

anatomist, human and comparative, pathologist, and physician at the same time; but in 1880 such a combination of qualifications was an absolute impossibility. During the last ten years more knowledge has been acquired from research in physiology than in all the previous twenty years, and with this accumulation the character of the subject has vastly changed. It was possible in 1880 for an accomplished physiologist to maintain at first hand an acquaintance with all the publications then constantly appearing embodying the results of original research in all departments of physiology; but with each succeeding year that became less and less possible, until now, when the literature annually appearing is so great in extent, that he who attempts such a feat is certain to fail. The periodical and other literature in some one department, as, for example, that dealing with the nervous system, is quite enough to engross his time; while if he wishes to keep himself acquainted with the literature in the other departments, he must depend largely on abstracts and summaries made by others. As a result of this widening of the subject, specialization in physiology has occurred to a very remarkable extent; and where a few years ago we had one species with but few varieties grouped under the genus physiologist, we find at the present day many species, each one rapidly developing into a genus. To-day, instead of the general physiologist, there are the neurologist, the students of the physiology of secretion, or nutrition, or of circulation, each one working in his own particular field of research, which, as investigation goes on, is found to be of vaster extent than supposition allowed.

What I have said with regard to the progress of knowledge of animal physiology is true to a great extent also of histology, bacteriology, and pathology; and it is quite possible that were I as much conversant with the literature and progress in those sciences, an appreciative description of the advances in them, and especially in bacteriology, would meet with a greater assent from you, because of the general recognition, on the one hand, of the immense strides that surgery has, on account of it, made within the last fifteen years, and, on the other, of the fact that through it we know the causes of a very important group of diseases. I do not wish to diminish one whit the recognition of merit which that science has justly as its due, but I would like to point out that it has not been the cause of all the progress which has obtained for the last ten years, for had our knowledge of physiology remained as limited as it was in 1880 there would have been no triumphs in brain surgery; we would not have the knowledge of diseases of the nervous system that we now possess; and the medical treatment of functional diseases would have been as largely empirical as it was in 1875. Bacteriology, indeed, suddenly opened to surgery fields of work from which it was hitherto excluded, and the bountiful harvest that it has reaped has absorbed so much of popular attention.