed—than organisms of any other class. Just as in the higher animals, and in man himself, we call those functions lowest which are most completely automatic—i. e., most completely under the guidance of known conditions—so also, as regards form, we recognize that while all animal and vegetable forms, even the highest, are moulded by circumstances to fit their places in the economy of nature, this moulding power—this adaptation of form to circumstance—becomes more and more obvious the lower we descend in the scale of development.

The next fact relates to the *habitat* of bacteria, to the medium in which they live, water. They inhabit water either as such in the ordinary sense, or in the various conditions recognized as *moisture*, whether occurring on damp surfaces or as filling the interstices of solid bodies, which bodies, when so impregnated with water, are said to be damp. Those who are familiar with chemical work, know that this quality of dampness goes a great deal further than the popular notion of it; that many things ordinarily called dry, yield, when subjected to the drying processes commonly used in the laboratory, evidences of being really moist. Consequently, moisture, regarded as a limiting condition of bacterial life, is a very wide and comprehensive one.

From this statement, it must not be understood