

In 1836, C. A. Lindsley in 1860, L. J. Sanford in 1863, F. Bacon and S. G. Hubbard in 1864, M. C. White, G. F. Barker, and C. L. Ives in 1867. There were 314 graduates during this period, an annual average of over twelve. The Law School was cared for by Gov. C. Bissell, 1847-55, Henry Dutton, 1847-69, T. B. Osborne, 1855-65. It had 194 graduates and did not increase. Most important of all the changes during these twenty-five years was the development from small beginnings, in the latter years of President Day's rule, of graduate instruction not leading to what were of old called "the three learned professions." Two new chairs were established in August, 1846, and J. P. Norton appointed to that of agricultural chemistry, while



North Sheffield Hall.

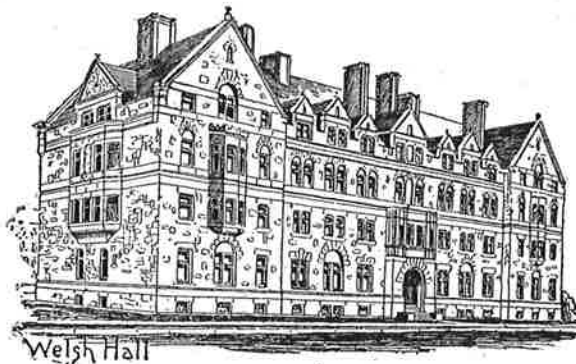
B. Stillman, Jr., became professor of practical and applied chemistry. A chemical laboratory was opened in what was the president's house, and several courses in philosophy, philology and science were added by some of the older professors. In 1852 the degree of Ph.D. was first given, and a chair of civil engineering founded, under W. A. Norton. Prof. J. P. Norton was now succeeded by J. A. Porter, whose chair was divided in 1856, he retaining organic chemistry, and S. W. Johnson taking agricultural and applied chemistry. W. D. Whitney became professor of Sanscrit in 1854, Prof. Salisbury retaining Arabic until 1856, and in 1870 furnishing the chair of Sanscrit with an endowment of \$30,000. Another great step was taken in 1854, in setting off the instruction in chemistry and engineering as the Yale Scientific School. A chair of metallurgy was added in 1855 and given to G. J. Brush; another, of industrial mechanics and physics, was filled in 1859 by C. S. Lyman. In 1859 J. E. Sheffield bought the old building used by the Medical College, enlarged it, provided it with the necessary apparatus, and presented it to the Scientific School, which took his name the next year. In 1862 it received \$135,000 through the state from the sale of United States lands under the act of 1862, on condition of giving free tuition to a certain number of Connecticut pupils. From this time the Sheffield School grew and thrived apace, increasing its courses of studies from two to seven, and granting their various degrees. Its chief benefactor expended some \$150,000 on an enlargement of the building in 1866, and gave \$10,000 for its library: a few years later he furnished some \$80,000 for endowments,

and erected a second home, North Sheffield Hall, completed in 1873 at a cost of \$115,000. About \$100,000 had come in meanwhile from other sources, including \$28,000 from Mrs. S. K. Higgin, of Liverpool, to endow a chair of dynamical engineering, filled in 1870 by W. P. Trowbridge. Other chairs with their incumbents were physical and political geography, D. C. Gilman, 1863; agriculture, W. H. Brewer, 1864; zoölogy, A. E. Verrill, 1864; botany, D. C. Eaton, 1864; mining, A. P. Rockwell, 1865-68; English, T. R. Lounsbury, 1871; metallurgy, Q. D. Allen, 1871. In 1856 Geo. Peabody gave \$150,000 to found and maintain a museum of natural history in connection with the college, but governed by trustees of its own. In the same year a chair of paleontology was established and filled by O. C. Marsh. In July, 1871, the legislature agreed to a change in the corporation, displacing the six senior senators by as many alumni, to serve six years, one to be elected at each commencement. Under this administration no less than 2,259 students received the degree of A.B., an annual average of over 120. Dr. Woolsey retired from the presidency in 1871, and was for the next ten years chairman of the American company of revision of the New Testament. His "Introduction to the Study of International Law" (1860) is highly valued. He also published besides several discourses and editions (1871) of F. Lieber's "Manual of Political Ethics," and "Civil Liberty and Self-government," "Essays on Divorce and Divorce Legislation" (1869); "Religion of the Present and of the Future" (sermons, 1871); "Communism and Socialism" (1880); "Helpful Thoughts" (1882). "Political Science" (two vols., 1877) is the most elaborate but not the most influential of his works. He died, greatly honored, at New Haven July 1, 1889. (See a sketch by J. H. Thayer in the "Atlantic Monthly" for October, 1889.)

PORTER, Noah, eleventh president of Yale College (1871-86), was born Dec. 14, 1811, at Farmington, Conn., where his family had settled in 1640, and of which his father was minister 1806-66. Graduating from Yale in 1831, he had charge of the Hopkins School at New Haven for two years, served as tutor at the college for two more, was pastor at New Milford 1836-46, and at Springfield, Mass., 1843-46. At Dr. Woolsey's assumption of the presidency of Yale, Mr. Porter was called to the new chair of moral philosophy and metaphysics, which was endowed by the proceeds of a fund given in 1823 by S. Clark. In this branch of knowledge he won distinction by his large work on "The Human Intellect" (1868) and his widely used text-book, "Elements of Intellectual Science" (1871). Among his other writings are a discourse on the 200th anniversary of the settlement of his native town, 1841; a prize essay on "The Educational Systems of the Puritans and Jesuits" (1851); "American Colleges and the American Public" (1870); "Books and Reading" (1870); "Science of Nature vs. the Science of Man" (1871); "Science and Sentiment" (1882); "Evangeline, the Place, the Story and the Poem" (1882); a "Life of Bishop George Berkeley" (1885); "The Elements of Moral Science," (1885); and a "Critical Exposition of Kant's Ethics" (1886). He was the chief editor of the revised editions, 1864 and 1890, of Noah Webster's Dictionary. His degree of D.D. was conferred by the University of the City of New York in 1858, and by that of Edinburgh in 1886; Western Reserve



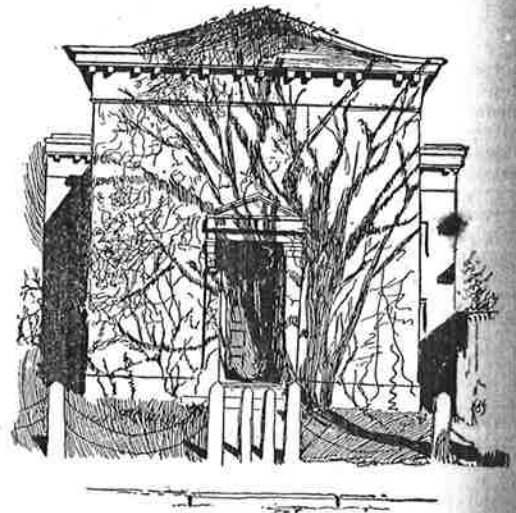
College, Ohio, gave him the degree of LL.D. in 1870, and Trinity in 1871. He retained his chair on assuming the presidency in 1871. His administration was a period of great prosperity and rapid growth. In 1872 all the departments except those of theology, medicine and law were united under the common title of the department of philosophy and the arts. A number of chairs were added, made permanent, or filled by new incumbents; the chief of these were mathematical physics, J. W. Gibbs, 1871; chemistry with molecular physics, A. W. Wright, 1871; German, Franklin Carter, 1872; political and social science, W. G. Sumner, 1872; supplementary chairs of Latin, H. P. Wright, 1871 and T.



Welsh Hall

Peck in 1880; of mathematics, E. L. Richards, 1871, and A. W. Phillips, 1881; of English literature, H. W. Beers, 1874; of mental philosophy, G. T. Ladd, 1881; and of natural philosophy, E. S. Dana, 1879; divinity, W. M. Barbour, D.D., 1877; American history, F. B. Dexter, 1877; Greek, T. B. Seymour, 1880; law, E. J. Phelps, 1881; modern languages, W. I. Knapp, 1879. For the academical department a permanent fund of some \$163,000 was raised early in this period, the funds being farther increased by large gifts and bequests, among them \$115,000 from Dr. T. D. Porter, \$86,000 from H. T. Morgan, and \$56,000 from H. L. Ellsworth; the income of the two latter being for the aid of needy students. The Battell chapel was erected in 1874-76, the physical laboratory by H. T. & T. C. Sloane in 1882 and 1883, and the Lawrence College and Dwight Hall in 1885-86, the latter by E. D. Monroe. Previous gifts provided in whole or part for the erecting of the Peabody Museum in 1876, and for the observatory, which arose in 1882 on ground bought by O. F. Winchester, at a cost of \$100,000 in 1879. The library funds were greatly increased by various gifts, and its books by the transfer in 1871-72 of the libraries of the two old societies, the Linonian and the Brothers in Unity. In 1880 the number of volumes had risen to 120,000 and in 1887 to 160,000, a growth far beyond that of the past. In the Sheffield Scientific School five new chairs were founded: mathematics, J. E. Clark, 1873; chemistry, W. F. Mixter, 1875; comparative anatomy, S. I. Smith, 1875; physiological chemistry, R. H. Chittenden, 1882; and physics, C. S. Hastings, 1884. H. W. Farnan, A. J. Du Bois, and C. B. Richards took the places of Profs. Walker, Trowbridge and W. A. Norton. A large addition to the funds was bequeathed by Mr. Sheffield who died in 1882. The number of students was nearly doubled during these fifteen years: 671 took the degree of Ph.B., sixty that of Ph.D., nineteen C.E. and ten M.E. The Art School advanced in its work, admitting pupils of both sexes. J. H. Niemeyer took the new chair of drawing in 1871, and Prof. J. M. Hoppin succeeded Prof. Eaton in 1879. A collection of

paintings and casts was founded. The Divinity School gained a post-graduate course of a fourth year, a graduate fellowship, two new buildings, West Divinity Hall, 1873-74, and the Bacon memorial (reference) library in 1881, besides a new chair of Biblical theology, filled by J. E. Russell in 1885. In that year L. O. Brastow, D.D., took the place vacated by Prof. Hoppin in 1879. Large gifts came in from F. Marquand, H. Winkley and A. Otis. No less than 378 graduates received the degree of B.D.—over twenty-five annually. The Law School was reorganized, and for the first time made thoroughly efficient. W. C. Robinson, S. E. Baldwin and J. T. Platt, who had had charge of it from 1869, were, with Francis Wayland, made full professors in 1879; \$25,000 was raised for the library, and a permanent fund of \$10,000 given by J. E. English. An advanced course for graduates was provided in 1876, with the degree of M.L. after one year's study, and D.C.L. after two. Two more chairs were added, international law, T. S. Woolsey, 1878; and pleading, W. K. Townsend, 1881. L. S. Foster, who died in 1880, left \$60,000 to found a chair of common law. The number of graduates was 387, an annual average of nearly twenty-six. Thirty-eight took the degree of M.L. and eight that of D.C.L. The course of study in the Medical School was reorganized and enlarged in 1879. The additions to the faculty were Dr. D. P. Smith, 1873-80, who left his library and instruments to the school; Dr. L. S. Wilcox, 1877-81, and Drs. W. H. Carmalt, and J. K. Thacher, 1879, F. E. Beckwith, 1880, T. H. Russell, 1883, H. E. Smith, 1885, and J. Campbell, 1886. The degree of M.D. was taken by 127 persons during this period, a yearly average of eight. Elective studies made less progress at Yale than elsewhere, partly because of the doubts of the president as to the wisdom of such a change from the old order. A small liberty of choice during the junior year was granted to the academical department under Pres-



dent Woolsey, and this was extended in 1876 to nearly half the work of the higher classes. In 1884 more than half the junior studies and most of those in the senior year were made elective. In 1886 the post-graduate work was enlarged by the accession of Dr. W. R. Harper and A. T. Hadley as professors of Semitic languages and political science. In 1886 Dr. Porter retired from the presidency of the institution, but retained his chair of moral philosophy, although increasing infirmities did not permit many more years of labor. He died March 4, 1892.