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From Mill Town to Mill Town: The Transition of a New England Town from a Textile to a High-Technology Economy

John R. Mullin, Jeanne H. Armstrong, and Jean S. Kavanagh

This article describes and analyzes the economic transformation of Maynard, Massachusetts. Located twenty-six miles west of Boston, Maynard was the home of the world's largest woolen mill. In 1950 the mill closed and 1,200 jobs were lost. During the next ten years, the town gradually recovered as the mill became the home of several innovative companies. Ultimately, the mill became the headquarters for the world's largest manufacturer of minicomputers. The circle is now complete: the mill is full and houses a company that claims a "world's largest" designation. The article analyses the rise and fall of the American Woolen Company; examines the steps taken to stimulate recovery, and their results; identifies and examines the important elements that led to the economic transformation; and offers potential lessons for planners in towns undergoing similar changes.

A traveler moving through the mill towns of Massachusetts in the 1950s and 1960s could not help noticing one abandoned mill after another. Travelers making the same journey today would still see much evidence of decline, neglect, and abandonment; but they would also see evidence of rebirth. Many of these mills have been revitalized and now house the high-technology and light manufacturing companies that are the backbone of the Massachusetts economy today.

Nowhere can the transformation be seen more vividly than in the town of Maynard, about twenty-five miles west of Boston. Maynard was the home of the American Woolen Company's Assabet Mill. Named after the Assabet River, which provided its original power, the mill was the largest woolen factory in the world through the first one-third of the century. Beginning during the 1920s, the Assabet Mill gradually declined until it finally was closed in 1950. About 1,200 jobs ultimately were eliminated, and the dominant man-made feature of the town, the eleven-acre mill site, was left empty. Three years later, the mill was purchased by Maynard Industries Incorporated, which immediately began renting raw space to industrial tenants. By 1960 more than thirty small firms were located in the complex. In 1970 the entire mill complex was purchased and occupied by the Digital Equipment Corporation, which would become the largest producer of minicomputers in the world. The circle was complete: the town once again had become a "mill town" in which one firm was the major employer, owned the most important real estate, and controlled the most influential land uses.¹ The mill also continued to retain its "world's largest" designation – now applied to the Digital Equipment Corporation.

Scores of cities and towns in eastern New England lost their key industries in this same period. Yet few recovered as quickly or as rapidly as Maynard. What separated Maynard from the others? It is a difficult question to answer. Certainly the availability of cheap space, a large labor supply, and a prime location were helpful. But these same assets could be found elsewhere. Certainly governmental cooperation and the availability of infrastructural systems were important. But these same elements could be found in virtually all industrial cities and towns in the area. Thus a case cannot be made that Maynard had any more of an advantage than any other city or town in terms of basic assets.

Two key differences are apparent. First, the companies that rented space in the mill in the 1950s and 1960s were mainly modern, growth-oriented companies that had

few ties to the collapsing mature industries of the area. In essence, there was a clean break with the town's previous industrial base. Second, the local municipality had its fiscal affairs under control. There was little debt and little growth pressure, and very few people were receiving welfare assistance or unemployment insurance even after the mill closed. These factors contributed to a sense, on the part of the community leaders and residents, that the mill once again would prosper and serve as a job generator.

In short, it appears that the reindustrialization of Maynard occurred because of the presence of all of the basic assets needed to attract industry; the patient, passive role of town government; the entrepreneurial skills of the mill owners in attracting new companies; and the emphasis on marketing toward new, innovative, growth-oriented companies. Above all, it is a case where market forces, gently nudged, were able to work as they should.

This article describes and analyzes how the transition "from mill town to mill town" occurred. It begins with a description of the town in the post-World War II period and reviews what caused the collapse of the textile industry in general and the American Woolen Company in particular. From there the article analyzes the efforts of the town, private organizations, and individual companies to revitalize the mill, emphasizing the reasons various firms located in the mill during the transition period. It also describes the rise of the Digital Equipment Corporation and its steady takeover of the complex. Finally, the article isolates and analyzes the critical factors that influenced the revitalization of the Assabet Mill. It ends with lessons that may be of benefit to planners involved with similar opportunities.

The Road to Collapse

The rise and fall of the American Woolen Company

The town of Maynard owes its existence to its location along the Assabet River.² With its natural falls and steep slopes, the river was ideal for Colonial Period saw and flour mills and early Industrial Age factories (Bagnall 1893, 552). Industrialization really came to the area, however, with the formation of the Assabet Manufacturing Company in 1846. Through bankruptcies, reorganizations, almost continual expansion, and the boom-and-bust periods of the nineteenth century, the company emerged as the owner of the largest woolen factory in the world (Stone 1930, 1013). Not long after it gained that distinction it went bankrupt again, and the complex of buildings was purchased in 1898 by the newly formed American Woolen Company. This company, through steady growth over the next twenty-five years, ultimately would control 20 percent of the nation's woolen textile market, run sixty factories, have more than 40,000 workers, and earn more than \$100 million in total profits. It was considered to be a "manufacturing empire and a quasi-monopoly" and had "enough fat to sustain it for decades" (Cole 1923, 442; Roddy 1982, 113; Saunders 1954, 93).

But the company suffered reversals between 1924 and 1938, losing money in all but one of those years. Prosperity returned during the years just before World War II and lasted through the immediate postwar period. Finally, except in the Korean War year of 1951, the company lost millions of dollars between 1949 and 1954 (American Woolen 1954). In 1955 Textron bought the company and gradually liquidated it over the next several years (Textron 1955, 25).

The Assabet Mill began to be phased out of production in 1947, when the company closed the facility for a forced Easter vacation (Time 1947, 83). From then until 1950 the mill experienced a steady decline in production orders and assigned workers. Employees were laid off, called back, and finally terminated as the demand for woollens declined. In December 1950, the company permanently closed the mill and terminated 1,200 workers.

The collapse of the American Woolen Company followed the pattern of many of the traditional heavy manufacturing companies that dotted the New England landscape. Its mills were old, operated by union labor, heavily taxed, and run by management that was unwilling to invest in modernizing facilities. Southern textile mills, with their new equipment, new buildings, low taxes, and non-union work force, clearly had an advantage (*Business Week*, 16 February 1952, 38).

The Assabet Mill fit the criteria for shutdown. The buildings were, on average, more than fifty years old; the company had chosen not to modernize the facility in a postwar reinvestment program, and its equipment was, therefore, outmoded. Its work force had a tradition of militant unionism and a history of strikes. Finally, the structures were heavily taxed. Few were surprised when the company shut down the factory (Saunders 1954, 94). In the final analysis, from a management perspective, there was little choice.³

Maynard and its Mill: 1945-1950

The town of Maynard came out of the postwar era with little municipal debt and little unemployment (Town of Maynard 1950, 5). In essence, the town was in a strong position to control its growth. Its water and sewer systems and major roads were in good condition and had the capacity for expansion. With little space for population growth, there was minimal need to raise taxes for new schools, libraries, or other facilities. A casual visitor in the 1945-1947 period would have seen, on the surface, a healthy, hard-working, and relatively prosperous working-class town that had a secure economic base.

After 1947 the townspeople began to realize that the mill was in final decline. The layoff and callback cycles became increasingly common, while in each cycle the total demand for workers lessened. This gradual decline meant that the workers were able to anticipate the shutdown and prepare themselves for work elsewhere.

Throughout 1951 the Assabet Mill remained idle. The dormancy of the mill was not reflected, however, in the local economy. Ironically, while newspaper accounts reportedly stated the town was “flat on its back”, welfare and unemployment payments actually decreased (Harrington 1964, 7). There are three key reasons the closing of the mill had little economic effect on the town. First, the town was on the fringe of metropolitan Boston and within easy commuting distance of other bustling non-textile mills and factories. Second, the mill workers often had come from two-income families. To ensure that both partners would not suffer from the insecurities of textile employment, one typically would work outside the mill. Choices included work in Maynard’s central business district (the shopping area for a six-town area) and factories in nearby towns (*The New York Times* 1954, 1). Third, the mill workers who remained until the end tended to be older and, when the mill finally closed, opted for retirement. Their names did not appear on the unemployment rolls. In sum, the phenomenon was surprising to the

town's governing board, who after requesting disaster assistance from the federal government, were unable to prove where the disaster happened.⁴

The town began trying to revive the mill almost from the moment it closed. With no history of formal municipal planning and no professional staff, the town leaders determined that the best approach would be to organize a citizens committee to develop recommendations for reviving the mill. The committee began work by examining mill communities that had gone through the trauma of a major factory closing and had recovered (*Boston Globe* 1950). It immediately focused on Nashua, New Hampshire. In 1948 Nashua had suffered the loss of the Textron-owned Nashua Manufacturing Company, a company that made blankets and employed 3,500 workers, 15 percent of the city's workforce (*Fortune* 1948). After the mill closed, Nashua had organized a nonprofit corporation to finance, purchase, and market the mill facilities. Within two years, 85 percent of the space had been rented, all mortgages and loans had been retired, and a substantial amount of working capital was in the bank (*Business Week* 1950). After consulting with Nashua's leaders, among others, Maynard began to develop its strategy (*Boston Globe* 1950). Because of the experiences of Nashua there was a quiet sense of confidence among town leaders that the mill facilities could become viable again.

The American Woolen Company, aware of the town's efforts to take action, held out one last straw of hope. Provided that local citizens would invest in the plant, that local financial institutions would grant loans for new equipment, that local taxes would be cut, and that local hourly wages would be lowered to the levels earned by southern workers, the company said, it would reconsider reopening the mill.⁵ There was little local support for this set of conditions (*The New York Times* 1954, 1). The Maynard workers expressed no desire to become a one-industry town ever again and had little confidence in the American Woolen Company to follow through on its proposals (*Town of Maynard* 1952, 5). Their perceptions were accurate.

The Mill Booms Again

In July 1953, eighteen months after it closed the Assabet Mill, the American Woolen Company sold the complex to a group of Worcester businessmen who had created a company called Maynard Industries Incorporated (*The New York Times* 1953). The company's goal was to market the space in the mill for diversified industries. It was to have a remarkable success record for the next sixteen years.

The purchase price for the mill complex was \$200,000. That figure reflected the opinion of the American Woolen Company that the structures were worth little more than scrap value. Actually, the net worth of the facilities, according to assessor's records, was \$839,145,⁶ so it is clear that Maynard Industries obtained a bargain. The company immediately began to market the space. Within six months it attracted the Bracon Company, a plastics firm, as its first major tenant. Within one year, half of the mill space was rented (*Town of Maynard* 1954, 4). Also with one year, at Maynard Industries' first industrial show, thirty-two companies had exhibits (*Clair* 1966, 28). By 1960 the mill was fully rented.

Typically, three types of companies chose to rent space in the mill. One type was the newly formed company developing new products (today often referred to as a "starter" industry). The Bracon Company was characteristic of this type. When its

management was asked why the company came to the mill, the reasons given were cheap space, a trainable labor force, and proximity to Greater Boston's research and development firms, laboratories, and universities. Bracon ultimately employed 200 workers before it was purchased by the American Can Company.⁷ Other companies of this type were involved in activities ranging from publishing, mold injecting, tool making, and woodworking to data processing and computer manufacture.

The second type of company that located in the Assabet Mill was the expanding company whose main plant was nearby. The Dennison Manufacturing Company, a paper company, was an example of this kind of firm. Its facilities in Framingham, thirteen miles distant, were at capacity. Needing more space and wanting quick access to its new operations, the company management decided the Assabet Mill was ideal. The company moved one of its paper manufacturing operations to Maynard in 1953.

The third general type of company attracted to the mill was the company that needed to consolidate its operations. The Raytheon Corporation, a manufacturer of military equipment, was an example of this type of company. Its missile systems division had continued to grow until it was located in several sites throughout Greater Boston. The company management believed that being spread out was inefficient and in 1956 decided to consolidate this 1,200-worker division in the Assabet Mill (Raytheon 1956, 10). It is clear that readily available, inexpensive space near parent firms and research facilities was crucial to all three types of companies.

Companies such as Bracon, Dennison, and Raytheon came and left throughout the 1950s and 1960s. Many came temporarily, many suffered short lives, and a few grew until they were forced to move by labor shortages and a lack of space. Indeed, the Assabet Mill was a microcosm of the state's economy. Throughout this period it housed such mature industries as machinery, clothing, paper, and textiles; such emerging industries as plastics and modern defense systems; and, finally, such embryonic high-technology industries as audio and computer manufacturing firms.⁸ As time went by, there were fewer and fewer of the traditional companies and more of the high-technology companies occupying the old mill.

Of all the companies that moved into the mill, one stands out for its tremendous economic success. In 1957 the Digital Equipment Corporation leased 8,680 square feet and began to build a new "minicomputer" (Digital Equipment Corporation 1977). With three employees the company set out to develop an inexpensive, practical, and reliable computer for the mass market. Beginning with venture capital of \$70,000, the company expanded until, twenty-five years later, it had 68,000 employees worldwide, more than \$4 billion in annual sales, and more than fifty plants (Digital Equipment Corporation 1982, 20). In Maynard alone the corporation employed 2,000 workers by 1983. In 1974 the company purchased the mill and slowly began to replace the tenants with its own workers. Today it is the sole occupant of the mill. In a recent cover story *Time* magazine summarized the Digital experience as follows:

Near the corner of Main and Walnut Streets in the small town of Maynard, Massachusetts, stands a massive complex of aged-brick buildings.... the noisy machines and grease-stained factory floors have given way to offices where engineers huddle over glowing oscilloscopes.... the woolen mill has been reborn as the headquarters of the Digital Equipment Corp.... That metamorphosis is symbolic of a sweeping transformation that is creating the New Economy. (1983, 62)

The transformation from textiles to starter companies and branch plants to high technology in Maynard is now complete. Once again the mill is full and holds a single company with the “world’s largest” designation (Dun’s Review 1979, 48-49).

Analysis of Critical Factors

What happened to cause the diversification and transformation of the Assabet Mill? Was it purely a matter of luck or that the mill was located on the fringe of a bustling metropolitan area? Or were there critical decisions that guided the mill revitalization effort into a direction where it could succeed? The answer is not easily found, but certainly includes elements of both. The critical elements are explained below.

On Luck

The role of luck is hard to define. The redevelopment of the mill occurred during a substantial growth period when innovative and expanding companies were in need of space. The new owners of the Assabet Mill were able to ride an economic wave.⁹ In this case they were lucky to have the facility under their control. The owners were also fortunate enough to buy cheaply, be patient, and have sound marketing sense. The role of luck, in a final analysis, can be found only in that the owners took advantage of an economic boom and focused on growing companies.

On Growth Waves

The fact that the Assabet Mill became available during a growth wave is not the whole story. Other nearby mills were becoming available during the same time. Instead of attracting innovative or growth industries, however, their owners tended to attract other mature industries or warehousing operations. How the mill owners took advantage of the changing economy was perhaps the most critical factor in successful revitalization. As examples, the experiences of Lowell, Lawrence, and the Blackstone Valley and Quinebaug Valley towns show remarkable similarity. In each there was an initial tendency to promote or passively allow use of the mills for mature industries. In many cases, the collapse of a textile company would be only temporary. These types of companies, with few major capital requirements, had the ability to start up again easily under new ownership. Unfortunately, the new owners typically were under-financed and lacked the sophistication needed to compete in the highly competitive textile market. As a condition for staying in the community, the new owners often would ask for tax and wage concessions, which inevitably were granted. Hence the towns ended up with less property tax revenue, and its workers had less pay (Bluestone and Harrison 1982, 97; Browne 1984 A3). Inevitably, if the companies were poorly managed, they would collapse. If they were well managed, they became attractive to speculators, who, realizing the poor long-term prospects for textiles in New England, would milk the assets and close the business. Then the cycle would begin anew. In many instances this cycle is still at work, resulting in community stagnation, falling tax revenues, and low-paying, dead-end jobs.¹⁰

The new mill owners in Maynard, with the backing of the town's leadership, chose not to court the mature industries. Both parties recognized that the products of mature industries could be made less expensively elsewhere and that new market forces were at work. Their perspectives were accurate, for a review of the history of New England's industries shows that as soon as a product no longer is dependent on innovation or research, it is likely that it can be made more efficiently elsewhere in this country or abroad (Malecki 1984, 265).

The reindustrialization of Lowell, Massachusetts, offers both significant similarities to and differences from that of Maynard. Lowell, although a city, had similar socioeconomic, labor force, and locational characteristics. Its mills, in the late 1940s and 1950s, housed outmoded machines operated by union tradesmen in depreciated structures. Its textile workforce eroded much more slowly, however, than that of Maynard. This erosion continued well into the 1970s. At that time the city began to attract computer, aerospace, and technical instrument companies – all of which fit the category of innovative or growth firms. Since 1970 Lowell has boomed to the point where it is now being hailed as a “model for reindustrialization for older cities throughout the United States that have lost jobs in traditional manufacturing industries” (Flynn 1984, 39).

Now, in the 1980s, a similar phenomenon is occurring in Lawrence, Massachusetts. This city, once the headquarters of the American Woolen Company empire, has seen a steady erosion of its economic and population base for more than thirty-five years. Beset with dying industries, an outmigration of middle-class people, intense competition for industrial development from its suburban neighbors, and a poor image as a place to do business, the city could do little but watch its own demise (Walsh 1978b, 11). Finally, in 1983, it launched the Lawrence Strategy – a program designed to stimulate the reindustrialization of the city's economy through the reuse of its millions of square feet of mill space (Yudis 1983, A73). The strategy, interestingly, focuses upon the same mix of mature, innovative, and growth-oriented companies that located in Maynard in the 1950s.

What was different? The most glaring differences were that the mills in Lowell and Lawrence were separately owned, the management and marketing skills of the owners were at differing levels, the companies were in varying financial conditions, and the frequent response of local government was to help protect the industries that it had. Transforming the job base of one mill complex in a small town where workers, community leaders, and new owners were in common agreement was a much simpler task than changing a complex, pluralistic, urban community that housed many mills with separate owners. The end result was that Lowell's and Lawrence's recoveries were much slower than that of Maynard.

On Marketing

While textiles, shoes, shipbuilding, and heavy manufacturing companies were leaving Massachusetts, the state was beginning to expand its economic base through emerging electronic, plastic, and paper companies. The new owners marketed the Assabet Mill toward these new firms and succeeded. The new tenants were of three types: They were starter companies that were largely in a research/development phase,

they were branch plants of expanding nearby companies, or they were spinoffs from other firms. The location of the mill was important to all three types.

Starter companies were attracted to the mill's location because it was within a one-hour commute of the research facilities at Harvard, MIT, and other Boston research facilities and laboratories. Furthermore, Route 128, the center of the then-emerging high-technology industries, was less than fifteen miles away. Finally, such innovative organizations as MIT's Lincoln Laboratory, the General Radio Corporation, Sperry Rand, and the MITRE Corporation, and the U.S. Air Force's Hanscom Field were even closer. The ability to interact with other innovators was indeed a strong locational asset.

For branch plants, Maynard's location in an area of active non-textile manufacturing was important. Centers of rapidly expanding paper, plastics, electronics, and telecommunications manufacturing were all located in nearby towns. Thus, when inexpensive space became available in the mill, these companies took advantage of the opportunity. By so doing, they were able to minimize the time/distance/communication problems that so often plague expanding companies.¹¹

The spinoff companies were attracted by reasons similar to those of the starter companies.¹² They required cheap space, a trainable labor pool, and close proximity to research centers. One of the spinoff companies was the Digital Equipment Corporation, whose founder came out of MIT's Lincoln Laboratory. Digital, in turn, has stimulated spinoffs of its own (Hekman and Strong 1981, 43).

In attracting all three types of industry, location was important, but was not the only factor of importance. If it had been, then other transforming mill cities and towns would have recovered in much the same way as Maynard did. Such has not been the case. A look at Lowell, Lawrence, and Haverhill on the north-northwest fringe of metropolitan Boston; Milford, Hopedale, Franklin, and the Blackstone Valley towns surrounding Worcester; and the industrial towns of Marlboro, Hudson, and Clinton immediately west of Maynard all show communities with similar locational attributes (Central Massachusetts Regional Planning Commission 1982; Dunwell 1978; National Trust for Historic Preservation 1983; Walsh 1978a).

On Labor

At first glance, there did not appear to be a ready supply of labor, since most of the mill workers either had found work elsewhere or had retired. Further, the town was not growing, so few additional workers were moving into town (Massachusetts Department of Commerce 1953, 1). Adjacent towns were growing rapidly, however, and the two nearby military bases, Fort Devens and Hanscom Airfield, were bringing spouses of young, poorly paid soldiers and airmen to the area.¹³ Moreover, there was a perception, as noted by a former mill foreman, that many workers from Maynard would prefer to find work in their community and, given the opportunity in a growth field, would come back to the mill (The New York Times 1954, 1). These factors, coupled with several highway improvements that shortened the commuting range for potential workers, made Maynard a prime location for attracting labor.

Was the labor situation unique? It wasn't in terms of supply: other mill cities and towns had more workers available than in Maynard. Other cities and towns also had workers with demonstrated records of production and highly trained skills in

manufacturing. Other cities and towns also were recipients of the same highway improvements as Maynard. What stands out is the nature of the jobs to which these workers were attracted. They were in areas where innovation and growth were expected. For most of the workers, these jobs represented their first chance to expand their skills and to take advantage of opportunities for upward mobility.

On the Town's Characteristics

The Town of Maynard as a community was also an advantage. Maynard was a classic urban town. Its area was only 5.7 square miles, and its population had remained nearly constant at about 7,000 from 1920 through 1960 (Massachusetts Department of Commerce 1961, 1). Most of the town's citizens occupied a 107-acre area surrounding the mill. Within the buildable sections of town, the population density approached sixty persons per acre. It had adequate sewer and water systems in place and no need for the extensive replacement or expansion of capital improvements. More significantly, little space was available for dramatic growth. Thus, taxes were most likely to grow only as the cost of services rose rather than as a result of feeding growth; for that reason tax increases could be predicted reasonably well. Through the 1950s Maynard was a well-serviced, stable town with little debt, few growth pressures, and relatively few people who needed unemployment or welfare assistance. It was a working-class community that had a tradition of providing municipal assistance in any way that would promote mill operations. The new owners and the companies that chose to rent space in the mill found a strongly supportive community.

This spirit of cooperation could be seen clearly in the response of the town's leadership to the mill's closing. Throughout the period of imminent collapse and the period following the close of the mill, the town leadership played an active role in pursuing reindustrialization opportunities. Once the mill was sold, however, the leadership retreated to a passive position. There was a perception on the part of the town leadership that the new owners could handle the revitalization efforts effectively and that local government should lend support only when asked.¹⁴ Such a perception was in keeping with the paternalistic traditions of the former owners of the mill, who regularly and effectively promoted the mill's interest as being no different from the town's. The phrase "as the mill goes, so goes the town" was (and still is) commonly heard.

This noninterventionary position by the local government also was not surprising, given that there had been previous closings throughout the mill's existence. The people were accustomed to coping with strikes, shutdowns, slowdowns, depressions, and layoffs (Maynard Historical Committee 1971, 28-38). The pullout by American Woolen, although potentially dramatic in its long-term effects, was not so devastating as to be out of character with the town's past. There was no panic or desire for quick-fix solutions.¹⁵ Instead, one found a sense of quiet patience and optimism that the town would recover once again.

Where was municipal planning in all this? Planning as a function of government was essentially ignored. In fact, as in most small New England towns, there was no professional planning or economic development staff. Further, zoning and subdivision controls were not critically important, because the town was quite near capacity. A master plan was prepared under the federal 701 planning assistance program but was

promptly shelved. Nor did the town's leadership participate in the governmental grant programs that were becoming available in the late 1950s. With municipal facilities and infrastructure showing little strain from age or overuse, with little population growth, and with a steadily expanding workforce in the mill, the leadership saw little need for strong planning: If the mill was healthy, so was the town.

A Clean Break

In summation, the reindustrialization of the Assabet Mill was a function of many coalescing and interrelated factors. To begin with, Maynard was located in a region where pools of skilled labor, entrepreneurial talent, research and development assistance, and venture capital opportunities were readily available (Browne 1984, A4-A5). These critical factors created the environment for change. The town's location, the structural condition of the buildings, community support, and timeliness were critical. Those factors, however, were not absent in any other mill town undergoing transformation in eastern or central Massachusetts. What was different in Maynard was the willingness of the town's leadership and mill owners to court growth industries and their confidence that market forces would work.

The effectiveness of the new owners in attracting innovative and growing firms meant that Maynard made a sweeping, clean break with its past. It also helped the town recover far more quickly than any other mill town in eastern or central Massachusetts.

Implications for Planning

How is the Maynard story relevant to present-day planners? It is a difficult question to answer, for the transition was completed more than twenty-five years ago in an economic period significantly different from today. Moreover, the transformation of Maynard took place in Greater Boston, with its universities, research centers, tradition of responding to economic change, well-established transportation system, trained labor force, and mixed economic base. This experience cannot be replicated easily elsewhere. It was (and is) different from the one-industry towns of the South and Midwest, where the factories are larger, the economic base smaller, and the work alternatives fewer. Still, several generic lessons can be offered to planners who are going through the problems of plant closing and reindustrialization in one-company towns.

On Maintaining Industrial Assets

At no time in the Maynard case was thought given to changing the use of the mill buildings to commercial, office, or housing uses. Yet too often, planners across the country are viewing these old, often ugly structures as prime candidates for nonindustrial uses. Such proposals should be carefully reexamined. In the Northeast, many of the old mill cities and towns have destroyed such structures or have helped to place them in residential or commercial use (Langenbach 1975, 26). Cheap, raw space is critical. Indeed, many of the high-technology firms, including Digital, Wang, Honeywell, Prime, and Data General, have made use of such old structures as they grew (Hay and Bernstein

1981, 1; Kidder 1981, 16). Further, a review of Massachusetts's industrial towns shows that in many cases the old mills are now full.

The problem of keeping these buildings in industrial use is most difficult in towns that have the immediate need for more commercial space or housing and that have little short-term demand for industrial space. Should the planner promote the new uses? Although local conditions should prevail, the answer should only be decided after careful consideration of the future industrial needs of the community. Keeping these old structures in active industrial use may not result in an improvement in the physical character of the town. It certainly will, however, help provide the space in which new jobs will be generated.

On Building from Within

The writings of Birch, Bluestone, and Harrison, among others, have pointed out the need to build an industrial base from within one's own community or from nearly growing industries (Birch 1979; Bluestone and Harrison 1982). This point was clearly adhered to in the Maynard case. There were no trips to Tokyo or to the Midwest to attract companies thinking of moving into the area. Instead there was a clear decision by the owners to market toward local firms. In fact, the maximum distance moved by any firm to the mill was less than thirty miles. What this points toward is the need for the planner to have a firm grasp of the industrial strengths and weaknesses of the community and the region. It also points toward the desirability of a strongly localized industrial policy that is designed to enhance homegrown, growth-oriented companies.

In the Maynard case, the new owners made an intuitive decision to market regionally. The evidence now available confirms that their decision was correct, both specifically and generically. The role of the planner's assistance in identifying industrial firms in need of help is essential. This assistance can and should be oriented toward eliminating bureaucratic/legislative impediments, streamlining the permit process, identifying relocation opportunities, and helping obtain governmental grants and loans (Dotson 1983, 362).

On Marketing toward Growth Industries

It is extremely difficult for any public official to tell a crowd of several hundred laid-off textile workers that their occupation has no future in their home town. It is also saddening to watch many of these workers take early retirement, settle for lower wages in a service job, or simply drop out of the economy. Yet the lesson of many mill towns is that few long-term benefits are to be gained from providing artificial life to such companies. The subsidies, tax breaks, and lower wages that are required by such companies rarely work. In effect, the benefits of such actions often are limited to buying time for the workers.

Nowhere can the dangers of looking to outmoded industries be seen more vividly than in the latest findings of a study on dislocated workers undertaken by the Federal Reserve Bank of Boston: In each of the past three recessions there have been major job losses in the textile industries. More significantly, these jobs, because of many

international and national trade factors, are never recovered. They simply vanish (Browne 1985, 18).

Where, then, does the displaced worker fit in a changing economy? In the Maynard case, the worker was able to find initial employment in companies that required little more from the workers than a willingness to learn new operational techniques. On-the-job training was sufficient. Today, however, the skills required by most high-technology companies require additional schooling or formal retraining. These new requirements make the transition extremely difficult. Indeed, between 1958 and 1975, fewer than 3 percent of displaced textile workers in New England were able to find work with the region's high-technology companies (Bluestone and Harrison 1982, 97). All of this points to the need to ensure that workers have the opportunity to build on their skills and, if necessary, to retrain. It also points to the need to protect and enhance healthy mature industries. If a mature industry worker is displaced and fails to retool, then that worker probably will have to settle for a lower wage scale and lower quality of life (Armstrong and Mullin 1984).

On Passive Roles

Planners, like their business counterparts, have become increasingly oriented toward short-term results. They also have become increasingly involved in intervening in specific projects to ensure that positive actions occur. While we understand such responses, there is also a role for the planner in a more noninterventionary position.

In Maynard, the town leaders, functioning as planners, developed an informal, open-minded process that was designed to stimulate and accept change. They never made a formal plan, stated goals explicitly, created a delineated methodology, or hired a staff to implement their ideas. On the other hand, they recognized that they needed broad-based citizen support, some consulting assistance, and continued communication with the American Woolen Company. In short, the leadership saw its role as simply developing a positive climate in which development could occur.

On Paternalism and Cooperation

There is usually an uneasy truce between the owners of the mill and the residents of a mill town. On the one side, there is the desire on the part of the citizens to live, their lives as free of encumbrances as possible. On the other side, there is the mill owner's control over the economic destiny of the citizens. How did the citizens of Maynard react?

Over the years, the citizens exhibited an increasing sense of independence from the mill owners. Nowhere could this be observed better than through the Maynard workers' frequent willingness to strike and their strong advocacy of unionism during the American Woolen Company years (Adamic 1931, 753). But their independence was not total. A review of the town's annual reports shows that the townspeople rarely voted against any request from the mill owners for a public service or improvement. In short, there appeared to be a mutuality of interest. If the mill owners provided jobs for the citizens and paid their share in taxes, then the town would support the requests of the mill owners. This mutuality of interests can be noted best in terms of the town's attitude

toward taxing the mill. Through the Depression years (1932-1938), like virtually every other city and town in the nation, the town regularly cut the value of the real estate and the rate of property taxation. Once the recovery began in 1938, the town chose to freeze the value of the mill property at \$839,645. This figure remained almost constant until 1953. At that time, with the sale of the buildings to Maynard Industries, there was a further cut in the assessed value. The purpose of the new cut was in recognition of the low selling price and as a statement that the town wanted to give the new owners a chance to operate at as low a cost as possible.

Finally, the mill owners wished to keep property taxes as low as possible. Their requests were supported with such regularity that, even after the mill closed, the town's fiscal position, based on cash reserves and low debt, was rated the best in the state (The Beacon 1953b, 1). It is indeed ironic when a town, one year after its major employer shuts down, receives a letter of achievement from the governor for having a full treasury (The Beacon 1953a, 1).

The lesson in this case is that there is much to be gained from enlightened self-interest. If the developer asks, for example, for a tax break during a start-up period, for improved infrastructure, or for new parking facilities, the town should consider the developer's needs carefully and establish "quid pro quo" positions (i.e., whether the developer will hire local residents first). The Town of Maynard used this approach quite effectively in its assessment decisions.

On Developing Small Spaces

The reindustrialization of old mill buildings often is made complicated because they are centrally heated and designed with open bays. How can these spaces be economically occupied? The new owners faced this problem by investing in new heating systems and partitioning equipment that enabled them, in effect, to close down unused portions. By so doing, they were able to market the space to small users.

The issue is far more complex today than in the 1950s. There are new fire code regulations that require electronically supported sprinkler systems, new elevator regulations, and a host of occupational safety and health regulations. All must be met before new uses can be placed. They are expensive and are primary reasons for delaying or forestalling the reuse of the structures. Thus they are areas where public intervention can be a major boost.

Using these Lessons

The lessons noted above will not guarantee the success of another town's mill revitalization effort. Too many local idiosyncrasies enter into any company's decision to locate in a community to make that guarantee. They can provide guidance, however, in setting the stage for reuse and for thinking about possible approaches and their potential effects. These lessons are certainly worthy of consideration.

End Note

In the Maynard case, managerial acumen, a supportive town government, a supply of skilled and unskilled labor, careful corporate planning, luck, and opportunism combined to create, for the moment, a happy ending. The town has a booming mill, a strong economic base, and an extremely low unemployment rate. Yet once again the town is dominated by one industry. Admittedly, the industry is healthy and prosperous. The fact remains that the town's economy depends on how well the Digital Equipment Corporation performs.

Is there reason to be concerned? There are no indicators at present that the company will leave, but it is reaching maturity, it is no longer expanding in Maynard, and it is subject to increasing competition (Boston Globe 1983; Rosenberg 1982). Finally, as the computer industry becomes less dependent on research and development, Digital most likely will phase down its production in Massachusetts. Where this will leave Maynard is impossible to determine. All we know is that there is a giant in the mill, and when it moves it affects the entire town and its region.

References

- Adamic, Louis. 1931. Tragic towns of New England. *Harper's Magazine* 162 (May): 748-759.
- American Woolen Company. 1954. *Annual report*. New York: American Woolen Company.
- Armstrong, Jeanne H., and John R. Mullin. 1984. The role of planners in fostering Industrial growth from within their local communities. Paper presented at the Annual meeting of the Association of Collegiate Schools of Planning, New York, October 19.
- Bagnall, William R. 1983. *The textile industries of the United States*. Cambridge: Riverside Press.
- Beacon, The*. 1953a. Governor Herter praises Maynard for its recent achievement. *The Beacon* February 26: 1.
- _____. 1953b. Beacon survey shows Maynard well off despite mill closing. *The Beacon* February 26:1.
- Birch, David. 1979. *The job generation process*. Cambridge: MIT Program on Neighborhood and Regional Change.
- Bluestone, Barry, and Bennett Harrison. 1982. *The reindustrialization of America*. New York: Basic Books.
- Boston Globe*. 1950. Maynard told to adopt Nashua plan at Assabet. *Boston Globe* October 31: 2.
- _____. 1983. Digital's profits off, revenue rises 52%. *Boston Globe* January 25: 40.
- Browne, Lynn E. 1984. The New England economy and the development of high technology industries. *New England Economic Indicators* (August): A3-A6.
- _____. 1985. Structural change and dislocated workers. *New England Economic Review* (January-February): 14-27.
- Business Week*. 1950. Nashua recovers its industry. *Business Week* August 12: 38-42.
- _____. 1952. Woolen mills consider a warmer climate. *Business Week* February 16: 38.

- _____. 1959. Canco's team of men in motion. *Business Week* October 24: 78-84.
- Buss, Terry F., and F. Stevens Redburn. 1983. *Shutdown at Youngstown*. Albany: State University of New York Press.
- Central Massachusetts Regional Planning Commission. 1982. *Blackstone Valley Industrially zoned land survey and analysis*. Worcester: Blackstone Valley Regional Economic Development Committee.
- Clair, Ruth. 1966. Recovery from a single economy in the town of Maynard, Massachusetts. Research paper. Framingham, Mass.: Framingham State College.
- Cole, Arthur H. 1923. A neglected chapter in the history of combinations: The American wool manufacture. *Quarterly Journal of Economics* 57: 436-475.
- Digital Equipment Corporation. 1977. *Digital's mill 1847-1977*. Maynard, Mass: Digital Equipment Corporation.
- _____. 1982. *Annual report*. Maynard, Mass.: Digital Equipment Corporation.
- Dotson, A. Bruce. 1983. Plant closings and the situation in cities. *Journal of the American Planning Association* 49, 3 (Summer): 358-363.
- Dun's Review. 1979. DEC: The minicomputer marvel. *Dun's Review* 114, 6 (December): 48-49.
- Dunwell, Steve. 1978. *The run of the mill*. Boston: Godine.
- Flynn, Patricia M. 1984. Lowell: A high-technology success story. *New England Economic Review* (September-October): 39-47.
- Fortune*. 1948. Whose mistake at Nashua? *Fortune* 38: 98-100.
- Gutteridge, William. 1021. *A brief history of the town of Maynard*. Maynard, Mass.: Town of Maynard.
- Harrigan, Kathryn, and Michael E. Porter. 1983. End-game strategies for declining businesses. *Harvard Business Review* 61, 4 (July-August): 111-120.
- Harrington, Joe. 1964. New industries give little town of Maynard big boost. *Boston Globe Sunday Magazine* September 6: 7-8.
- Harrison, Bennett. 1982. The economic transformation of New England since World War II. Working paper no. 72. Cambridge: MIT Press.
- Hay, John C., and Melvin H. Bernstein, eds. 1981. *Business and academia: Partners in New England's economic renewal*. Hanover, N.H.: University Press of New England.
- Hekman, John S., and John S. Strong. 1981. The evolution of New England industry. *New England Economic Review* (March-April): 35-46.
- Jacobs, Jane. 1984. *Cities and the wealth of nations*. New York: Random House.
- Kidder, Tracy. 1981. *The soul of a new machine*. New York: Avon.
- Kuhn, Sarah. 1982. *The computer industry of New England*. Cambridge: Joint Center for Urban Studies of MIT and Harvard University.
- Langenbach, Randolph. 1975. Amosekeag milliard remembered. *Historic Preservation* 27-28, 3 (July-September): 26-29.
- Malecki, Edward J. 1984. High technology and local economic development. *Journal of the American Planning Association* 50, 3 (Summer): 262-69.
- Massachusetts Department of Commerce. 1953. *Town of Maynard monograph*. Boston:

- Commonwealth of Massachusetts.
- _____. 1961. *Town of Maynard monograph*. Revised edition. Boston: Commonwealth of Massachusetts.
- Maynard Historical Committee. 1971. *History of Maynard, Massachusetts*. Acton, Mass.: Beacon Press.
- Maynard, Town of. 1950. *Annual report of the town of Maynard*. Maynard, Mass.: Murphy and Snyder.
- _____. 1952. *Annual report of the town of Maynard*. Maynard, Mass.: Murphy and Snyder.
- _____. 1954. *Annual report of the town of Maynard*. Maynard, Mass.: Murphy and Snyder.
- _____. 1982. Assessor's records.
- National Trust for Historic Preservation. 1983. *The millworks handbook*. Washington: National Trust for Historic Preservation.
- The New York Times. 1951. Stirs town to action. *The New York Times* November 4: 10.
- _____. 1953. Assabet Mills sold to Louis P. Pemstein. *The New York Times* May 21: 53.
- _____. 1954. Town challenges closing of mills. *The New York Times* April 4: III, 1, 7.
- Purcell, Mia. 1984. *The industrial incubator*. Washington: National Council for Urban Economic Development.
- Raytheon Manufacturing Company. 1956. *Twenty-eighth annual report*. Lexington, Mass.: Raytheon Manufacturing Company.
- Roddy, Edward G. 1982. *Mills, mansions, and mergers: The life of William H. Wood*. North Andover, Mass.: Merrimack Valley Textile Museum.
- Rosenberg, Ronald. 1982. Digital ends Maynard growth. *Boston Globe* November 15: 35.
- Saunders, Dero. 1954. The twilight of American Woolen. *Fortune* 49 (November): 92-104.
- Stone, Orra L. 1930. *History of Massachusetts industry*. Boston: S.J. Clarke.
- Textron American. 1955. *Twenty-seventh annual report to stockholders*. Providence: Textron American.
- Thurow, Lester. 1980. *The zero-sum society*. New York: Basic Books.
- Time*. 1947. Shutdown. *Time* 49 (April 14): 83.
- _____. 1983. The new economy. *Time* 121 (May 30): 62-64.
- Walsh, E. Denis. 1978a. *Action plan for Haverhill, Massachusetts*. Boston: Massachusetts Department of Community Affairs.
- _____. 1978b. *Action plan for Lawrence, Massachusetts*. Boston: Massachusetts Department of Community Affairs.
- Yudis, Anthony. 1983. *Filling old mills with new business*. *Boston Globe* October 23: A73-A74.

¹ It should be noted that there are important differences between textile and high-technology industries; between the Great Depression and the present; between the worker of the first half of the century and of today; and between the market structure of previous times and the present. It is clear, however, that the town was and is dominated by one industry, one major property taxpayer, one major land user, and one major employer.

² Maynard was incorporated as a town in 1871. Before that time it was called the Assabet Village. The village straddled the banks of the Assabet River and was located between the towns of Stow and Sudbury, Massachusetts (see Gutteridge 1921. 7).

³ A review of the Harrigan-Porter “End-Game Strategies for Declining Business” shows that all the major factors needed by the American Woolen Company for an easy exit from Maynard were present (Harrigan and Porter 1983, 117).

⁴ Interview with Leo F. Mullin, former chairman of the Maynard Board of Selectmen, 10 August 1983.

⁵ This proposal was similar to a plan developed by Textron in order to extract concessions from the citizens of Nashua, New Hampshire, concerning the continued operation of the Textron-Nashua factory (see Bluestone and Harrison 1982, 183).

⁶ The Town of Maynard Assessor's Records are located in the Town Hall. They were reviewed in July 1982 and are the source of the information on assessed values throughout this article.

⁷ For an overview of this company see "Canco's Team of Men in Motion", *Business Week* (1959).

⁸ For an excellent analysis of this transformation see Harrison (1982) and Kuhn (1982).

⁹ The term "economic wave" was taken from Harrison (1982, 42-46). The inability of owners of industrial properties to take advantage of these periodic waves is one of the most critical factors in retarding industrial recovery. The Massachusetts Commissioner of Commerce, Ronald Ansin, points to the mill cities and towns along state routes 2 and 146 as examples. Interview with Ronald Ansin, 11 February 1985.

¹⁰ Economist Lester Thurow (1979, 77) maintains that the slow pace of disinvestment is a key problem in reconstructing our industrial base.

¹¹ This point is well articulated in Birch (1979).

¹² A series of relatively new terms are being used to describe spinoff plants. Jane Jacobs calls them "tethered enterprises" (1984, 98). Others refer to them by such terms as "skunk works", "industrial runts", and incubator industries (Commentary of industrialist Loren Schultz, U.S. Small Business Administration Incubator Industries Conference, Colorado Springs, Colorado, 27 February 1985; also see Purcell 1984).

¹³ Interview with Albert J. Mello, former plant manager of the H.H. Scott Company, 26 December 1982.

¹⁴ This response was remarkably different from that of Youngstown in the late 1970s. Competing groups with different goals and agendas attempted to organize the citizens into various directions. The splintering of effort that occurred was a factor in reducing the pace of the recovery process. See Buss and Redburn (1983, 182-89).

¹⁵ This response was similar to the Youngstown experience. To quote: "... Continuity, rather than change, marked the period following the closing" (Buss and Redburn 1983, 87).