

History, Heritage and Ethics in American Civil Engineering

An Annotated Bibliography of Selected
Books and Videotape Materials

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An Annotated Bibliography of Selected Books and Videotape Materials History, Heritage and Ethics in American Civil Engineering

Augustine J. Fredrich, P.E.¹

The books and videotapes listed in this bibliography were chosen because of their relevance to the study of the history and heritage of American civil engineering. The bibliography is not exhaustive, and it does not cover all areas of civil engineering with equal emphasis, but it does provide a wealth of information of value to those who seek to learn about the role of civil engineers and civil engineering projects in modern America. Although many of the books listed here are out of print, there are only a few so rare that a diligent searcher will not be able to locate a copy. (A good place to begin a search for books not available in local libraries would be www.amazon.com, for books still in print, or www.bibliofind.com, which provides the user with access to the holdings of a national consortium of used book dealers, for books that are no longer in print.)

This bibliography does not contain engineering textbooks, works of fiction, or magazine or journal articles, although there are many worthwhile articles on civil engineering history and heritage in periodicals such as ***Technology and Culture***, ***American Heritage of Invention and Technology***, ***Civil Engineering***, and ***Engineering News-Record***, to list only a few of the most commonly available. Other excellent sources of information on the history and heritage of American civil engineering are the publications of state and local historical societies, corporate and institutional histories, Federal and State government documents and project reports, and publications such as the District and Division histories published by the various offices of the U. S. Army Corps of Engineers.

Where the book's subject matter is not obvious from its title, I have annotated the bibliographic entry to indicate the subject matter. Also, in cases in which I have first-hand knowledge of the contents and general approach of a book, I have annotated the entry to reflect my assessment of the book's value; however, many of the books listed herein have been included simply because they were shown in bibliographic lists in several books I reviewed in preparing this bibliography. Their inclusion here reflects that they have been found useful by other authors of works on civil engineering history and heritage.

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The books listed herein are listed first alphabetically by author and then alphabetically by author in subject matter categories. Many of the books appear under several of the subject headings because they provide substantial information on several aspects of American civil engineering. The categories do not necessarily represent subject areas of equivalent importance. There is, for example a category entitled "Civil Engineering and the Environment", but not one called "Civil Engineering and Economics." Similarly, there is a category entitled "Structural Engineering", but not one entitled "Environmental Engineering." More than anything else, the categories chosen reflect a convenient way of organizing the large number of bibliographic citations into smaller groups for ease of use.

The subject matter listings include both books and videotapes. As is the case with books, many of the videotapes are listed under more than one subject heading. Rather than being listed in alphabetical order according to title, the videotape listing within a given subject category immediately follows a book on the same subject so that the user can easily ascertain whether there is a videotape that supports a given book. Many of the videotapes are relevant to several books, but, within a subject category where there might be several different books on the same topic (say, Hoover Dam, for example), a videotape is listed only once. In the few cases in which a videotape relevant to a given heading is not related to any of the books under that heading, the videotape listing appears in the alphabetical position dictated by its title.

This development of this bibliography was undertaken as a project of the American Society of Civil Engineers Committee on History and Heritage of American Civil Engineering in the hopes that the availability of such a bibliography would help educators, students, and practicing civil engineers locate materials that would enable them to acquire a greater appreciation for the rich heritage of civil engineering and the contributions civil engineers have made to American society.

Books

Adler, Jerry; **High Rise**; HarperCollins Publishers; New York; 1993 (The planning, design and construction of a 40-story skyscraper on Broadway in New York becomes a financial nightmare when the economy takes a turn for the worse)

Albert, Richard C.; **Damming the Delaware: The Rise and Fall of Tocks Island Dam**; The Pennsylvania State University Press; University Park, PA; 1987 (An enlightening case study of a proposal to construct a major multiple-purpose dam on the Delaware River)

Ambrose, Stephen E.; **Duty, Honor, Country: A History of West Point**; Johns Hopkins Press; Baltimore, MD; 1966 (An eminent historian's look at the nation's first school of engineering)

American Association of State Highway Officials; **Public Roads of the Past: Historic American Highways**; American Association of State Highway Officials; Washington, D.C.; 1953

American Society of Civil Engineers; **Civil Engineering History**; American Society of Civil Engineers; New York; 1978 (A collection of more than two dozen articles dealing with the history and heritage of American civil engineering. These articles were originally published in two issues of *Civil Engineering magazine* – the July 1976 issue commemorating the American Bicentennial and the October 1977 issue commemorating the 125th anniversary of ASCE)

Ames, Charles Edgar; **Pioneering the Union Pacific: A Reappraisal of the Builders of the Railroad**; Appleton-Century-Crofts; New York; 1969

Anders, Leslie; **The Ledo Road**; University of Oklahoma Press; Norman, OK; 1965 (A story of civil engineers at work in road construction during World War II)

Armstrong, Ellis (editor); **History of Public Works in the United States**; American Public Works Association; Chicago; 1976 (A history of public works organized on a purpose-by-purpose [i.e., roads, sewers, water supply, etc.] basis)

ASCE Committee on History and Heritage of American Civil Engineering; **American Wooden Bridges**; American Society of Civil Engineers; New York; 1976 (A collection of five papers on wooden bridges previously published in other ASCE publications)

ASCE Committee on History and Heritage of American Civil Engineering; **The Civil Engineer: His Origins**; American Society of Civil Engineers; New York; 1970 (Reprints of several articles from ASCE publications dealing with the early history of civil engineering)

ASCE Committee on History and Heritage of American Civil Engineering; **A Biographical Dictionary of American Civil Engineers - Volume I**; American Society of Civil Engineers; New York; 1972 (Brief biographic sketches of 170 American civil engineers born before the Civil War)

Barry, John M.; **Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America**; Simon & Schuster; New York; 1997 (A thorough examination of the ways in which the 1927 flood on the Mississippi River and its tributaries has affected governmental policies, politics, and everyday life in the United States)

Bartlett, Richard A.; **Great Surveys of the American West**; University of Oklahoma Press; Norman, OK; 1962 (A description of the four great geological and topographic surveys of the American West during the period 1867-1879)

Billington, David P.; ***The Innovators: The Engineering Pioneers Who Made America Modern***; John Wiley & Sons, Inc.; New York; 1996 (Steam power, railroads, telegraph lines, steel making, bridges and electric systems are described as the means for achieving the industrialization of America in the nineteenth century)

Billington, David P.; ***The Tower and the Bridge***; Basic Books; New York; 1983 (In this book the author makes the case for structural design as an exercise not only in engineering utility, but also in artistic achievement by examining the design of towers, bridges, domes and other structures)

Bishop, Joseph B. and Bishop, Farnham; ***Goethals: Genius of the Panama Canal, A Biography***; Harper & Brothers; New York; 1930 (A biography of George Goethals, the third and final chief engineer in charge of construction of the Panama Canal)

Blake, Nelson, M.; ***Water for the Cities: A History of the Urban Water Supply Problem in the United States***; Syracuse University Press; Syracuse, NY; 1956

Boardman, F. W.; ***Tunnels***; Henry Z. Walch; New York; 1960

Bond, E. A.; ***History of the Hoosac Tunnel***; George W. Armstrong Co.; Boston, MA; 1880 (The story of one of the nation's earliest major railroad tunnels)

Brooklyn Museum; ***The Great East River Bridge 1883-1983***; Harry N. Abrams; New York; 1983 (Catalog of an exhibit of original construction drawings for the Brooklyn Bridge)

Brown, Alexander; C.; ***Juniper Waterway: A History of the Albemarle and Chesapeake Canal***; University of Virginia Press; Charlottesville, VA; 1981

Brown, Allen; ***Golden Gate: Biography of a Bridge***; Doubleday & Co.; New York; 1965

Brown, David J.; ***Bridges***; Macmillan Publishing Company; New York; 1993 (A beautifully illustrated book on bridges around the world)

Calhoun, Daniel H.; ***The American Civil Engineer: Origins and Conflicts***; Harvard University Press; Cambridge, MA; 1960

Caro, Robert A.; ***The Power Broker: Robert Moses and the Fall of New York***; Alfred A. Knopf; New York; 1974 (A biography of Robert Moses, the man responsible for the most extensive public works programs in the history of the nation)

Carswell, Charles; ***The Building of the Delaware River Bridge, Connecting Philadelphia, Pa., and Camden, N.J.***; Enterprise Publishing Co.; Burlington, NJ; 1926

Cassady, Stephen; ***Spanning the Gate***; Squarebooks; Mill Valley, CA; 1986 (A nicely illustrated history of the construction of the Golden Gate Bridge)

Clark, Edward B.; ***William L. Sibert, The Army Engineer***; Dorrance; Philadelphia, PA; 1930 (A biography of the civil engineer who was responsible for overseeing the construction of Gatun Locks and Gatun Dam)

Condit, Carl W.; ***American Building Art; The Nineteenth Century***; Oxford University Press; New York; 1960

Condit, Carl W.; ***American Building Art; The Twentieth Century***; Oxford University Press; New York; 1961

Cortright, Robert S.; ***Bridging: Discovering the Beauty of Bridges***; Bridge Ink; Tigard, OR; 1998 (This beautiful little book shows in 283 color photographs the best of 20 centuries of bridge-building in 16 countries around the world)

Cross, Hardy; **Engineers and Ivory Towers**; McGraw-Hill Publishing Co.; New York; 1952 (Reflections, by a noted engineering educator, on his career in teaching engineering at the University of Illinois)

Crump, Irving; **Our Army Engineers**; Dodd, Mead & Co.; New York; 1954 (A history of the U.S. Army Corps of Engineers)

Daniel, Pete; **Deep'n As It Come: The 1927 Mississippi River Flood**; Oxford University Press; New York; 1977 (An illustrated account of a major flood disaster based on contemporaneous newspaper accounts and interviews)

Danly, Susan and Marx, Leo; **The Railroad in American Art: Representations of Technological Change**; The MIT Press; Cambridge, MA; 1988 (A beautifully illustrated collection of eight papers dealing with depictions of railroads and railroad structures in American art and photography)

Davenport, W. H. and Rosenthal, Daniel (editors); **Engineering: Its Role and Function in Human Society**; Pergamon Press; New York; 1967 (A collection of readings intended to bridge the gap between engineers and humanists)

Davis, Franklin; **The U. S. Army Engineers, Fighting Elite**; Franklin Watts, Inc.; New York; 1967 (A history of the U. S. Army Corps of Engineers in wartime)

Davis, Margaret Leslie; **Rivers in the Desert: William Mulholland and the Inventing of Los Angeles**; HarperCollins Publishers; New York; 1993 (The story of the self-educated engineer who played an instrumental role in the evolution of Los Angeles as a modern metropolis)

DeCamp, L. Sprague; **The Ancient Engineers**; Doubleday & Co.; New York; 1960 (A history of engineering from Biblical times until the Renaissance)

DeLony, Eric; **Landmark American Bridges**; American Society of Civil Engineers; New York; 1993 (A beautifully illustrated book depicting some of the most interesting bridges in the nation)

Dillon, Richard, Moulin, Thomas, and DeNevi, Don; **High Steel**; Celestial Arts, Berkeley, CA; 1979 (The story of the construction of the San Francisco-Oakland Bay Bridge connecting Oakland and San Francisco)

Dodds, Gordon B.; **Hiram Martin Chittenden: His Public Career**; University Press of Kentucky; Lexington, KY; 1973 (A biography of the Army engineer who was in charge of development of Yellowstone National Park and the construction of the canal connecting Lake Washington with Puget Sound and who was an early advocate of Federal flood control projects)

Dodge, Grenville; **How We Built the Union Pacific Railway – 1866-1870**; Michigan University Press (reprint); Ann Arbor, MI; 1966 (The story of the construction of the Union Pacific Railroad by the man who was chief engineer for most of the construction period)

Dorsey, Florence C.; **Road to the Sea: The Story of James B. Eads and the Mississippi River**; Rinehart and Co.; New York; 1947

Downs, L. Vaughn; **The Mightiest of Them All: Memories of Grand Coulee Dam**; ASCE Press; New York; 1993 (An illustrated history of the construction of Grand Coulee Dam written by a civil engineer who played an important role in the dam's construction)

Drago, Harry Sinclair; **Canal Days in America**; Clarkson Potter; New York; 1972

DuVal Jr., Miles P.; **And the Mountains Will Move**; Greenwood Press; New York; 1970 (The story of the construction of the Panama Canal)

Edwards, Llewellyn; **A Record of History and Evolution of Early American Bridges**; University of Maine Press; Orono, ME; 1959

Ferguson, Eugene; **Engineering and the Mind's Eye**; The MIT Press; Cambridge, MA; 1992 (An examination of the nature of engineering design with emphasis on the development of visual and other non-verbal thinking. Concludes with an interesting assessment of changes in engineering education in the last half of the twentieth century)

Finch, James K.; **Engineering and Western Civilization**; McGraw-Hill Publishing Co.; New York; 1951

Finch, James K.; **The Story of Engineering**; Doubleday & Co.; New York; 1960 (A classic history of civil engineering by a famous engineering educator)

FitzSimons, Neal (editor); **Engineering Classics of James Kip Finch**; Cedar Press; Kensington, MD; 1978 (A collection of articles on classical works of engineering originally published in *Consulting Engineer*)

FitzSimons, Neal (editor); **The Reminiscences of John B. Jervis**; Syracuse University Press; Syracuse, NY; 1971 (This is a compilation of reflections on his career in civil engineering, written in last third of his life by one of America's most prominent early engineers)

Flores, Albert; **Ethical Problems in Engineering, Volume I: Readings**; Center for the Study of the Human Dimensions of Science and Technology; Troy, NY; 1980

Florman, Samuel C.; **Blaming Technology: The Irrational Search for Scapegoats**; St. Martin's Press; New York; 1981 (An explanation of the rationale for the engineering approach to problem solving in modern society)

Florman, Samuel C.; **The Existential Pleasures of Engineering**; St. Martin's Press; New York; 1976 (A noted civil engineer's explanation of the joys of a career in civil engineering)

Florman, Samuel C.; **The Civilized Engineer**; St. Martin's Press; New York; 1987 (One of the nation's best writers on engineering topics examines how societal changes have affected engineering and changed the way engineers perceive their profession)

Florman, Samuel C.; **The Introspective Engineer**; St. Martin's Press; New York; 1996 (An examination of the relationship between engineering and modern society with an emphasis on the engineer's approach to finding solutions to technological problems facing the nation)

Forman, Sidney; **West Point: A History of the United States Military Academy**; Columbia University Press; New York; 1950

Franzwa, Gregory M. and Ely, William J.; **Leif Sverdrup**; Patrice Press; Garland, MO; 1980 (A biography of the civil engineer who founded a civil engineering consulting firm and later served as General MacArthur's chief engineer during World War II)

Fraser, Chelsea; **The Story of Engineering in America**; Thomas Y. Crowell; New York; 1928

Fredrich, Augustine J. (editor); **Sons of Martha: Civil Engineering Readings in Modern Literature**; American Society of Civil Engineers; New York; 1989 (An anthology of readings on civil engineering history, heritage and ethics)

Galloway, John Debo; **The First Transcontinental Railroad**; Dorset Press; New York; 1989 (One of several good histories of the construction of the Union Pacific and Central Pacific railroads)

Gies, Joseph; **Bridges and Men**; Doubleday & Co.; New York; 1963 (A history of bridges, bridge-building, and bridge-builders)

Gies, Joseph; ***Wonders of the Modern World***; Thomas Y. Crowell Co.; New York; 1966 (An easy-to-understand description of thirteen great achievements of modern engineering)

Giles, Janice Holt; ***The Damned Engineers***; U. S. Army Corps of Engineers; Washington, D. C.; 1970 (The story of the Army Engineers at work during the Battle of the Bulge in December, 1944)

Gille, Bertrand; ***Engineers of the Renaissance***; The MIT Press; Cambridge, MA; 1966

Goldberger, Paul; ***The Skyscraper***; Alfred A. Knopf; New York; 1981

Golden Gate Bridge and Highway District; ***The Golden Gate Bridge***; Golden Gate Bridge Highway and Transportation District; San Francisco, CA; 1987 (A 50th anniversary commemorative reissue of the original chief engineer's report upon completion of the bridge)

Golze, Alfred R.; ***Reclamation in the United States***; McGraw-Hill Publishing Co.; New York; 1952

Gordon, J. E.; ***Structures: Or Why Things Don't Fall Down***; Da Capo Press; New York; 1978 (An examination of the rationale for analytical approaches to structural design)

Gray, Ralph D.; ***The National Waterway: A History of the Chesapeake and Delaware Canal, 1769-1985***; University of Illinois Press; Chicago, IL; 1989 (A detailed examination of the 200-year history of one of the nation's oldest and longest-functioning canals)

Grayson, Lawrence P.; ***The Making of an Engineer: An Illustrated History of Engineering Education in the United States and Canada***; John Wiley & Sons; New York; 1993

Greenhill, Ralph; ***Engineer's Witness***; The Coach House Press; Toronto; 1985 (A collection of 90 19th century photographs of engineering works in progress with brief narratives describing the project depicted in each photograph)

Griggs, Jr., Francis, E. (editor); ***A Biographical Dictionary of American Civil Engineers - Volume II***; American Society of Civil Engineers; New York; 1991 (Brief biographic sketches of 218 American civil engineers born in the nineteenth century)

Griswold, Wesley; ***A Work of Giants***; McGraw-Hill Publishing Co.; New York; 1962 (The story of the construction of the first transcontinental railroad)

Haley, John L.; ***Wooring a Harsh Mistress: Glenwood Canyon's Highway Odyssey***; Canyon Communications; Greeley, CO; 1994 (A description of the planning, design and construction of "the last major link," the 12.5-mile portion of I-70 through Glenwood Canyon in Colorado)

Hamlin, Talbot; ***Benjamin Henry Latrobe***; Oxford University Press; New York; 1955 (A biography of the early American civil engineer and architect who was responsible for the design of canals, waterworks, hospitals, churches, homes and a variety of other public and private projects)

Hawkes, Nigel; ***Structures: The Way Things Are Built***; Macmillan Publishing Company; New York; 1990 (A nicely illustrated book on famous structures ranging from pre-historic monuments to radio telescopes)

Herbertson, Elizabeth T.; ***Pittsburgh Bridges***; Exposition Press; New York; 1970

Hayden, Martin P.; ***The Book of Bridges***; Galahad Books; New York; 1976

Hill, Donald; ***A History of Engineering in Classical and Medieval Times***; Barnes and Noble Books (reprint); New York; 1997 (This history of early engineering focuses more on things than people)

Hill, Forest G.; ***Roads, Rails and Waterways: The Army Engineers and Early Transportation***; University of Oklahoma Press; Norman, OK; 1957

Hindle, Brooke; ***David Rittenhouse***; Princeton University Press; Princeton, NJ; 1964 (A biography of an early American surveyor and maker of surveying equipment)

Holland, Francis Ross Jr.; ***America's Lighthouses: Their Illustrated History Since 1716***; Stephen Greene Press; Brattleboro, MA; 1972

Holmes, Beatrice H.; ***A History of Federal Water Resources Programs, 1800-1960***; U. S. Department of Agriculture; Washington, D. C.; 1972

Hokanson, Drake; ***The Lincoln Highway: Main Street Across America***; University of Iowa Press; Iowa City, IA; 1988

Hood, Clifton; ***722 Miles: The Building of the Subways and How They Transformed New York***; Simon & Schuster; New York; 1993

Hopkins, H. J.; ***A Span of Bridges***; Praeger Publishing Co.; New York; 1970

Hoy, Suellen and Robinson, Michael C. (editors); ***Public Works History in the United States***; American Association for State and Local History; Nashville, TN; 1982 (An annotated bibliography)

Hudson River Museum of Westchester; ***The Old Croton Aqueduct: Rural Resources Meet Urban Needs***; The Hudson River Museum of Westchester; Yonkers, NY; 1992 (Although prepared as an exhibition catalog for an exhibit commemorating the 150th anniversary of the aqueduct, this book contains a wealth of interesting historical information on the aqueduct project)

Huffman, Roy E.; ***Irrigation Development and Public Policy***; Ronald Press; New York; 1953

Hungerford, Edward; ***Men of Erie: A Story of Human Efforts***; Random House; New York; 1946 (The story of the construction of the Erie Canal)

Hungerford, Edward; ***The Story of the Baltimore and Ohio Railroad – 1822-1927*** (2 volumes); G. P. Putnam Sons; New York; 1928

Hunter, Robert F. and Dooley, Edwin L.; ***Claudius Crozet: French Engineer in America, 1790-1864***; University of Virginia Press; Charlottesville, VA; 1989 (A biography of one of America's most famous civil engineers of the nineteenth century)

Jackson, Donald C.; ***Building the Ultimate Dam: John S. Eastwood and the Control of Water in the West***; University Press of Kansas; Lawrence, KS; 1995 (This book by a noted historian explores the history of Western water development by chronicling the technical achievements of one of the country's most outspoken advocates of multiple arch dams in the first quarter of the twentieth century)

Jackson, Donald C.; ***Great American Bridges and Dams***; The Preservation Press; Washington, D.C.; 1988 (Photographs and brief narratives describing the most historic bridges and dams in the nation)

Jacobs, David and Neville, Anthony E.; ***Bridges, Canals and Tunnels***; American Heritage Publishing Co.; New York; 1968

Janssen, James S.; ***Building New Orleans: The Engineer's Role***; Waldemar S. Nelson and Company; New Orleans, LA; 1984 (A collection of relatively short columns describing historic engineering works in the New Orleans metropolitan area)

Johnson, Jack T.; ***Peter Anthony Dey: Integrity in Public Service***; The State Historical Society of Iowa; Iowa City, IA; 1939 (A biography of the first chief engineer of the Union Pacific Railroad who resigned rather than participate in a fraudulent scheme for right-of-way acquisition)

Jones, Helen H.; ***Rails from the West: A Biography of Theodore D. Judah***; Golden West Books; San Marino, CA; 1969 (A biography of the civil engineer who developed the route through the Sierra Nevada mountains for the Central Pacific railroad)

Jordan, Philip D.; ***The National Road***; Bobbs-Merrill Co.; Indianapolis, IN; 1948 (The story of the development of the road initially known as the National Road which ultimately became U. S. Highway 50)

Kahrl, William L.; ***Water and Power***; University of California Press; Berkeley, CA; 1982 (An in-depth examination of the Owens Valley-Los Angeles water controversy)

Kirby, R. S., Withington, S., Darling, Arthur B., and Kilgour, F.G.; ***Engineering in History***; McGraw-Hill Publishing Co.; New York; 1956 (A general introduction to the history of engineering)

Kirby, Richard S. and Laurson, Philip G.; ***The Early Years of Modern Civil Engineering***; Yale University Press; New Haven, CT; 1932 (Although somewhat dated, this book provides the reader with insights into the achievements of civil engineers in the eighteenth and nineteenth centuries)

Kluger, James R.; ***Turning on Water with a Shovel: The Career of Elwood Mead***; University of New Mexico Press; Albuquerque, NM; 1992 (The story of a water resources engineer who played a key role in the development of reclamation projects in the American West)

Kranakis, Eda; ***Constructing a Bridge: An Exploration of Engineering Culture, Design and Research in Nineteenth Century France and America***; The MIT Press; Cambridge, MA; 1997 (Using Claude Navier in France and James Finley in America as specific cases, the author examines the nature of interactions between French and American civil engineers in the 1800s)

Kraus, George; ***High Road to Promontory***; American West Publishing Co.; Palo Alto, CA; 1969 (A story of the construction of the first transcontinental railroad)

Krieg, Joan (editor); ***Robert Moses: Single-Minded Genius***; Long Island Studies Institute; Hofstra University; Hempstead, NY; 1989 (A collection of papers presented at a symposium on Robert Moses and the Planned Environment)

Landels, J. G.; ***Engineering in the Ancient World***; University of California Press; Berkeley, CA; 1978

Larkin, Daniel F.; ***John B. Jervis: An American Engineering Pioneer***; Iowa State University Press; Ames, IA; 1990 (A biography of the self-taught American engineer who was responsible for the design and construction of canals, dams, aqueducts, railroads, and other public projects in the early nineteenth century)

Laycock, George; ***The Diligent Destroyers***; Doubleday & Company; New York; 1970 (A critical assessment of development projects and the engineers who plan, construct and manage them)

Layton, Edwin, T.; ***The Revolt of the Engineers: Social Responsibility and the American Engineering Profession***; Press of Case Western Reserve University; Cleveland, OH; 1971 (A prize-winning book that examines the history of American engineering with an emphasis on professionalism, social responsibility and ethics)

Lee, W. Storrs; ***The Strength to Move a Mountain***; G. P. Putnam Sons; New York; 1958 (The story of the construction of the Panama Canal)

Leonhart, Fritz; **Bridges: Aesthetics and Design**; The MIT Press; Cambridge, MA; 1984 (Beautifully illustrated examination of the evolution of bridge design)

Levy, Matthys and Salvadori, Mario; **Why Buildings Fall Down: How Structures Fail**; W. W. Norton & Company; New York; 1992 (An examination of the causes of noted structural failures and their implications for civil engineering design practices)

Lewis, Gene D.; **Charles Ellet, Jr.: The Engineer as Individualist**; University of Illinois Press; 1968 (A biography of one of America's most controversial nineteenth-century civil engineers)

Lewis, Tom; **Divided Highways: Building the Interstate Highways, Transforming American Life**; Viking Penguin; New York; 1997 (An examination of the role of interstate highways in transforming American life in the second half of the twentieth century. This book is a companion to the PBS video of the same title)

Liscombe, Rhodri Windsor; **Altogether American: Robert Mills, Architect and Engineer**; Oxford University Press; New York; 1994 (A biography of the American architect and engineer who designed the Washington Monument and numerous other public buildings and facilities in the first half of the nineteenth century)

Lord, Francis A.; **Lincoln's Railroad Man: Herman Haupt**; Farleigh Dickinson University Press; Rutherford, NJ; 1969 (A biography of the civil engineer who was responsible for construction of the Hoosac Tunnel in western Massachusetts and who became the engineer in charge of construction of railroads and railroad bridges for the Union Army during the Civil War)

Maass, Arthur; **Muddy Waters: The Army Engineers and the Nation's Rivers**; Harvard University Press; Cambridge, MA; 1951 (A critical study of the U. S. Army Corps of Engineers' role in the development and management of the nation's water resources)

Martin, Mike W. and Schinzinger, R.; **Ethics in Engineering**; McGraw-Hill Publishing Co.; New York; 1983

Martin, Russell; **A Story That Stands Like a Dam**; Henry Holt and Company; New York; 1989 (The story of the construction of Glen Canyon Dam, one of the most controversial structures ever built in the United States)

Mayer, Lynne R. and Vose, Kenneth E.; **Makin' Tracks**; Praeger Publishing Co.; New York; 1975 (The story of the construction of the first transcontinental railroad)

McCall, Edith; **Conquering the Rivers: Henry Miller Shreve and the Navigation of America's Inland Waterways**; Louisiana State University Press; Baton Rouge, LA; 1984 (A biography of an entrepreneur who played an important role in the development of the nation's inland waterway system)

McCartney, Laton; **Friends in High Places: The Bechtel Story**; Simon & Schuster; New York; 1988 (A critical study of the growth and organization of the Bechtel Corporation from its beginnings as a small general construction firm to its emergence as one of the nation's largest corporations involved in design, construction and management on an international scale)

McCague, James; **Moguls and Iron Men: The Story of the First Transcontinental Railroad**; Harper & Row; New York; 1964

McCullough, David G.; **The Great Bridge**; Simon and Schuster; New York; 1972 (A complete account of the planning, design and construction of the Brooklyn Bridge)

McCullough, David G.; ***The Johnstown Flood***; Simon & Schuster, Inc.; New York; 1968 (The story of a dam failure that produced one of America's greatest flood disasters)

McCullough, David G.; ***The Path Between the Seas: The Creation of the Panama Canal***; Simon and Schuster; New York; 1977 (One of the most interesting of the dozens of books written about the construction of the Panama Canal)

McGivern, James; ***First Hundred Years of Engineering Education in the United States (1807-1907)***; Gonzaga University Press; Spokane, WA; 1960

McPhee, John; ***The Control of Nature***; Farrar Straus Giroux; New York; 1989 (The author describes the work of engineers involved in three situations requiring modern civil engineering: operation of the Lower Mississippi River flood control system; fighting lava flows resulting from volcanic eruptions in Iceland and Hawaii; and dealing with debris in the Los Angeles County flood control system)

McPhee, John; ***Encounters with the Archdruid***; Farrar Straus Giroux; New York; 1971 (Narratives describing confrontations between conservationist David Brower and three development-oriented leaders from the fields of mining, water resources development and recreational development)

Meehan, Richard L.; ***Getting Sued and Other Tales of the Engineering Life***; The MIT Press; Cambridge, MA; 1981 (True stories of the adventures of a geotechnical engineer)

Merritt, Raymond H.; ***Engineering in American Society 1850-1875***; The University Press of Kentucky; Lexington, KY; 1969 (A historian's study of the effects of nineteenth-century engineering achievements on American society)

Moeller, Beverley B.; ***Phil Swing and Boulder Dam***; University of California Press; Berkeley, CA; 1971

Montgomery, M. R.; ***Saying Goodbye: A Memoir for Two Fathers***; Alfred A. Knopf; New York; 1989 (The author describes the career of his father who served as an engineer on the construction of Fort Peck Dam and as a naval officer in the Seabees during World War II)

Morgan, Arthur E.; ***Dams and Other Disasters: A Century of the Army Corps of Engineers in Civil Works***; Porter Sargent; Boston, MA; 1971 (A critical assessment of the work of the Army Corps of Engineers in flood control planning and management)

Morgan, Arthur E.; ***The Miami Conservancy District***; McGraw-Hill Publishing Co.; New York; 1951 (The story of the Miami Conservancy District flood control scheme as told by the District's chief engineer)

Morgan, Murray; ***The Dam***; The Viking Press; New York; 1954 (The story of the construction of Grand Coulee Dam)

Morris, M. D.; ***Civil Engineers in the World Around Us***; American Society of Civil Engineers; New York; 1974

Morrison, James L.; ***The Best School in the World: West Point, The Pre-Civil War Years, 1833-1866***; Kent State University Press; Kent, OH; 1986

Moses, Robert; ***Public Works: A Dangerous Trade***; McGraw-Hill Publishing Co.; New York; 1970 (The author's account of his experiences in a half century of planning, design, construction, operation and maintenance of public works in New York State)

National Geographic Society; ***The Builders: Marvels of Engineering***; National Geographic Society; Washington, D.C.; 1992 (A beautifully illustrated book which depicts and describes some of the greatest engineering feats in the world)

National Geographic Society; ***Builders of the Ancient World: Marvels of Engineering***; National Geographic Society; Washington, D.C.; 1986 (A nicely illustrated book which describes ancient monuments and the cultures that produced them)

Nelson, Lee H.; ***The Colossus of 1812: An American Engineering Superlative***; American Society of Civil Engineers; New York; 1990 (A detailed history of the design and construction of a 340-foot clear span wooden bridge in Philadelphia at a time when it was the longest bridge of its type in the world)

Nevins, Allan; ***Fremont: Pathmaker of the West***; 2 volumes; Frederick Ungar Publishing Co.; New York; 1961 (A biography of the military explorer and topographer who was responsible for much of the early information about the American West)

Nichols, Roger L. and Halley, Patrick L.; ***Stephen Long and American Frontier Exploration***; University of Delaware Press; Newark, NJ; 1980

Nye, David E.; ***American Technological Sublime***; The MIT Press; Cambridge, MA; 1994 (From the Erie Canal to Apollo XI, the author looks at American technological accomplishments and how they have been perceived by American society)

O'Neill, Richard W.; ***High Steel, Hard Rock and Deep Water***; The Macmillan Co.; New York; 1965 (An introduction to the world of construction)

Outland, C.F.; ***Man-Made Disaster: The Story of St. Francis Dam***; A. H. Clark; Glendale, CA; 1963 (The story of one of the greatest disasters resulting from the failure of a man-made structure in the history of the nation)

Pannell, J. P. M.; ***An Illustrated History of Civil Engineering***; Frederick Ungar Publishing Co.; New York; 1964

Pannell, J. P. M.; ***Man the Builder: An Illustrated History of Engineering***; Crescent Books; New York; 1977

Parsons, William B.; ***The American Engineers in France***; D. Appleton and Co.; New York; 1920 (The story of Army Engineers in Europe during World War I)

Parsons, William B.; ***Engineers and Engineering in the Renaissance***; The M.I.T. Press; Cambridge, MA; 1939 (The definitive work on engineering during the fourteenth through seventeenth centuries)

Patton, Phil; ***The Open Road: A Celebration of the American Highway***; Simon & Schuster; New York; 1986

Payne, Donald G.; ***The Impossible Dream: The Building of the Panama Canal***; Hodder and Stoughton; London; 1971

Payne, Robert; ***The Canal Builders***; The Macmillan Co., New York; 1959 (The story of canal engineers through the ages)

Perkins, Jacob R.; ***Trails, Rails and War: The Life of General G. M. Dodge***; Bobbs-Merrill Co.; Indianapolis, IN; 1929 (A biography of Grenville Dodge, the builder of the Union Pacific Railroad)

Petroski, Henry; ***Beyond Engineering***; St. Martin's Press; New York; 1986

Petroski, Henry; ***Design Paradigms: Case Histories of Error and Judgment in Engineering***; Cambridge University Press; New York; 1994 (Ten specific cases of engineering failures ranging from ancient temples to the Tacoma Narrows bridge are described as vehicles for exploring the roles of engineering judgment and errors in development of new approaches to engineering design)

Petroski, Henry; **Engineers of Dreams**; Alfred A. Knopf, Inc.; New York; 1995 (Through the stories of five of the most famous American bridge engineers – and through the stories of a number of their lesser-known colleagues – the author tells the story of American bridge-building for almost a century, and in telling that story he reveals much about the engineering profession)

Petroski, Henry; **The Evolution of Useful Things**; Alfred A. Knopf, Inc.; New York; 1992 (By examining how new designs evolve from the inadequacies and failures of simple objects, the author explores the process of engineering design)

Petroski, Henry; **Invention by Design: How Engineers Get from Thought to Thing**; Harvard University Press; Cambridge, MA; 1996 (By examining objects as simple as the paper clip and as complex as jet aircraft, the author explores the nature of the engineering design process)

Petroski, Henry; **Remaking the World: Adventures in Engineering**; Alfred A. Knopf; New York; 1997 (In these essays, many of which originally appeared in *The American Scientist*, the author gives the reader a series of case studies which focus on engineers as agents of change)

Petroski, Henry; **To Engineer is Human**; St. Martin's Press; New York; 1982 (The author examines the role of failure in successful design; a video based on this book is also available)

Pitzer, Paul C.; **Grand Coulee Dam: Harnessing a Dream**; Washington State University Press; Pullman, WA; 1994

Plowden, David; **Bridges**; Viking.; New York; 1974 (Illustrated history of bridge construction in the United States; one of the most comprehensive books available on the subject of American bridges)

Poirier, Rene; **Engineering Wonders of the World**; Barnes & Noble Books; New York; 1960 (Accounts of engineering feats from the great pyramids to the reclamation of the Zuider Zee)

Pursell Jr., Carroll W.; **Technology in America: A History of Individuals and Ideas**; The MIT Press; Cambridge, MA; 1981

Radde, Bruce; **The Merritt Parkway**; Yale University Press; New Haven, Ct; 1993 (The story of the construction of an early parkway in Connecticut)

Rae, John and Volti, R; **The Engineer in History**; Peter Lang; New York; 1993

Ratigan, William; **Highways Over Broad Waters: Life and Times of David B. Steinman**; William B. Eerdmans Publishing Co.; Grand Rapids, MI; 1959 (A biography of one of America's greatest bridge engineers of the twentieth century who was also the founder of the National Society of Professional Engineers)

Ratigan, William; **The Long Crossing: The Story of the Mackinac Bridge**; William B. Eerdmans Publishing Co.; Grand Rapids, MI; 1959

Reier, Sharon; **The Bridges of New York**; Quadrant Press; New York; 1974

Reisner, Marc; **Cadillac Desert: The American West and Its Disappearing Water**; The Viking Press; New York; 1986 (An examination of water problems in the Western United States that presents a negative, but nevertheless informative, look at the work of water resources engineers)

Rethi, Lili and Young, Edward M.; **The Great Bridge: The Verrazano-Narrows Bridge**; Ariel/Farrar, Straus & Giroux; New York; 1965

Reynolds, Terry S. (editor); **The Engineer in America**; The University of Chicago Press; Chicago; 1991 (An anthology of historical essays on engineers and engineering originally published in **Technology and Culture**)

Roberts, Christopher; **The Middlesex Canal, 1793-1860**; Harvard University Press; Cambridge, MA; 1938

Rogers, Jerry R.; **Engineering History and Heritage**; American Society of Civil Engineers; Reston, VA; 1998 (Proceedings of the Second National Congress on Civil Engineering History and Heritage held in Boston in 1998)

Remley, David A.; **A Crooked Road – The Story of the Alaska Highway**; McGraw-Hill Publishing Co.; New York; 1976

Rose, Mark H.; **Interstate: Express Highway Politics, 1939-1989**; University of Tennessee Press; Knoxville, TN; 1990

Rosen, Howard and Reuss, Martin; **The Flood Control Challenge: Past, Present, and Future**; Public Works Historical Society; Chicago, IL; 1988 (Proceedings of a seminar commemorating the 50th anniversary of the Flood Control Act of 1936)

Roysdon, Christine and Khatri, Linda A.; **American Engineers of the Nineteenth Century: A Biographical Index**; Garland Publishing Inc.; New York; 1978

Sabbagh, Karl; **Skyscraper: The Making of a Building**; Viking Penguin; New York; 1989 (A fascinating account of the construction of a modern skyscraper in New York, written by the producer of a television series of the same name)

Salvadori, Mario G.; **Why Buildings Stand Up: The Strength of Architecture**; W. W. Norton & Co.; New York; 1994

Sandstrom, Gosta E.; **Man the Builder**; McGraw-Hill Publishing Co.; New York; 1970 (A history of construction from reed houses to Aswan Dam)

Sandstrom, Gosta E.; **Tunnels**; Holt Rinehart & Winston; New York; 1963

Sayenga, Donald; **Ellet and Roebling**; American Canal and Transportation Center; York, PA; 1983 (Biographic sketches of Charles Ellet and John Roebling, competitors in early American bridge building)

Schaub, James H. and Pavlovic, Karl; **Engineering Professionalism and Ethics**; Robert E. Kreiger Publishing Co.; Malabar, FL; 1986 (An anthology that provides readings emphasizing the ethical and professional dimensions of careers in engineering)

Schaub, James H. and Dickison, Sheila K. with Morris, M. D.; **Engineering and the Humanities**; John Wiley and Sons; New York; 1982 (An anthology that focuses on demonstrating the relevance of humanities to engineering)

Scheiber, H. N.; **The Ohio Canal Era**; Ohio University Press; Athens, OH; 1969

Schleier, Merrill; **The Skyscraper in American Art, 1890-1931**; Da Capo Press; New York; 1986 (A study of the evolution of the American skyscraper as depicted in American works of art)

Schlossberger, Eugene; **The Ethical Engineer**; Temple University Press; Philadelphia, PA; 1993

Schodek, Daniel L.; **Landmarks in American Civil Engineering**; The MIT Press; Cambridge, MA; 1987 (This nicely-illustrated, over-sized book contains photographs, drawings, and narrative descriptions of American civil engineering projects of all types)

Schubert, Frank; **Vanguard of Expansion: Army Engineers in the Trans-Mississippi West, 1819-1879**; U. S. Army Corps of Engineers; Washington, D. C.; 1980 (A description of the role of the Army Corps of Engineers in the exploration and development of the American West throughout most of the nineteenth century)

Schuyler, Hamilton; **The Roeblings**; Princeton University Press; Princeton, NJ; 1931 (The story of the Roebling family in America from 1830 to 1930)

Scott, Quinta and Miller, Howard S.; **The Eads Bridge**; The University of Missouri Press; Columbia, MO; 1979 (The story of the iron bridge across the Mississippi River at St. Louis – a bridge that some of America's most prominent civil engineers said could not be built)

Seely, Bruce; **Building the American Highway System: Engineers as Policy Makers**; Temple University Press; Philadelphia, PA; 1987 (A study of the role of engineers in developing the nation's highway policies)

Seelye, John; **Beautiful Machine: Rivers and the Republican Plan 1755-1825**; Oxford University Press; New York; 1991 (The author examines the role of rivers and waterways in the formation of the nation from the time of the French and Indian War until the opening of the Erie Canal)

Shallat, Todd; **Structures in the Stream: Water, Science, and the Rise of the U.S. Army Corps of Engineers**; University of Texas Press; Austin, TX; 1994 (A history of the Corps of Engineers and its triumphs and failures in the development of the nation's water resources)

Shank, William H.; **Towpaths to Tugboats: A History of American Canal Engineering**; American Canal and Transportation Center; York, PA; 1982

Shank, William H.; **Vanderbilt's Folly: A History of the Pennsylvania Turnpike**; American Canal and Transportation Center; York, PA; 1973

Shapiro, Mary; **A Picture History of the Brooklyn Bridge**; Dover Publications, Inc.; New York; 1983 (A treasury of photographs and drawings from the early history of one of America's great civil engineering icons)

Stapleton, Dawin H.; **The History of Civil Engineering Since 1600**; Garland Publishing Co.; New York; 1986 (an annotated bibliography)

Shaw, Ronald E.; **Canals for a Nation: The Canal Era in the United States, 1790-1860**; The University Press of Kentucky; Lexington, KY; 1990 (A survey of the planning, design, construction and operation of almost all of the major canals in the United States from the beginning to the end of the canal era)

Shaw, Ronald E.; **Erie Water West: A History of the Erie Canal 1792-1854**; The University Press of Kentucky; Lexington, KY; 1966

Sibert, William L. and Stevens, John F.; **The Construction of the Panama Canal**; D. Appleton and Co.; New York; 1915 (An account of the Panama Canal work by two of the men with first-hand information)

Starrett, William; **Skyscrapers and Men Who Build Them**; Charles Scribner and Sons; New York; 1928

Steinman, David B.; **Bridges and Their Builders**; G. P. Putnam Sons; New York; 1957

Steinman, David B.; **The Builders of the Bridge**; Harcourt, Brace & Jovanovitch; New York; 1950 (The story of the work of John Roebling and his son Washington in the design and construction of the Brooklyn Bridge)

Steinman, David B.; **I Built a Bridge, and Other Poems**; Davidson Press; New York; 1955 (A collection of poems written by one of America's greatest bridge engineers)

Steinman, David B. and Nevil, John T.; **Miracle Bridge at Mackinac**; William B. Eerdmans Publishing Co.; Grand Rapids, MI; 1957

Stevens, John F.; **An Engineer's Recollections**; McGraw-Hill Publishing Co.; New York; 1935 (The reflections of the engineer who gained fame as a railroad builder and then played a key role in the completion of the Panama Canal by designing and overseeing the development of a rail-based system for removal of excavated material)

Stevens, Joseph E.; **Hoover Dam: An American Adventure**; The University of Oklahoma Press; Norman, OK; 1988 (An award-winning book on the construction of Hoover Dam)

Straub, Hans; **A History of Civil Engineering**; Leonard Hill, Ltd.; London; 1960

Stuart, Charles D.; **Lives and Works of Civil Engineers in America**; D. Van Nostrand; New York; 1871

Sundborg, George; **Hail Columbia - The 30-Year Struggle for Grand Coulee Dam**; The Macmillan Co.; New York; 1954

Talese, Gay; **The Bridge**; Harper & Roe; New York; 1964 (The story of the construction of the Verrazano Narrows bridge)

Tauranac, John; **The Empire State Building: The Making of a Landmark**; Scribner; New York; 1995 (The story of the planning, design and construction of one of America's most familiar structural landmarks)

Trachtenberg, Alan; **Brooklyn Bridge: Fact and Symbol**; University of Chicago Press; Chicago; 1979 (One of the few studies of the relationship between a major civil engineering project and its influence on American art and literature)

Tichi, Cecelia; **Shifting Gears: Technology, Literature, Culture in Modernist America**; The University of North Carolina Press; Chapel Hill, NC; 1987 (The author explores the ways in which engineering and technology have affected and are reflected in cultural values in America)

Upton, Neil; **An Illustrated History of Civil Engineering**; Heinemann; London; 1975

U. S. Army Corps of Engineers; **The History of the U. S. Army Corps of Engineers**; U. S. Army Corps of Engineers; Washington, D. C.; 1986 (A brief institutional history of the Corps of Engineers; contains brief biographic sketches of each Chief of Engineers)

Van Der Zee, John; **The Gate**; Simon & Schuster; New York; 1986 (A history of the planning, design and construction of the Golden Gate Bridge)

Vose, George L.; **A Sketch of the Life and Works of Loammi Baldwin**; George H. Ellis; Boston, MA; 1885 (A biography of an early American civil engineer)

Walker, Paul K.; **Engineers of Independence: A Documentary History of the Army Engineers in the American Revolution, 1775-1783**; U. S. Army Corps of Engineers; Washington, D. C.; 1981 (A study of the role of Army Engineers in the War of Independence)

Ward, James A.; **That Man Haupt: A Biography of Herman Haupt**; Louisiana State University Press; Baton Rouge, LA; 1973 (A biography of the civil engineer who was chief bridge and railroad engineer for the Union Army during the Civil War)

Watson, Philip P.; **The Ambassador Bridge: A Monument to Progress**; Wayne State University Press; Detroit, MI; 1987

Watson, Sara R. and Watson, Emily; **Famous Engineers**; Dodd, Mead & Co.; New York; 1950

Watson, Wilbur J. and Watson, Sara R.; **Bridges in History and Legend**; J. H. Jansen; Cleveland, OH; 1937

Weigley, Russell F.; **Quartermaster General of the Union Army: A Biography of M. C. Meigs**; Columbia University Press; New York; 1959 (A biography of the civil engineer who constructed Cabin John Bridge and the dome and wings of the U. S. Capitol and also designed the Pension Building)

Weigold, Marilyn; **Silent Builder**; Associated Faculty Press; Port Washington, NY; 1984 (The story of the involvement of Emily Warren Roebling, wife of Washington Roebling, in the completion of the Brooklyn Bridge)

Whitbeck, Caroline; **Ethics in Engineering Practice and Research**; Cambridge University Press; New York; 1998 (A problem-centered approach to learning the application of ethical principles to engineering problems; includes case studies)

Whitney, Charles S.; **Bridges - Their Art, Science and Evolution**; Greenwich House; New York; 1983

Wilcox, F.; **The Ohio Canals**; Kent State University Press; Kent, OH; 1969

Williams, John Hoyt; **A Great and Shining Road: The Epic Story of the Transcontinental Railroad**; Times Books; New York; 1988 (A history of the construction of the Transcontinental Railroad that focuses on the people involved in bringing the project to completion)

Wilson, N. C. and Taylor, F. J.; **The Earth Changers**; Doubleday & Co.; New York; 1957 (A look at national and international large-scale construction near the middle of the twentieth century)

Winpenny, Thomas R.; **Without Fitting, Filing, or Chipping: An Illustrated History of the Phoenix Bridge Company**; Canal History and Technology Press; Easton, PA; 1996 (A well-illustrated history of one of the nation's most prominent companies involved in the design and construction of iron and steel bridges)

Wisely, William H.; **The American Civil Engineer, 1852-1974**; American Society of Civil Engineers; New York; 1974 (An institutional history of the American Society of Civil Engineers by a former Executive Director of the Society)

Wolf, Donald E.; **Big Dams and Other Dreams: The Six Companies Story**; University of Oklahoma Press; Norman, OK; 1996 (Stories of major construction projects undertaken in the last half of the twentieth century by the six companies that formed a consortium to construct Hoover Dam)

Wood, Richard G.; **Stephen Harriman Long 1784-1854: Army Engineer, Explorer, Inventor**; A. H. Clark Co.; Glendale, CA; 1966

Woodbury, David O.; **Builders for Battle: How the Pacific Naval Air Bases Were Constructed**; E. P. Dutton & Co.; New York; 1941

Woodbury, David O.; **The Colorado Conquest: The Epic Story of the Imperial Valley, Boulder Dam and the Taming of a Mad River**; Dodd, Mead & Co.; New York; 1946

Woodward, Calvin; **A History of the St. Louis Bridge**; G. I. Jones & Co.; St. Louis, MO; 1881 (The story of the construction of James Eads' iron bridge across the Mississippi River at St. Louis)

Worster, Donald; **Rivers of Empire: Water, Aridity and the Growth of the American West**; Oxford University Press; New York; 1985 (An award-winning historian writes about the role of water resources engineering and management in the development of the American West)

Yager, Rosemary; **James Buchanan Eads: Master of the Great River**; Van Nostrand; Princeton, NJ; 1968 (A biography of one of America's greatest self-taught civil engineers of the nineteenth century)

Videos

A Man, A Plan, A Canal - Panama (from the PBS *The American Experience* series); available from PBS Video; Alexandria, VA; ~1990; 58 minutes

An American Nile; (Part 2 of the *Cadillac Desert* series); available from PBS; Alexandria, VA; 1997; 85 minutes

The Brooklyn Bridge Centennial; available from PBS; Alexandria, VA; 55 minutes; 1983

Building the Golden Gate Bridge; available from Bethlehem Steel Corp.; Bethlehem, PA; 24 minutes

Building the Mighty Mac; available from Mark Howell Productions; Muskegon, MI; 1996; 55 minutes

Crozet: The Claudius Crozet Story; available from Morning Sun Productions; Crozet, VA; 1997; 90 minutes

Divided Highways; (a PBS documentary); available from Films for the Humanities and Sciences; Princeton, NJ; 1997; 85 minutes

Domed Stadiums (from the A & E Network series *Modern Marvels* series); available from the New Video Group; New York; 1994; 50 minutes

The Empire State Building (from the A & E Network Series *Modern Marvels* series); available from the New Video Group; New York; 1993; 50 minutes

Gilbane Gold; National Society of Professional Engineers (with discussion guide); Alexandria, VA; 1989; 24 minutes

Glenwood Canyon: Ancient Treasure, Modern Marvel; available from Colorado Department of Transportation; Denver, CO; 1992; 27 minutes

The Golden Gate Bridge (from the A & E Network series *Modern Marvels* series); available from the New Video Group; New York; 1994; 50 minutes

Grand Coulee Dam (from the A & E Network series *Modern Marvels* series); available from the New Video Group; New York; 1994; 50 minutes

The Great San Francisco Earthquake; from the PBS *The American Experience* series); available from PBS Video; Alexandria, VA; 1989; 58 minutes

Gustave Eiffel: The Other Man Behind the Great Lady; an ASCE film available from FilmComm; Chicago, IL; 29 minutes

The Hoosac Tunnel; available from WGBH-TV; Boston, MA; ~1995; 55 minutes

Hoover Dam; available from Sun Times Productions; Las Vegas, NV; 36 minutes

The Iron Road (from the PBS *The American Experience* series); available from PBS Video; Alexandria, VA; ~1992; 55 minutes

Last Oasis; (Part 4 of the *Cadillac Desert* series); available from PBS; Alexandria, VA; 1997; 85 minutes

The Mercy of Nature; (Part 3 of the *Cadillac Desert* series); available from PBS; Alexandria, VA; 1997; 85 minutes

Monument to the Dream: The Construction of the Arch; available from the Jefferson National Expansion Historical Association; St. Louis, MO; 28 minutes

Mulholland's Dream (Part 1 of the *Cadillac Desert* series); available from PBS; Alexandria, VA; 1997; 85 minutes

Panama Canal (from the A & E Network series *Modern Marvels* series); available from the New Video Group; New York; 1994; 50 minutes

The Roeblings; an ASCE film available from FilmComm; Chicago, IL; 26 minutes

Testing Water . . . And Ethics; Institute for Professional Practice (with discussion guide); Verona, NJ; 1998; 29 minutes

To Engineer is Human; available from Films Incorporated; Chicago, IL; 50 minutes

The Transcontinental Railroad; (from the A & E Network series **Modern Marvels** series); available from the New Video Group; New York; 1995; 50 minutes

The Truesteel Affair; available from Fanlight Productions; Boston, MA; 24 minutes

Tunnels (from the A & E Network series **Modern Marvels** series); available from the New Video Group; New York; 1994; 50 minutes

Water and the Dream of the Engineers; available from Cine Research Associates; Boston, MA; 43 minutes

The World that Moses Built (from the PBS **The American Experience** series); available from PBS Video; Alexandria, VA; 1988; 58 minutes

General History of Engineering and Civil Engineering

The books in this section all deal primarily with the history of engineering in general, or with the history of civil engineering (rather than with the history of specific civil engineering projects).

American Society of Civil Engineers; **Civil Engineering History**; American Society of Civil Engineers; New York; 1978 (A collection of more than two dozen articles dealing with the history and heritage of American civil engineering. These articles were originally published in two issues of *Civil Engineering* magazine – the July 1976 issue commemorating the American Bicentennial and the October 1977 issue commemorating the 125th anniversary of ASCE)

Armstrong, Ellis (editor); **History of Public Works in the United States**; American Public Works Association; Chicago; 1976 (A history of public works organized on a purpose-by-purpose [i.e., roads, sewers, water supply, etc.] basis)

ASCE Committee on History and Heritage of American Civil Engineering; **The Civil Engineer: His Origins**; American Society of Civil Engineers; New York; 1970 (Reprints of several articles from ASCE publications dealing with the early history of civil engineering)

ASCE Committee on History and Heritage of American Civil Engineering; **A Biographical Dictionary of American Civil Engineers - Volume I**; American Society of Civil Engineers; New York; 1972 (Brief biographic sketches of 170 American civil engineers born before the Civil War)

Calhoun, Daniel H.; **The American Civil Engineer: Origins and Conflicts**; Harvard University Press; Cambridge, MA; 1960

DeCamp, L. Sprague; **The Ancient Engineers**; Doubleday & Co.; New York; 1960 (A history of engineering from Biblical times until the Renaissance)

Finch, James K.; **Engineering and Western Civilization**; McGraw-Hill Publishing Co.; New York; 1951

Finch, James K.; **The Story of Engineering**; Doubleday & Co.; New York; 1960 (A classic history of civil engineering by a famous engineering educator)

FitzSimons, Neal (editor); **Engineering Classics of James Kip Finch**; Cedar Press; Kensington, MD; 1978 (A collection of articles on classical works of engineering originally published in *Consulting Engineer*)

Fraser, Chelsea; **The Story of Engineering in America**; Thomas Y. Crowell; New York; 1928

Gies, Joseph; **Wonders of the Modern World**; Thomas Y. Crowell Co.; New York; 1966 (An easy-to-understand description of thirteen great achievements of modern engineering)

Gille, Bertrand; **Engineers of the Renaissance**; The MIT Press; Cambridge, MA; 1966

Greenhill, Ralph; **Engineer's Witness**; The Coach House Press; Toronto; 1985 (A collection of 90 19th century photographs of engineering works in progress with brief narratives describing the project depicted in each photograph)

Griggs, Jr., Francis, E. (editor); **A Biographical Dictionary of American Civil Engineers - Volume II**; American Society of Civil Engineers; New York; 1991 (Brief biographic sketches of 218 American civil engineers born in the nineteenth century)

Hill, Donald; **A History of Engineering in Classical and Medieval Times**; Barnes and Noble Books (reprint); New York; 1997 (This history of early engineering focuses more on things than people)

Hoy, Suellen and Robinson, Michael C. (editors); **Public Works History in the United States**; American Association for State and Local History; Nashville, TN; 1982 (An annotated bibliography)

Kirby, R. S., Withington, S., Darling, Arthur B., and Kilgour, F.G.; **Engineering in History**; McGraw-Hill Publishing Co.; New York; 1956 (A general introduction to the history of engineering)

Kirby, Richard S. and Laurson, Philip G.; **The Early Years of Modern Civil Engineering**; Yale University Press; New Haven, CT; 1932 (Although somewhat dated, this book provides the reader with insights into the achievements of civil engineers in the eighteenth and nineteenth centuries)

Landels, J. G.; **Engineering in the Ancient World**; University of California Press; Berkeley, CA; 1978

Merritt, Raymond H.; **Engineering in American Society 1850-1875**; The University Press of Kentucky; Lexington, KY; 1969 (A historian's study of the effects of nineteenth-century engineering achievements on American society)

National Geographic Society; **The Builders: Marvels of Engineering**; National Geographic Society; Washington, D.C.; 1992 (A beautifully illustrated book which depicts and describes some of the greatest engineering feats in the world)

National Geographic Society; **Builders of the Ancient World: Marvels of Engineering**; National Geographic Society; Washington, D.C.; 1986 (A nicely illustrated book which describes ancient monuments and the cultures that produced them)

Pannell, J. P. M.; **An Illustrated History of Civil Engineering**; Frederick Ungar Publishing Co.; New York; 1964

Pannell, J. P. M.; **Man the Builder: An Illustrated History of Engineering**; Crescent Books; New York; 1977

Parsons, William B.; **Engineers and Engineering in the Renaissance**; The M.I.T. Press; Cambridge, MA; 1939 (The definitive work on engineering during the fourteenth through seventeenth centuries)

Poirier, Rene; **Engineering Wonders of the World**; Barnes & Noble Books; New York; 1960 (Accounts of engineering feats from the great pyramids to the reclamation of the Zuider Zee)

Pursell Jr., Carroll W.; **Technology in America: A History of Individuals and Ideas**; The MIT Press; Cambridge, MA; 1981

Rae, John and Volti, R.; **The Engineer in History**; Peter Lang; New York; 1993

Reynolds, Terry S. (editor); **The Engineer in America**; The University of Chicago Press; Chicago; 1991 (An anthology of historical essays on engineers and engineering originally published in **Technology and Culture**)

Rogers, Jerry R.; **Engineering History and Heritage**; American Society of Civil Engineers; Reston, VA; 1998 (Proceedings of the Second National Congress on Civil Engineering History and Heritage held in Boston in 1998)

Roysdon, Christine and Khatri, Linda A.; **American Engineers of the Nineteenth Century: A Biographical Index**; Garland Publishing Inc.; New York; 1978

Sandstrom, Gosta E.; **Man the Builder**; McGraw-Hill Publishing Co.; New York; 1970 (A history of construction from reed houses to Aswan Dam)

Schodek, Daniel L.; **Landmarks in American Civil Engineering**; The MIT Press; Cambridge, MA; 1987 (This nicely-illustrated, over-sized book contains photographs, drawings, and narrative descriptions of American civil engineering projects of all types)

Stapleton, Dawin H.; **The History of Civil Engineering Since 1600**; Garland Publishing Co.; New York; 1986 (an annotated bibliography)

Straub, Hans; **A History of Civil Engineering**; Leonard Hill, Ltd.; London; 1960

Stuart, Charles D.; **Lives and Works of Civil Engineers in America**; D. Van Nostrand; New York; 1871

Upton, Neil; **An Illustrated History of Civil Engineering**; Heinemann; London; 1975

U. S. Army Corps of Engineers; **The History of the U. S. Army Corps of Engineers**; U. S. Army Corps of Engineers; Washington, D. C.; 1986 (A brief institutional history of the Corps of Engineers; contains brief biographic sketches of each Chief of Engineers)

Wisely, William H.; **The American Civil Engineer, 1852-1974**; American Society of Civil Engineers; New York; 1974 (An institutional history of the American Society of Civil Engineers by a former Executive Director of the Society)

Biographies and Autobiographies of Civil Engineers

ASCE Committee on History and Heritage of American Civil Engineering; **A Biographical Dictionary of American Civil Engineers - Volume I**; American Society of Civil Engineers; New York; 1972 (Brief biographic sketches of 170 American civil engineers born before the Civil War)

Billington, David P.; **The Innovators: The Engineering Pioneers Who Made America Modern**; John Wiley & Sons, Inc.; New York; 1996 (Steam power, railroads, telegraph lines, steel making, bridges and electric systems are described as the means for achieving the industrialization of America in the nineteenth century)

Bishop, Joseph B. and Bishop, Farnham; **Goethals: Genius of the Panama Canal, A Biography**; Harper & Brothers; New York; 1930 (A biography of George Goethals, the third and final chief engineer in charge of construction of the Panama Canal)

Caro, Robert A.; **The Power Broker: Robert Moses and the Fall of New York**; Alfred A. Knopf; New York; 1974 (A biography of Robert Moses, the man responsible for the most extensive public works programs in the history of the nation)

The World that Moses Built (from the PBS **The American Experience** series); a video available from PBS Video; Alexandria, VA; 1988; 58 minutes

Clark, Edward B.; **William L. Sibert, The Army Engineer**; Dorrance; Philadelphia, PA; 1930 (A biography of the civil engineer who was responsible for overseeing the construction of Gatun Locks and Gatun Dam)

Davis, Margaret Leslie; **Rivers in the Desert: William Mulholland and the Inventing of Los Angeles**; HarperCollins Publishers; New York; 1993 (The story of the self-educated engineer who played an instrumental role in the evolution of Los Angeles as a modern metropolis)

Dodds, Gordon B.; **Hiram Martin Chittenden: His Public Career**; University Press of Kentucky; Lexington, KY; 1973 (A biography of the Army engineer who was in charge of development of Yellowstone National Park and the construction of the canal connecting Lake Washington with Puget Sound and who was an early advocate of Federal flood control projects)

Dorsey, Florence C.; **Road to the Sea: The Story of James B. Eads and the Mississippi River**; Rinehart and Co.; New York; 1947

FitzSimons, Neal (editor); **The Reminiscences of John B. Jervis**; Syracuse University Press; Syracuse, NY; 1971 (This is a compilation of reflections on his career in civil engineering, written in last third of his life by one of America's most prominent early engineers)

Franzwa, Gregory M. and Ely, William J.; **Leif Sverdrup**; Patrice Press; Garland, MO; 1980 (A biography of the civil engineer who founded a civil engineering consulting firm and later served as General MacArthur's chief engineer during World War II)

Fredrich, Augustine J. (editor); **Sons of Martha: Civil Engineering Readings in Modern Literature**; American Society of Civil Engineers; New York; 1989 (An anthology of readings on civil engineering history, heritage and ethics)

Griggs, Jr., Francis, E. (editor); **A Biographical Dictionary of American Civil Engineers - Volume II**; American Society of Civil Engineers; New York; 1991 (Brief biographic sketches of 218 American civil engineers born in the nineteenth century)

Gustave Eiffel: The Other Man Behind the Great Lady; an ASCE film available from FilmComm; Chicago, IL; 29 minutes

Hamlin, Talbot; **Benjamin Henry Latrobe**; Oxford University Press; New York; 1955 (A biography of the early American civil engineer and architect who was responsible for the design of canals, waterworks, hospitals, churches, homes and a variety of other public and private projects)

Hindle, Brooke; **David Rittenhouse**; Princeton University Press; Princeton, NJ; 1964 (A biography of an early American surveyor and maker of surveying equipment)

Hunter, Robert F. and Dooley, Edwin L.; **Claudius Crozet: French Engineer in America, 1790-1864**; University of Virginia Press; Charlottesville, VA; 1989 (A biography of one of America's most famous civil engineers of the nineteenth century)

Crozet: The Claudius Crozet Story; a video available from Morning Sun Productions; Crozet, VA; 1997; 90 minutes

Jackson, Donald C.; **Building the Ultimate Dam: John S. Eastwood and the Control of Water in the West**; University Press of Kansas; Lawrence, KS; 1995 (This book by a noted historian explores the history of Western water development by chronicling the technical achievements of one of the country's most outspoken advocates of multiple arch dams in the first quarter of the twentieth century)

Johnson, Jack T.; **Peter Anthony Dey: Integrity in Public Service**; The State Historical Society of Iowa; Iowa City, IA; 1939 (A biography of the first chief engineer of the Union Pacific Railroad who resigned rather than participate in a fraudulent scheme for right-of-way acquisition)

Jones, Helen H.; **Rails from the West: A Biography of Theodore D. Judah**; Golden West Books; San Marino, CA; 1969 (A biography of the civil engineer who developed the route through the Sierra Nevada mountains for the Central Pacific railroad)

Kluger, James R.; ***Turning on Water with a Shovel: The Career of Elwood Mead***; University of New Mexico Press; Albuquerque, NM; 1992 (The story of a water resources engineer who played a key role in the development of reclamation projects in the American West)

Krieg, Joan (editor); ***Robert Moses: Single-Minded Genius***; Long Island Studies Institute; Hofstra University; Hempstead, NY; 1989 (A collection of papers presented at a symposium on Robert Moses and the Planned Environment)

Larkin, Daniel F.; ***John B. Jervis: An American Engineering Pioneer***; Iowa State University Press; Ames, IA; 1990 (A biography of the self-taught American engineer who was responsible for the design and construction of canals, dams, aqueducts, railroads, and other public projects in the early nineteenth century)

Lewis, Gene D.; ***Charles Ellet, Jr.: The Engineer as Individualist***; University of Illinois Press; 1968 (A biography of one of America's most controversial nineteenth-century civil engineers)

Liscombe, Rhodri Windsor; ***Altogether American: Robert Mills, Architect and Engineer***; Oxford University Press; New York; 1994 (A biography of the American architect and engineer who designed the Washington Monument and numerous other public buildings and facilities in the first half of the nineteenth century)

Lord, Francis A.; ***Lincoln's Railroad Man: Herman Haupt***; Farleigh Dickinson University Press; Rutherford, NJ; 1969 (A biography of the civil engineer who was responsible for construction of the Hoosac Tunnel in western Massachusetts and who became the engineer in charge of construction of railroads and railroad bridges for the Union Army during the Civil War)

McCall, Edith; ***Conquering the Rivers: Henry Miller Shreve and the Navigation of America's Inland Waterways***; Louisiana State University Press; Baton Rouge, LA; 1984 (A biography of an entrepreneur who played an important role in the development of the nation's inland waterway system)

Meehan, Richard L.; ***Getting Sued and Other Tales of the Engineering Life***; The MIT Press; Cambridge, MA; 1981 (True stories of the adventures of a geotechnical engineer)

Montgomery, M. R.; ***Saying Goodbye: A Memoir for Two Fathers***; Alfred A. Knopf; New York; 1989 (The author describes the career of his father who served as an engineer on the construction of Fort Peck Dam and as a naval officer in the Seabees during World War II)

Moses, Robert; ***Public Works: A Dangerous Trade***; McGraw-Hill Publishing Co.; New York; 1970 (The author's account of his experiences in a half century of planning, design, construction, operation and maintenance of public works in New York State)

Nevins, Allan; ***Fremont: Pathmaker of the West***; 2 volumes; Frederick Ungar Publishing Co.; New York; 1961 (A biography of the military explorer and topographer who was responsible for much of the early information about the American West)

Nichols, Roger L. and Halley, Patrick L.; ***Stephen Long and American Frontier Exploration***; University of Delaware Press; Newark, NJ; 1980

Perkins, Jacob R.; ***Trails, Rails and War: The Life of General G. M. Dodge***; Bobbs-Merrill Co.; Indianapolis, IN; 1929 (A biography of Grenville Dodge, the builder of the Union Pacific Railroad)

Petroski, Henry; **Engineers of Dreams**; Alfred A. Knopf, Inc.; New York; 1995 (Through the stories of five of the most famous American bridge engineers – and through the stories of a number of their lesser-known colleagues – the author tells the story of American bridge-building for almost a century, and in telling that story he reveals much about the engineering profession)

Ratigan, William; **Highways Over Broad Waters: Life and Times of David B. Steinman**; William B. Eerdmans Publishing Co.; Grand Rapids, MI; 1959 (A biography of one of America's greatest bridge engineers of the twentieth century who was also the founder of the National Society of Professional Engineers)

Roysdon, Christine and Khatri, Linda A.; **American Engineers of the Nineteenth Century: A Biographical Index**; Garland Publishing Inc.; New York; 1978

Sayenga, Donald; **Ellet and Roebling**; American Canal and Transportation Center; York, PA; 1983 (Biographic sketches of Charles Ellet and John Roebling, competitors in early American bridge building)

Schuyler, Hamilton; **The Roeblings**; Princeton University Press; Princeton, NJ; 1931 (The story of the Roebling family in America from 1830 to 1930)

The Roeblings; an ASCE film available from FilmComm; Chicago, IL; 26 minutes

Steinman, David B.; **Bridges and Their Builders**; G. P. Putnam Sons; New York; 1957

Steinman, David B.; **The Builders of the Bridge**; Harcourt, Brace & Jovanovitch; New York; 1950 (The story of the work of John Roebling and his son Washington in the design and construction of the Brooklyn Bridge)

Stevens, John F.; **An Engineer's Recollections**; McGraw-Hill Publishing Co.; New York; 1935 (The reflections of the engineer who gained fame as a railroad builder and then played a key role in the completion of the Panama Canal by designing and overseeing the development of a rail-based system for removal of excavated material)

Stuart, Charles D.; **Lives and Works of Civil Engineers in America**; D. Van Nostrand; New York; 1871

Vose, George L.; **A Sketch of the Life and Works of Loammi Baldwin**; George H. Ellis; Boston, MA; 1885 (A biography of an early American civil engineer)

Ward, James A.; **That Man Haupt: A Biography of Herman Haupt**; Louisiana State University Press; Baton Rouge, LA; 1973 (A biography of the civil engineer who was chief bridge and railroad engineer for the Union Army during the Civil War)

Watson, Sara R. and Watson, Emily; **Famous Engineers**; Dodd, Mead & Co.; New York; 1950

Weigley, Russell F.; **Quartermaster General of the Union Army: A Biography of M. C. Meigs**; Columbia University Press; New York; 1959 (A biography of the civil engineer who constructed Cabin John Bridge and the dome and wings of the U. S. Capitol and also designed the Pension Building)

Weigold, Marilyn; **Silent Builder**; Associated Faculty Press; Port Washington, NY; 1984 (The story of the involvement of Emily Warren Roebling, wife of Washington Roebling, in the completion of the Brooklyn Bridge)

Wood, Richard G.; **Stephen Harriman Long 1784-1854: Army Engineer, Explorer, Inventor**; A. H. Clark Co.; Glendale, CA; 1966

Yager, Rosemary; **James Buchanan Eads: Master of the Great River**; Van Nostrand; Princeton, NJ; 1968 (A biography of one of America's greatest self-taught civil engineers of the nineteenth century)

The Civil Engineering Profession

These books discuss the nature of civil engineering work, the relationship between civil engineering and American society, and the ways civil engineers view themselves and their work.

Billington, David P.; ***The Innovators: The Engineering Pioneers Who Made America Modern***; John Wiley & Sons, Inc.; New York; 1996 (Steam power, railroads, telegraph lines, steel making, bridges and electric systems are described as the means for achieving the industrialization of America in the nineteenth century)

Billington, David P.; ***The Tower and the Bridge***; Basic Books; New York; 1983 (In this book the author makes the case for structural design as an exercise not only in engineering utility, but also in artistic achievement by examining the design of towers, bridges, domes and other structures)

Davenport, W. H. and Rosenthal, Daniel (editors); ***Engineering: Its Role and Function in Human Society***; Pergamon Press; New York; 1967 (A collection of readings intended to bridge the gap between engineers and humanists)

Ferguson, Eugene; ***Engineering and the Mind's Eye***; The MIT Press; Cambridge, MA; 1992 (An examination of the nature of engineering design with emphasis on the development of visual and other non-verbal thinking. Concludes with an interesting assessment of changes in engineering education in the last half of the twentieth century)

Florman, Samuel C.; ***Blaming Technology: The Irrational Search for Scapegoats***; St. Martin's Press; New York; 1981 (An explanation of the rationale for the engineering approach to problem solving in modern society)

Florman, Samuel C.; ***The Existential Pleasures of Engineering***; St. Martin's Press; New York; 1976 (A noted civil engineer's explanation of the joys of a career in civil engineering)

Florman, Samuel C.; ***The Civilized Engineer***; St. Martin's Press; New York; 1987 (One of the nation's best writers on engineering topics examines how societal changes have affected engineering and changed the way engineers perceive their profession)

Florman, Samuel C.; ***The Introspective Engineer***; St. Martin's Press; New York; 1996 (An examination of the relationship between engineering and modern society with an emphasis on the engineer's approach to finding solutions to technological problems facing the nation)

Kranakis, Eda; ***Constructing a Bridge: An Exploration of Engineering Culture, Design and Research in Nineteenth Century France and America***; The MIT Press; Cambridge, MA; 1997 (Using Claude Navier in France and James Finley in America as specific cases, the author examines the nature of interactions between French and American civil engineers in the 1800s)

Layton, Edwin, T.; ***The Revolt of the Engineers: Social Responsibility and the American Engineering Profession***; Press of Case Western Reserve University; Cleveland, OH; 1971 (A prize-winning book that examines the history of American engineering with an emphasis on professionalism, social responsibility and ethics)

McCartney, Laton; ***Friends in High Places: The Bechtel Story***; Simon & Schuster; New York; 1988 (A critical study of the growth and organization of the Bechtel Corporation from its beginnings as a small general construction firm to its emergence as one of the nation's largest corporations involved in design, construction and management on an international scale)

McPhee, John; ***The Control of Nature***; Farrar Straus Giroux; New York; 1989 (The author describes the work of engineers involved in three situations requiring modern civil engineering: operation of the Lower Mississippi River flood control system; fighting lava flows resulting from volcanic eruptions in Iceland and Hawaii; and dealing with debris in the Los Angeles County flood control system)

McPhee, John; ***Encounters with the Archdruid***; Farrar Straus Giroux; New York; 1971 (Narratives describing confrontations between conservationist David Brower and three development-oriented leaders from the fields of mining, water resources development and recreational development)

Merritt, Raymond H.; ***Engineering in American Society 1850-1875***; The University Press of Kentucky; Lexington, KY; 1969 (A historian's study of the effects of nineteenth-century engineering achievements on American society)

Morris, M. D.; ***Civil Engineers in the World Around Us***; American Society of Civil Engineers; New York; 1974

Nye, David E.; ***American Technological Sublime***; The MIT Press; Cambridge, MA; 1994 (From the Erie Canal to Apollo XI, the author looks at American technological accomplishments and how they have been perceived by American society)

O'Neill, Richard W.; ***High Steel, Hard Rock and Deep Water***; The Macmillan Co.; New York; 1965 (An introduction to the world of construction)

Petroski, Henry; ***Beyond Engineering***; St. Martin's Press; New York; 1986

Petroski, Henry; ***Design Paradigms: Case Histories of Error and Judgment in Engineering***; Cambridge University Press; New York; 1994 (Ten specific cases of engineering failures ranging from ancient temples to the Tacoma Narrows bridge are described as vehicles for exploring the roles of engineering judgment and errors in development of new approaches to engineering design)

Petroski, Henry; ***Engineers of Dreams***; Alfred A. Knopf, Inc.; New York; 1995 (Through the stories of five of the most famous American bridge engineers – and through the stories of a number of their lesser-known colleagues – the author tells the story of American bridge-building for almost a century, and in telling that story he reveals much about the engineering profession)

Petroski, Henry; ***The Evolution of Useful Things***; Alfred A. Knopf, Inc.; New York; 1992 (By examining how new designs evolve from the inadequacies and failures of simple objects, the author explores the process of engineering design)

Petroski, Henry; ***Invention by Design: How Engineers Get from Thought to Thing***; Harvard University Press; Cambridge, MA; 1996 (By examining objects as simple as the paper clip and as complex as jet aircraft, the author explores the nature of the engineering design process)

Petroski, Henry; ***Remaking the World: Adventures in Engineering***; Alfred A. Knopf; New York; 1997 (In these essays, many of which originally appeared in *The American Scientist*, the author gives the reader a series of case studies which focus on engineers as agents of change)

Petroski, Henry; ***To Engineer is Human***; St. Martin's Press; New York; 1982 (The author examines the role of failure in successful design; a video based on this book is also available)

To Engineer is Human; a video available from Films Incorporated; Chicago, IL; 50 minutes

Reynolds, Terry S. (editor); **The Engineer in America**; The University of Chicago Press; Chicago; 1991 (An anthology of historical essays on engineers and engineering originally published in **Technology and Culture**)

Schaub, James H. and Dickison, Sheila K. with Morris, M. D.; **Engineering and the Humanities**; John Wiley and Sons; New York; 1982 (An anthology that focuses on demonstrating the relevance of humanities to engineering)

Tichi, Cecelia; **Shifting Gears: Technology, Literature, Culture in Modernist America**; The University of North Carolina Press; Chapel Hill, NC; 1987 (The author explores the ways in which engineering and technology have affected and are reflected in cultural values in America)

Wilson, N. C. and Taylor, F. J.; **The Earth Changers**; Doubleday & Co.; New York; 1957 (A look at national and international large-scale construction near the middle of the twentieth century)

Wisely, William H.; **The American Civil Engineer, 1852-1974**; American Society of Civil Engineers; New York; 1974 (An institutional history of the American Society of Civil Engineers by a former Executive Director of the Society)

Civil Engineering Education

Ambrose, Stephen E.; **Duty, Honor, Country: A History of West Point**; Johns Hopkins Press; Baltimore, MD; 1966 (An eminent historian's look at the nation's first school of engineering)

Cross, Hardy; **Engineers and Ivory Towers**; McGraw-Hill Publishing Co.; New York; 1952 (Reflections, by a noted engineering educator, on his career in teaching engineering at the University of Illinois)

Ferguson, Eugene; **Engineering and the Mind's Eye**; The MIT Press; Cambridge, MA; 1992 (An examination of the nature of engineering design with emphasis on the development of visual and other non-verbal thinking. Concludes with an interesting assessment of changes in engineering education in the last half of the twentieth century)

Forman, Sidney; **West Point: A History of the United States Military Academy**; Columbia University Press; New York; 1950

Grayson, Lawrence P.; **The Making of an Engineer: An Illustrated History of Engineering Education in the United States and Canada**; John Wiley & Sons; New York; 1993

Hunter, Robert F. and Dooley, Edwin L.; **Claudius Crozet: French Engineer in America, 1790-1864**; University of Virginia Press; Charlottesville, VA; 1989 (A biography of one of America's most famous civil engineers of the nineteenth century)

McGivern, James; **First Hundred Years of Engineering Education in the United States (1807-1907)**; Gonzaga University Press; Spokane, WA; 1960

Morrison, James L.; **The Best School in the World: West Point, The Pre-Civil War Years, 1833-1866**; Kent State University Press; Kent, OH; 1986

Civil Engineering Policies and Programs

These books deal with the development of policies and programs that provide the basis for much of the work undertaken by civil engineers.

Albert, Richard C.; ***Damming the Delaware: The Rise and Fall of Tocks Island Dam***; The Pennsylvania State University Press; University Park, PA; 1987 (An enlightening case study of a proposal to construct a major multiple-purpose dam on the Delaware River)

Barry, John M.; ***Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America***; Simon & Schuster; New York; 1997 (A thorough examination of the ways in which the 1927 flood on the Mississippi River and its tributaries has affected governmental policies, politics and everyday life in the United States)

Blake, Nelson, M.; ***Water for the Cities: A History of the Urban Water Supply Problem in the United States***; Syracuse University Press; Syracuse, NY; 1956

Caro, Robert A.; ***The Power Broker: Robert Moses and the Fall of New York***; Alfred A. Knopf; New York; 1974 (A biography of Robert Moses, the man responsible for the most extensive public works programs in the history of the nation)

The World that Moses Built (from the PBS ***The American Experience*** series); a video available from PBS Video; Alexandria, VA; 1988; 58 minutes

Golze, Alfred R.; ***Reclamation in the United States***; McGraw-Hill Publishing Co.; New York; 1952

Holmes, Beatrice H.; ***A History of Federal Water Resources Programs, 1800-1960***; U. S. Department of Agriculture; Washington, D. C.; 1972

Huffman, Roy E.; ***Irrigation Development and Public Policy***; Ronald Press; New York; 1953

Kahrl, William L.; ***Water and Power***; University of California Press; Berkeley, CA; 1982 (An in-depth examination of the Owens Valley-Los Angeles water controversy)

Laycock, George; ***The Diligent Destroyers***; Doubleday & Company; New York; 1970 (A critical assessment of development projects and the engineers who plan, construct and manage them)

Lewis, Tom; ***Divided Highways: Building the Interstate Highways, Transforming American Life***; Viking Penguin; New York; 1997 (An examination of the role of interstate highways in transforming American life in the second half of the twentieth century. This book is a companion to the PBS video of the same title)

Divided Highways; (a PBS documentary); a video available from Films for the Humanities and Sciences; Princeton, NJ; 1997; 85 minutes

Maass, Arthur; ***Muddy Waters: The Army Engineers and the Nation's Rivers***; Harvard University Press; Cambridge, MA; 1951 (A critical study of the U. S. Army Corps of Engineers' role in the development and management of the nation's water resources)

Moeller, Beverley B.; ***Phil Swing and Boulder Dam***; University of California Press; Berkeley, CA; 1971

Morgan, Arthur E.; ***Dams and Other Disasters: A Century of the Army Corps of Engineers in Civil Works***; Porter Sargent; Boston, MA; 1971 (A critical assessment of the work of the Army Corps of Engineers in flood control planning and management)

Nye, David E.; ***American Technological Sublime***; The MIT Press; Cambridge, MA; 1994 (From the Erie Canal to Apollo XI, the author looks at American technological accomplishments and how they have been perceived by American society)

Patton, Phil; ***The Open Road: A Celebration of the American Highway***; Simon & Schuster; New York; 1986

Reisner, Marc; ***Cadillac Desert: The American West and Its Disappearing Water***; The Viking Press; New York; 1986 (An examination of water problems in the Western United States that presents a negative, but nevertheless informative, look at the work of water resources engineers)

Mulholland's Dream (Part 1 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

An American Nile; (Part 2 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

The Mercy of Nature; (Part 3 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

Last Oasis; (Part 4 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

Rose, Mark H.; ***Interstate: Express Highway Politics, 1939-1989***; University of Tennessee Press; Knoxville, TN; 1990

Rosen, Howard and Reuss, Martin; ***The Flood Control Challenge: Past, Present, and Future***; Public Works Historical Society; Chicago, IL; 1988 (Proceedings of a seminar commemorating the 50th anniversary of the Flood Control Act of 1936)

Seely, Bruce; ***Building the American Highway System: Engineers as Policy Makers***; Temple University Press; Philadelphia, PA; 1987 (A study of the role of engineers in developing the nation's highway policies)

Worster, Donald; ***Rivers of Empire: Water, Aridity and the Growth of the American West***; Oxford University Press; New York; 1985 (An award-winning historian writes about the role of water resources engineering and management in the development of the American West)

Civil Engineering Ethics and Professionalism

Calhoun, Daniel H.; ***The American Civil Engineer: Origins and Conflicts***; Harvard University Press; Cambridge, MA; 1960

Ferguson, Eugene; ***Engineering and the Mind's Eye***; The MIT Press; Cambridge, MA; 1992 (An examination of the nature of engineering design with emphasis on the development of visual and other non-verbal thinking. Concludes with an interesting assessment of changes in engineering education in the last half of the twentieth century)

Flores, Albert; ***Ethical Problems in Engineering, Volume I: Readings***; Center for the Study of the Human Dimensions of Science and Technology; Troy, NY; 1980

Florman, Samuel C.; ***Blaming Technology: The Irrational Search for Scapegoats***; St. Martin's Press; New York; 1981 (An explanation of the rationale for the engineering approach to problem solving in modern society)

Florman, Samuel C.; ***The Existential Pleasures of Engineering***; St. Martin's Press; New York; 1976 (A noted civil engineer's explanation of the joys of a career in civil engineering)

Florman, Samuel C.; ***The Civilized Engineer***; St. Martin's Press; New York; 1987 (One of the nation's best writers on engineering topics examines how societal changes have affected engineering and changed the way engineers perceive their profession)

Florman, Samuel C.; ***The Introspective Engineer***; St. Martin's Press; New York; 1996 (An examination of the relationship between engineering and modern society with an emphasis on the engineer's approach to finding solutions to technological problems facing the nation)

Fredrich, Augustine J. (editor); ***Sons of Martha: Civil Engineering Readings in Modern Literature***; American Society of Civil Engineers; New York; 1989 (An anthology of readings on civil engineering history, heritage and ethics)

Gilbane Gold; National Society of Professional Engineers (a video with discussion guide); Alexandria, VA; 1989; 24 minutes

Johnson, Jack T.; ***Peter Anthony Dey: Integrity in Public Service***; The State Historical Society of Iowa; Iowa City, IA; 1939 (A biography of the first chief engineer of the Union Pacific Railroad who resigned rather than participate in a fraudulent scheme for right-of-way acquisition)

Laycock, George; ***The Diligent Destroyers***; Doubleday & Company; New York; 1970 (A critical assessment of development projects and the engineers who plan, construct and manage them)

Layton, Edwin, T.; ***The Revolt of the Engineers: Social Responsibility and the American Engineering Profession***; Press of Case Western Reserve University; Cleveland, OH; 1971 (A prize-winning book that examines the history of American engineering with an emphasis on professionalism, social responsibility and ethics)

Martin, Mike W. and Schinzing, R.; ***Ethics in Engineering***; McGraw-Hill Publishing Co.; New York; 1983

Schaub, James H. and Pavlovic, Karl; ***Engineering Professionalism and Ethics***; Robert E. Kreiger Publishing Co.; Malabar, FL; 1986 (An anthology that provides readings emphasizing the ethical and professional dimensions of careers in engineering)

Schlossberger, Eugene; ***The Ethical Engineer***; Temple University Press; Philadelphia, PA; 1993

Testing Water . . . And Ethics; Institute for Professional Practice (a video with discussion guide); Verona, NJ; 1998; 29 minutes

The Truesteel Affair; a video available from Fanlight Productions; Boston, MA; 24 minutes

Whitbeck, Caroline; ***Ethics in Engineering Practice and Research***; Cambridge University Press; New York; 1998 (A problem-centered approach to learning the application of ethical principles to engineering problems; includes case studies)

Civil Engineering and the Environment

Albert, Richard C.; ***Damming the Delaware: The Rise and Fall of Tocks Island Dam***; The Pennsylvania State University Press; University Park, PA; 1987 (An enlightening case study of a proposal to construct a major multiple-purpose dam on the Delaware River)

Martin, Russell; ***A Story That Stands Like a Dam***; Henry Holt and Company; New York; 1989 (The story of the construction of Glen Canyon Dam, one of the most controversial structures ever built in the United States)

McPhee, John; ***The Control of Nature***; Farrar Straus Giroux; New York; 1989 (The author describes the work of engineers involved in three situations requiring modern civil engineering: operation of the Lower Mississippi River flood control system; fighting lava flows resulting from volcanic eruptions in Iceland and Hawaii; and dealing with debris in the Los Angeles County flood control system)

McPhee, John; ***Encounters with the Archdruid***; Farrar Straus Giroux; New York; 1971 (Narratives describing confrontations between conservationist David Brower and three development-oriented leaders from the fields of mining, water resources development and recreational development)

Reisner, Marc; ***Cadillac Desert: The American West and Its Disappearing Water***; The Viking Press; New York; 1986 (An examination of water problems in the Western United States that presents a negative, but nevertheless informative, look at the work of water resources engineers)

Mulholland's Dream (Part 1 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

An American Nile; (Part 2 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

The Mercy of Nature; (Part 3 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

Last Oasis; (Part 4 of the ***Cadillac Desert*** series); a video available from PBS; Alexandria, VA; 1997; 85 minutes

Civil Engineering in Military Operations

Anders, Leslie; ***The Ledo Road***; University of Oklahoma Press; Norman, OK; 1965 (A story of civil engineers at work in road construction during World War II)

Crump, Irving; ***Our Army Engineers***; Dodd, Mead & Co.; New York; 1954 (A history of the U.S. Army Corps of Engineers)

Davis, Franklin; ***The U. S. Army Engineers, Fighting Elite***; Franklin Watts, Inc.; New York; 1967 (A history of the U. S. Army Corps of Engineers in wartime)

Forman, Sidney; ***West Point: A History of the United States Military Academy***; Columbia University Press; New York; 1950

Franzwa, Gregory M. and Ely, William J.; ***Leif Sverdrup***; Patrice Press; Garland, MO; 1980 (A biography of the civil engineer who founded a civil engineering consulting firm and later served as General MacArthur's chief engineer during World War II)

Giles, Janice Holt; ***The Damned Engineers***; U. S. Army Corps of Engineers; Washington, D. C.; 1970 (The story of the Army Engineers at work during the Battle of the Bulge in December, 1944)

Lord, Francis A.; ***Lincoln's Railroad Man: Herman Haupt***; Farleigh Dickinson University Press; Rutherford, NJ; 1969 (A biography of the civil engineer who was responsible for construction of the Hoosac Tunnel in western Massachusetts and who became the engineer in charge of construction of railroads and railroad bridges for the Union Army during the Civil War)

Montgomery, M. R.; ***Saying Goodbye: A Memoir for Two Fathers***; Alfred A. Knopf; New York; 1989 (The author describes the career of his father who served as an engineer on the construction of Fort Peck Dam and as a naval officer in the Seabees during World War II)

Parsons, William B.; ***The American Engineers in France***; D. Appleton and Co.; New York; 1920 (The story of Army Engineers in Europe during World War I)

Perkins, Jacob R.; ***Trails, Rails and War: The Life of General G. M. Dodge***; Bobbs-Merrill Co.; Indianapolis, IN; 1929 (A biography of Grenville Dodge, the builder of the Union Pacific Railroad)

Walker, Paul K.; ***Engineers of Independence: A Documentary History of the Army Engineers in the American Revolution, 1775-1783***; U. S. Army Corps of Engineers; Washington, D. C.; 1981 (A study of the role of Army Engineers in the War of Independence)

Ward, James A.; ***That Man Haupt: A Biography of Herman Haupt***; Louisiana State University Press; Baton Rouge, LA; 1973 (A biography of the civil engineer who was chief bridge and railroad engineer for the Union Army during the Civil War)

Weigley, Russell F.; ***Quartermaster General of the Union Army: A Biography of M. C. Meigs***; Columbia University Press; New York; 1959 (A biography of the civil engineer who constructed Cabin John Bridge and the dome and wings of the U. S. Capitol and also designed the Pension Building)

Woodbury, David O.; ***Builders for Battle: How the Pacific Naval Air Bases Were Constructed***; E. P. Dutton & Co.; New York; 1941

Bridges

ASCE Committee on History and Heritage of American Civil Engineering; ***American Wooden Bridges***; American Society of Civil Engineers; New York; 1976 (A collection of five papers on wooden bridges previously published in other ASCE publications)

Billington, David P.; ***The Tower and the Bridge***; Basic Books; New York; 1983 (In this book the author makes the case for structural design as an exercise not only in engineering utility, but also in artistic achievement by examining the design of towers, bridges, domes and other structures)

Brooklyn Museum; ***The Great East River Bridge 1883-1983***; Harry N. Abrams; New York; 1983 (Catalog of an exhibit of original construction drawings for the Brooklyn Bridge)

The Brooklyn Bridge Centennial; a video available from PBS; Alexandria, VA; 55 minutes; 1983

Brown, Allen; **Golden Gate: Biography of a Bridge**; Doubleday & Co.; New York; 1965

Brown, David J.; **Bridges**; Macmillan Publishing Company; New York; 1993 (A beautifully illustrated book on bridges around the world)

Carswell, Charles; **The Building of the Delaware River Bridge, Connecting Philadelphia, Pa., and Camden, N.J.**; Enterprise Publishing Co.; Burlington, NJ; 1926

Cassady, Stephen; **Spanning the Gate**; Squarebooks; Mill Valley, CA; 1986 (A nicely illustrated history of the construction of the Golden Gate Bridge)

Building the Golden Gate Bridge; a video available from Bethlehem Steel Corp.; Bethlehem, PA; 24 minutes

Cortright, Robert S.; **Bridging: Discovering the Beauty of Bridges**; Bridge Ink; Tigard, OR; 1998 (This beautiful little book shows in 283 color photographs the best of 20 centuries of bridge-building in 16 countries around the world)

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