

the occasion, I have resolved at length to bring before you one or two points dealing with the most recent developments in medicine, and indicating the lines along which the medical world looks for advancement being made. In considering these points, may I be allowed to assume that you are quite unacquainted with the subject? My sense of courtesy to our guests requires me to state that I know that they are very far from being ignorant of the broad general principles which underlie present day science, and my instinct of self-preservation prompts me to apologize to my friends the students for this monstrous assumption. But the assumption of this position makes it easy for me to give a brief sketch of the events which have slowly but surely led up to the problems which, among other things, are just now engaging the attention of scientific men.

Until the science of pathology was evolved from the study of microscopy, minute anatomy, and chemistry, nearly all practice was of that character known as empirical. That is, in the treatment of disease, reliance was placed solely on individual experience and observation. The aids of reasoning, analogy and generalization were ignored. It requires but little discernment to see that under these circumstances but little progress could be made. But when pathology began to reveal the causes and nature of disease, the remedies made use of were more rationally chosen with a view to their capacity either to remove the cause or combat the effects of the disease. Accumulated experience, based largely on such scientific grounds, constitutes the bulk of our present knowledge of therapeutics.

Accordingly, when it came to be known that certain minute vegetable organisms called "germs" stood in a causative relation to certain diseases, the energies of investigators were devoted to the problem: What therapeutic agents can we command (1) to prevent such germs from obtaining access to the system, and (2) to dislodge them and, at the same time, neutralize their poisonous effects after they have obtained a foothold in the human organism? The first of these problems was practically solved, as far as surgical cases are concerned, by the introduction of the antiseptic system, with which the name of Sir Joseph Lister is so honorably connected.

#### SERUM-THERAPY.

The solution of the second problem, viz., the pursuit of the germs and their poisons into the blood and tissues, is the object and ambition of that new departure in therapeutics called "serum-therapy," or the antitoxine method of treating disease.

Having permitted myself to assume, for the moment, your entire lack of knowledge of the matter in hand, I shall now outline the main features of this subject. If we place newly shed blood of any animal in a glass