Industrialization and Production of Textiles in the United States, A Bibliography

GAIL FOWLER MOHANTY

Articles

- Adrosko, Rita J. "Eighteenth-Century American Weavers, Their Looms and Their Products." *Irene Emery Roundtable on Museum Textiles* (1975): 105–125.
- Arnold, Aza to Edward Harris, 12 July 1861. Rhode Island Society for the Encouragement of Domestic Industry for 1861, vol. 80. Providence, 1862.
- Baumgarten, Linda R. "The Textile Trade in Boston, 1650–1700." In Arts of the Anglo-American Community in the Seventeenth Century, Papers of the 1974 Winterthur Conference, edited by M.G. Quimby, 219–273. Charlottesville, Va.: University of Virginia, 1974.
- Buffum, David to Elisha Dyer, 6 January 1861. Rhode Island Society for the Encouragement of Domestic Industry for 1862, 94.
- Bulletin of the National Association of Wool Manufacturers 1–33 (1869–1903).
- Burrage, Michael. "Democracy and the Mystery of the Crafts: Observations on Work Relationships in America and Britain." Daedalus 101 (1972): 141-162.
- Candee, Richard. "The Great Factory at Dover, New Hampshire: The Dover Manufacturing Company Print Works, 1825." Old Time New England, The Bulletin of the Society for the Preservation of New England Antiquities 66 (Summer-Fall 1975): 39-51.
- Carling, H. "The Development of Modern Weaving Machines." *Textiles* 13 (1984): 5–12.
- Clark, Charles H. "John Thorp Inventor of Ring Spinning," Transactions of the National Association of Cotton Manufacturers 124–25 (1928): 72–95.
- Coleman, Peter J. "Rhode Island Cotton Manufacturing: A Study in Economic Conservatism." Rhode Island History 23 (1964): 65-80. "The Insolvent Debtor in Rhode Island 1745-1828." William and Mary Quarterly 3d ser., 32 (1965): 413-434.
- Conrad, James L., Jr. "Entrepreneurial Objectives, Organizational Design, Technology and Cotton Manufacturing of Almy and Brown 1787-1797." Business

- and Economic History, 2d ser., 13 (1984): 7–19.
- Cooper, Grace Rogers. "Handweaving and the Power loom in Eighteenth Century America." Handweaver and Craftsman (Fall 1971).
- Day, Clive. "The Early Development of American Cotton Manufacturing." Quarterly Journal of Economics 39 (1925): 450-468.
- Dickman, Howard. "Technological Innovation in the Woolen Industry: The Middletown Manufacturing Company." Connecticut Historical Society Bulletin 27 (1972): 532–58.
- Draper, William F. "The History of Spindles."

 New England Cotton Manufacturers

 Association Proceedings (1891).
- Dublin, Thomas. "Women's Work and the Family Economy: Textiles and Palm Leaf Hat Making in New England, 1830–1850." Toqueville Review 5 (Fall and Winter 1983): 297–316. And "Women and Outwork in a Nineteenth Century New England Town: Fitzwilliam." In The Countryside in the Age of Capitalist Transformation Essays in the Social History of Rural America, edited by Jonathan Prude and Steven Hahn, 51–70. Chapel Hill, N.C.: 1985.
- Farnum, Anne. "Olive Prescott, Weaver of Forge Village." Essex Institute Historical Collections 15 (1979): 129-143.
- Feller, Irwin. "The Draper Loom in New England Textiles 1894–1914: A Study of Diffusion of an Innovation." Journal of Economic History 26 (1966): 320–347. And "The Diffusion and Location of Technological Change in American Cotton Textile Industry 1890–1970." Technology and Culture 15 (1974): 569–593.
- Forman, Benno. "The Account Book of John Gould, Weaver of Topsfield, Mass. 1697-1724." Essex Institute Historical Collections 105 (1969): 36-49. And "Salem Tradesmen and Craftsmen c. 1762: A Contemporary Account." Essex Institute Historical Collections 107 (1971): 62-81.

- Gibson, George H. "Fullers, Carders and Manufacturers of Woolen Goods in Delaware." *Delaware History* 12 (1966): 25-53.
- Glascow, Vaughn L. "Textiles of the Louisiana Acadians." *Antiques* 120 (1981): 338–47.
- Gross, Laurence F. "Wool Carding: A Study of Skills and Technology." *Technology and Culture* 28 (1987): 824–827. "The Saga of a Fancy Woolen Loom." *Shuttle, Spindle and Dyepot* 9 (Summer 1978).
- Hames, Margaret. "American Weavers: Their Problems and their Growth." Daughters of the American Revolution Magazine 113 (1979): 1108–1113, 1195.
- Hayes, John L. "American Textile Machinery."

 Bulletin of the National Association of
 Wool Manufacturers 9 (1879): 450–468.
- Houston, Jordan. "Two Treadle Spinning Wheels." *Handweaver and Craftsman* (August, 1973).
- Jeremy, David J. "British Textile Technology Transmission to the United States: The Philadelphia Regional Experience." Business History Review 47 (1973): 24–52. "Damming the Flood: British Government Efforts to Check the Outflow of Technicians and Machinery 1780–1843." Business History Review 51 (1977): 1–34. "Innovations in American Textile Technology during the Early Nineteenth Century." Technology and Culture 14 (1973): 40–76.
- Kaye, Alda Granze. "Weaver Rose: a New Perspective." Shuttle, Spindle and Dyepot 30 (Spring 1977): 9-17.
- Kulik, Gary. "Pawtucket Village and the Strike of 1824: The Origins of Class Conflict in Rhode Island." Radical History Review 17 (1978): 5–37. "Dams, Fish and Farmers: Defense of Public Rights in Eighteenth Century Rhode Island." In Steven Hahn and Jonathan Prude, eds., The Countryside in the Age of Capitalist Transformation: Essays in the Social History of Rural America (Chapel Hill, N.C., 1985): 25–50.
- Lewton, Frederick L. "Samuel Slater and the Oldest Cotton Machinery in America." Smithsonian Institution Annual Report (1926): 505-511.
- Lincoln, Jonathan Thayer. "The Beginnings of the Machine Age in New England, David Wilkinson of Pawtucket." New England Quarterly 6 (1933): 716–732. "Origin of Piece Work Revealed in Early Loom Building." Textile World 82 (1932): 176–77. "New Light on the Development of Early American Power Looms." Textile

- World 83 (1933): 46-47.
- Lovett, Robert W. "The Beverly Cotton Manufacturing Company or some New Light on an Early Mill." Business Historical Society 26 (1962): 18–42.
- Lyman, Henry B. to Elisha Dyer, 28 May 1861. Rhode Island Society for the Encouragement of Domestic Industry Transactions for 1861, 76–78.
- Mohanty, Gail Fowler. "Experimentation in Textile Technology, 1788–1790 and Its Impact on Hand Loom Weaving and Weavers in Rhode Island." Technology and Culture 29 (1988): 1–31. "Putting Up with Putting-Out: Technological Diffusion and Outwork Weaving in Rhode Island Textile Mills 1821–1829." Journal of the Early Republic (forthcoming); "Outwork and Outwork Weavers in Rural Rhode Island 1810–1820." American Studies, (forthcoming); "Rhode Island Hand Loom Weavers: A Probate Perspective." Dublin Seminar for New England Folklife Annual Proceedings (1987): 86–96.
- Montgomery, David. "The Shuttle and the Cross: Weavers and Artisans in the Kensington Riots of 1844." In Workers in the Industrial Revolution: Recent Studies of Labor in the United States and Europe, edited by Peter N. Stearns, 44-74. New Brunswick, N.J.: 1974.
- Montgomery, Florence. "Fortunes to be Acquired: Textiles in Eighteenth Century Rhode Island." Rhode Island History 31 (1972): 52-63.
- Nash, Gary B. "The Failure of Female Factory Labor in Colonial Boston." Labor History 20 (Spring 1979): 165–188. "New England: First Company Town." Review in American History 12 (1984): 193–197.
- North, Simon N.D. "An American Textile Glossary." Bulletin of the National Association of Wool Manufacturers 29-33 (1899-1903).
- Norton, Nancy P. "Labor in the Early New England Carpet Industry." *Business History Review* 26 (1952): 19–26.
- Nourse, Henry. "Some Notes on the Genesis of the Power Loom in Worcester County." American Antiquarian Society Proceedings 16 (1903): 22-46.
- Pariseau, George E. "Weaver Rose of Rhode Island 1839–1913." Handweaver and Craftsman (Winter 1954–55): 4–7, 55.
- Penn, Theodore Z. "The Introduction of Calico Cylinder Printing in America: A Case Study in the Transmission of Technology." In Technological Innovation and the

- Decorative Arts Winterthur Conference Report, edited by Ian M.G. Quimby and Polly Anne Earl, 1973.
- Prude, Jonathan. "Town and Factory Conflicts in Antebellum Rural Massachusetts." In The Countryside in the Age of Capitalist Transformation: Essays in the Social History or Rural America, edited by Steven Hahn and Jonathan Prude, 71–102. "The Social System of Early New England Textile Mills: A Case Study 1812–1840." In The New England Working Class and the New Labor History, edited by Herbert G. Gutman and Donald H. Bell, 90–127. Urbana: University of Illinois Press, 1987.
- Rivard, Paul E. "Textile Experiments in Rhode Island 1788–1789." Rhode Island History 33 (1974): 35–47.
- Rogers, Grace L. "Peter Stauffer Early Nineteenth Century Weaver." *Handweaver* and Craftsman (Winter 1955–56).
- Safner, Isadora M. "Joseph France: The Admirable Pirate." An Interweave Press White Paper (1981): 1-2.
- Scranton, Philip. "Milling About: Paths to Capitalist Development in the Philadelphia Textile Industry 1840–1865." Journal of Urban History 10 (1984): 259–94.
- Shelton, Cynthia. "Textile Production and the Urban Laborer: The Proto-Industrial Experience of Philadelphia 1787-1820." Working Papers from the Regional Economic History Research Center 5 (1982): 49-56. "The Role of Labor in Early Industrialization: Philadelphia 1787-1837." Journal of the Early Republic 4 (Winter 1984): 365-94.
- Sisson, William. "From Farm to Factory: Work Values and Discipline in two Early Textile Mills." Working Papers from the Regional

- Economic History Research Center 4 (1981): 1–27.
- Sloat, Caroline. "The Dover Manufacturing Company and the Integration of English and American Calico Printing Technology 1825–29." Winterthur Portfolio 10 (1975): 51–68.
- Smith, Gideon C. to Elisha Dyer, n.d., Rhode Island Society for the Encouragement of Domestic Industry Transactions for 1861: 91–92, n.d.
- Tidball, Harriet. "Thomas Jackson, Weaver in Seventeenth and Eighteenth Century Records." Shuttlecraft Guild Monographs (Santa Anna, Calif., H.T.H. Publications, n.d.) no. 13.
- Tucker, Barbara. "The Family and Industrial Discipline in Antebellum New England." Labor History 21 (1979): 55-74.
- Wallace, Anthony F.C. and David J. Jeremy. "William Pollard and the Arkwright Patents." William and Mary Quarterly 3d ser., 34 (1977): 409–417.
- Watkins, Walter Kendall. "An Invoice of Fabrics, etc. Shipped from Boston to Taunton in 1688." Old Time New England 23 (1932): 84.
- White, Margaret E. "The Pattern Books of Weavers." Antiques 53 (1948): 134-35.
- Wilkinson, Edward S. to Elisha Dyer, 16
 December 1861. Rhode Island Society for
 the Encouragement of Domestic Industry
 Transactions for 1861: 87-88.
- Zevin, Robert B. "The Growth of Cotton Textile Production after 1815." In Reinterpretation of American Economic History, edited by Robert W. Fogel and Stanley L. Engeman, 122–147. New York: Harper and Row, 1971.

Books

Contemporary Sources

- Allen, Zachariah. The Practical Tourist Sketches of the State of the Useful Arts and of Society, Scenery, etc. in Great Britain, France and Holland. Providence: 1832.
- Appleton, Nathan. "Introduction of the Power Loom and the Origin of Lowell." In *The* Early Development of the American Cotton Textile Industry. 1858. Reprint. New York: 1969.
- Barrett, Oliver. Domestic Roving and Spinning Machines. Troy, N.Y.: 1812.
- Bemis, Elijah. *The Dyer's Companion*. New York: 1815.
- Bishop, J. Leander. A History of American

- Manufactures from 1608 to 1860. Philadelphia: 1864.
- Blakeman, Philo. The Weaver's Assistant Explaining in a Familiar Manner the First Principles of the Art of Weaving. Bridgeport: 1818.
- Bronson, J. and R. The Domestic Manufacturer's Assistant and Family Directory in the Arts of Weaving and Dyeing. Utica, N.Y.: 1817.
- Burns, George C. The American Woolen Manufacturer: A Practical Treatise on the Manufacture of Woolens, in Two Parts. Central Falls, R.I.: 1872.

- Chase, Ebenezer. The Weaver's Guide: A Choice Selection of Drafts Compiled from the Newest Fashions. Andover, N.H.: 1821.
- Ellis, Asa, Jr. *The Country Dyer's Assistant*. Brookfield, Mass., 1798.
- Ferald, John B. The Cotton Centennial 1790–1890. Providence: 1891.
- France, Joseph. The Weaver's Complete Guide or Web Analyzed. Providence: 1814.
- Friends of Domestic Industry, New York Convention. Report on the Production and Manufacture of Cotton. Boston: 1832.
- Gallatin, Albert. "Report on American Manufactures, 17 April 1810." *American* State Papers 2, 425–439. Washington, D.C.: Finance 1832.
- Gilroy, Clinton G. The Art of Weaving by Hand and by Power. New York: 1844. The History of Silk, Cotton, Linen and Wool and other Fibrous Substances: Including Observations on Spinning, Dyeing and Weaving. New York: 1845.
- Haigh, James. The Dyer's Assistant in the Art of Dyeing Wool and Woolen Cards. Philadelphia, Pa.: 1800.
- Hargrove, John. Weaver's Draft Book and Clothmaker's Assistant. 1792. Reprint. Worcester: 1979.
- Hazard, Thomas B. "Nailer Tom's Diary" otherwise the Journal of Thomas B. Hazard 1778–1840. Edited by Caroline Hazard. Boston: 1930.
- Homerique, Joan D., and P.S. Duponiduc. An Essay on American Silk. Philadelphia: 1830.
- Howe and Stevens. Treatise upon Dyeing and Scouring as adapted to Their Family Dye Colors. Boston: 1864.
- Knight, Perry G. A Guide for the Domestic Manufacturer. Providence: 1821.
- Mann, Thomas. Picture of a Factory Village.

- Providence: 1833.
- Minor, Manasseh. *The Diary of Manasseh Minor 1696–1720*. Edited by Frank Denison Minor. New London: 1915.
- Minor, Thomas. The Diary of Thomas Minor of Stonington Connecticut 1653–1684. Edited by Sidney Minor and George Stanton Jr. New London: 1899.
- Montgomery, James. A Practical Detail of Cloth Manufacture in the United States. 1840. Reprint. New York: 1968.
- Ogden, Samuel. Thoughts, What Probable Effect Peace with Great Britain will have on Cotton Manufacturing of this Country Interspersed with Remarks on Bad Management in Business and the Way to Improvement so as to meet Imported Goods in Cheapness at Our Home Market, Pointed Out. Providence: 1815.
- Rosenberg, Nathan, ed. The American System of Manufactures: The Report of the Committee on the Machinery of the United States 1855. Edinburgh: 1969.
- Stopford, Joseph and Gerrard Nehemiah. *The Cotton Manufacturer's Useful Assistant*. Philadelphia: 1832.
- White, George S. *Memoirs of Samuel Slater*. Philadelphia: 1836.
- Wilkinson, David. "Reminiscences." Rhode Island Society for the Encouragement of Domestic Industry Transactions for 1861. Providence: 1862.
- Wily, John. A Treatise on the Propagation of Sheep, the Manufacture of Wool, and the Cultivation of Flax with Directions for Making Several Utensils for the Business. Williamsburg, Va.: 1765.

Other Publications and Papers

- Adrosko, Rita. Natural Dyes in the United States. Washington, D.C.: 1968.
- Affleck, Diane L. Fagan. Just New From the Mills: Printed Cottons in America Late Nineteenth and Early Twentieth Centuries. North Andover, Mass.: 1987.
- Arlington Mills, The. The Arlington Mills: A Historical and Descriptive Sketch with some account of the Worsted Dress-Goods Manufacture in the United States. Boston: 1891.
- Arlington Mills, The. The Arlington Mills, 1865–1925. Norwood: 1925.

- Atwater, Mary Meigs. The Shuttlecraft Book of American Handweaving. New York: 1937.
- Bagnall, William R. Samuel Slater and the Early Development of Cotton Manufacture in the United States. Middletown: 1890. Sketches of Manufacturing Established in New York City and of Textiles Established in the United States. Edited by Victor Clark. North Andover: Merrimack Valley Textile Museum, 1977. Microfiche: The Textile Industries of the United States Including Sketches and Notices of Cotton, Woolen, Silk and Linen Manufacture in the Colonial

- Period (1639-1810). Boston: 1893.
- Batchelder, Samuel. Introduction and Early Progress of Cotton Manufacturing in the United States. Boston: 1863.
- Bathe, Greville and Dorothy Bathe. Jacob Perkins: His Inventions, His Times and His Contemporaries. Philadelphia: 1943.
- Bogdonoff, Nancy Dick. Handwoven Textiles of Early New England: The Legacy of a Rural People 1640–1880. Harrisburg, Pa.: 1975.
- Bowles, Ella Shannon. Homespun Handicrafts. New York: 1972.
- Bramwell, William Calvert. The Wool Carders Vade Mecum. Boston: 1881.
- Cameron, E.H. Samuel Slater: The Father of American Manufactures. Freeport, Maine: Wheelwright, 1960.
- Channing, Marion L. Textile Tools of Colonial Homes. Marion, Mass.: 1971.
- Chase, William H. Five Generations of Loom Builders. Hopedale, Mass.: 1950.
- Clark, Victor S. History of Manufactures in the United States. New York: 1948.
- Cole, Arthur Harrison. American Wool
 Manufacture. Cambridge, Mass.: 1926. And
 ed., Industrial and Commercial
 Correspondence of Alexander Hamilton
 Anticipating his Report on Manufactures.
 Chicago, 1928. And with Harold T.
 Williamson, The American Carpet
 Manufacturers: A History. Cambridge,
 Mass.: 1941.
- Coons, Martha and Katherine Koob. All Sorts of Good Sufficient Cloth: Linen Making in New England 1640–1860. North Andover, Mass.: 1980.
- Cooper, Grace Rogers. Copp Family Textiles. Washington, D.C.: 1971.
- Dalzell, Robert F., Jr. Enterprising Elite: The Boston Associates and the World They Made. Cambridge: 1987.
- Davison, Margurite P. A Handweaver's Pattern Book. Swarthmore, Pa.: 1944. A Handweaver's Sourcebook. Chester, Pa.: 1953.
- Douglas, Paul H. American Apprenticeship and Industrial Education. Columbia University Studies in History, Economy and Public Law, vol. 95, no. 216. New York: 1968.
- Dublin, Thomas. Women at Work: The Transformation of Work and Community in Lowell, Massachusetts 1826–1860. New York: 1979. And From Farm to Factory: Women's Letters 1830–60. New York: 1981.
- Emery, Irene. *Primary Structures of Fabrics*. Washington, D.C.: 1966.

- Esposito, Ralph. "The Development of the Wool Spinning Wheel in the United States." Master's thesis, State University of New York, Oneonta, 1970.
- Exhibition: Wool Technology and the Industrial Revolution. North Andover, Mass.: 1965.
- Fennelly, Catherine. *Textiles in New England* 1790–1840. Sturbridge, Mass.: 1961.
- Fiske, Patricia L., ed. Imported and Domestic Textiles in Eighteenth Century America, Proceedings of the 1975 Irene Emery Roundtable on Museum Textiles. Washington, D.C.: 1975.
- Fowler, Gail Barbara. "Rhode Island Hand Loom Weavers and the Effects of Technological Change 1790–1840." Ph.D. diss., University of Pennsylvania: 1984.
- Ferguson, Eugene S., ed. Early Engineering Reminiscences of George Escot Sellers. Washington, D.C.: 1965.
- Gibb, George Sweet. The Saco Lowell Shops: Textile Machinery Building in New England 1813–1949. New York: 1969.
- Gras, N.S.B. and Henrietta Larson. *Casebook in American Business History*. New York: 1939.
- Gunn, Susan. "Tramp as Writ or Weaving in Deerfield prior to 1800." Typescript, Historic Deerfield Summer Fellowship Program, 11 August 1974.
- Habakkuk, H. John. American and British Technology in the Nineteenth Century: The Search for Labor Saving Inventions. Cambridge: 1962.
- Hayes, John L. American Textile Machinery: Its Early History. Cambridge: 1879.
- Heartz, Robert F. The Fly Shuttle and the Automatic Take Up. Ebbing, N.H.: 1949.
- Hitz, Elizabeth. "A Technical and Business Revolution: American Woolens to 1832." Ph.D. thesis, New York University, 1978.
- Hood, Adrienne Dora. "Organization and Extent of Textile Manufacture in Eighteenth Century Rural Pennsylvania: A Case Study of Chester County." Ph.D. thesis, University of California, San Diego, 1988.
- Jeremy, David J. Transatlantic Industrial Revolution: The Diffusion of Textile Technologies between Britain and America 1790–1830. Cambridge, Mass.: 1981.
- Josephson, Hannah. The Golden Threads, New England's Mill Girls and Magnates. New York: 1949.
- Kittredge, Henry G. and Gould, A.C. History of the American Card Clothing Industry. Worcester, Mass.: 1886.

- Kulik, Gary. "The Beginnings of the Industrial Revolution in America: Pawtucket Rhode Island 1672–1829." Ph.D. thesis, Brown University, 1980.
- Leavitt, Thomas, ed. The Hollingsworth Letters: Technological Change in the Textile Industry 1826–1837. Cambridge: 1969.
- Levine, Susan. Labor's True Woman: Carpet Weavers, Industrialization and Labor Reform in the Gilded Age. Philadelphia, Pa.: 1984.
- Little, Frances. Early American Textiles. New York: 1931.
- Lozier, John W. "Taunton and Mason: Cotton Machinery and Locomotive Manufacturing in Taunton, MA 1811–1861." Ph.D. diss., Ohio State University, 1978.
- McGouldrick, Paul F. New England Textiles in the Nineteenth Century Profits and Investments. Cambridge: 1968.
- Mailloux, Kenneth P. "The Boston Manufacturing Company of Waltham, MA 1813-1848." Ph.D. diss., Boston University, 1957.
- Mantoux, Paul. The Industrial Revolution in the Eighteenth Century. New York: 1961.
- Montgomery, Florence M. Textiles in America 1650–1870. New York: 1983.
- Moore, D.D.T. Manual of Flax Culture. Rochester, N.Y.: 1864.
- Navin, Thomas R. The Whitin Machine Works Since 1831: A Textile Machinery Company in an Industrial Village. New York: 1969.
- Norton, Nancy P. Broadlooms and Businessmen: A History of Bigelow Sanford Carpet Company. Cambridge, Mass.: 1955.
- Perry, Edward W. Spinners and Weavers of America. Hopedale: 1931.
- Prude, Jonathan. The Coming of the Industrial

- Order: Town and Factory Life in Rural Massachusetts 1810–1860. New York: 1983.
- Reath, Nancy Andrews. The Weaves of Hand Loom Fabrics. Philadelphia: 1927.
- Rivard, Paul E. The Home Manufacture of Cloth 1790–1840. Pawtucket: 1974.
- Safner, Isadora M. The Weaving Roses of Rhode Island. Loveland, Colo.: 1985.
- Scranton, Philip. Proprietary Capitalism, The Textile Manufacture at Philadelphia 1800–1885. New York: 1983.
- Shelton, Cynthia. The Mills of Manayunk: Industrialization and Social Conflict in the Philadelphia Region 1781–1837. Baltimore: 1986.
- Sommar, Helen G. A Brief Guide to Sources of Fiber and Textile Information. Washington, D.C.: 1973.
- Spalding, Robert V. "The Boston Mercantile Community and the Promotion of the Textile Industry in New England 1813-1860." Ph.D. diss., Yale University. 1963.
- Tops: A New American Industry A Study in the Development of American Worsted Manufacture. Cambridge, Mass.: Riverside Press, 1898.
- Tryon, Rolla Milton. *Household Manufactures* in the United States 1640–1860. New York: 1966.
- Tucker, Barbara. Samuel Slater and the Origins of the American Textile Industry 1790–1860. Ithaca, N.Y.: 1984.
- Wallace, Anthony F.C. Rockdale: The Growth of an American Village in the Early Industrial Revolution. New York: 1978.
- Ware, Caroline F. Early New England Cotton Manufacture: A Study of Industrial Beginnings. New York: 1966.