

Learn to Create a History Harvest for Your Classroom!

The Flow of History summer institute—to be held in Windsor, Vermont at the Juniper Hill Inn from June 24 - 30, 2005—is designed so that teachers can study the Industrial Revolution and prepare a History Harvest story at the same time.

The institute is set in a turn of the century mansion built by Maxwell Evarts, a prominent New York lawyer and General Counsel to the EH Harriman Railroad. Through exploration of primary source materials— maps, newspapers, photographs, and artifacts—participants will learn to harvest a piece of history and apply that process to their classrooms.

Limited space for the institute is still available. For more information about this institute and another one being offered at the Fairbanks Museum from July 11 - 15, 2005, visit <http://www.flowofhistory.org>.

Both Flow of History institutes have been designated by the Vermont Department of Education with HQT status. Scholarships are available.

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FLOW OF HISTORY TO UNVEIL HISTORY HARVEST AT EXPO

By Fern Tavalin

Hidden in our communities are the fruits of past labors—old newspapers, photo collections, and meeting minutes—that are ripe for the picking. Harvesting this crop presents quite a challenge, though, especially for teachers and students on tight schedules.



Screen shot of the History Harvest home page. Site programmed by Lise LePage with graphic design by Chris Grotke both of MuseArts, Inc.

For almost ten years, I've believed that technology could help bring this historical bounty into classrooms, especially if the thrill of research and discovery is kept alive. When the US Department of Education awarded Teaching American History funds to establish the Flow of History, a real opportunity to tackle this challenge arose. The words "History Harvest" came into my head almost immediately. The metaphor of harvest is so appropriate to our region today and to our regionis history.

The creation of a complex system that works well takes the hands of many people. In the summer of 2003, I convened a design team comprised of historians, educators, and technology specialists to respond to a prototype idea and to help shape further development.

We generated some ideas for how to work with local historical society collections in a morning session in Dummerston, Vermont. Half of the Design Team tried out those initial ideas with Tom Johnson from the Dummerston Historical Society as he gave us a tour of an upcoming exhibit. The other half of the Design Team watched and took notes. From this experience, it was clear that we had some good ideas and that we had some really hard work ahead of us.

Over the next year the technological and in-person processes continued to be refined with teachers, students, and community members. Student and teacher excitement about seeing original primary source materials kept us going when logistical issues seemed insurmountable. Hearing kids ask questions and make comments like, "Is this REALLY the real thing?" or "I feel so shaky just holding this," econfirmed that we had to maintain direct experiences as well as provide a virtual bank of resources.

Last fall a small group of researchers wrote the first stories to enter the History Harvest database. A month later, I asked an uninitiated group of community members to look at our work so that I would be able to tell whether the concept translated outside of our little history sphere. The group was interested! From there, Lynn Morgan at the Waypoint Center in

Bellows Falls assembled representatives from six towns to gather historical evidence and to write history narratives. These local stories will connect to Flow of History's summer institute 2005 topic of the Industrial Revolution, establishing a link between the stories, school curriculum, and professional development.

After three years of development, the role and purpose of this effort has become well defined—History Harvest is a web-based teaching aid for Vermont and New Hampshire educators along the Connecticut River watershed. The site offers brief history summaries linked to primary source materials and secondary resources. The tool can be used to learn about history, to add to current knowledge, and to generate new knowledge. These cycles of learning, improving, refining, and creating keep history alive and exciting.

History Harvest will be officially unveiled at Vermont History Expo in Tunbridge, VT during the weekend of June 25-26, 2005. The following week, teachers will have the opportunity to create more stories for the database at the Flow of History summer institute in Windsor, as they learn to gather and interpret primary source materials. Students will take their turns next fall, adding new stories to Vermont's rich historical harvest.

Enjoy the sneak preview of stories and images that this issue of our newsletter offers.

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HISTORY HARVEST IN THE MAKING

By Lynn Morgan

The Waypoint in Bellows Falls is centrally located to eight Connecticut River watershed towns and has a mission to interpret the history of the area. As Volunteer Coordinator, I was given the challenge of gathering together historical society representatives willing to work at putting together local stories and collecting accompanying primary sources for digitizing. Our job was to test the idea of a “History Harvest” that connected local stories to the study of American history and to figure out what would be necessary to make that happen.

Writing Stories for History Harvest

Guidelines for preparing a focused and informative historical summary connected to the Industrial Revolution

IN GENERAL

- Examine evidence gathered to decide which pieces fit together into a coherent summary.
- Make sure evidence directly relates to the summary.
- If an unusual process or product, create an outside WWW link or provide an explanation.

INTRO

- Begin with a paragraph about how the selected industry started in your town
- Set the scene for the main body
- Place the person/event/object into a larger historical context

MAIN BODY

- Tell the “story” that comes from your research in a one to two page summary

Some questions to consider as you write:

- What was manufactured and how?
- Where was the market for the product?
- How was product moved?
- Who worked at the factory or business?
- When was the peak of operation?

CONCLUSION

- End with a statement about today.

Letters were sent to each of the eight historical societies whose towns are in the Great Falls Waypoint region. Six responded to the invitation from Grafton, Bellows Falls, Walpole, Saxtons River, Charlestown, and Athens. We began our trial run with the topic of commerce during the American Industrial Revolution. To gain some background knowledge, each participant was asked to read the chapter on “Industry” in Richard Ewald’s book *Proud to Live Here* prior to the first meeting and to come with some story ideas. The first meeting was a discussion session and each participant left with a good idea of what s/he was going to write about and what information s/he needed to find in order to support the writing of a historical account.

A month later we got back together. This time Fern Tavalin and Sarah Rooker from the Flow of History joined us. Each representa-

tive read his or her account and presented the supporting primary sources. Fern facilitated a group discussion to gather feedback for improvement of the writings and source materials while Sarah supplied an historian’s viewpoint. The accounts were interesting to read and showed important connections to the national story.

Following this internal review, the stories will be sent to an outside historian to be vetted before they are placed online. Outside review will help to keep the standards high for what is included in this educational resource.

This first History Harvest was considered a success by all. A second History Harvest was scheduled for the following month, focusing on the topics of transportation and tourism. Look for the History Harvest accounts on the web at www.historyharvest.org!

FROM SEED TO HARVEST

Step 1 Conduct research and gather evidence

Step 2 Make an historical summary based on the research and evidence gathered

Step 3 Bring draft for collaborative, internal review

Step 4 Revise



A document record for *Fish and the Fisherman* shows an ad Stone placed in the *Cultivator and Country Gentleman* for the sale of Cold Spring Trout Pond. www.historyharvest.org/detail.php?mode=document&recid=83

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Step 5 Send for external review

Step 6 Place on History Harvest

HISTORY HARVEST VETTING SHEET FOR HISTORIANS

Name of Story: Fish and the Fisherman

My recommendation is to: Add related evidence and then publish

Detailed Comments for Improvement:

The story states that there is an Internet link to articles that explain and debate Stone's work. This added link would be supplementary material for the paper. Maybe a map of the local of the trout pond and some old and or new photographs of the relics on the site, which obviously is still visible in Charlestown.

Add the following evidence: photos, map, and Internet link

Action Taken: Evidence added 4/28/05.

History Harvest summaries go to historians, teachers, and students for review before they are placed online.

FISH AND THE FISHERMAN

By Joyce Higgins, Charlestown Historical Society

Livingston Stone came to Charlestown, New Hampshire, in 1863 as an associate pastor of the South Parish Unitarian Church. Despite his popularity as a minister, Stone's role as a fisher of men gradually underwent a change, and his life's work became that of a fisher of fish.

In 1866, Stone established the Cold Spring Trout Ponds, near Main Street, in Charlestown. Fish culture was just in its infancy in the United States, with New Hampshire establishing the first state fish commission in the country in 1864. The U.S. Commission of Fish and Fisheries was not established until 1871.

Stone was one of a half dozen men in the United States interested in working with fish culture and habitats. Among the fish culturists' goals were creating an inexpensive supply of fish for human consumption and restocking rivers and lakes where the native species had already vanished. They were aware that the intervention of man was changing fish habitats for the worse. As early as 1762, due to overfishing, striped bass and sturgeons had been eliminated from the Exeter River in New Hampshire, and dams prevented the spawning runs of the alewife. The West Coast had similar problems.

The early leaders in this field also felt it would be beneficial to introduce fish to hospitable locations where those species did not occur in nature. Since little was known about environmental factors or the differences between types of fish in various areas, much of the process was by trial and error.

By 1868, Stone had established a branch of his trout ponds at the Mirimichi River in New Brunswick, Canada, where he was breeding

salmon. In the ensuing years, Stone worked with other fish culturists in the U.S. and abroad, and, in 1872, was appointed U.S. Deputy Fish Commissioner for the Pacific Coast.

From his trout ponds in Charlestown, Stone shipped trout and other species to California and all over the U.S. In 1873, Stone invented and developed the original and unique railroad aquarium car, fitted up expressly to transport fish from one coast to another. Several of these cars were subsequently used over a period of years, hauling every imaginable kind of fish.

Although Charlestown remained Stone's home base over the years that he traveled and lived on the West Coast—the town Livingston and his family returned to for a portion of every year—it was necessary that the day-to-day operations of the Trout Ponds be relegated to others. To be manager of the operation, Stone chose a local woman, Frances W. Webber, perhaps the first woman fish culturist. A number of townspeople were also employed, and still others accompanied Stone to California to work with him there.

From the time Stone resigned his post at the South Parish Church in 1868, his life expanded from Charlestown across the country, and even abroad, where he shipped fish species. He received awards from France and Germany. Even today, articles on the Internet



View of Hatching House at Cold Spring Trout Ponds, Charlestown, N.H. Taken in 1868

explain and debate his work, and in 1998, Stone was honored by the creation of the Livingston Stone National Fish Hatchery on the Sacramento River in California.

A searcher in the quiet woods of New Hampshire, who knows where to look, can still find traces—cement and piping—of Stone's trout ponds, all that remains of a busy industry that once flourished in Charlestown.

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destroyed by a fire on March 8, 1883. A larger 5-story building was quickly built, and in 1889, more buildings were added, one for an office, the others for manufacturing. The location near the railroad station gave the company easy access to transportation. By now employing almost 800 workers, the Vermont Farm Machine Company was the largest employer in Bellows Falls after the paper mills.

Because of its success, the company received offers to expand and move to Brattleboro, Vt. and Wallingford, Ct. In order to keep the company in town, the Bellows Falls Building Society was formed by paper mill owner William Russell. The Society was able to raise \$35,000 to match the outside offers. As a result, the business stayed in Bellows Falls, and the buildings were enlarged four times.

The Vermont Farm Machine Company continued to prosper into the next century, becoming the world's largest manufacturer of dairy implements in 1908. This success did not come without a fight, however. At one point, the U.S. Cream Separator's originality was challenged by two similar products, the DeLaval Separator, and the Economy Separator made by Sears & Roebuck. Fortunately for the Vermont Farm Machine Company, and ultimately

Bellows Falls, the lawsuits were settled in its favor when 5 of its 7 patents were upheld.

The company continued to expand, acquiring the Monarch Evaporator of Newport, Vt. in 1919. The Monarch Evaporator was used mainly in the production of fancy sugars and maple cream. The original Cook Evaporator, which had been improved upon, became the "Williams Improved Bellows Falls Evaporator," known as the "Bellows Falls" for short. This was used to produce the highest grades of maple syrup. With the consolidation of these two companies, a superior hybrid machine was developed and became known as the "Bellows Falls Monarch Evaporator."

With the advent of World War I, the Vermont Farm Machine Company switched from manufacturing dairy and sugar making equipment to making munitions, specifically shells for the Russian government. Unfortunately, when the war ended, the company was left with a surplus of shells, which the Russian government would not, or could not, pay for. More bad luck came when the Machinists Union was organized in 1915, and with it the possibility of workers going out on strike. After the war, the company applied for a \$500,000 loan which was turned down, causing nervous creditors to pull out of the business. The

final blow came when the patents on the separators and washers expired, becoming public property, much to the delight of the Vermont Farm Machine Company's old adversary, DeLaval.

A last ditch effort was made to save the failing business by Nathan Williams in 1926. The former company president tried to get the town to buy land north of the village in order to erect an even bigger building where washers and separators would be made. However, before anything could be constructed, the Great Flood of 1927 came along and washed away the building site, and with it, any hopes of resurrecting the company.

The original buildings on the island were rented or owned by various businesses over the years. The last of these was Vermont Poultry, Inc., which raised chickens for canning. This moved to nearby Walpole, N.H. when the buildings burned down in 1952.

In its heyday, the Vermont Farm Machine Company was a major contributor to the local economy. It not only provided many jobs for locals and immigrants alike, it was the second-largest taxpayer in the town of Rockingham. With its excellent reputation and many innovations, the Vermont Farm Machine Company helped put Bellows Falls on the map.

THE INDUSTRIAL REVOLUTION

Connecticut River Valley Overview

By Sarah Rooker

The Industrial Revolution in America had an impact on Americans that crossed political, economic, and social boundaries. It brought changes in daily living both at home and work, redefined the government's role in the economy, and changed how Americans communicated and worked with each other.

The Connecticut River valley played an important role in the formation of the Industrial Revolution as artisans and mechanics, often spurred on by resourcefulness and isolation, created new tools and new patterns of work in the many mills and shops along the Connecticut's tributaries.

After the creation of the American Republic, the Connecticut River valley became more integrated into New England's market systems. Small mills and shops, relying mostly on water-powered machinery, dotted the landscape. Advertisements in Windsor's *Vermont Journal* reveal that by 1790 growing consumerism had reached the region. Stores and shops boasted of carrying English, West-Indian,

European, and Irish goods in the form of spices and condiments, coffees and teas, housewares, books, and woven cloth. While the barter and work exchange economy still flourished, cash exchange became more common. Growing commercialism created greater inequality as farmers were stretched to pay cash for goods they had never had before, and new wage-earning laborers sought to make a living.

That agricultural and industrial histories are intertwined can be seen throughout New England in the textile mills that processed both cotton from the south and wool produced locally. The history of Claremont, New Hampshire's Monadnock Mill mirrors that of perhaps the most

famous model of industrialization-Lowell. Founded by the Jarvis family in the 1830s to produce both cotton and woolen goods, the mill first employed local girls, housing them in local boarding houses. This paternalistic spirit, similar to that found in Lowell, was heralded as an example of how Americans, unlike Europeans could industrialize without social conflict. As in Lowell, as production increased and wages decreased, Irish and French-Canadian immigrants replaced the mill girls and looked forward to a lifetime of earning wages and working for someone else.

When the Robbins and Lawrence factory in Windsor, Vermont, created interchangeable parts for their guns in 1851, they



Building the railroad along the Connecticut River in Southern Vermont. Courtesy of the Putney Historical Society.

The new "American System" opened the way for many new industries ranging from mass-produced sewing machines to organs.

caught the attention of mechanics in England who heralded their new technologies as the "American System." At armories in Springfield, Massachusetts, and at the Colt manufacturing plant in Hartford, Connecticut, arms manufacturers created special purpose machines and highly precise gauges to make interchangeable parts. This meant that guns could be repaired on the battlefield, changing the nature of war. The new "American System" opened the way for many new industries ranging from mass-produced sewing machines to organs. Suddenly, a whole new world was open for consumers.

The railroads brought great change to Vermont. By the mid 1850s, over five hundred miles of track had been laid with the help of Irish immigrant workers. The location of the tracks had a huge impact on the development of Vermont towns delaying the growth of some businesses such as the Barre granite industry or increasing others. Often villages moved their centers downhill to the

railroad depot or shifted from one center to another within a town, stimulating real estate speculation and new development. The lumber and cattle industries benefited from new trade with Boston as did farmers, with the advent of refrigerator cars for butter and cheese -- escalating the shift from growing wool to dairying. Reaction to the rails was not all positive. Woodstock's George Perkins Marsh complained about the greed of railroad investors as well as their impact on the environment. In 1864 he published his most famous book, *Man and Nature* where he argued that every new technological innovation was a threat to the natural world.

With the convergence of steam, faster transportation, and precision manufacturing, the stage was set for bigger business and the accompanying changes in daily life and society. Bigger businesses brought the need for organizational management, large investments, and national markets. The Fairbanks Scale Company in St. Johnsbury

is one such example of how businesses grew in the nineteenth century. By the time of the Civil War, they had employed over 1,000 workers and were producing 4,000 scales a month for a world-wide market. Big business often led to philanthropy as was the case with the Fairbanks family. The Fairbanks Museum and the St. Johnsbury Athenaeum are just two recipients of the family's largess.

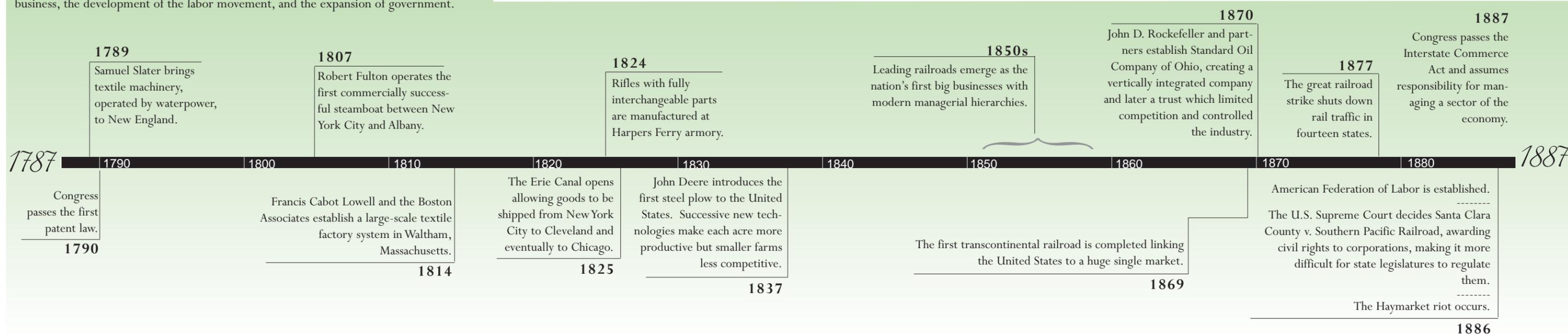
Throughout the nineteenth century, large numbers of Vermonters left the state in search of jobs in industrial areas and new lives in the west. Vermont's mountains proved quite attractive to urban residents, however, and a new tourism industry grew as officials promoted the state's agrarian past and healthful environment. The new tourist economy was dependent on both an industrial infrastructure and a rural vision. Managing this dichotomy would become a constant balancing act in the twentieth century.

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Industrial Revolution Timeline

This chronology of the Industrial Revolution (roughly 1790 - 1890) focuses on the key innovations in transportation, power, and technology that changed the way people worked, increased their capacity for production, and expanded the markets for their products. It also highlights some of the outgrowths of the Industrial Revolution such as the rise of big business, the development of the labor movement, and the expansion of government.



THE VERMONT FARM MACHINE COMPANY

By Christine Burchstead, Rockingham Free Public Library

In the nineteenth century, one of the leading manufacturers in the Connecticut River Valley and beyond was the Vermont Farm Machine Company. The company began as the "Hartford Sorghum Machine Company" in 1868, and was located on Bridge Street, Bellows Falls, on the second floor of a livery stable.

It originally made the "Cook Sugar Evaporator," which was used in the production of maple syrup. James Williams, the company's founder, improved the evaporator by replacing the wooden sides with iron sides. He patented his idea and the evaporator became known all over the world after receiving top awards at the Chicago's World Fair.

At the beginning, the company only employed 4 or 5 men, but with the enormous success of the evaporator, the company officers decided to branch out and start making other farm implements, such as harrows, cultivators, mowing machines and horse rakes. Since Vermont was (and still is) a rural state, this was a wise decision. Increased business production in turn led to the hiring of many more local men. On February 15, 1873, the Hartford Sorghum Machine Company became incorporated and changed its name to the "Vermont Farm Machine Company." In 1877 the

company began production of the Cooley Creamer, which was used to separate cream from milk by submerging cans of milk in cool water. This machine was so successful; the Vermont Farm Machine Company stopped manufacturing its earlier products in order to concentrate on making dairy implements. Two of the best known of these were the Davis Swing Churn, used to make butter, and the U.S. Cream Separator, which did just what the name implies. A working Davis Swing Churn can be seen at the Billings Farm Museum in Woodstock, Vt. According to the Vermont Farm Machine catalog, both of these machines could be powered by dogs or sheep on a treadmill!

The U.S. Cream Separator proved to be so popular; it was used on virtually every farm in the country, and exported worldwide. This separator became the gold-standard by which all other separators were judged, and because of this it won numer-

ous prizes at the Paris International Exposition in 1900, the Pan-American International Exposition in 1901 and the St. Louis World's Fair in 1904. Many of these medals along with some of these machines are on display in the Rockingham Free Public Library's Museum in Bellows Falls, Vt.

The principle used in the manufacture of the Davis Swing Churn was invented by a Vermonter. This same principle was also used to make the Davis Swing Washing Machine, which served as the prototype for Maytag and other later washing machines.

By this time, the Vermont Farm Machine Company had outgrown its rented space. The company put up a small building near the end of the Rutland Railroad Bridge on Canal St., but soon this, too, proved to be too small. A 4-story brick building was erected on the "island" between the Connecticut River and the Bellows Falls Canal. Unfortunately, this building was

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