

PREFACE

photo-engraving, electrotyping, lithography, color printing, and similar new methods of illustration.

The modern study of light has resulted in other scientific achievements of lasting importance, notably our knowledge of the velocity of light, spectrum analysis, and the Roentgen rays. In the study of medicine, to which this last invention has been principally applied, a new era may be said to date from the use of anesthetics and antiseptics, first adopted during the middle of the last century. A similar impulse to the theoretical study of medicine has been given by the discovery of the functions of the blood corpuscles, the cell theory in embryology, and the germ theory. Of like importance to science are such scientific discoveries as the correspondence between heat and energy; the theory of gases; of molecules and of atmospheric dust; the nebular and meteoric theories in astronomy; and the determination of geological epochs, resulting indirectly in Darwin's theory of the evolution of species and the origin of man. War has been made more terrible by such instruments of destruction as torpedoes, rifled firearms, machine guns, smokeless powder, lyddite, and melinite.

So much for a single century's achievements in science. They outnumber the great inventions of all the previous centuries within historic times. The same may be said of some other triumphs of the past century—notably of music. No less has been accomplished in some other arts. The great masterpieces in painting of the late Middle Ages and the Renaissance have been rivaled in this century by the artists of France, England and other modern schools.

Unlike music and the fine arts, the march of modern literature has been along national lines. It was a far cry from Haydn to Wagner, or from David to Millet, yet it seems no further than the intervals of intellect that lie between Keats and Kipling, Kant and Nietzsche, Schiller and Suder-