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# Development of the Assabet Mills in 19th Century Maynard

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# DEVELOPMENT OF THE ASSABET MILLS IN NINETEENTH CENTURY MAYNARD

John R. Mullin

Historians who focus on the development of nineteenth-century New England textile mills generally place them in either of two categories. The first, referred to as the Rhode Island system, tended to be small, water-power dependent, family-owned, and located in villages and towns.<sup>1</sup> The mills located in communities along the Quinebaug River in Massachusetts and Connecticut and the Blackstone River in Massachusetts and Rhode Island exemplify this system.<sup>2</sup> The second category is most often called the Waltham or Lowell system.<sup>3</sup> Large-scale, steam-

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1. The characteristics of the Rhode Island System are explained in Richard M. Candee, "Nineteenth Century New Towns: Alternative Models for Development Within the Early New England Textile Industry," paper presented before the twenty-ninth annual meeting of the Society of Architectural Historians. Some authors refer to the Rhode Island System by other names, such as the Providence System. See Donald L. Kemmerer and L. Clyde Jones, American Economic History (New York, 1959), p. 160. See also Barbara M. Tucker, Samuel Slater and the Origins of the American Textile Industry, 1790-1860 (Ithaca, New York, 1984).
2. For an overview of the social, labor, economic, and technical characteristics of the Rhode Island system communities, see Gary Kulik, Roger Parks, and Theodore Z. Penn, editors, The New England Mill Village, 1790-1860 (Cambridge, 1982), pp. xxii-xxiii; and Jonathen Prude, The Coming of Industrial Order: Town and Factory Life in Rural Massachusetts, 1810-1860 (New York, 1985). For a "snapshot" of a Quinebaug community, see Edmund V. Gillen, A New England Town in Early Photographs (New York, 1976).
3. The characteristics of the Waltham System are explained in Richard M. Candee, "Architecture and Corporate Planning in the Early Waltham System," in Robert



powered, corporately-owned and located in larger cities, these mills could be found in Waltham, Lowell, Lawrence, Chicopee, and Holyoke, among other places.<sup>4</sup>

The differences between the two systems were particularly pronounced during the first half of the nineteenth-century. After 1850, many of the Rhode Island system mills began to increasingly adopt the characteristics common to the Waltham system.<sup>5</sup> At the same time, it was rare for the smaller mills to expand to the point that they became corporate giants. In virtually all cases, there were limiting factors that contributed to their inability to expand, such as location, labor force, power supply, managerial acumen, lack of financing, or owner's vision.<sup>6</sup>

However, there was one mill that began with the characteristics of the Rhode Island system but that gradually took on many of the characteristics of the Waltham system, to the point that it became the "nation's largest pure woolen mill."<sup>7</sup>

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Weible, Essays from the Lowell Conference on Industrial History (North Andover, 1985), pp. 17-43. Also see Lance Davis, "Stock Ownership in the Early New England Textile Industry," Business History Review XXXII (1958): 204-222.

4. On Waltham, see Kenneth F. Mailoux, "The Boston Manufacturing Company of Waltham, Massachusetts, 1813-1848," unpublished Ph.D. dissertation (Boston University, 1957); on Lowell, see Thomas Bender, Toward An Urban Vision (Lexington, Kentucky, 1975) and John Coolidge, Mill and Mansion (New York, 1942); on Lawrence, see Donald B. Cole, Immigrant City: Lawrence, Massachusetts 1845-1921 (Chapel Hill, 1963); on Chicopee, see Vera Shlakman, Economic History of a Factory Town: A Study of Chicopee, Massachusetts, in Smith College Studies in History, XX (Northampton, 1935); on Holyoke, see Constance M. Green, Holyoke, Massachusetts: A Case Study of the Industrial Revolution in America (New Haven, 1939).
5. As Dunwell notes, the separation into two patterns of development in an oversimplification. However, this approach does help to clarify how the communities and the mills developed. See Dunwell, Run of the Mill, p. 52.
6. Kulik, Parks and Penn, The New England Mill Village, es. the introduction. Also see, Carolyn F. Ware, Early New England Cotton Manufacture (Boston, 1931).
7. The term "pure woolen" is used in this paper to describe a particular class of fabric that is separate from cotton or worsteds. The differences among the various textiles manufactured in the northeast are explained in L. D. H. Weld, "Specialization in the Woolen and Worsted Industry," Quarterly Journal of Economics, XXVII (November, 1912): 67. Concerning the Assabet Mill, the claim of its being the nation's largest pure woolen mill is based on the fact that it had the



The Assabet Mill, owned by the Assabet Manufacturing Company in Maynard, was formed by two partners in 1846, in an agricultural village. The company was privately financed and its assets included two wooden mill structures located along an intermittent stream.<sup>8</sup> Over the next fifty years this company grew until its mill became a "giant in the village." This shift occurred while the population of the town never passed 3,100, and the corporation never expanded beyond 101 stockholders.<sup>9</sup>

This study is an attempt to analyze what enabled this mill to expand to the point where it could compete in scale, markets, products, and many operating procedures with the citified Waltham system mills, while the community kept the character of the Rhode Island system villages. The paper is divided into four parts. It begins with a short chronology of the evolution of the Assabet Mill and the concomitant evolution of the town of Maynard. Then, it will examine those factors which were critical to the development of the mill in the context of the Waltham and Rhode Island systems. Then, this paper will explore the dynamics between town and mill. The contributions of the mill-owners to the community are identified, and an effort is made to determine their motivation in expanding the mill. Finally, the Assabet Mill experience is placed into a comparative perspective, with other New England mill communities.

The mill was originally located in the Assabet Village of the towns of Stow and Sudbury. In 1871, twenty-five years after the mill was founded, the village was incorporated as the Town of Maynard, taking its name from Amory Maynard, the primary mill-owner. The town is located approximately twenty-one miles west of Boston, along the Assabet River in Middlesex County.

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greatest production capacity (66 sets of cards and 3540 broad looms). See Orra L. Stone, History of Massachusetts Industry (Boston, 1930), I: 1013.

8. William R. Bagnall, Sketches of Manufacturing Establishments in New York City, and of Textile Establishments in the United States (Washington, D.C., 1908). The first official census of the new town of Maynard was taken in 1875. At that time, it still had strong agricultural base: of the town's 3,200 acres, more than 2,800 were in agricultural use. See Carroll D. Wright, Census of Massachusetts for 1875, Vol. III, Agricultural Products and Property (Boston, 1876), p. 612.

9. Horace G. Wadlin, Census of Massachusetts for 1895, Vol. V, Manufactures (Boston, 1898), pp. 163 and 184. The stockholders list included 31 male, 41 female and 29 banker/trustee stockholders.



The river was the most critical resource in terms of the development of the mill and the town.<sup>10</sup> From its origin in Westboro, twenty miles south, southwest of Maynard, the river steadily gains speed and depth. Over time, the speed and force of the river contributed to the erosion of the stream bed, until there were high banks on each side.<sup>11</sup> These banks were ideal for the placing of water wheels — the critical element in providing power for early nineteenth-century mills.<sup>12</sup> Indeed, all the ingredients for the development of a mill were present: an intermittent supply of moderate to heavy flow for most of the year, a sufficient fall of water, high banks, and a ready population willing to undertake mill work. Colonial era records note that the Assabet River banks were the location of mills as early as the late seventeenth century.<sup>13</sup> Municipal histories also describe a mill designed to produce heavy machinery located in the village in the early 1800s.<sup>14</sup> These histories also note that this mill did not survive due to the inconsistencies of the water current and the consequent inability to provide steady power year-round.<sup>15</sup>

The site of this mill was purchased by Amory Maynard and William Knight in 1846. In that year, they established a partnership and began operating the Assabet Manufacturing Company, for the production of yarn and carpeting. Shortly after purchasing the site, the owners contracted to build a larger dam,

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10. Hudson, The Annals of Sudbury, Wayland and Maynard, Middlesex County, Massachusetts, p. 78.

11. This point is reviewed in depth in W. P. Trowbridge, "The Waterpower of the Streams of Eastern New England," in George P. Swain, editor, Tenth Census of the United States: Reports on the Water Power of the United States, Part I (Washington, D.C., 1885), p. 42. For an excellent overview of water-power in general, see Louis C. Hunter, A History of Industrial Power in the United States 1780-1930 (Charlottesville, Virginia, 1979).

12. Peter Molloy, "Nineteenth-Century Hydropower: Design and Construction of Lawrence Dam, 1845-1848," Winterthur Portfolio XV (Winter, 1980):315.

13. Bagnall, Sketches of Manufacturing Establishments, p. 1026.

14. William H. Guttridge, A Brief History of the Town of Maynard, Massachusetts (Maynard, 1921), p. 24; and Maynard Historical Committee, History of Maynard, Massachusetts, 1871-1971 (Acton, 1971), p. 12.

15. Bagnall, Sketches of Manufacturing Establishments, p. 1027.



dig a channel, create a mill pond, install water wheels, and construct a 15,000 square foot, three-story wooden mill. While records showing profitability are not available, there are indications that there was enough capital to finance expansion through the first five years following incorporation. Between 1846 and 1851, for example, the owners purchased an additional thirty-four parcels of land (109 acres) in the village center, as well as twelve mile of upstream water rights.<sup>16</sup>

Like so many of the textile mills organized in the boom years of the mid-1840s, the Assabet Mill had its financial troubles. It survived a depression in 1848, became incorporated in 1849, and, in 1852 it was reorganized as the Assabet Manufacturing Company, with Maynard as a major owner.<sup>17</sup> Between 1852 and 1857, two additional wooden mill structures, two boarding-houses, and one hundred dwelling units were added.<sup>18</sup> The mills failed during the depression known as the Panic of 1857. Despite the failure of his company, Amory Maynard still personally controlled an extensive amount of mill property. Apparently he was undaunted by the experience, as property records show that he purchased additional water rights in 1859 and became a major investor in the reconstituted Assabet Manufacturing Company in 1862.

During the Civil War, the newly-reformed company switched its production from carpeting to manufacturing flannels and blankets for the Union Army.<sup>19</sup> In fact, the war economy was the single greatest factor in the rebirth of the mill, as demand for the woolen products of northern woolen mills seemed limitless.<sup>20</sup> Many of the companies that collapsed during the

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16. Ralph L. Sheridan, "A History of the Assabet Mills," unpublished manuscript prepared for the Maynard Historical Commission, 1978, p. 2.

17. See chapter 167, Resolves of the Massachusetts General Court for 1849 (Boston, 1849), p. 103.

18. Bagnall, Sketches of Manufacturing Establishments, p. 1027; Sheridan, "A History of the Assabet Mills," p. 4.

19. Hudson maintains that the company made fifty different types of blankets. See Hudson, Annals of Sudbury, Wayland and Maynard, p. 83.

20. Albert S. Bolles, Industrial History of the United States (Norwich, Conn., 1879), p. 380.



Panic of 1857 were revived, hundreds of new mills were built, and many of the cotton mills, with no raw material available, converted to woolen production.<sup>21</sup>

The end of the war did not result in an immediate downturn in the demand for woolen products. The reconversion of the cotton mills back to their normal products, a pent-up demand for civilian woolen goods, the return of the southern market, and a high tariff on imported woolens kept the mills alive.<sup>22</sup> With an infusion of new capital, several continuous years of maximum production, new equipment, new markets, and a "pro-wool" government policy, the owners of the Assabet Manufacturing Company were in a position to "boom" in the post-war period. Indeed they did. As business historian Charles Bagnall noted, the growth of the Assabet Manufacturing Company after 1862 was "without parallel in the same or similar lines of business, in this or any other country."<sup>23</sup> Further, in their study of the industrial elite of the post-Civil War period, historians Frances Gregory and Irene Neu placed Amory Maynard and his son, Lorenzo, among the top twenty woolen manufacturers in the nation.<sup>24</sup>

The fact that the mill prospered in the immediate post-war era (1865-1870) was not surprising. However, the fact that it continued to operate smoothly through the 1870s is truly remarkable. In 1870, the federal government started to place on the open market the surplus cloth that had been warehoused for the Union army, thus contributing to a glut in the first years of the decade.<sup>25</sup> In 1873, an economic panic occurred that, in turn, triggered a long-term depression, which lasted from 1873 to

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21. For a brief assessment of the impact of this shift on the Massachusetts economy, see Stanley L. Engerman, "The Economic Impact of the Civil War," in Robert William Fogel and Stanley L. Engerman, editors, The Reinterpretation of American Economic History (New York, 1971) pp. 374-375.

22. Bolles, Industrial History, p. 381.

23. Bagnall, Sketches of Manufacturing Establishments, p. 1029.

24. Frances W. Gregory and Irene D. Neu, "The American Industrial Elite in the 1870's: Their Social Origins," in Arthur Cole, editor, Men in Business, (New York, 1962), p. 204.

25. Bolles, Industrial History, p. 381.



1879.<sup>26</sup> Industrial historian Albert S. Bolles noted in 1879 that the impact was so severe that virtually every woolen mill in the nation lost money or was forced to re-organize under new ownership.<sup>27</sup> And yet, the Assabet Mill not only continued under the same set of operators, but it continued to expand.<sup>28</sup>

Between 1862 and 1893, approximately eleven acres of floor-space in nineteen brick buildings were added to the complex. More than 800 horsepower of hydropower and 700 horsepower of steam provided the energy required to run the mills. Perhaps more significantly, the company constantly reinvested capital in new machinery. For example, between 1870 and 1880, the company spend eighty percent more on equipment than it did for new facilities.<sup>29</sup> According to Bagnall, this machinery was "equal to only one or two other corporations in the country."<sup>30</sup> The expansion in facilities and equipment was also matched by an expansion of the labor force, the product line, and the capitalized value, resulting in steady, solid growth.<sup>31</sup>

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26. This depression, the longest in the nation's history to that time, had a unique psychological impact upon the American people. See Robert H. Wiebe, The Search for Order, 1877-1920 (New York, 1967), pp. 1-10.

27. Bolles, Industrial History, p. 381.

28. See the R. G. Dun Collection records on the Assabet Mill, at the Baker Library, Harvard University. The library has the Dun data on the Assabet Mill for the periods from 1869 to 1874, and from 1876 to 1884.

29. Carroll D. Wright, Census of Massachusetts for 1885, Vol. II: Manufacturers, the Fisheries and Commerce (Boston, 1888), p. 133. At first glance, given the expansion of the company, this figure would appear far out of balance. However, it was extremely rare when a building was declared obsolete. McGouldrick determined that the "standard-life" was approximately twenty years. See Paul F. McGouldrick, New England Textiles in the Nineteenth Century: Profits and Investment (Cambridge, 1968), pp. 155 and 233.

30. Bagnall, Sketches of Manufacturing Establishments, p. 1029. This performance was all the more remarkable when one realizes that there were 900 fewer woolen firms in the nation in 1879 than in 1869. United States Tariff Board, United States Tariff Board Report Washington, D.C., p. 226.

31. Census data shows that between 1850 and 1890, the labor force expanded from 138 employees to 936; that the product line changed from carpet yarns to military supplies and then to flannels, fancy cassimeres, shirtings, sackings, and suitings; and that the capitalized value increased from \$75,000 to \$1,500,000. This



Throughout the first thirty years of its existence, the Assabet Manufacturing Company was able to withstand a shift to and from a wartime economy, financial panics and depressions, and the dumping on the market of surplus government wool, as well as technological changes and the changing whims of fashion. However, it could not stand up to the lowering of the tariff on foreign wool. In 1893, the Gorman-Wilson Tariff substantially cut the existing tariff on imported wool.<sup>32</sup> This action, coupled with the depressed economic conditions of the mid-1890s, inflicted financial difficulties on the company quickly. After several years of decline and a steady drift toward insolvency, the Assabet Manufacturing Company went into receivership on December 31, 1898. Shortly thereafter, the mills were sold to the newly-formed American Woolen Company — a firm that would control the economic destiny of the mill workers and the town of Maynard for the next fifty-two years.<sup>33</sup>

From the very formation of the company, the owners invested heavily in the purchase of real estate, construction of facilities, and on new equipment. This was accomplished in a period when access to capital, beyond personal assets, was extremely difficult.<sup>34</sup> The Assabet Mill was initially capitalized in

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information was extracted from two sources. The Federal Census was used for the years 1850, 1860, and 1870. See the United States Bureau of the Census, Seventh Census of the United States, 1850, Massachusetts, Middlesex County, Schedule 5 (Washington, D.C. 1853); Eighth Census of the United States, 1860, Massachusetts, Middlesex County, Schedule 4 (Washington, D.C., 1873). For the state census, see Carroll Wright, The Census of Massachusetts 1875, Vol. II: Manufacturers and Occupations (Boston, 1877), p. 576; Carroll Wright, The Census of Massachusetts, 1885, Vol. II: Manufacturers, the Fisheries and Commerce (Boston, 1888), p. 182; and Horace Wadlin, The Census of Massachusetts, 1895, Vol. V: Manufacturers (Boston, 1898), p. 238.

32. For a discussion of the impact of this tariff, see Arthur Cole, The American Wool Manufacture (Cambridge, 1926), II: 129-130. Also see United States Tariff Commission, The Wool Growing Industry (Washington, D.C., 1921), p. 429.
33. For the story of the early years of the American Woolen Company, see Edward G. Roddy, Mills, Mansions, and Mergers: The Life of William M. Wood (North Andover, 1982).
34. The problems of raising revenues are explained in Lance E. Davis, "Sources of Industrial Finance: The American Textile Industry, A Case Study," Exploration in Entrepreneurial History, IX, no. 4 (April, 1957): 191-192. Also see Frederick C. Jaher, "The Boston Brahmins," in F. C. Jaher, editor, The Age of Industrialization



1846 at \$150,000. This amount was substantially higher than in the traditional Rhode Island system mills, but far less than those common to the Waltham system. Three years later, when the company became incorporated, the amount of capitalization was increased to \$300,000.<sup>35</sup>

Common investment practices at mid-century were influenced by an extreme reluctance on the part of owners to part with equity, for fear of capital dilution. Thus, new shares were offered mainly to existing stockholders and depended significantly on their willingness to expand their investment in the firm. As a result, if times were bad, it was extremely difficult to procure new funds. Legislation also played a role; an 1849 Massachusetts law, designed to protect original investors, stated that no stock could be sold at less than par value.<sup>36</sup> This law, in effect, discouraged new investors from placing their funds in the company, and it added to the difficulty of raising capital during economic downturns.

The company went bankrupt for the first time during the Panic of 1857.<sup>37</sup> While no records are available detailing the exact reasons for its failure, poor access to capital would fit the pattern of other textile firms harmed by the crisis. Survival of the Panic most often depended upon the ability of the firm to decrease equity, obtain additional capital, and rely upon cash reserves.

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in *America* (New York, 1968), pp. 194-246. Also see Michael Brewster Folsom and Steven D. Lubrar, editors, *The Philosophy of Manufacturers: Early Debates Over Industrialization in the United States* (Cambridge, 1982), p. xxi.

35. The original "handwritten" request for incorporation is in the Massachusetts State Archives. See Petition of William H. Knight and Others for Manufacturing Purposes, February 15, 1849, in Records of Massachusetts General Court for 1849. The hand-written copy in the Massachusetts State Archives had \$500,000 crossed out and \$300,000 entered above it.

36. Davis, "Sources of Industrial Financing," p. 201; Lance E. Davis, "The New England Textile Mills and the Capital Markets: A Study of Industrial Borrowing, 1840-1860," *Journal of Economic History*, XX, (1960): 1-30; and Barbara Vatter, "Industrial Borrowing by the New England Textile Mills — Commentary," *Journal of Economic History*, XXI (1960): 216-222.

37. Sheridan, "A History of the Assabet Mills," p. 4. The Panic of 1857 had an enormous impact upon small mills. See, for examples, John Borden Armstrong, *Factory Under the Elms: A History of Harrisville, New Hampshire, 1774-1969* (Cambridge, 1969), p. 21; and Anthony F. C. Wallace, *Rockdale: The Growth of an American Village in the Early Industrial Revolution* (New York, 1978), p. 456.



Most of the Waltham System mills followed this approach and survived.<sup>38</sup> Maynard's company did not.

The failure of Rhode Island System mills in the first half of the nineteenth century was widespread, and in many cases were disastrous to the towns in which they were located. Towns that were able to combine a balanced agricultural economic base with an industrial base had a better chance of survival. Those that relied more heavily on manufacturing suffered and often were abandoned. The Assabet Manufacturing Company experience of 1857 initially matched the pattern of the Rhode Island system mills, in that it did not have the capital or the financial reserves to withstand the downturn.<sup>39</sup> However, unlike the owners of many Rhode Island system mills, Maynard was able to recover, find new investors, and continue operations.

After reorganization in 1862, the Assabet Manufacturing Company was recapitalized at a value of \$200,000. The new owners were extremely cautious, having substantially financed the reorganization out of their own resources. They also kept the number of stockholders low, in order to ensure that the original investors would maintain control. There was a reluctance to incur debt. For example, in 1870, according to the R. G. Dun Reports, the company purchased much of its supplies with cash, placed a large amount of profit into a reserve fund, and doubled its capitalized value. All of this occurred while the company was building new structures, increasing its work-force, adding to the hourly wage rate, and paying a thirty percent dividend! The Dun report is full of comments such as "considered very good . . . continues perfectly . . . business good and prosperous" . . . and "no change but for the better."<sup>40</sup>

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38. John Heckman, "The Product Cycle and New England Textiles," Quarterly Journal of Economics (June, 1980), p. 707.

39. As the historian Page Smith noted: "What brought success . . . was not patient industry, nor wise thrift, but the activities of the financial wizards of Boston and Lowell who had mastered the mysteries of stock issues, mergers and corporate finance." See Page Smith, As a City Upon a Hill (New York, 1966), p. 93.

40. R. G. Dun, "Assabet Manufacturing Company," Massachusetts, vol. 50, p. 365, in R. G. Dun and Company Collection, Baker Library, Harvard University. The corporate records show that the company continued to expand in the following years. In fact, in 1872, twice it filed for permission to increase capital. See the Assabet Manufacturing Company File, Office of the Secretary of State, Boston.



The cautious investment approach of the new owners could also be noted by the fact that the company established its own bank. Again, the Assabet owners took a different direction than the other large textile mills. After mid-century, most of the large Massachusetts textile firms utilized the investment services of the Massachusetts Hospital Life Insurance Company or of large Boston banks. Both the Hospital Life and most of the large Boston banks were controlled by members of the Boston Associates, the developers of Lowell and other large mill cities.<sup>41</sup> Therefore, trading with these investment houses meant that the company would be potentially contributing to the coffers of competitors. The Assabet Manufacturing Company bank held the deposits of the owners, the workers, and even the town government.

In sum, the capitalization of the Assabet Manufacturing Company did not fit the pattern of either mill system. The partnership form of ownership, common to the Rhode Island system, lasted only three years. From that point, the firm operated as a joint-stock company, similar to the Waltham system mills. However, unlike the Waltham system owners, the Assabet owners operated with minimal financial resources beyond their own and with a great reluctance to decrease their equity and to incur debt. The Assabet experience appears to fit between the two systems.

The Rhode Island and Waltham systems also differed in terms of how the mills obtained power to operate. The Rhode Island system mills usually operated with less than 1,000 horsepower, while the Waltham system mills used substantially higher amounts. Further, the Rhode Island mills were often subject to the flow of water in streams as their only power source. In contrast, the Assabet mill was designed to be free from the problems of changing rates of river flow. Because the owners were committed to providing a year-round supply of water, they regularly expanded the capacity of the river, and steadily improved their power sources.<sup>42</sup> For example, in 1857, Amory

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41. Vatter, "Industrial Borrowing," p. 218; and Frederic C. Jaher, "The Boston Brahmins," in Frederic C. Jaher, editor, The Age of Industrialization in America (New York, 1968), p. 193.

42. See Louis C. Hunter, A History of Industrial Power in the United States, 1780-1930 (Charlottesville, Virginia, 1979), pp. 158ff; Kulik, Parks, and Penn,



Maynard purchased a second reservoir to further enhance the ability to generate power. By 1870, a fifty horsepower steam generator had been installed, and by 1886 the mills had installed six steam-powered turbine engines, which generated an additional one thousand horsepower.<sup>43</sup> It also placed the Assabet Manufacturing Company in a category more similar to the Waltham system than the Rhode Island system. Once again the Maynard experience shows a shift over time, from the Rhode Island to the Waltham system.

The style of management also differed between each system. The Rhode Island system commonly had the owner as the responsible "on-site" manager, while the Waltham system had an owner's representative, the agent, as the person in charge.<sup>44</sup> In the Assabet Mill, the owners ran the mill directly until the collapse of the company in 1857. After that date, Amory Maynard and later his son, Lorenzo Maynard, served as mill agents. However, since they were part-owners, the Assabet Mill experience was aligned with neither system. It was clearly a hybrid approach.

The Assabet owners, like their counterparts in the Rhode Island system, recruited families to work in the mill. Indeed, one historical anecdote that has been passed down through time is that the owners regularly put great pressure upon Assabet Mill operatives to bring their able-bodied relatives to work in the

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The New England Mill Village, p. xxxii; and Dunwell, Run of the Mill, p. 104. The investment clearly paid off as the Assabet River often slowed to a trickle. In the winter of 1881, for example, the river was so dry that the waterwheels were disconnected. See "Maynard," in Concord Freeman, January 6, 1881, p. 4.

43. Bureau of the Census, Seventh Census of the United States, 1870, schedule 5, entry 4; and Bagnall, Sketches of Manufacturing, p. 1030. Interestingly, the owners did not totally disregard water power, for they built a new dam in 1871 that was a replacement for the original dam, which had been built in 1847. See "Maynard," in Concord Freeman, August 1, 1878, p. 3.

44. The word "agent," as a managerial term, has fallen into disuse. However, in the nineteenth century it was a common term in textile operations. The top two positions in a textile business were the treasurer and the agent. The treasurer was the chief executive officer and the financial manager. The agent was the local representative of the absentee owners, who had responsibility for building all facilities, managing production, and supervising the workers. See Gregory and Neu, "Industrial Elite of the 1870s," p. 195.



mill.<sup>45</sup> The labor-force included a large number of women and children, with the state censuses for 1875 and 1885 showing that thirty-eight percent of the workers were female. The same records show that children made up thirteen percent of the work-force in 1875 and six percent in 1885.<sup>46</sup>

The management of the Assabet Mill is notable on two accounts. First, unlike many of the Waltham managers, they did not have in mind a formal "master plan" of continuous expansion, as the mills developed. For this reason there was little perceived need to have an expanding supply of labor on hand. Secondly, the Assabet Mill actually grew much less rapidly than those mills located, for example, in Lowell, Lawrence, or Nashua. This can be clearly observed when one notes that the town of Maynard had a population of approximately, 1,965 people in 1875, 2,703 in 1885, and 3,090 in 1895, for an average growth rate of approximately fifty-six people per year.<sup>47</sup> With 1,238 hands in 1850, 835 workers in 1885, and approximately 1,000 employees seven years later, the mill had an average gain of twenty-one laborers per year.<sup>48</sup> Neither the population figures nor the worker figures show a dramatic or sudden increase.

The Assabet Mill had characteristics of both the Waltham and Rhode Island systems in its product line development. Like the Rhode Island mills, the Assabet Mill produced a diverse product line of fabrics, ranging from the basic blue serge fabric used in nineteenth-century men's suits to flannels and fancy cassimers. The expectation was that the larger a mill became the more its workers would produce standardized fabrics, as was

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45. Interview with Ralph Sheridan, president of the Maynard Historical Commission, March 23, 1982.

46. Wright, Census of Massachusetts for 1875, Vol. III: Manufactures and Occupations, p. 576; and Wright, Census of Massachusetts for 1885, Vol. II: Manufacturers, The Fisheries and Commerce, p. 182.

47. Wright, Census of Massachusetts for 1875, Vol. II Manufacturers and Occupations, p. 6; Wright, Census of Massachusetts for 1895, Vol. I: Population, p. 36; and Wadlin, Census of Massachusetts for 1895, Vol. I: Population, p. 81.

48. Bureau of the Census, Seventh Census of the United States, 1850, Schedule 5, Entries 8 and 9; Wright, Census of Massachusetts for 1885, Vol. II: Manufacturers, The Fisheries and Commerce, p. 182; and Bagnall, Sketches of Manufacturing, p. 81.



clearly the case with the worsted mills. This was not as common among woolen mills, due to the variety of fabrics created.<sup>49</sup> If a mill was to keep abreast of market and fashion shifts, it had to be prepared to change. In spite of the fact that the Assabet Mill was ten times larger than the average woolen mill, it still emphasized both diversity and standardization.<sup>50</sup>

Like the Rhode Island mills, the Assabet mills sold their goods directly through jobbers.<sup>51</sup> Most large mills sold their products through commission houses. Once again, there is no record that explains the owners' intentions in their approach. If the owners were cash-poor or if they needed rapid inventory turn-over, then their rationale could be readily understood. However, a review of the financial records of the firm shows that this was not the case.<sup>52</sup> One likely reason is that the owners were concerned with the ability of commission houses to sell their products during periods of economic turmoil. Indeed, the performance of these houses during the Panic of 1857 was so poor that it was a major reason for the collapse of many textile firms.

New England mill towns evolved into several different forms.<sup>53</sup> The most common form was the "company town," in which the mill operators constructed a town or a city on mill-owned land. In this case, the community was viewed by the operators as a utilitarian part of the production process and it was constructed accordingly. Lowell and Manchester are examples of

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49. Weld, "Specialization in the Woolen and Worsted Industry," p. 78.

50. As late as 1909, Weld noted that the average woolen factory had only eighty-nine workers per establishment. See Weld, "Specialization in the Woolen and Worsted Industry," p. 77.

51. Arthur Cole, The American Wool Manufacture (Cambridge, 1926): I: 290-291.

52. The Dun data shows that the Assabet Mill averaged a twelve percent return on investment from 1862 through 1880. See "Assabet Manufacturing Company," Massachusetts, Vol. 50 (1880): 50, in the R. G. Dun and Company Archive, Baker Library, Harvard University.

53. For a summary of the various forms, see Leland M. Roth, "Three Industrial Towns by McKim, Mead and White," Journal of the Society of Architectural Historians, XXVII (December, 1979): 317-347.



this dynamic.<sup>54</sup> A second form was the community in which the developer stressed efficiency and utility in terms of mill building, but also viewed housing and community space in terms as deserving a certain measure of amenities and liveability, beyond the mere provision of the basic need of habitation and efficient access to mill structures. These towns were often ordered by philosophic or moral beliefs regarding the interactions of town and mill. Examples of this kind of community were Peace Dale, Rhode Island, and Hopedale, Massachusetts.<sup>55</sup> A third form occurred where the developer was responsible for the building of the key mill and civic structures, but generally left housing to the workers themselves. The Indian Hill community in central Massachusetts was an example of this type.<sup>56</sup> Finally, there was the instance in which, without an overt plan, the mills simply developed on the site of an existing community, with its existing infrastructure of buildings and roads.

Maynard possesses characteristics of many of these forms. Like Lowell and Manchester examples, the mill owners controlled significant amounts of land and built their mills and housing on it. However, the Assabet Manufacturing Company did not own the town. Like Peace Dale and Hopedale, the Assabet Mill was utilitarian. However, in the Maynard case, by comparison, there was little attention given to housing amenities for employees. Like the Indian Hill community, the Assabet Mill owners were instrumental in contributing to civic improvements, including a school, land for a church, and a town clock. However, their contributions were quite minimal. The Assabet Mill was, in fact, developed in an existing village that already had in place an agricultural, manufacturing, and small commercial base. It is clear, however, that once the mill was in operation, the town's

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54. See Thomas Bender, Toward a Vision; John Coolidge, Mill and Mansion; and John W. Reys, The Making of Urban America (Princeton, New Jersey, 1965), pp. 414-420.

55. See, for example, Peter Stewart, "Paternalism in a New England Village," Textile History Review (April 1963), pp. 59-65; and Adin Ballou, History of the Hopedale Community (Lowell, 1897).

56. C. May, "Indian Hill: An Industrial Village at Worcester, Massachusetts," in Architectural Record, LXVI (1937): 19-36 and 126-146.



future was tied directly to the prosperity of the mill. All other economic activities of the community became secondary.

There was nothing extraordinary concerning the site development characteristics of the Assabet Mill. The location of the complex, along the swift-running, high-banked Assabet River, was a prime site for water-power. The purchase of mill rights and a number of contiguous properties near the river provided the needed supply of land. A large swamp within the site allowed the creation of the mill pond, and the purchase of the rights to two reservoirs and a sluiceway insured that water would be consistently available.

By 1855, the Assabet Mills consisted of eleven worsted combs, four sets of cards, fifty carpet looms, three wooden buildings, and 125 workers.<sup>57</sup> During the years of reorganization (1857-1862), the mill complex began to take on the characteristics that it has even today. Beginning in 1859, the owners switched from wood to brick construction. While the personal motives of the owners in making this switch are unknown, it was in character with mill construction in the Merrimack and the Charles River basins.<sup>58</sup>

With the exception of the brick lintels and brick columns between windows and roofing details, there was no attempt to create a strong design statement through the exterior architecture of the Assabet Manufacturing Company buildings. All the production facilities were constructed of brick that was fashioned in a simple and austere manner. Architectural historians William Pierson and Theodore Sande have commented upon the propensity of mill owners in eastern Massachusetts to use brick. Remarking on its use at Waltham, Pierson stated that "not only did its austere, refined classicism mirror contemporary taste, but its simplicity gave it a strongly-utilitarian flavor which made it attractive to the hard-headed Boston Associates [who were] intent on prudent investment and substantial profits."<sup>59</sup> This same statement could

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57. Sheridan, "History of Assabet Mill," p. 4. Since 1850, the number of employees had actually declined by thirteen. See the Seventh United States Census of Massachusetts (Washington, D.C., 1850), schedule 5.

58. Martha and Murray Zimiles, Early American Mills (New York, 1973), p. 176.

59. William H. Pierson, American Buildings and Their Architects (New York, 1980), II: 62.



be made about the owners of the Assabet Manufacturing Company. Pierson and Sande also noted ties to the architectural styles of previous periods. Pierson suggested that the red brick treatment was linked directly to Bullfinchian Boston and Beacon Hill, while Sande noted that there was a desire to tie these mill structures to institutional structures — buildings which were "venerated" by the public. The Maynard mill is illustrative of the points made by Pierson and Sande.<sup>60</sup>

The interior of the Assabet Manufacturing Company mill was designed to be functional. It was necessary to include spaces capable of housing enormous machines, to plan the workspace in such a way as to aid in the efficient distribution of power, to minimize the movement of workers, and to provide fire protection. The net effect was that the mills were designed with heavy floors, open bays, and "slow burning materials."<sup>61</sup> With virtually no embellishments of any type, they were "engineered" space.<sup>62</sup>

The mill buildings were nestled against a hill which rose approximately thirty feet in height within six hundred feet of the river's edge. From the road, it was impossible to capture a view of the total mass of the structures. The contrast between small wooden houses and one-story shops on one side, and the massive four to six story brick structures crowned by the town clock on the other, presented a clear picture of the domination of the town by the mill structures. This visible distinction between the mill and dwellings was also reinforced by the absence in the town during the nineteenth century of residential structures made of brick.

The Assabet Manufacturing Company, while little concerned with housing amenities, was the largest builder of dwelling units in town. These units were all built on company land bordering on the mill site, and they ranged from small single-family units to row-houses, tenements, and boarding-houses. With house-lots averaging six hundred square feet, the density was far more

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60. Ibid., p. 63; Sande, "Nineteenth Century Towns," p. 266.

61. For appropriate definitions, see Cyril M. Harris, editor, Dictionary of Architecture and Construction (New York, 1975), p. 247.

62. Sande, "Nineteenth Century Towns," p. 267.



common to the city than to a mill village. All units were of wood frame construction and were extremely utilitarian in design. These buildings were located on Front Street (which fronted on the Mill Pond), River Street (adjacent to the Assabet River), Railroad Street (next to the tracks), and Main Street (the new street that connected the mills to points east and west). The street names reflect the same lack of imagination that went into the design of the housing units! In spite of the high density, these units were built without running water or sewer systems. Effluent regularly flowed into the river, but was rarely noted, as the river frequently took on the color of the fabric being cleansed (greys, blues, and blacks were most common).

There were several reasons why the company built mill housing. First, when the mill began to grow, the community was isolated from centers of population. The community primarily had an agricultural base at that time, and there was a shortage of housing. In addition, local contractors were more financially vulnerable than were the mill owners, and, for this reason, they were unwilling to speculate on housing in anticipation of an unknown future demand. Thus, if the company was to attract workers, housing had to be provided by the owners.<sup>63</sup> With control of large parcels of developable land and their ability to take advantage of economies of scale, the mill owners were able to provide housing at less cost than private entrepreneurs.<sup>64</sup>

Second, the provision of housing was a means of attracting and keeping skilled workers. The rapid expansion of the textile industry in eastern Massachusetts meant that there was opportunity for mobility among workers.<sup>65</sup> The owners of the Assabet Manufacturing Company had every right to be concerned about the loss of trained workers to the booming mill communities of Lowell, Waltham, and Gleasondale, which were all less than seventeen miles away. Competition of skilled workers also meant

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63. This point is reinforced in Shlakman, Economic History of a Factory Town, p. 14.

64. Roth, "Industrial Towns," p. 319. The local paper noted that rents were "refreshingly cheap in Maynard. Cottage houses, six rooms, rent for \$7.00 per month and two story houses, eight rooms, for \$9.00." See "Maynard," in The Concord Freeman, May 23, 1884, p. 3.

65. Stephan Thernstrom, Poverty and Progress: Social Mobility in a Nineteenth Century City (New York, 1971), p. 88.



that rents had to be reasonable and competitive with other mill communities.

Third, the housing gave the owners a significant amount of control over the worker, both in the factory and in the town; infractions in the work-place and/or in the community could result in the loss of both one's employment and one's home. Nowhere could this be better seen than through a nightly curfew imposed by the mill owners. Each night in Maynard a curfew bell was rung at 9:00 pm.<sup>66</sup> Any mill worker who was still on the street after that time was subject to dismissal. This practice of "moral policing" clearly shows the power and influence of the mill owners over their workers.<sup>67</sup>

The development of the housing had a strong utilitarian rationale. The units were placed as close to the mills as possible, on land that was inappropriate for factory use. In most instances, the parcels were cramped between the main roads and either the river or the mill pond. There was no obvious plan in the placement of the housing, except that each boarding-house, tenement, row-house, and single-family unit matched the design and orientation of the one built just before it. All units were constructed of wood and lacked ornamentation of any type. Few had so much as a ten foot by ten foot patch of lawn. It is clear that the "Academic Quadrangles" of Lowell and the "Corporation Tenements" of Manchester had little to offer as a guide to the Assabet Mill owners.<sup>68</sup>

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66. The curfew bell is now in the belfry of Maynard's Mission Evangelical Congregational Church.

67. Carly Gersuny, "A Devil in Petticoats and Just Cause: Patterns of Punishment in Two New England Textile Factories," *Business History Review*, L (1976): 137. For an ideological perspective of the control of millworker behavior, see Francesco Dal Co, "From Parks to the Region," in Giorgio Ciucci, Francesco Dal Co, Mario Manieri-Elia, and Manfredo Tafuri, *The American City: From the Civil War to the New Deal* (Cambridge, 1983), p. 192.

68. For a brief discussion of these models, see Tamara K. Hareven and Randolph Langenback, *Amoskeag: Life and Work in an American Factory-City* (New York, 1978), pp. 22-23; Reps, *Making of Urban America*, p. 417; and David Goldfield and Blaine Brownell, *Urban America from Downtown to No Town* (Boston, 1979), p. 121. Lewis Mumford's description of the setting of typical mill housing is quite close to that which occurred in Maynard. See Mumford, *The Culture of Cities* (New York, 1938), pp. 162-163.



The houses of the mill owners contrasted dramatically with those of the workers. Worker housing was adjacent to the river or pond — just above the floodline; the owners' houses were on the hill well above both the mill and the town. The worker housing was simplistic; the owners' houses were built in the ornate Victorian style. The workers' housing was small and cramped; the owners' units were imposing and spacious mansions. While the workers' housing had virtually no greenery, the owners' had large parcels of manicured lawn and richly planted gardens. The workers and the owners were clearly in two different worlds.<sup>69</sup>

There was one element missing from Maynard that was typical of milltowns of that period, the "company store."<sup>70</sup> It may have been that none was required. Unlike Lowell and Manchester, where the mill owners were required to build entire communities as well as factories, the Assabet Mill owners built and expanded their mill within an existing village structure. It is known that in the eighteenth century, the village had a tavern and an inn to serve people who were traveling on the stagecoach route and on the post road. In 1867, a privately owned tavern/hotel was built for the mill workers. Historic records show that in the 1860s, the village also had an independently-owned pharmacy, a barber shop, and two general stores.<sup>71</sup>

The lack of a company store had indirect but dramatic ramifications on the development of the town's commercial center; the mill workers provided a ready market for commercial activity and stimulated the creation of a downtown shopping area. By the 1890s, Maynard center had become the major shopping area for both its townsfolk and the citizens of the nearby towns of Acton, Stow, Sudbury, and West Concord.

From the very beginning of mill operations, the parent towns of Stow and Sudbury were active participants in the

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69. For an expansion of these differences, see Alan Dawley, Class and Community: The Industrial Revolution in Lynn (Cambridge, 1976), p. 7.

70. For the role of the "company store" in milltown development, see O. S. Johnson, The Industrial Store: Its History, Operation and Economic Significance (Atlanta, 1952).

71. Maynard Historical Committee, History of Maynard, pp. 16-17.



construction of roads and schools.<sup>72</sup> Requests by the mill owners in 1848, 1849, 1854, and 1855 resulted in the development of major roads that connected the mill to larger centers. These roads were financed out of the municipal treasuries. The major arteries quickly led to the construction of feeder streets that were designed to open farm land for development. The records of Sudbury and Stow show new schools being built in the Assabet Village in 1857 and 1864.<sup>73</sup> Thus, it is clear that the towns of Stow and Sudbury initially attempted to facilitate the growth of the mill through public expenditures for transportation and education. However, in the boom years immediately following the Civil War, the residents of the Assabet Village began to request even more capital improvements, including sidewalks, advanced schools, and police protection. At this point, the parent towns balked. The Assabet Villagers then petitioned the legislature for the right to create a new town. That right was granted on April 19, 1871.

The Maynard family was a dominant force in the town from 1846 through the first years of the "takeover" of the mills by the American Woolen Company, and until 1901. Members of the family held such titles as partner, owner, agent, superintendent, and assistance superintendent — all positions of extreme power in the mill. In addition, during this period, family members also served as town selectman, town treasurer, station agent for the Boston and Maine Railroad, and as a major benefactor of the Protestant Church. Thus, the family had power over the major employment source in the town and, from time to time, a role in railroad operations, a voice in spiritual matters, and control over town policies and the public purse.

There is little evidence to support the suggestion that the family was despotic in its use of power. However, it was highly-aggressive in terms of gaining public improvements that would improve mill operations. As active participants in town government, family members argued for their own self-interests,

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72. As Scheiber has noted, the role of government is often forgotten in analyzing the evolution of mill towns. See Harry N. Scheiber, "Government and the American Economy: Three Stages of Historical Change, 1790-1941," in Robert Weibe, Oliver Ford, and Paul Marion, Essays from the Lowell Conference on Industrial History, 1980 and 1981 (Lowell, 1981), pp. 128-144.

73. Maynard Historical Committee, History of Maynard, pp. 86-87.



including low government operating costs, low taxes, and low assessments. The family intruded only when there was an economic issue of sufficient magnitude to have a direct impact upon the mill.

Compared with the Hazards of Peace Dale and the Cheneys of South Manchester, the Maynard family did very little for the community. In the years of the Assabet Mill (1846 to 1849), the years of reorganization (1857 to 1862), and the first years of the Assabet Manufacturing Company (1862 to 1866), the lack of philanthropic activity could be understood, for the firm had to manage during periods of depression and economic change. However, between 1862 and 1893, the company steadily grew and expanded. In this period, there is little evidence of the mill owners serving as "good corporate citizens." Records show that the Maynards, through the family or the mills, only made two major donations for the "public good," and both were church-related. The first was a donation of land for the first church in the village, in 1853. Amory Maynard was one of the original petitioners for the formation of an Evangelical Society and a Union Church. It cannot be determined whether this gift was based on a philanthropic urge, a wish to contribute to his own spiritual need, or a desire to create a more "pious manufacturing community." In donating the land for the church, Maynard was following a common practice of mill owners across the northeast. Many of these owners made their contributions for the spiritual good of their workers.<sup>74</sup> Many others, however, were far more interested in the church serving as a "manufacturer's tool to tame the refractory hand of labor."<sup>75</sup>

The Maynard's second community gift was toward the building of a Catholic Church. Almost from the beginning of the Assabet Mill, Irish Catholics started to move into the village. By 1850, there were approximately fifty Catholics in the village. By 1865, there were enough to form a church. Church records show that the Assabet Manufacturing Company contributed \$500 toward its construction. Interestingly, in 1881, after the church had

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74. Kulik, Park, and Penn, The New England Mill Village, p. xxviii. See also Page Smith, As a City Upon a Hill: The Town in American History (New York, 1966), pp. 94-95.

75. F. C. Wallace, Rockdale, chapters 7 and 8. Seven and Eight.



expanded to the point where a larger facility was required, Maynard "sold" to the church the land for the new site, at market value.<sup>76</sup> Apparently, one gift was enough! It is apparent that the family was an active participant in community life. However, it also is apparent that there were major differences in how the family members participated. Participation meant that one gave freely of one's time. It did not mean that one gave freely of one's purse or of company profits.

What then, was the legacy of the Maynard family to the community? The Assabet Manufacturing Company declared bankruptcy in 1898, after several years of "on again, off again" work. Hundreds of jobs were at least temporarily affected and, perhaps more importantly, the townspeople lost thousands of dollars in the bank that the Assabet Manufacturing Company owned and operated. Many of the townspeople were so embittered that when a legislative bill was filed on the petition of the new mill owners to change the name of the the town to Assabet, they enthusiastically supported it. The bill, however, did not pass, and Maynard remained the name of the town.

While the reactions of those who lost their jobs and savings were understandable, the role of the Maynard family in developing the town certainly deserves a more objective look. The record has both positive and negative sides. On the positive side, because of the almost continuous operation of the mill, Maynard went from an unincorporated, sleepy, resource-based village to a thriving incorporated, urban town with many amenities. Further, for the sixty-two years that the Maynard family ran the mill, there was regular work available for townspeople as well as for workers who came from other towns. As Peter Goheen has noted, behind every successful nineteenth-century industrial community has been at least one entrepreneur who was able to stimulate local initiative.<sup>77</sup> The Maynard family produced several such entrepreneurs. On the negative side, there is little evidence to characterize the Maynard family as being philanthropic. Within the context of the times, they appear to

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76. Joseph W. Boothroyd, Elizabeth M. Schnair, and Ralph M. Sheridan, St. Bridget's Parish, Maynard, Massachusetts, 1881-1981 (Maynard, 1983).

77. Peter G. Goheen, "Industrialization and the Growth of Cities in Nineteenth-Century America," American Studies, XIV (Spring, 1973): 53.



have been fair, correct, and just. The mill enterprise was developed with the goal to make money, and not to benefit the community and its residents. For most of the nineteenth century, the owners achieved their goal, by developing a profitable company.

It might be asked how did the town of Maynard come to house the nation's largest woolen mill. It would not have been unusual in Lowell, Lawrence, or Nashua, where land, labor, capital, and managerial acumen were combined into one corporate system oriented toward the common goal of textile production and profit. Instead, it happened in a community that had, at least in the beginning, most of the characteristics of a typical Rhode Island system mill. Several reasons can be offered for the rise of the Assabet Mills. These are summarized as follows:

1. *All the essential elements critical for mill development and expansion were present when the mills were first developed.* These included a water source for power, a reservoir to prevent slackage in times of scarce water flow, land for buildings, a village that had a tradition of small industries before the arrival of the Assabet Manufacturing Company, and owners who were adequately capitalized. These ingredients enabled the mills to begin and to expand slowly.

2. *The owners purchased far more land and water than they initially needed.* The reasons for this are unknown, but the net result was that there were few physical barriers to profitable expansion.

3. *The owners were able to recover despite bankruptcy.* Indeed, even while the mill was undergoing reorganization, Amory Maynard purchased a second reservoir and built his first brick structure.

4. *The owners were able to react to changing market forces.* From 1857 through 1898, the mill managed to shift products from carpets to uniforms to civilian clothing, and to fancy cassimeres. Each time the owners were able to gain a large enough share of the market to make a profit.

5. *Once the land and water needs were met, the owners became reactive planners rather than attaching themselves to a fixed plan.* There were no formal plans for the expansion of the mill. Neither was there any development scheme for the provision of housing. The owners built slowly and steadily in accordance with their immediate needs as well as their means.



6. *The mill owners were utilitarian (perhaps to a fault!).* There were no aesthetic frills in any of the mill facilities. As well, the owners gave little of their money to local philanthropic causes. They built what was required to attract and keep workers, and to turn out profitable goods.

7. *The owners, although extremely conservative in most financial matters, regularly invested in new technology, new equipment, and new structures.* This strategy was a major factor in the company's maintenance of a competitive position long after the advantages of location and water-power had dissipated.

8. *The owners treated the town as an appendage of the mill.* The owners were active in town affairs, church matters, and railroad operations. They controlled most of the jobs in the community and they operated the town's only bank. This power, regardless of how often it was used, was sufficient to ensure that those mill needs that required municipal involvement were handled as the mill owners desired.

In sum, the dynamic blending of these ingredients resulted in a mixture that enabled the mill to be formed, to expand, to collapse, to recover, and to boom and decline over a fifty-two year period. The net result was the nation's largest woolen mill. After declaring bankruptcy in 1878, the mill was quickly assimilated into the American Woolen Company empire. For fifty-two years it had been operated with constant "boom and bust" cycles. In 1950, the American Woolen Company closed the mill. In 1953 the mill became operational as a center for incubating new industries. Out of these firms came the Digital Equipment Corporation, which today is the sole owner of the mill and the largest minicomputer producer in the nation.<sup>78</sup> As a result of this evolution, Maynard is again dominated by one industry that has a "nation's largest" designation.

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78. Digital Equipment Corporation, Digital's Mill (Maynard, 1977).