## Chapter 1 Building General Electric: Source Notes and Bibliography

## **Source Notes**

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1.3 "I had ... distinction" "careless" "boyish" (Insull 1934, pp. 29-30)
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- 1.4 "star assistants" (Jehl, p. 940); "prophet" (Insull 1934., p. 880)
- 1,7 200 to 6,000 employees (Insull 1934, p. 49)
- 1.8 "hideous ... wires" (Dyer and Martin, p. 389)

## **Footnotes**

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2 "Never provoke ... on top" (Insull May 28, 1924, pp. 5–6)
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- 4 "the best ... in Boston" (Winkler, p. 46); "ablest ... his day" (Chernow, p. 133)
- 5 "I was ... knowledge" (Insull 1919, p. 188)
- 7 "Edison ... achieved" (Insull [1922c, p. 365]); "midnight luncheon" (Israel, p. 221)
- 8 "not to make ... gas" (quoted in Passer, p. 82).
- 9 "I have ... heard" (quoted in Runes, p. 48)
- 10 "His Bible ... was not" (quoted in Runes, p. 157); "there's an engineer--somewhere" (quoted in Tate, pp. 64)
- 14 "original nerd" "shabby ... habits" (McCormick, p. 22); "the wonderful ... eyes" (Insull 1934, p. 30)
- 15 "That was . . . followed" "I found ... money" (United States vs. Insull, pp. 4243-44.
- 18 "became hysterical" (quoted in Jonnes, p. 13)
- 22 Westinghouse (Bright, pp. 98–100; McDonald, p. 37; Prout, pp. 22–23, 27, 101–102)
- 23 "helped ... in 1900" (Carlson, p. 2); "an excellent ... engineer" (McDonald, p. 46); "cowbird ... others" (McDonald., p. 45); Thomson as great inventor (Carlson, pp. 1, 33, 66)
- 26 "It was found ... basis" (quoted in Hammond, 175)
- 28 "I guess ... president" (Insull January 15, 1929, p. 18); "I really ... Edison" (Insull 1937, p. 10)
- 29 "marvelous grasp ... business (Insull 1934, p. 139)

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Edison's killer app (Downes and Mui, p. 3)

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"When Edison ... curse of night" (quoted in Jehl, p. 357)

#### **Prodigy**

birth and family (Insull 1934, p. 3)

"'Children of the Soil'" (Insull 1934, p. 5)

"one of ... life" "a fine English ... door'" "a man ... pocketbook" (Insull 1934, p. 7)

demon rum (McDonald, p. 4)

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family traits (McDonald, pp. 5-6)

"combination ... blood" (Insull 1934, p. 6)

"Don't carry ... memory" (P. Crissey, p. 542)

"He invariably ... night" (McDonald, p. 6)

Oxford education (Insull 1934, p. 7; McDonald, p. 8)

"Very early ... the better" (McDonald, p. 8)

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Victorian platitudes, italics added (McDonald, p. 10)

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first job (Insull May 28, 1924, pp. 3–4; Insull December 14, 1926, p. 4)
58-year career (McDonald, p. 11)
"big black ruler" (Insull December 9, 1925, p. 5)
"I learned ... knew" (Insull, December 14, 1926, pp. 4–5)
self-study; work; activities (Insull May 28, 1924, pp. 6-9, 18; Insull 1934, pp. 14-15; McDonald, pp. 12-
"writing ... handles" "opened up ... career" (Insull December 9, 1925, p. 5)
"laid ... an audience" (Insull 1934, pp. 15-16)
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"panic ... shares" (Gouraud to Edison, October 7, 1878, reprinted in Collins and Gitelman, p. 86)
succession Junius Morgan to J. P. Morgan (Chernow, p. 42)
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duties for Edison (Insull 1934, pp. 24–26; McDonald, pp. 16–17)
"the first glimmer ... batteries" (Insull November 14, 1928, p. 12)
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"Things American ... me" (Insull, May 28, 1924, p. 185)
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"Wherever ... the result" (quoted in Wachhorst, p. 113)
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"I measure ... no good" (quoted in Tate, p. 126)
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"The most ... never will" (Paine, p. 3)
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"From his neck down... produce" (www.thomasedison.com/quotes.html)
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"Darwinian harshness" (Jonnes, p. xiv)
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"hero ... imagination" "looked ... oil" (Insull December 14, 1926, p. 3)
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937–40; Passer, pp. 96–97)
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# **Chapter 1 Bibliography**

Allen, Frederick. The Great Pierpont Morgan. New York: Dorset Press, 1948.

Baldwin, Neil. Edison: Inventing the Century. Chicago: University of Chicago Press, 1995, 2001.

Berry, Burton. Notes from Insull conversations (copyright 1962 Samuel Insull Jr.). Loyola University of Chicago Archives. Samuel Insull Papers, 1799–1970. Box 17. Folder 2.

Blühm, Andreas, and Louis Lippincott. *Light! The Industrial Age 1750–1900: Art & Science, Technology & Society*. New York: Thames & Hudson, 2001.

Bright, Arthur, Jr. *The Electric-Lamp Industry: Technological Change and Economic Development from 1800 to 1947.* New York: Macmillan, 1949.

Carlson, W. Bernard. *Innovation as a Social Process: Elihu Thomson and the Rise of General Electric,* 1870-1900. Cambridge: Cambridge University Press, 1991.

Chandler, Alfred. *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, MA: Harvard University Press, Belknap Press, 1977.

Chernow, Ron. The House of Morgan. New York: Atlantic Monthly Press, 1990.

Coleman, Charles. P.G. & E. of California: 1852–1952. New York: McGraw-Hill, 1952.

Collins, Theresa, and Lisa Gitelman. *Thomas Edison and Modern America*. New York: Bedford/St. Martin's, 2002.

Conot, Robert. Thomas A. Edison: A Streak of Luck. New York: Da Capo, 1979.

Crissey, Forrest. "Story of the Commonwealth-Edison Company," 1922. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 50. Folder 6.

Crissey, Paul. "Samuel Insull." *Power Plant Engineering* (June 15, 1919): 541–43. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 73. Folder 7.

Downes, Larry, and Chunka Mui. Unleashing the Killer App. Boston: Harvard Business School Press, 1998.

Dyer, Frank, and Thomas Martin. Edison: His Life and Inventions. New York: Harper & Brothers, 1910.

"A Farewell Banquet to Mr. Samuel Insull," *Electrical Engineer* (June 29, 1892): 664. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 73. Folder 4.

Flynn, John. "J. Pierpont Morgan: The Promoter," in Flynn, *Men of Wealth*, 452–513. New York: Simon and Schuster, 1941.

Friedel, Robert, and Paul Israel. *Edison's Electric Light: Biography of an Invention*. New Brunswick, NJ: Rutgers University Press, 1986.

Gunderson, Gerald. *The Wealth Creators: An Entrepreneurial History of the United States*. New York: Truman Talley, 1989.

Hammond, John. Men and Volts: The Story of General Electric. New York: J. B. Lippincott, 1941.

Hogan, John. A Spirit Capable: The Story of Commonwealth Edison. Chicago: Mobium Press, 1986.

Howe, J. Olin, *Success*, "'I Would DO IT all Over AGAIN" (March 1926): pp. 26, 28, 85–88. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 21. Folder 4.

Hughes, Thomas. *Networks of Power: Electrification in Western Society, 1880–1930*. Baltimore: Johns Hopkins University Press, 1983.

Insull, Samuel. Letter to J. E. Kingsbury (1881). Reprinted in Insull, *Central-Station Electric Service*. Chicago: privately printed, 1915, xxxvi–xxxix.

- ———. "The Development of the Central Station" (1898). ." Lecture to the Electrical Engineering Department of Purdue University, Lafayette, IN, May 17, 1898. Reprinted in Insull, *Central-Station Electric Service*. Chicago: privately printed, 1915, 8–33.
- ———. "Presentation of the Edison Medal to Elihu Thomason" (February 24, 1910). In Insull, *Central-Station Electric Service*. Chicago: privately printed, 1915, 123–26.
- ———. Central-Station Electric Service: Its Commercial Development and Economic Significance as Set Forth in the Public Addresses (1897–1914) of Samuel Insull. Chicago: privately printed, 1915.
- ———. "Progress of Economic Power Generation and Distribution" (1916). Lecture to the joint meeting of the New Haven sections of the Civil, Electrical, Mining, and Mechanical Engineering societies, New Haven, April 5, 1916. Reprinted in Insull, *Public Utilities in Modern Life*, 40–53.In Insull, *Public Utilities in Modern Life*. Chicago: privately printed, 1924, 40–53.
- ———. "A Quarter Century Anniversary" (1917). Speech to the Commonwealth Edison Company, Chicago, June 25, 1917. Reprinted in Insull, *Public Utilities in Modern Life*, 133–37.
- ———. "Looking Backward." Lecture to Public Service Company of Northern Illinois Section of the National Electric Light Association (second division), Chicago, October 24, 1919. Reprinted in Insull, *Public Utilities in Modern Life*, 184–98 (1919).
- ———. "Rise and Development of the Electric Central Station" (1922a). In Insull, *Public Utilities in Modern Life*, 1924, 330–40.
- ———. "Thirty Years of Chicago Central-Station History" (1922b). Lecture to the University Club, Chicago, September 20, 1922. Condensed version printed in Insull, *Public Utilities in Modern Life*, 341–52.

———. "Some Reminiscences of Business" (1922c). In Insull, <i>Public Utilities in Modern Life,</i> 1924, 362–67.
———. Public Utilities in Modern Life: Selected Speeches, 1914–1923. Chicago: privately printed, 1924.
———. "The Development of One's Self—Incidents from My Own Career." May 28, 1924, Chicago. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 21. Folder 4.
———. "Some Personal Experiences in Getting a Start in Life," December 9, 1925. Chicago. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 21. Folder 5.
———. "Speech to Employees of the Public Service Company of Northern Illinois," December 14, 1926. Chicago. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 21. Folder 8.
———. "Extract of Speech to the Employees of the Public Service Company of Northern Illinois," December 8, 1927. Chicago. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 21. Folder 7.
———. "Dedication Address for 25th Anniversary of the Fisk Street Station," November 14, 1928. Chicago. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 22. Folder 2.
———. "Speech to the Middle West Educational Club, Middle West Utilities Company, Chicago," January 15, 1929. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 22. Folder 3.
———. The Memoirs of Samuel Insull. Polo, Ill: Transportation Trails, 1934, 1992.
———. "Transcript of Questionnaire of Mr. Samuel Insull, Corporation Securities Co. Directors Suit," ca. 1937. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 52. Folder 11.
Israel, Paul. Edison: A Life of Invention. New York: John Wiley & Sons, 1998.
Jehl, Francis. Menlo Park Reminiscences. Dearborn, MI: Edison Institute, 1937.
Jonnes, Jill. <i>Empires of Light: Edison, Telsa, Westinghouse, and the Race to Electrify the World</i> . New York: Random House, 2003.
Josephson, Matthew. Edison: A Biography. New York: McGraw-Hill, 1959.
———. The Robber Barons: The Great American Capitalists, 1861–1901. New York: Harcourt, Brace and Company, 1934.

Klein, Maury. The Power Makers: Steam, Electricity, and the Men Who Invented Modern America. New

York: Bloomsbury Press, 2008.

McCormick, Blaine. At Work with Thomas Edison. Irvine, CA: Canada: Entrepreneur Press, 2001.

McDonald, Forrest. Insull. Chicago: University of Chicago Press, 1962.

Paine, Thomas. Age of Reason. New York: Wiley (1795), 1942.

Passer, Harold. *The Electrical Manufacturers, 1875–1900*. Cambridge, MA: Harvard University Press, 1953.

Platt, Harold. *The Electric City: Energy and the Growth of the Chicago Area, 1880–1930.* Chicago: University of Chicago Press, 1991.

Prout, Henry. A Life of George Westinghouse. New York: American Society of Mechanical Engineers, 1921.

Runes, Dagobert, ed., *The Diary and Sundry Observations of Thomas Alva Edison*. New York: Philosophical Library, 1948.

———. "Education and Work" (1925a). In Dagobert Runes, ed., *The Diary and Sundry Observations of Thomas Alva Edison*. New York: Philosophical Library, 1948, 107–48.

———. "The Philosophy of Paine" (1925b). In Dagobert Runes, ed., *The Diary and Sundry Observations of Thomas Alva Edison*. New York: Philosophical Library, 1948, 151–58.

———. "Autobiographical" (1930). in Dagobert Runes, ed. *The Diary and Sundry Observations of Thomas Alva Edison*. New York: Philosophical Library, 1948, 43–59.

"Samuel Insull's Useful Life." Sunday [Chicago] Chronicle, May 28, 1899.

Satterlee, Herbert. J. Pierpont Morgan: An Intimate Portrait. New York: Macmillan, 1939.

Schumpeter, Joseph. *Capitalism, Socialism and Democracy*. 1942; 3rd ed., 1950. Reprint, New York: Harper & Row, 1962.

Seymour, H. A. *History of the Commonwealth Edison Company*. Typescript, 1934. Loyola University Chicago Archives and Special Collections. Samuel Insull Papers, 1799–1970. Box 51. Folder 1.

Simon, Julian. The Ultimate Resource. Princeton, NJ: Princeton University Press, 1981.

———. The Ultimate Resource 2. Princeton, NJ: Princeton University Press, 1996.

Simonds, William. Edison: His Life, His Work, His Genius. New York: Blue Ribbon, 1940.

Strouse, Jean. Morgan: American Financier. New York: Random House, 1999.

Tate, Alfred. Edison's Open Door. New York: E. P. Dutton & Co., 1938.

United States vs. Insull et al., Vol. IV, pp. 3632–4932 (October/November 1934).

Wachhorst, Wyn. Thomas Alva Edison: An American Myth. Cambridge, MA: MIT Press, 1981.

Wasik, John. The Merchant of Power. New York: Palgrave, 2006.

Winkler, John. Morgan the Magnificent. Garden City, NY: Garden City Publishing, 1930.

Woodbury, David. Elihu Thomson: Beloved Scientist. Boston: Museum of Science, 1960.