THE MEDICAL SCIENCES

You have probably been told that in this new field of endeavor on which you are entering you will learn at once a science and an art. An art is defined as "skill in applying knowledge or ability to the accomplishment of a concrete purpose." But the art of medicine includes a skill not required in the fine arts or in engineering; namely, the skill in human contact in its most intimate and revealing complexities. It is precisely this relationship with other human beings, and particularly in its helpful aspects, that has, I imagine, attracted most of you to the study of medicine.

But the successful practice of any profession depends on knowledge of the theoretical principles that underlie it. The earlier practitioners of the healing art were not long satisfied with mere empiricism, the simple method of trial and error; they began to theorize as to how the human body is constituted and how it functions. They speculated on the nature of disease processes and soon sought for causations in external agencies. They philosophized in an abstract fashion concerning the functional turmoil that leads to the subjective and objective symptoms of disease.

This form of explanation by pure reason soon showed the lack of sufficient information on which to base a logical hypothesis and led to the development of the more purely observational sciences of anatomy and pathology.

The understanding of normal and disorganized function, that is, of physiology under natural and abnormal conditions, required the additional aid of experimentation, and, with the firm adoption of this most revealing method of biology, the gateways were opened into the far-reaching and highly specialized fields of the sciences of medicine as we have them to-day.

The problems of medicine still arise at the bedside, but they are now answered in large part in the laboratory. Experimentation, and not merely increasing acuteness in observation, accounts for our progress to-day. The stored-up knowledge and the experimental skill necessary to forward any one of our present medical sciences is so great that it can be compassed only by a lifetime of endeavor. It is a rare practitioner, indeed, to-day, who can hope to heal the sick and at the same time contribute significantly

1 The opening address before the entering class of the College of Physicians and Surgeons, September 22, 1926.
Science 64 (1665), x-532.