in the main from certain data acquired in the century just passed. For instance, the chemist, in discovering that all the million-sided chemical diversity of the perceptible universe is composed from a few—some seventy—substances, therefore called elemental, discovered also that living matter, instead of containing elements different from and subtler than those of the dead world, consists of just a few of those very same ones. Further, the doctrine of the indestructibility of matter was demonstrated in a new form, namely, as the indestructibility of energy, and the convertibility of any one form of energy into other forms. Thus dead and living matter become united as subject material for study. It became really possible to consider the living body as a chemical and physical machine, a machine to which the laws of chemistry and physics can be applied.

But this scientific progress in medicine, fruitful of benefit to the community, lays on the community a burden of obligation. The empirical part of medicine is at once the most easy and the most difficult thing to teach. The preparation for learning it requires but little training in other subjects. Its facts lean on nothing but themselves.

Historical Sketch.

With the scientific part of medicine it is different. That is based upon initiatory studies. Medicine, historically traced, we find first drawing help from the simplest and nearest at hand of these adjuvant studies. First she bent to the study of the gross form of the parts and organs of the body. The gross form of these is significant chiefly where they are machinery for application of mechanical powers. The greater part of the corporeal machinery is, however, not destined for such work, but has its purpose in processes chemical, thermal, and electrical, to which—marvellous appendage—mentality is adjunct. Medicine in the course of the seventeenth and eighteenth centuries sucked dry for the most part what the study of the gross form of the body's parts could yield her. She then turned to study of microscopic form—examined what Bichat first named the tissues, the fabric of the body. In so doing, she came upon a great generalization, the cell-doctrine, discovering an essential and visible similarity of microscopic structure in all that has life, differentiating it from all which has not life.

But even before the advent of the cell theory, medicine had begun to ask of chemistry what it could give her. With the discovery of oxygen and of the nature of combustion the links between biology and chemistry began to be tightly drawn. The young Oxford physician, Mayon, had performed the fundamental experiments on respiration and had discovered oxygen more than