

AN ANNOTATED BIBLIOGRAPHY OF SELECTED BOOKS, COMPACT DISKS AND VIDEOTAPES ON THE HISTORY AND HERITAGE OF CIVIL ENGINEERING

Edited, Updated, and Annotated by

David R. Gilbert¹

Based on the Combination of two Separate Bibliographies Compiled Originally by

Augustine J. Fredrich² and **Josiah E. Colcord, Jr.**³

From the ASCE legacy website: [Additional resources related to the history of engineering](#)

INTRODUCTION AND EXPLANATORY NOTES

The books, videotapes and DVDs listed in this bibliography were chosen because of their relevance to the study of the history and heritage of 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 the modern world. Although many of the books listed here are out of print, there are only a few that are so rare that a diligent searcher will not be able to locate a copy. (A good place to begin a search for books still in print but not available in local libraries is www.amazon.com. For books no longer in print, www.bibliofind.com provides access to the holdings of a national consortium of used book dealers.)

This bibliography does not contain engineering textbooks or magazine and 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 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 the District and Division histories published by the various offices of the U. S. Army Corps of Engineers. The proceedings of the American Society of Civil Engineers and the British Institution of Civil Engineers are excellent sources of contemporary reports on now historic projects.

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¹ Retired Construction and Mining Engineer, Member ASCE History and Heritage Committee, 125 Old Town Road, Sequim, WA 98382

² Professor of Engineering and Associate Dean, School of Science and Engineering Emeritus; University of Southern Indiana; Evansville, IN 47715 and Water Resources Engineer, FTN Associates, Ltd.; Little Rock, AR 72211

³ Late Professor of Civil Engineering, University of Washington, College of Engineering, Seattle, WA 98195.

In this bibliography, where a book's subject matter is not obvious from the title, the bibliographic entry is annotated to indicate the subject matter. Generally, annotations have been derived from reviews of books appearing on websites such as Amazon.com or from first-hand knowledge of the contents by compilers of this bibliography or persons who have suggested additions. Many of the books listed herein have been included simply because they appeared in bibliographic lists, books or websites reviewed in preparing the original this bibliography. Their inclusion here reflects the fact that they have been found useful by other authors of works on civil engineering history and heritage.

Books listed herein are listed alphabetically by author both in the composite list and in subject matter categories. Many of the books appear under several of the subject headings because they provide substantial information on several aspects of 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." 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 books, videotapes and DVDs. As is the case with books, many of the videotapes and DVDs are listed under more than one subject heading. Rather than being listed in alphabetical order according to title, the videotape or DVD 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 or DVD which supports a given book. Many of the videotapes and DVDs are relevant to several books, but, within a subject category where there might be several different books on the same topic (Hoover Dam, for example), a videotape or DVD is listed only once. In the few cases where a videotape or DVD relevant to a given heading is not related to any of the books under that heading, the videotape or DVD listing appears in the alphabetical position dictated by its title.

The development of this bibliography was undertaken as a project of the History and Heritage Committee of the American Society of Civil Engineers in the hopes that its availability 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 world society.

This current bibliography is a combination of two others developed independently by two former members of the History and Heritage Committee (previously named the Committee on History and Heritage of American Civil Engineering), Augustine J. Fredrich and Josiah "Joe" E. Colcord, Jr. (1922-2007). This introduction is adapted from that to A. J. Fredrich's original bibliography. Fredrich's original biography was last update in 1998 and Colcord's original in July 2007.

A future revision will be made to incorporate a third bibliography which appears in the ASCE History and heritage of Civil Engineering Guide, now out of print.

REVISION RECORD

Rev	Date	Description
1	7 July 08	Combine J. Fredrich & J. Colcord bibliographies, add entries, revise Introduction

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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)

Alder, Ken.; ***The Measure of All Things, the Seven Year Odyssey and Hidden Error That Transformed the World***; The Free Press; New York; 2002 (The story of the quest of two French scientists to measure the earth and define the meter)

Alexander, C., S. Ishikawa, and M. Silverstein; ***A Pattern Language – Towns, Buildings, Construction***; Oxford University Press; New York; 1977 (The architectural approach to design)

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)

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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)

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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)

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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)

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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)

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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)

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Scott, Richard; **In the Wake of Tacoma**; ASCE Press; 2001 (Comprehensive reference on suspension bridges built during the last 60 years of the 20th century)

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)

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

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

Petroski, Henry; ***Remaking the World: Adventures in Engineering***; Alfred A. Knopf; New York; 1997 (About engineers and great engineering projects, with chapters on the Panama Canal, the Ferris Wheel, Hoover Dam, the Channel Tunnel and Petronas Towers)

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- 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)
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- 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)
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- Ambrose, Stephen.; ***Nothing Like It in the World: The men Who Built the Transcontinental Railroad 1863-1869***; Simon & Schuster; New York; 2000
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- 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)

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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)

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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)

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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)

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.

Addis, Bill; **Building: 3000 Years of Design, Engineering and Construction**; Phaeton; 2007 (A comprehensive survey of the history of engineering design and innovation in the Western world from ancient Egyptian times to the present)

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)

Bracegirdle, Brian and Miles, Patricia; **Great Engineers and Their Works**; Thomas Telford; David & Charles; Newton Abbot; 1973

Bronowski, Jacob; **The Ascent of Man**; Little, Brown; Boston; 1990; (Traces the development of science and its effect on civilization)

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

†Caselli, G.; **The Roman Empire**; Peter Bedrick Books; 1985

Cox, R.C. and M.H. Gould; **Civil Engineering Heritage, Ireland**; Thomas Telford, Ltd.; London; 1998

Cragg, Roger; **Civil Engineering Heritage: Wales and West Central England**; Thomas Telford, Ltd.; London

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, Frances and Gies, Joseph; **Cathedral, Forge, and Waterwheel: Technology and Invention in the Middle Ages**; Harper Collins; London & New York; 1972 (Monumental inventions of the Middle Ages)

Gies, Joseph, and Gies, Frances; **The Ingenious Yankees: The men, ideas and machines that transformed a nation, 1776-1876**; Crowell; New York; 1976

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

Granger, Frank; **Vitruvius on Architecture**; Harvard Univ. Press; 1931 (A translation of the classic work by the Roman architect Vitruvius in 27 BCE describing Greek and Roman theory and practice of constructing roads, buildings, water supply systems, etc.)

Great Projects: The Building of America, 4 volume video, 60 min each, Insight Media, New York, 2002.

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)

Hatch, Sybil E.; ***Changing Our World: True Stories of Women Engineers***; American Society of Civil Engineers Press; Reston, VA; 2006

Hawke, David Freeman; ***Nuts and Bolts of the Past: A History of American Technology, 1776-1860***; Harper and Row; New York; 1988

Herrin, Dean; ***America Transformed: Engineering and Technology in the Nineteenth Century***; American Society of Civil Engineers (ASCE Press); Reston, VA; 2003 (A selection of Historic American Engineering record documentation projects)

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)

Labrum, E.A.; ***Civil Engineering Heritage: Eastern and Central England***; Thomas Telford, Ltd.; London; 1994

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

Lienhard, John; ***The Engines of Our Ingenuity: An Engineer Looks at Technology and Culture***; Oxford University Press; New York; 2000 [A collection of scripts for the Public Radio program of the same title]

Macaulay, David; ***The New Way Things Work***; Houghton Mifflin; Boston; 1998 (An introduction to basic scientific principles and how they are applied to the inner workings of machines from simple to complex such as levers and gears to digital computers)

Maier, Pauline [et al]; ***Inventing America: a History of the United States***; W.W. Norton; New York; 2003 (Secondary school U.S. history book that focuses on innovation in the social sciences, economics and physical sciences and technology)

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)

Modern Marvels: The Greatest Engineering Achievements of the 20th Century, 4 volume video, 50 min each, Insight Media, New York.

Monuments to Man, 52 min video and DVD, Insight Media, New York, 1991, Video #6AJ1170, DVD #6AJ3703.

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)

Paxton, Roland and Shipway, Jim; **Civil Engineering Heritage: Scotland-Highlands and Islands**; Thomas Telford; London; 2007

Paxton, Roland and Shipway, Jim; **Civil Engineering Heritage: Scotland-Lowlands and Borders**; Thomas Telford; London; 2007

Petroski, Henry; **Beyond Engineering**; St. Martin's Press; New York; 1986 (This collection of short essays deals, often in a light-hearted way, with such issues as energy policy and the role of engineers in society)

Petroski, Henry; **Pushing the Limits: New adventures in Engineering**; Knopf; New York; 2004 (Examines the problems, costs and human challenges of designing and constructing larger-than-ever projects)

Petroski, Henry; **Success through Failure: The Paradox of Design**; Princeton University Press; Princeton; 2006 (Fact-based analysis of how we can learn from past failures)

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)

Proceedings of the Second National Congress on Civil Engineering History and Heritage, Boston October 18-21, 1998; American Society of Civil Engineers; Reston, VA; 1998

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

Rennison, R.W., editor; **Civil Engineering Heritage: Northern England**; Thomas Telford, Ltd.; London; 1996

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., editor; **Civil Engineering History: Engineers Make History**; First National Symposium on Civil Engineering History, New York; American Society of Civil Engineers and U.S. Capitol Historical Society; 1996

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)

Royson, 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

Tobin, James; ***Great Projects: The Epic Story of the Building of America, from the Taming of the Mississippi to the Invention of the Internet***; The Free Press; New York; 2001

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)

Geotechnical Engineering

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

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

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)

Shrady, Nicholas; ***Tilt: a Skewed History of the Tower of Pisa***; Thorndike Press; Waterville, ME; 2004

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)

Highways

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

Haley, John L.; **Wooin 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)

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

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

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

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)

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 video); available from Films for the Humanities and Sciences; Princeton, NJ; 1997; 85 minutes

Pacific Coast Highway, 50 min video, Insight Media, New York, #6AJ3527.

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

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

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

The Alcan Highway, 50 min video, Insight Media, New York, #6AJ3525.

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

Russell, Chester; **Tales of a Catskiner: A Personal Account of Building the Alaskan Highway, The Winter Trail and Canol Pipeline Road in 1942-43**; C.L. Russell; Coos Bay, Oregon; 1999

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)

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

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)

Frontinus, Sextus Julius; ***The Stratagems and the Aqueducts of Rome***; William Heinemann; New York; G.P. Putnam's Sons; 1925 (Translation of books written in first century by Frontinus on Greek and Roman military history and the aqueducts for the Rome water supply)

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

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)

Berton, Pierre; ***The National Dream: The Great Railway 1871-1881***; McClelland & Stewart; Toronto; 1970 (The deliberations and events leading up to the building of the Canadian Pacific railway)

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

Goldman, Joanne Abel; ***Building New York's Sewers: Developing Mechanisms of Urban Management***; Purdue University Press; West Lafayette, Indiana; 1997 (An examination of how infrastructure policy is made)

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

Petroski, Henry; ***Beyond Engineering***; St. Martin's Press; New York; 1986 (This collection of short essays deals, often in a light-hearted way, with such issues as energy policy and the role of engineers in society)

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)

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 (This collection of short essays deals, often in a light-hearted way, with such issues as energy policy and the role of engineers in society)

Petroski, Henry; **Design Paradigms: Case Histories of Error and Judgment in Engineering**; Cambridge University Press; New York; 1994 (An argument for the relevance and value of history to cutting-edge engineering, including a collection of case histories of failures, ranging from examples drawn from Roman and Renaissance times to the Victorian era and the 20th century)

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 (Deals with various aspects of engineering design and development, including chapters on the history of water supply, bridges and buildings)

Petroski, Henry; **Remaking the World: Adventures in Engineering**; Alfred A. Knopf; New York; 1997 (About engineers and great engineering projects, with chapters on the Panama Canal, the Ferris Wheel, Hoover Dam, the Channel Tunnel and Petronas Towers)

Petroski, Henry; **The Toothpick: Technology and Culture**; Alfred A. Knopf; New York City; 2007 (The complex history of an old and simple device and how it relates to design and impact on society)

Petroski, Henry; **To Engineer is Human**; St. Martin's Press; New York; 1982 (An extended essay on the nature of engineering as seen through the lens of design and failure. The argument suggested by the title is supported by numerous historical examples.)

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**)

Saint, Andrew; **Architect and Engineer: A Study in Sibling Rivalry**; Yale University Press; New Haven, CT; 2007 (A study of the complex relationship between architects and engineers from 1600 to the present in England, France and the United States)

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)

Railroads

American Railroads: The Steam Train Legacy, 7 hr, 7 videocassettes, PBS Home Video, #A1822.

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

Ambrose, Stephen.; **Nothing Like It in the World: The men Who Built the Transcontinental Railroad 1863-1869**; Simon & Schuster; New York; 2000

Bain, David; **Empire Express**; Penguin Books; 1999 (Building of the first transcontinental railroad)

Berton, Pierre; **The National Dream: The Great Railway 1871-1881**; McClelland & Stewart; Toronto; 1970 (The deliberations and events leading up to the building of the Canadian Pacific railway)

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