

## CHAPTER XXI.

RESULTS OF ANTISEPTIC SURGERY (*concluded*).

General consideration of the results. Results of the various methods in saving life. Results in avoiding infective disease. Cleanliness: definition of the term: Mr. Savory's definition and method: cleanliness has not abolished infective disease even in healthy hospitals: cleanliness is a complex method: infective disease may appear even in the best hygienic conditions. The source of infective disease. Conclusions as to the value of the various methods in preventing infective disease. Deaths from prolonged suppuration after chronic abscesses, compound fractures, &c. Operations on weak or diseased individuals are rendered possible by the aseptic method. Operations otherwise unjustifiable, but nevertheless necessary for the recovery of the patient, may be safely done by the aseptic method. The patient may be made a more useful member of society: joint cases: tenotomy, &c.: compound fracture: dangers of operations of convenience. Local results of wounds treated aseptically: absence of pain, inflammation, &c.: experiments of Yeo and Ferrier: organisation of blood-clot, catgut, sloughs, &c. Histological details of the process: Tillmann's experiments. Temperature in aseptic cases: contrast with septic cases. Local and constitutional course of cases not treated aseptically. Objections to aseptic surgery: carbolic acid poisoning: the surgeon is said to neglect the constitutional state of the patient: expense: trouble: necessity for the spray. Conclusion: great principle of wound treatment is Rest . . . . . 540

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## ANTISEPTIC SURGERY.

### CHAPTER I.

#### THE PARTICULATE THEORY OF FERMENTATION. ON THE FERMENTATION OF BOILED SUBSTANCES.

Definition of putrefaction and fermentation—Chemical fermentations—Living ferments—Various views on fermentation—Lavoisier—Fabroni—Thenard—Appert—Gay-Lussac's experiments and conclusions—Caignard-Latour—Schwann, heated air inert—Schulze—Ure and Helmholtz, nascent oxygen inert—Liebig's views—Review of the subject—Schroeder and Dusch, filtered air inert—Schroeder, ozone inert—Schroeder's final views—Pasteur's researches—Lister—Roberts—Tyndall—My own results, carbolised air inert—Conclusions as to the cause of the fermentation of boiled substances.

THE term 'septic' so much used in surgery at the present day is derived from the Greek word *σηπτικός*, which means something that *causes* putrefaction, the verb *σήπω* signifying to *cause* to rot, to *make* putrid. An 'antiseptic' is therefore, according to this derivation, something which acts against the *causes* of putrefaction, and 'Antiseptic Surgery' is surgery directed not against its *effects* but against its *causes*. In dealing, then, with the subject of antiseptic surgery, we must first enquire what is putrefaction, and how is it brought about?

Putrefaction is now held to be a form of fermentation accompanied by the development of offensive odours, and fermentation may be defined as 'a new arrangement of the elements of an organic compound (often with the assimilation of the elements of water), and the consequent formation of new products.' (Fownes.)

Changes coming under the above definition of fermentation