THE BEST MEASURE OF A UNIVERSITY IS THE COLLECTIVE SERVICE OF ITS ALUMNI
"By Their Works . . ."

In a corner of St. Paul's Cathedral, in London, is the burial stone of a great architect. Its inscription reads:

"Here lies Sir Christopher Wren. If you would see his monument, look about you."

Just as the best monument of a man is some lasting benefit which he has conferred upon his fellow beings, so the best measure of a university is the collective service of its alumni.

Lehigh University is proud to be judged by the achievements of its graduates. "By their works ye shall know them."
NEW YORK'S famous sky-line has been impressively influenced by the works of Lehigh alumni. The Empire State Building, the Chrysler Building, Radio City, the Metropolitan Tower, the Singer Building and many other sky-scrappers are monuments to their skill in the fabrication and erection of steel structures. The Grand Central Terminal, built by Emil Diebitsch, '89, is an engineering triumph never exceeded, in that it was constructed without interfering with the schedule of a single one of the 421 trains leaving and entering daily. The beautiful George Washington Bridge testifies to the genius of Lehigh men who designed the cofferdams for the massive foundations, fabricated and erected the huge towers and made and wove 59,000,000 pounds of wire into the massive cables.

The mighty locks of the Panama Canal, one of the most ambitious of engineering projects, were built by a firm of Lehigh men. The monumental project of assuring an adequate water supply for New York City which included drilling an aqueduct through 20 miles of solid rock was engineered by Thaddeus Merri- man, '97, as Chief Engineer of the New York Board of Water Supply. Los Angeles' new water supply, an equally ambitious undertaking, was also directed by him and the concrete-lined water tunnel, 17 feet in diameter, which runs for seven miles approximately 250 feet below the desert, is the work of a Lehigh firm. Morris Llewellyn Cooke, '95, is chairman of President Roosevelt's gigantic Mississippi Valley project. Another Lehigh man is the builder of a magnificent white marble dam on the site.
of the Battle of Marathon and a 15-mile aqueduct which runs 150 feet under the surface of the plains of Attica, carrying water to the modern city of Athens, Greece. Lake Murray, in South Carolina, a beautiful body of water 41 miles long and 14 miles wide, was conceived and created by the man for whom it is named, W. S. Murray, '95. This lake was made by confining the waters of the Saluda River by the largest high earth dam in the world to provide a source of power rivaling famous Muscle Shoals.

The second largest steel fabricating firm in the country, McClinton-Marshall & Co., founded by two classmates of '88, is largely directed by Lehigh graduates, including the Assistant to the President, the Vice-President, and many others. The Fort Pitt Bridge Works is headed by a Lehigh President, a Lehigh Vice-President and a Lehigh Secretary-Treasurer. The President of the Fort Worth Structural Steel Company is J. H. Brillhart, '04, the President of the Union Iron Works of Washington, D.C., is J. H. Fort, '06; the President of Levering and Garrigues is L. L. Gadd, '94; the President of the Bethlehem Fabricators is R. P. Hutchinson, '04; the Vice-President of the Lehigh Structural Steel Company is W. H. Mohr, '11; the Vice-President of the Ludlum Steel Corporation is E. M. Cook, '97; the Vice-President of Baumes-McDevitt Company of St. Louis is F. J. McDevitt, '04.

The Vice-President and Chief Engineer of Post and McCord, Inc., builders of New York's sky-line, is a Lehigh graduate and trustee. The Dravo Contracting Co. and its several subsidiaries are headed and largely manned by Lehigh men. The President of the Pittsburgh Construction Company is C. L. McKenzie, '93. The President of the Lackawanna Steel Construction Company is W. H. Phillippi, '04. One of the best-known firms of the West Coast is Poole and McGonigle, headed by C. J. McGonigle, '01. The President and Secretary-Treasurer of F. H. Clement Company are both Lehigh graduates.
WESTINGHOUSE,” “Packard,” “General Motors,” “Bucyrus,” “John Deere”—these are names recognized not only in America but in every corner of the world. The executive heads of all these industrial giants are alumni of Lehigh. F. A. Merrick, ’91, is President of the Westinghouse Electric and Manufacturing Company, and Malcolm Carrington, ’96, is Vice-President. Alvan Macauley, ’92, President of the Packard Motor Car Company, is also President of the National Automobile Chamber of Commerce. The man who founded the Packard Motor Car Company, James Ward Packard, ’84, also founded the Packard Electric Company, which manufactures much of the insulated wire used in the modern automobile. A. R. Glancy, ’03, and E. F. Johnson, ’07, have both contributed to the phenomenal growth of the General Motors Corporation as Vice-Presidents. W. W. Coleman, ’95, is President of the Bucyrus Company, builders of the contractors’ machinery that will be found on practically every dredging or excavating job in the country. William Butterworth, ’89, Chairman of the Board of Deere and Company, manufacturers of the famous John Deere agricultural implements, was also for several years president of the U. S. Chamber of Commerce.

The roll of manufacturing concerns headed by Lehigh presidents is a formidable list—a veritable blue book of American industry. Only some of the representative companies can be mentioned here. Thus, we find a Lehigh alumnus in the President’s office of the American Abrasives Metals Company, the

AN ENGINEERING training may not be regarded as the conventional route to the presidency of a railroad, yet two Lehigh engineers are the chief executives of important roads. L. W. Baldwin, '96, is nationally prominent in railroad circles as head of the Missouri-Pacific, in which job he has another good Lehigh man at his right hand—E. M. Durham, Jr., '96, as Vice-President. S. D. Warriner, '90, is President of the Lehigh and New England Railroad, and R. H. Wilbur, '85, is Vice-President and General Manager. Robert Farnham, '99, Chief Engineer of the Pennsylvania Railroad, is the man who directed the building of the new terminal facilities in Philadelphia. J. R. Davis, '91, is Chief Engineer of the Great Northern Railway. W. B. Geiser, '02, is Chief Chemist for the New York Central Lines. T. G. Hamilton, '95, is Vice-President and General Manager of the Gary Railways. S. H. Jencks, '88, is Chief Engineer of the Cambria and Indiana Railroad. M. D. Kirk, '06, is Vice-President of the Pittsburgh Terminal Railroad and Coal Company. In China, the first Chinese graduate of Lehigh University, T. C. Yen, '01, is the leading technical expert of the Ministry of Railways for the Chinese Government and T. T. Sun, '13, is one of his right-hand men. In England, Theodore Stevens, '86, is nationally prominent as a consulting engineer and as President of Overhead Lines Association, Ltd., of London.

Scores of Lehigh graduates are serving the railroads as chief engineers, superintendents of bridges, maintenance of way engineers, general superintendents, division engineers, etc.
ELECTRICITY

Being one of the earliest institutions to give training in electrical engineering, Lehigh naturally finds many of her sons in the large electrical concerns. One of the founders of the great Westinghouse Company was H. M. Bylesby, '78, who served as vice-president and general manager from 1885 to 1891, and afterward founded the H. M. Bylesby Company. The man who conceived the plan of tying together the power plants of the nation into a single system was a Lehigh, '95, engineer who is known as the “Father of Super-Power.”

The public utility companies have benefited extensively by Lehigh management and engineering skill. In Youngstown, Ohio, O. S. MacCalla, ’96, is President of the Pennsylvania Power Co. and the Youngstown Municipal Railway; in Niagara Falls, A. D. Robb, ’01, is President of the Niagara Falls Power Co.; in Allentown, Pa., J. A. Frick, ’03, is President of Allentown-Bethlehem Gas Co.; in Philadelphia, N. E. Funk, ’05, is Vice-President of the Great Philadelphia Electric Co., while M. P. Quinn, ’78, is one of America’s most prominent experts on the manufacture and distribution of illuminating gas, and Walton Forstall, ’31, is an officer of the United Gas Improvement Co., and E. G. Boyer, ’09. In Baltimore, E. D. Edmondston, ’98, is General Superintendent of the Consolidated Gas, Electric Light and Power Co.; in New York City, M. B. Feldman, ’85, is Vice-President and Chief Engineer of the American Gas and Electric Co.; and A. E. Forstall, ’83, is the head of an outstanding firm of consulting engineers; in Jamaica, R. D. Bell, ’08, is President of the B. W. I. Public Service Co.; in Wilmington, Del., K. Hunt, ’03, is President of the Tidewater Power Co.; in Cumberland, Md., Dallas, Tex., Newark, N. J., Fort Dodge, Iowa—in fact all the way to Manchuria, where J. E. Popper, ’06, runs the Provincial Government Power Plant, Lehigh engineers are providing civilization with power.
WHEN the householder lays in his winter's supply of coal there is about an even chance that it is produced by a company headed by a Lehigh graduate. Of the 80,000,000 tons of anthracite mined annually, 35,000,000 tons are the product of companies directed by Lehigh men.

With the great anthracite fields at its very gates, it is only natural for the Lehigh graduate to find there an opportunity to apply his technical training and skill; certainly there is ample precedent, for Asa Packer, the founder of Lehigh, was a pioneer in the development of the anthracite industry, as were also Eckley B. Coxe and John Fritz, Trustees of the University.

The first graduate of Lehigh to achieve prominence as an anthracite coal operator was W. A. Lathrop, '75, to whose administrative genius the Lehigh Valley Coal Company and the Lehigh Coal and Navigation Company are fitting memorials. J. M. Humphrey, '82, now heads the Lehigh Valley Coal Company. The present head of the other company is S. D. Warriner, '90, spokesman for the anthracite mine operators and recognized as the leading anthracite mining engineer in the country. A. B. Jessup, '95, is another of the four members of the anthracite operators' committee.

When the Northeastern Pennsylvania Lehigh Club holds a meeting the attendance will include a large proportion of America's foremost anthracite engineers. Among them will be several consulting engineers of national reputation, including James H. Pierce, '10, who, when the Soviet Russian government conceived a program for doubling the output of Russian coal
mines in five years, was called upon to materialize the project.

Among the large coal companies in which Lehigh men occupy high positions are the Hudson Coal Company, Weston Dodson Company, East Alden Mining Company, the Jeddo-Highland Company, the Pennsylvania Coal and Coke Corporation, the Langdon Coal Company, the Repplier and Buck Run Coal Company, and G. B. Markle and Co.

Lehigh leadership is by no means restricted to the anthracite field. In the mining of bituminous coal, the technical and executive skill of its graduates is found in such companies as Peale, Peacock and Kerr, the Berwind-White Coal Mining Company, Pilling and Company, Consolidated Coal Company, the Pocohontas Coal and Coke Company, Majestic Colleries, Pemberton Coal and Coke Company, The Tennessee Consolidated Coal Company, The Navigation Coal Company, Ltd., Upland Coal Company, Koppers Coal Company, Borderland Coal Corporation, Newcastle Coal Company, Ashland Coal and Coke Company, Lehigh Coal Company, the American Smelting and Refining Company, Black Creek Coal and Coke Company.

Lehigh men are equally prominent in the byproduct coke industry: The Vice-President and General Manager of the Koppers Company is W. F. Rust, '04; the Vice-President and General Manager of the Bartlett Hayward Company is a '13 graduate, and a classmate is Vice-President of the Seaboard Coke Co.; T. G. Fear, '06, is Assistant to the President and W. Gates, '88, is Secretary of the H. C. Frick Coke Company in Pittsburgh; J. S. Robeson, '86, is President of the Ligeone Products Co.

Throughout the coal industry, as mining engineers, superintendents, electrical engineers, chemists, mechanical engineers, and sales executives, are scores of younger Lehigh men preparing themselves to step eventually into the shoes of the older men, and thus maintain the leadership of Lehigh in this vital industry.
HE remarkable domination of the steel industry of America by graduates of Lehigh is something of a tradition. Perhaps this is due to Lehigh's location, but it seems probable that "Charlie" Taylor, '76, had something to do with it. A partner, and a trusted lieutenant of Andrew Carnegie, he was a great factor in the growth of the Carnegie Steel Co., which became the corner-stone of the U. S. Steel Corporation. Another dominant figure in the early days of the steel industry was Frank Williams, '87. Later, D. G. Kerr, '84, served as Vice-President of the U. S. Steel Corporation and Taylor Allderdice, '88, as President of the National Tube Company, an important subsidiary, while Homer D. Williams, '87, was President of Carnegie Steel and then of the Pittsburgh Steel Co., and George H. Neilson, '85, was President of Braeburn Steel and then Vice-President of the Crucible Steel Corporation.

The second largest unit of the steel business, the Bethlehem Steel Corporation, has displayed the most preeminent and continuous influence of Lehigh men. This company was originally under the direction of John Fritz, a Lehigh Trustee who built the munitions plant at Bethlehem. Later, another Trustee, Charles M. Schwab, assumed control. Two successive presidents, E. M. McIlvain, '85, and Archibald Johnston, '89, contributed materially to the company's expansion. Today the corporation is under the guidance of Eugene G. Grace, '99, while scores of other Lehigh men occupy prominent executive positions including two vice-
presidents, and the managers of the Lackawanna and Sparrows Point plants.

The third largest unit in the steel industry is the Republic Iron and Steel Company, of which Tom M. Girdler, '01, is President and chairman of the board. The roll of the Lehigh executives in the steel companies includes also the Lukens Steel Company with Robert W. Wolcott, '18, President; the Jones and Laughlin Steel Corporation, where J. B. Carlock, '07, is Chief Engineer and H. W. Graham, '14, Chief Metallurgist; the Knoxville Iron Company and the Columbia Iron Works of which Morrow Chamberlain, '00, is President; the Carnegie Steel Company, whose Duquesne Works is under the direction of A. C. Cummins, '10; the J. A. Roebling Sons Company, F. W. Roebling, '01, President, and William Guimere, '99, Production Manager; the A. E. Hunt ('11) Steel Company of Boston; the Cleveland Cliffs Iron Company, G. R. Jackson, '99, General Superintendent, and W. R. Meyers, '07, Superintendent of Mines; the Universal Steel Company and the Cyclops Steel Company of which W. S. Jones, '87, is Vice-President; the Keystone Drawn Steel Company, J. J. Komara, '03, Vice President and General Manager; the Pacific Iron and Steel Company, A. W. Lewis, '18, Secretary and Treasurer; the Donner Steel Co., F. K. Smith, '93, President; the Hammond Iron Works, M. B. Stewart, '07, Vice-President; the Tuckahoe Iron Products Co., C. H. Thompson, '84, President; and the Lincoln Iron Works, I. I. Beinhower, '94, Vice-President and Manager.

In justice to the many other steel companies and to the hundreds of other Lehigh men who are contributing to the advancement of the steel industry, it must be stated that this brief space permits of only the most sketchy and fragmentary account of the remarkable part that Lehigh graduates are playing in this field. Their number and accomplishments are legion.
The leadership of Lehigh graduates in the mining of coal and iron has already been indicated. Besides these, scattered in the remote regions where the mineral resources of the world are being developed, are to be found still more men who received their training at Lehigh.

A few of the companies which profit by Lehigh management are the New Jersey Zinc Company, La Exploradera Mining Company of Mexico City, the Anaconda Copper Mining Company, San Antonio Gold Mines, the Braden Copper Company, Chile Exploration Company, the Gold Hill Development Company, the Chontales Mines in Nicaragua, Cleveland Cliffs Iron Company, the U. S. Smelting and Refining Company, the Cerro de Pescado Copper Corporation and the Iron Mountain Lead and Zinc Company.

The petroleum industry has attracted a large number of Lehigh mining engineers, many of whom have grown into executive positions with the large oil companies, notably the Cities Service Company, Standard Oil, Vacuum Oil, Texas Gulf, Phillips Petroleum, Pan American Petroleum, Atlantic Refining Company, the West India Oil Company and the Shell Company. An '88 graduate is known through the oil fields as a producer; an '01 graduate is director of the Oil Well Supply Company; a '13 man is president of the American Oil Company; an '18 graduate is the Director of Research of the Phillips Petroleum Company and another is a President of the State Company of Long Beach; a '17 graduate is the Vice-President of the Kirby Petroleum Co.
IN THE field of pure science, Lehigh men have made outstanding contributions to the welfare and progress of humanity. The man who made possible the application of aluminum to commercial uses and who is known as “the father of the aluminum industry” was J. W. Richards, ’86. The recognized authority on aluminum, he was, until his death in 1921, Consulting Engineer for the Aluminum Company of America. The class of ’91 can claim the inventor of the Bucher process for the fixation of atmospheric nitrogen. Harlan S. Miner, ’88, is recognized all over the world as an authority on the peculiar group of chemical elements known as the rare earths. D. McFarlan Moore, ’90, an engineer and inventor on the staff of the General Electric Company, was one of the pioneers in the development of television. R. H. Tucker, ’79, is renowned as astronomer at the famous Lick Observatory. C. H. Veeder, ’86, a skilled scientist by nature and training, turned his genius to the manufacture of speed counters and tachometers to create the well known firm of Veeder-Root, Inc., of Hartford, Conn. Among the many Lehigh graduates who have contributed to the scientific progress of the great General Electric Company, none have attained more widespread distinction than H. G. Reist, ’86. The leading authority on the significant scientific theory of Isostacy is William Bowie, ’95, Chief of the Division of Geodesy, U. S. Coast and Geodetic Survey, and one of America’s leading authorities on earthquakes is N. H. Heck, ’03, Chief of the Division of Terrestrial Magnetism and Seismology of the U. S. Coast and Geodetic Survey. E. F. Burchard, ’00, is Geologist in charge of the Section of Iron and Steel Alloy Metals in the U. S. Geological Survey. These latter alumni are merely representatives of the large number of Lehigh men who are occupying important positions in the scientific bureaus and departments of the federal and state governments of the United States.
ONE of Lehigh's greatest contributions is the tremendous volume of scientific and technical writings produced by its alumni. These comprise basic text-books in wide use by technical schools, books of reference, treatises, and articles contributed to scientific and technical journals.

Lehigh men have achieved distinction in other than the technical field of literature. Although Richard Harding Davis, '86, whose writings are known wherever English is spoken, set a high standard of attainment for his Lehigh brethren in literary fields, many of the younger men are well on their way to comparable distinction. The dean of them all, of course, is M. A. DeWolfe Howe, '86, Editor and Writer for the Atlantic Monthly. Edwin Lefevre, '91, Floyd Parsons, '02, and R. G. Rirk, '05, need no introduction to readers of The Saturday Evening Post, nor Kyle Crichton, '17, to Scribner's and Colliers' fans. In the press of the nation Lehigh men are well represented by the Publisher of the Reading Eagle, the Publisher of the Danville, Pa., Daily News, the Editor of the Williamsport Sun, the Editor and Publisher of the East Aurora, N. Y., Advertiser, and staff members of such prominent dailies as the New York Post, Indianapolis News, Every Evening (Wilmington, Del.), Youngstown Telegram, the Hartford Courant and many others. The President of the Official Railway Guide Publishing Co. is an '83 man; the Editor of Iron and Steel of Canada, the Manager of the Grain Bulletin and the Editor of the Textile Colorist are all '88 men. F. W. Parsons, '02, is Editor of Gas Age Record. C. H. Struble, '09, is Managing Editor of The Nautilus; H. M. Riley, '10, Editor of American Gas Journal; W. F. Rench, '91, Managing Editor of Simmons-Boardman Publishing Co.; H. D. Keiser, '16, Assistant Editor of Engineering and Mining Journal; and G. F. Nordenholt, '14, Associate Editor of Product Engineering. An equal number of alumni have achieved marked success in the field of advertising.
EHIGH has been famous as an "engineering school" for so long that the uninformed are frequently surprised to learn of the large number of Lehigh men who have attained distinction in law and medicine. G. W. Wickersham, '77, is nationally known as one of America's outstanding lawyers and a former Attorney-General of the United States. Dr. Henry S. Drinker, '71, President-Emeritus of Lehigh, was for many years counsel for the Lehigh Valley Railroad Co. There are at least 125 other men whose eminence in the legal profession has been signaliy recognized in their own communities, nationally and even internationally. Many of them are patent attorneys, serving the great industries of the nation, such as General Electric, Standard Oil, U. S. Steel, etc. E. J. Prindle, '90, A. Parker-Smith, '84, F. Bayard, '96, G. S. Borden, '16, W. S. Jackson, '96, R. B. Honeyman, '88, and D. A. Usina, '91, come immediately to mind in this connection. Then there are Judge W. H. Grimball, '06, of the 9th Judicial Circuit, in Charleston, S. C., A. A. Hoehling, '89, an Associate Justice of the Supreme Court of the District of Columbia, A. E. Olpp, '03, representing the 11th Congressional District in Washington, Judge W. A. Slaughter, '95, of Mount Holly, N. J., and J. H. Wolfe, '05, Judge on the District Bench in Salt Lake City.

The magnificent Hospital of Joint Diseases in New York stands as a fitting monument to a famous Lehigh doctor, H. W. Frauenthal, '86. Another famous Lehigh physician is Commander Clement Biddle, '75, Retired, of the U. S. Medical Corps. A Lehigh graduate is physician for the Ford Motor Co. at Iron Mountain, Michigan; another is Assistant Health Officer in the City of Los Angeles; another is medical head of the Tuberculosis League Hospital in Pittsburgh; and another is Chief Surgeon at St. Luke's Hospital, Bethlehem.
VEN the most casual survey of the colleges of the country reveals the leadership of Lehigh men in disseminating technical knowledge. Lehigh is represented by graduates holding administrative and faculty rank on the staffs of 77 colleges and universities. Their number includes the President of the University of Cincinnati, the Dean of the Pacific School of Religion, the Dean of the College of Technology at the University of Maine, the Dean of the State Teachers' College at California, Pa., Professor Emeritus of Bridge Engineering at Cornell, a Director of the International Correspondence School, the Dean of Moravian College, the Dean of Engineering at the North Carolina State College, the Dean of the Graduate School of the University of Missouri, and the Dean of the College of Engineering at the University of Cincinnati. The Department of Mining Engineering at the University of Illinois was organized by H. H. Stock, '87.

Lehigh men will be found as heads of the departments of engineering or professors at colleges and universities from Maine to California, from Dalhousie to the University of Chile and even in China and Japan. In addition to these educators are the hundreds of Lehigh-trained teachers serving in the public and private schools of the country. Lehigh is thus endowing the nation with men fitted by training to assist materially in the harnessing of Nature and to impart their knowledge to others.
THEY ARE a versatile lot, these sons of Lehigh; engineers, arts men and business administration graduates—all seem to adapt themselves to opportunities for service in a remarkably wide range of activity. Thus, a Lehigh alumnus is Vice-President of the New York Stock Exchange. Another is a partner in Lee, Higginson and Company. Three of the four banks in Bethlehem are headed by Lehigh graduates, as are several other banks throughout the country.


Such a list might be extended indefinitely. The complete story of the "works" of Lehigh men would fill many large volumes. This brief survey will have served its purpose if the reader feels that "by their works" he knows a little more about Lehigh men, and through them, their University.