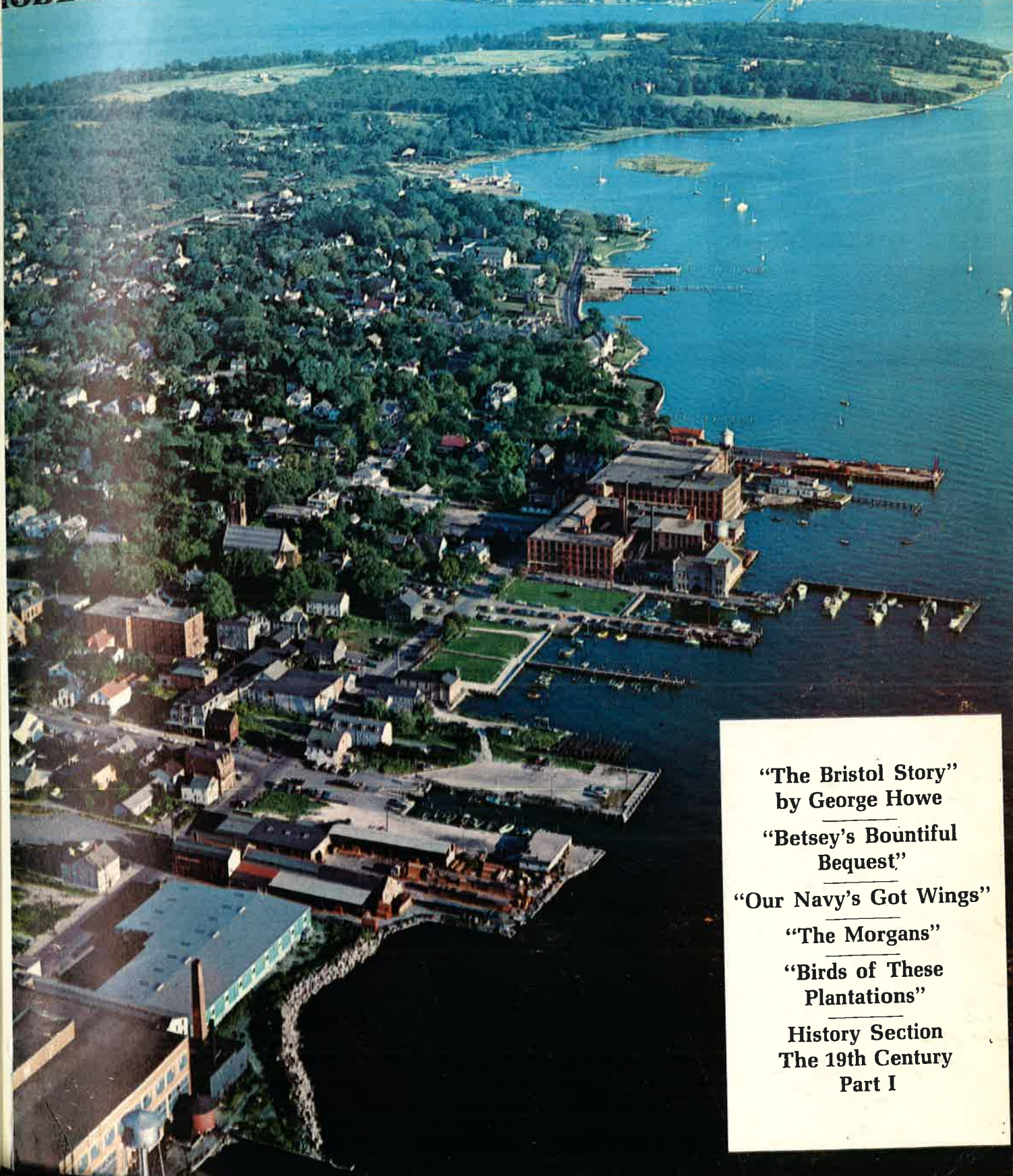


YEARBOOK

RODE ISLAND, BIRTHPLACE OF TEXTILES AND HAVEN OF HOPE



“The Bristol Story”
by **George Howe**

**“Betsey’s Bountiful
Bequest”**

“Our Navy’s Got Wings”

“The Morgans”

**“Birds of These
Plantations”**

**History Section
The 19th Century
Part I**

THE INDUSTRIAL REVOLUTION

BY PETER J. COLEMAN

THERE were two principal ways to support a family in Rhode Island in colonial times. The commonest method was to farm. Most husbandmen raised crops and animals for their use rather than for sale; they stored fruits, vegetables, meats, cheeses, butter, and grain for winter consumption, and in most families the womenfolk and children were expected to make such simple household necessities as candles, soaps, and cloth. The typical family saw little cash from year to year. For it was the common practice to pay for whatever goods and services were needed—needles, pots and pans, shoes, salt, spices, or repairs to farm tools, the grinding of grain into flour and meal, and the sawing of lumber—in whatever farm goods could be spared—a tub of butter, a wheel of cheese, a barrel of salt pork, a piece of hand-woven cloth, a bushel of grain. To be sure, bartering was less common in the late eighteenth century than it had been in the colony's early days, but there were still a few farmers who produced crops and livestock primarily for sale.

The other principal way to support a family was by some occupation that was directly or indirectly related to the sea. In its simplest form this involved no more than in-shore fishing and it was commonly undertaken by farmer-fishermen—those who supplemented the fruits of the soil with the harvest of the sea. In its most complex form it involved the great mercantile houses of Newport and Providence, fleets of ocean-going vessels, and complicated trading voyages to distant shores.

In between these two extremes there was a wide range of maritime activities open to all who had the courage, the inclination, the wit, and the capital or the skill to venture into it. There were commercial fishing and whaling, coastal trading from Maine to Georgia, the slave trade to the Guinea coast of Africa, the sugar trade to the Caribbean, as well as ventures to England, northern Europe, and the Mediterranean, and, most speculative of all, privateering against the King's enemies.

Not all those who made their living from the sea ever set sail from Narragansett Bay. For keeping Rhode Island ships at sea, keeping them supplied with provisions and cargoes, and keeping them in repair required a host of workers on the shore. Clerks were needed to tally the profits and losses; stevedores and draymen to load and unload cargoes; shipwrights to repair old craft and to build new ones; blacksmiths to fashion harpoons and hinges; coppers to make casks; ropemakers to fashion rigging and nets; and distillers to turn the West Indian molasses into the golden rum that could be traded for slaves in Africa.

Even the lowly farmer in the interior was vitally affected by these maritime affairs. Though he may have exchanged a tub of butter or a bundle of shingles with the country storekeeper for a pair of new shoes for his wife, his surplus generally found its way down to the coastal stores and warehouses, there to be bought for cash by the townsfolk for their own consumption, or to be loaded on outward-bound vessels in the inter-colonial or international trades. And so whatever affected the fortunes of Rhode Island's mariners and merchants eventually also affected its farming families.

On the whole this economy worked well in the eighteenth century. There were bad times, of course, times when vessels were lost at sea, times when merchants miscalculated and suffered the anguish of insolvency, times when England's commercial restrictions hamstrung Rhode Island's trade, times when a captain and his crew returned from months at sea with little to show for their efforts, times when farmers suffered crop failures or found it difficult to trade their surpluses for the manufactures and services that they needed. But there were also good times, and Rhode Island grew steadily in population and wealth. By the Revolution the colony numbered almost 55,000 souls, or more than three times as many people as it had



Colonial farmers tilled the soil and bartered their produce.

boasted in 1730. And just as the colony prospered, so, too, did individual families and communities. Newport, in particular, became one of the great cities of Colonial America; its merchant grandees prided themselves on their affluence, "respectability," and cultivated good taste. This expansion was a considerable achievement, the more so since the colony had no staple product such as wheat, or corn, or tobacco, or rice, or indigo upon which to build a profitable export trade.

Nevertheless, there were limits to the amount of growth that this mixed economy could sustain; there were limits to the number of people that the economy could support. Rhode Island's tiny area, its meager natural resources, and the relatively small amount of good farming land made it harder and harder to support a growing population. The colony did grow, but it grew more slowly as the eighteenth century advanced; the colony supported as many families as it did only by diverting much of its energies into maritime pursuits. Indeed, for many a young man there was no other choice. The family farm was simply too small to provide each son with a living. Sooner or later the colony, like individual families, would have to find other ways to support itself.

It was the struggle with Great Britain which culminated in the War of Independence that eventually put an end to this blend of farming and seafaring and forced Rhode Islanders to develop a radically different way of earning their livelihoods. Newport, the town which had most to lose, was hardest hit in the Revolutionary crisis. For three years the port suffered a bitter and costly occupation by the British enemy, an occupation that produced great physical devastation and that prompted the exodus of first the talented Portuguese Jewish community and then the Loyalists. And with them went the capital, skill, experience, and ships which had once made Newport so thriving a community. All Rhode Island paid the price for independence—the country districts as well as the towns ringing Narragansett Bay—but none suffered so much as Newport.

Rhode Islanders had suffered and triumphed over adversity in the past. There seemed no reason why they should not do so again. But although independence brought a great revival of maritime trade, including the opening of the fabulously lucrative commerce with the Far East, a succession of events and forces gradually obliged Rhode Islanders to turn away from the sea.

The most dramatic of these events was the outbreak of the French Revolutionary and Napoleonic wars. This Anglo-French struggle eventually affected the entire trading world and it led also to war between Great Britain and the United States. These wars disrupted world trade and sorely taxed the spirit and ingenuity of the Rhode Islanders. Those who had the wit or the luck to cash in on wartime opportunities did so—perhaps none so dramatically as James DeWolf and his fabulously successful privateer the *Yankee*—but if profits soared risks did also, and adventure-some though Narragansett Bay men were, even they recognized that dazzling successes could be offset by enormous losses.

These wars were not the only event which gradually led to the disenchantment of Rhode Islanders with maritime enterprise. President Thomas Jefferson embargoed American trade in 1808 and in the same year Congress also prohibited the slave trade. Although the Narragansett Bay ports fared relatively well during the hazardous war years, other American ports—Boston, New York, and Philadelphia—fared even better. Moreover, American trade gradually underwent fundamental changes, the most far-reaching of which made New York the great center of American international commerce and gradually relegated Newport and Providence to the minor status of inter-American rather than international ports. Fewer and fewer Rhode Island vessels set out from Narragansett Bay on trading voyages to Latin America, Europe, the Pacific Northwest, and the Orient. What Rhode Island had to export normally went to Boston or New York for shipment abroad, and what Rhode



The Privateer Yankee takes a prize.

Islanders needed in foreign goods arrived in coastal freighters via the same international ports.

To some extent this decline in maritime trade was simply the consequence of events and trends against which even the adaptable Rhode Islanders could not hold out. As world trade expanded during the years of peace which followed the defeat of Napoleon in 1815, so too did it become more routine, more stable, more organized. And this was not the kind of commerce that appealed to the merchants of Narragansett Bay. They had built their fortunes through risk-taking, through venturing where others had not been, through never allowing their trading patterns to become habitual, and through adapting to fast-changing circumstances. The skills and talents embodied in this spirit counted for less and less after 1815, they produced fewer and fewer spectacularly lucrative voyages, and they were counterbalanced by either only modest profits or by small but steady losses.

To a greater extent, however, the steady contraction of maritime effort was deliberate and calculated, and it was a further manifestation of that same spirit of adventure which had in the eighteenth century paid such handsome returns to the colony's merchants and shipowners. Rhode Island's leading businessmen, while not abandoning the sea completely, nevertheless began looking toward land-based enterprises for their principal source of profits. More than anything else in the beginning this meant cotton manufacturing, a form of money-making pioneered in America by Samuel Slater with the encouragement and financial backing of Moses Brown of Providence.

The little Pawtucket mill on the Blackstone River in North Providence spun its first yarn by water-powered machinery in December, 1790. Though the venture was obviously a technical triumph, it was far from being a business success. The mill probably earned less than \$2,000 a year during the first decade or so, a paltry sum as compared to the enormous riches that had been and were still being earned from a single, successful trading voyage. A net profit of \$100,000 was not unusual from a three-year voyage to the Far East, and James DeWolf's privateer the *Yankee* was to earn him a gross profit of about \$3,000,000 in the War of 1812.

Partly because of the low initial returns from cotton manufacturing, partly because of the technical difficulties, and partly because of the shortage of skilled workers, Rhode Island took to the textile industry only very slowly. A mere four spinning mills were operating by 1801, all of which were small enterprises. Most of them required only a few thousand dollars to build, employed only a few workers, and produced only small amounts of yarn. Moreover, the typical mill performed only two functions: carding and spinning. Most of the raw cotton was first teased and cleaned by children who were paid by the pound to perform this tedious task at home. Other children worked in the mill, spreading the cleaned cotton along the carding machines or tending the spinning frames under the watchful eye of the overseer. Most of the yarn was either shipped out to shopkeepers and peddlers along the Atlantic coast or was distributed to local cottage workers who wove it into cloth on hand looms. The cloth was then finished at a waterpowered fulling mill.

It was from such crude, imperfect beginnings that the factory age took shape in Rhode Island. The first major step was to expand production. This was accomplished by building more and bigger mills and by enlarging old ones. Nine factories opened between 1805 and 1807; within five more years there were no less than thirty-eight mills in operation. Thus Rhode Island committed substantial resources—money, manpower, and skill—to the textile industry during the early, experimental stage and before the Embargo of 1808 and the War of 1812 deprived Americans of British supplies. It was in these years of trial and error that manufacturers learned how best to establish and manage their enterprises. This enabled them to capitalize on the opportunities which wartime shortages created.



Samuel Slater



The Old Slater Mill

Spectacular growth followed. By 1815 there were a hundred mills in operation. True, some of them were small, inefficient, and badly managed, and some of them did not survive when the peace brought with it a flood of British cotton goods. But there were a few very large mills also, mills which operated efficiently and profitably. Increasingly it was the largest producers, such as Almy, Brown and Slater with their Smithfield mill and its more than 5,000 spindles, who set the standards for the Rhode Island industry. Thereafter expansion was achieved not so much by increasing the number of mills as by building larger and more efficient ones. It was for this reason that the number of spindles rose from less than 77,000 in 1815 to almost 238,000 in 1832. The number of mills, by contrast, rose from 100 to only 126. The typical mill was capitalized at about \$40,000, operated 1,000 spindles, and employed 35 workers, but many mills were much smaller. The largest mills, however, were three times this typical size and required an investment in buildings and machinery of more than \$100,000 as well as working capital for wages and supplies.

The second major step in the development of the factory age in Rhode Island involved the introduction of the factory system. This required consolidation of all production facilities—from cleaning the raw cotton to weaving, fulling, and printing the finished product—in a single mill or single complex of buildings. Not all of these functions could be mechanized at first, and so the first stage was simply to bring hand weavers into the mill and to set them to work at their looms under the supervision of the owner or his overseer. After 1815, however, power looms and other water-driven machinery were introduced. Eventually the typical mill was fully mechanized for cleaning, carding, spinning, weaving, and finishing, though many mills sent out their cloth for bleaching, dyeing, or printing.

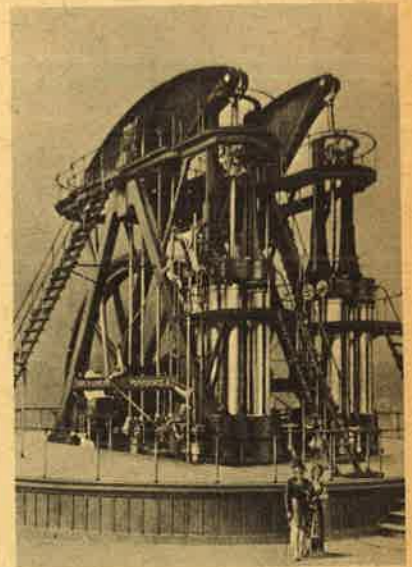
This expansion and integration of production facilities was gradually accompanied by fundamental changes in the ownership and management of Rhode Island mills. During the formative years of the textile industry most mills were owned by merchants whose chief interests and responsibilities were still in the maritime sector of the economy. At most, manufacturing was a subordinate, side interest. Typically, as in the case of Almy, Brown and Slater, merchant-manufacturers hired a mechanic to build and operate the mill and they used their mercantile facilities to arrange for the purchase of raw materials and the sale and delivery of finished textiles. These arrangements worked reasonably well until mills became too large, the market too complex, and the competition too fierce for such casual informality. So it was that the Rhode Island cotton industry came to depend upon a number of specialists—machinery builders to design, construct, repair, and improve equipment; production specialists to manage each stage of manufacture; purchasing agents to see to it that a steady flow of raw materials reached the mill when needed; sales agents to see to the distribution and sale of finished yarn and cloth; and mill managers who could coordinate, direct, and supervise the entire operation.

To some extent these functions were performed by the partners each of whom assumed responsibility for one or more tasks. But the largest firms operated many mills and came therefore to rely increasingly upon salaried specialists to perform this variety of managerial and service functions. Moreover, the growing size of Rhode Island textile firms gradually made the simple partnership of friends and family members an unsatisfactory system of ownership and management. For one thing, the firm had to be reorganized each time a partner withdrew or died. Increasingly in the decades before the Civil War, therefore, the corporation became the typical unit, though the shares were usually held by the same circle of former partners and in many cases, the stock could not be bought and sold on the open market.

Comparable developments took place during the first half of the nineteenth century in other forms of manufacturing in Rhode Island—in jewelry making, in iron working, in machinery building, in woolens. There, too, most enterprises began as



Part of the Sprague industrial empire.



The famous Corliss engine.

little more than workshops owned and operated by craftsmen-managers. Slowly, but surely, and after 1830 at an accelerating pace, these craft industries took on the characteristics of ownership, management, and operation typical of what had already occurred in the cotton industry. They too gradually enlarged their scale of production, mechanized their operations, and adopted the corporate form of management.

The cumulative effect of these trends in textiles, base metals, jewelry making, and machinery building was to relegate maritime enterprise to a relatively minor place in Rhode Island affairs and to commit the state's energies and resources to manufacturing. That commitment had far-reaching consequences, not all of which were anticipated. Perhaps the most significant was the gradual shift in economic power from Newport and the southern half of the state to Providence and its hinterland. This was partly due to the steady contraction of maritime opportunities for Newport, Bristol, Warren, and Westerly, partly to a decline in the vitality of business enterprise, especially in Newport, and partly to the fact that only the northern and western sections of the state had the streams and rivers which could be harnessed to provide the water power so essential to the early factories. Eventually, after 1830, more and more Rhode Island mills began to substitute steam power for water power, but it was the manufacturers of Providence and Kent counties who seized on this new form of power most vigorously and successfully. This meant that Rhode Island's industries, population, and wealth came to be concentrated in the towns of the Blackstone and Pawtuxet valleys and their tributaries. Providence became the economic capital of the state, its banking, insurance, and transportation center, and it was there, too, that the state's political influence came to be concentrated.

The concentration of population in the crescent-shaped Providence hinterland gave the region at the head of Narragansett Bay a continuous urban character all the way from Valley Falls and Lonsdale to Lippitt, River Point, and Arctic. And it was primarily to this area of greatest job opportunities that came the thousands of immigrants from Europe. Although their numbers and influence were not great before the Civil War, they and their descendants were eventually to outnumber those who could trace their ancestry back to colonial New England families. These newcomers brought with them different ideas, attitudes, values, cultures. Just as the factory age changed the direction of the Rhode Island economy away from the sea and toward the land, shifted wealth and power from the south to the north, and gave an urban cast to Rhode Island life, so, too, did these immigrants gradually and subtly mold the state's institutions, affairs, and everyday life.

*The great R.I. Locomotive Works,
an active 19th century industry.*

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