

LUMBERING IN MICHIGAN

By Maria Quinlan

The "shanty boys" and the "timber barons" of the lumbering era were some of the most colorful characters in Michigan's history. Tales of the lumberjacks' prodigious strength and of the company owners' opulent houses and manner abound, but the lumbering industry produced more than songs and legends. A vast amount of housing in the Midwest was constructed of Michigan timber, and the profits taken from the state's forests were in turn used to fund a variety of enterprises around the state.

Geographic factors played an important part in the development of Michigan's lumber industry. White pine, the wood most in demand for construction in the nineteenth century, grew in abundance in northern Michigan forests. The state was also crisscrossed by a network of rivers which provided convenient transportation for logs to the sawmills and lake ports.

By 1840 it was apparent that the traditional sources of white pine in Maine and New York would be unable to supply a growing demand for lumber. Michigan, the next state west in the northern pine belt, was the logical place to turn for more lumber. The first commercial logging ventures in the state utilized eastern techniques, capital, and labor, but Michigan lumbering soon expanded beyond the scope of anything previously known and established itself as one of the state's most important industries.

The production of Michigan lumber increased dramatically during the middle decades of the nineteenth century. The Saginaw Valley was the leading lumbering area between 1840 and 1860, when the number of mills in operation throughout the state doubled, and the value of their products increased from \$1 million to \$6 million annually. Rapid growth continued, and by 1869 the Saginaw Valley alone was earning \$7 million yearly.

As the potential of the lumber business became apparent, companies were organized to begin commercial logging in other areas of the state. Many rivers, such as the Muskegon, that could carry logs quickly were transformed into a valuable means of transportation. By 1869 Michigan was producing more lumber than any other state, a distinction it continued to hold for thirty years. During that time loggers penetrated and settled the

interiors of both peninsulas and moved away from the rivers in search of timber. Lumbermen became less selective as the years passed, cutting inferior quality white pine and logging other kinds of trees in order to meet a continuing demand for wood. In 1889, the year of greatest lumber production, Michigan produced approximately 5.5 billion board feet. (A board foot, the standard unit of lumber measurement, is a piece of wood 1 foot long, 1 foot wide and 1 inch thick).

The increased lumber production during the final decades of the nineteenth century was due in part to changes in machinery and techniques which brought greater efficiency to the industry. Throughout the first half of the nineteenth century lumbering had been a weather dependent and seasonally limited enterprise. Cutting was done during the winter when timber could be pulled on large sleds, if there were snow, from where the tree had been felled to banking grounds along a river.

The river drive was also dependent on a good winter snowfall for it was the spring run-off which enabled the rivers to carry the huge pine logs to the sawmills. Log drivers were usually men who had spent the winter in the woods cutting timber. It was their job to control the flow of the river by building and breaking dams and to break up log jams they could not prevent.

Sawmills were most often located at the mouths of the driving rivers. Associations were formed to cooperate in the sorting of logs into a pond or bay where floating "booms" of logs separated the property of one company from that of another. From the booms logs were floated to the mills to be sawed.

The sawmill was the first unit of the lumber industry to achieve increased output through technological change. Although water-powered mills were still common in the 1860s, steam saws, whether up-and-down or circular, were rapidly replacing them. Steam saws so increased the capacity of the mills that it became necessary to devise faster methods of handling both logs and sawn lumber in order to avoid pile-ups and delays. By the end of the 1870s virtually every mill operation had been mechanized to some degree.

In addition to increased speed of mill sawing, mechanical innovations were eventually also able to reduce waste. The first circular saws of the 1860s had wide blades that produced mountains of sawdust. They wobbled as they cut through the timber, so that the boards that were turned out "more nearly resembled washboards than lumber." Within a few years, however, these problems had been almost totally eliminated. The widespread adoption of the band saw in the 1880s further reduced waste. Metal technology now made it possible to build a saw with a thin band of steel operating as a continuous belt that cut both rapidly and efficiently.

Greater mill capacity coupled with a continuing demand for wood also put pressure on the loggers to cut as much as possible each season. A number of small changes improved the efficiency of woods operations somewhat. These included the substitution of the cross-cut saw for the axe in felling timber and the replacement of oxen with horses as sled teams. The development of rutters and water sprinklers to maintain the sled tracks enabled the woodsman to haul heavier loads.

Two Michigan-initiated innovations of the 1870s were responsible for the largest increases in logging production. The Big Wheels invented by Silas Overpack of Manistee enabled cutting to continue in the snowless seasons by providing an alternative to sled transportation. As its name implies, this device consisted of a set of enormous wheels drawn by a team of horses. Logs were chained beneath the axle, and once the inertia of the load had been overcome, it was relatively easy to keep the wheels moving.

Like the logging wheels, the narrow gauge railroad helped to make lumbermen independent of the weather. Trains could be used in place of sleds year round for the relatively short run to the riverside banking grounds, or the river drive itself could be ended by carrying the logs to a mainline railroad depot. In addition, the logging railroad was sufficiently economical to allow cutting in areas that had been considered too far from the nearest driving stream to make sledding practical. Michigan lumbermen were not the first to use railroads to carry logs, but the idea of using temporary narrow gauge track to supplement other means of transportation did originate within the state. And the widespread publicity given the successful experiment of Winfield Scott Gerrish during the winter of 1876-77 in Clare County provided the impetus for the development of small railroads

industry-wide. (The river drive, however, continued to be an important method of log transportation throughout Michigan's lumbering era.)

Lumbering employed many Michigan residents. It made the fortunes of a few men such as Charles Hackley of Muskegon, Louis Sands of Manistee, and Perry Hannah of Traverse City. These men were exceptions to the rule, however. The vast majority of men employed in the lumber industry worked long hours for low pay. Lumberjacks, most often single men in their twenties, spent the winter in the woods, working from dawn to dusk six days a week, cutting, hauling, and piling logs. They were usually paid between \$20 and \$26 per month and were also provided room and board. Those who stayed on in the spring as river drivers received higher wages due to the grueling nature and the very real dangers of their job. There were amusements for the few leisure hours such as singing songs and telling stories which became lumbermen's classics, but the company never varied, and often many weeks passed between trips to town. Between 1840 and 1870, Michigan loggers came primarily from New York, Ohio, New England, and Pennsylvania. Throughout this period, however, the proportion of Michigan-born among the population was steadily increasing. Canadians always constituted the largest single group of foreign-born lumberjacks, although many stayed only for one or two seasons and then returned home. The lumber camps were also manned by individuals from many ethnic groups. Near the end of the nineteenth century, however, the number of Scandinavians entering the state increased dramatically; the number of Swedish immigrants, for example, which was a mere 16 in 1850, had grown to 9,412 by 1880, and stood at 26,374 in 1910. During these same decades there was a corresponding influx of Scandinavians into the lumber camps.

Much less is known about the backgrounds of the men who labored in the sawmills in the late nineteenth century, but it is likely that they followed the same general pattern as the loggers. Like the men in the woods, mill hands worked long hours. They did not face the isolation of the logging camps, but their working and living conditions were often worse: noisy, dirty mills and dingy, cramped housing. Although mill workers received higher wages than loggers, from \$30 to \$50 per month, they had to provide their own room and board. They were also more likely to have families to support than were the loggers.

Like workers in other American industries, those employed in lumbering made attempts at organization during the decades following the Civil War. Union organization was most successful among the mill workers because they were concentrated in the towns. Prior to 1884 there were scattered unsuccessful strikes in Michigan mills. They did little to unite the workers but which effectively consolidated the mill owners against the workers.

The largest strike occurred in the Saginaw Valley in 1885. Mill hands demanded an immediate shift to a ten-hour day (which was due to occur soon anyway as the result of a recently enacted law) and more importantly, that the change not be accompanied by a reduction in pay. Within a month, in many mills in Saginaw and East Saginaw, the strike had been broken, but the workers in Bay City, the source of the strike movement, held out for another month. The mill hands had shown a willingness to cooperate in relieving some of the financial hardships caused by the strike; they were less successful in uniting to negotiate with the mill owners. Nor did this strike spur the growth of the labor movement. By the mid-1880s the forests of the Saginaw Valley were nearly exhausted, and as jobs became more difficult to find, disruptions became fewer.

In their haste to move on to new cutting sites, loggers usually gave little thought to the lands they were leaving. By the 1870s stumps and branches already littered much of northern Michigan. There was no longer any barrier to erosion on cutover land, and the dried debris created an enormous fire hazard. At the end of the dry summer months fires frequently broke out, sometimes moving into still uncut timberlands or settled areas, as in 1871 and 1881, when fires broke out across the state. These dangerous conditions in the former logging districts inspired, in large part, the first attempts to conserve Michigan's natural resources.

Lumber companies had no desire to own already logged parcels of land and thus found themselves

trying to sell large tracts of land in the 1880s and 90s. They vigorously promoted the former forests as good farmland, ready for the plow, but experience soon proved that this was not the case. Most of the land simply could not support continuous farming, and its fertility was soon exhausted. Families that had put all their savings and hopes into such a farm often had no alternative but to give it up when they could not pay their taxes. Tax delinquent land as well as acreage simply abandoned by lumber companies was thus acquired by the State of Michigan, forming the basis for its early efforts toward reforestation and land management.

The primary effect of the lumber industry upon the State of Michigan was economic. The timber boom in the latter half of the nineteenth century brought millions of dollars into the state, both to lumbermen and those who supplied them. Thousands of men and some women found employment in some aspect of the business. The decline of lumbering also had its effects; both individuals and entire villages and cities, formerly thriving, lost their most important source of income.

The lumbering era also saw vast changes in the natural environment of northern Michigan. The conservation programs in effect today on state lands grew out of concern over the conditions the loggers had left behind them. Another legacy evident today is the body of songs and stories about lumbering, an important part of the folklore tradition of Michigan, and indeed, of the entire nation.

Between 1840 and 1900, lumbering changed from a small, speculative business to an efficient industry that had lost much of its earlier uncertainty. Michigan, as a top producer for much of the period and cradle for industry innovations, was key to the industry's development.

The Michigan Department of State first published "Lumbering in Michigan" as a Great Lakes Informant (Series 3, Number 2).

Museum School Packet - Sample Activities

Lumbering Gallery

•Introduction •Main Concepts •Log Marks Activity
•Shanty Boy's Meal Activity •Other Lumbering
Gallery Activities

Michigan's white pine trees furnished a rich resource for logging in the state during the late 19th century. Called "green gold," the 200 to 300-year-old trees were straight and tall. Their trunks could be four to seven feet across. Their wood was light and free of knots.

Men called "landlookers" or "timber cruisers" searched for acreage with great stands of pine. Logging companies bought the land from the federal land office. Crews cut the trees in winter when the ground was frozen. After the trees were cut, they hammered a mark into the end of each log to show its owner. Then they hauled the logs to the river bank. In spring when the snow melted, the flood of water floated the logs down to a sawmill where the millhands cut them into boards.

The woodsmen were known as "shanty boys." They used tools with interesting names such as adze, cant hook, peavey, and marking hammer. Some worked as sawyers, teamsters, skidders, loaders, choppers, tinkers, filers, or blacksmiths. Men who drove the logs down rivers to the sawmills were called "river hogs." They wore "caulked" boots (with spikes on the soles) to help them walk across the logs. Every camp had its cook and "cookee." A floating cook shack used during the river drives was called a "wanigan."

Michigan lumber went into the building of many homes and large cities such as Chicago as the nation expanded westward. Technology made it easier to cut not only the huge pines, but also the hardwood trees of Michigan forests. "Big wheels" made year-round logging possible. Narrow gauge railroads in the woods helped move logs more easily. Sawmills modernized, changing from a single saw to the circular saw to band saws. Towns grew up around the sawmills.

A man could make his fortune during the lumber boom. Some men became "lumber barons." In this gallery you will see the front of a lumber baron's mansion, based on the 1889 Hackley House of Muskegon, Michigan. The fine woodworking and stained glass windows provide a glimpse at the craftsmanship of the Victorian era. Framed portraits of lumber barons hang in the mansion's foyer. Just beyond the foyer, the lumber baron's parlor serves as a theater. Here a 13-minute program describes the history of lumbering in Michigan, including the lumber camp life of the shanty boys. There are six-minute intermissions between shows.

Michigan created a State Forestry Commission in 1899. Reforestation efforts began with the establishment of pine nurseries at Higgins and Houghton Lakes.

Main Concepts

Sawmill

1. Michigan settlers found that the forests of the northern part of the state included large, valuable white pine trees, many of which were hundreds of years old. 2. Lumbering developed a unique way of life and specialized tools to carry out the tasks (e.g., big wheels, caulked boots, log marking hammers, peaveys, wanigans). 3. Rivers were important means of transporting logs to sawmills.

Lumber Baron's Mansion

1. Many people became wealthy during the 1870-1900 period by owning lumbering companies and sawmills. 2. Lumber barons' homes were elegant, with much woodworking and architectural detail.

Log Marks Activity

Background Notes

Loggers cut Michigan's white pine during the winter. Men and teams could work easily among

the trees when the swampy forest ground was frozen. They piled the logs on the banks of rivers to

wait for the spring thaw. When the rivers were swollen with water from the melting snows, the loggers floated the logs to the sawmills. The logs of many lumber companies floated together to the sawmill.

Owners used a heavy marking hammer to mark each end of their logs with a special design, a "log mark." The log mark let everyone know who owned

the log. The log mark was first used near Muskegon in 1842. Each owner registered his mark with the county government. Log piracy was one of the earliest types of "industrial" crime in Michigan. Log thieves sometimes waited for the spring log drives and pulled choice logs from the river. They cut off the log ends and remarked the logs with their own mark.

Objectives

1. Students will be able to explain the purpose of the log mark during 19th century log drives.
2. Students will be able to tell how log marks were applied to logs.
3. Students will be able to describe the various parts of the designs of log marks.
4. Students will design a personal "log mark."

Materials Needed

Michigan log marks (copy for each student or drawn on poster or chalkboard); pencil and paper; optional: 1/4" craft cork and wood blocks or potatoes cut in half; knife to cut own log mark design for stamping; Stamp pad or tempera paint.

Directions

Ask students to examine the different log marks used by Michigan lumbering companies. Discuss the different designs used: words, initials, symbols, figures, and combinations of these. Discuss ways in which log marks in Michigan and cattle brands of the west were similar. How were brands applied to cattle? How were marking hammers used to emboss log marks in the cut ends of logs? Compare and contrast log piracy and cattle rustling.

Ask students to draw their own personal "log mark" using pencil and paper. Is there a special design related to their name, personal characteristics, or favorite things that would have a special meaning to them?

Optional: Have students transfer the "log mark" design to 1/4" craft cork and cut out. Glue the craft cork to a wooden block. Permit students to stamp the design on their papers using an ink pad. Or, have all students stamp their designs on one large piece of Kraft paper to make a classroom poster. Each design may also be cut into the cut side of a potato, then stamped using tempera paint. Supervise any use of knives carefully.

Questions for Discussion or Research

1. Why did lumbermen mark their logs? 2. What different designs do you see in the log marks? 3. What meanings might the designs have had to the lumbermen who owned them? 4. Why might we still find ends of logs with log marks from the 19th century in or along Michigan rivers? (They were cut off and left there by log thieves.)

At the Museum

• Look for the log marking hammers. What symbol is on the end of each? • Find the log mark display. What might some of the designs symbolize? • Watch the 13-minute slide program in the "Lumber Baron's Theater" about Michigan's lumbering era to learn more about how shanty boys lived.

Vocabulary

Log mark - Design composed of words, initials, symbols, figures, and combinations of these stamped into the end of a log to identify its owner

Piracy - Robbery

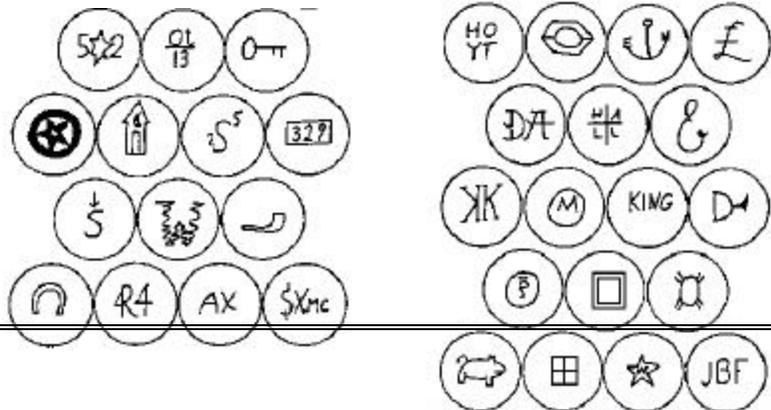
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Allen, Clifford (Editor) (1941). Michigan Log Marks. (Compiled by the Workers of the Writers' Program of the Work Projects Administration in the State of Michigan. Out of print, available in some libraries.) East Lansing, MI: Michigan State College.

Foehl, Harold M., and Hargreaves, Irene M. (1964). The Story of Logging the White Pine in the Saginaw Valley. Bay City, MI: Red Keg Press.

Maybee, Rolland H. (1988). Michigan's White Pine Era. Lansing, MI: Bureau of History, Michigan Department of State.

Some Michigan Log Marks



Shanty Boy's Meal Activity

Background Notes

The cook and his helper, "cookee," were important persons in the lumber camp. They were kept busy-breakfast as early as 4:00 a.m., lunch brought out to the men in the woods, and a hearty supper after the woods were dark and work was done. Sometimes a man and wife team were hired to cook for the lumber camp. The cookee called the shanty boys to eat by blowing on a long tin horn called a "gabriel." They ate their meals in the cook shanty under a rule of silence to prevent arguments and fighting.

Breakfast might consist of fried potatoes, sowbelly, beans, sourdough pancakes with molasses syrup or gravy, hot biscuits, coffee or tea, pork sausages and other meats. Lunch, called "flaggins," was eaten in the woods. Supper was hearty with more pork and beans, potatoes, meat and gravy, and whatever the cook could rustle up. For dessert there may have been prune, raisin, dried apple, or lemon pie. "Vinegar Pie" was a simple dessert. Occasionally some camps would hire a man to hunt and fish for the camp.

Objectives

1. Students will be able to list foods eaten by the shanty boys in the lumber camps.
2. Students will be able to tell why silence was the rule followed during lumber camp meals.
3. Students will be able to express like or dislike of the foods eaten by shanty boys.

Materials Needed

Foods such as those eaten by shanty boys including lots of pork and beans, pancakes, gravy, baking powder biscuits, potatoes (fried or boiled), pork sausages, etc., strong coffee or tea (decaffeinated for students although the shanty boys would have had regular). Make a "vinegar pie" (recipe follows).

Directions

Plan a shanty boy's meal with the students. Discuss how the hard work of the shanty boys affected the quantity of food they ate and their willingness to eat "plain" foods--even pork and beans--day after day.

Be sure hot foods are cooked/heated well. Encourage students to try everything. Coffee and tea may be tasted, but furnish an additional beverage. Announce the meal with trills from a horn, if possible. Enforce the silence rule during

the meal. After eating and clean up are finished, discuss the food, its variety or lack of it, tastes, and the role played by the silence rule.

Seek cooperation from parents, volunteers, and--if you have a cafeteria--your cafeteria staff. Plan an active program and no snacks before the meal so students appreciate the hunger of the shanty boy at meal time, and arrange to eat later than the students' regular schedule.

Questions for Discussion or Research

1. How hungry would you be after a day--from sun up to sunset--of back-breaking work in the winter woods?

2. Why did lumber camps have the foods they had?

3. Why is there no mention of milk (few had a cow), oranges or other fresh fruit (some had prunes and dried fruit), or many of the foods we are used to eating (transportation and storage problems).

At the Museum

• Look carefully for photographs of lumber camp life. Find the "wanigan," a floating cook shack used on river drives. • Watch the 13-minute slide program about Michigan's lumbering era to learn more about how shanty boys lived.

Vocabulary

Cookee - Cook's helper

Flaggins - Lumberjack's lunch eaten in the woods

Gabriel horn - Long tin horn used to call the shanty boys at meal time

Shanty boys - Loggers or woodsmen (named for the "shanties" in which they lived)

Sowbelly - Fat salt pork or bacon

References

Barnes, Al (1971). *Vinegar Pie and Other Tales of the Grand Traverse Region*. Traverse City, MI: Horizon Books.

Foehl, Harold M., and Hargreaves, Irene M. (1964). *The Story of Logging the White Pine in the Saginaw Valley*. Bay City, MI: Red Keg Press.

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Vinegar Pie

1-1/4 cups granulated sugar
1-1/2 cups boiling water
1/3 cup vinegar

birler	hayman-on-the-hill	sawyer
blacksmith	inkslinger	scaler
boomer	landing man	shanty boy
boom master	landlooker	skyhooker
bull cook	loader	sled tender
chainer	logger	swamper
cookee	lumberman	teamster
decker	lumberjack	tie hacker
edgerman	millhand	timberman
filer	off-bearer	yardmaster
groundhog	riverhog	

1/3 cup cornstarch
Dash of nutmeg
3 eggs
1 tablespoon butter
Baked 8' or 9' pie shell

Separate eggs and beat the three egg yolks together. Stir the first five ingredients together and cook until clear and thick. Stir half the mixture into three beaten egg yolks; add mixture to remaining mix in saucepan and stir until combined; let rest off burner for one minute. Stir in a tablespoon of butter until melted. Pour into a baked pie shell.

Barnes writes that Mrs. Russell Wood, Kalkaska, cooked vinegar pie in northern Michigan lumber camps. This recipe is adapted from one she used. Her recipe directions conclude, "If you wish to be fancy, just in case the girls are going to drop in, make the usual meringue [using the left-over egg whites]. (But lumberjacks were happy to have the pie without the fringe on top.)"

Adapted from: Barnes, AI (1971). *Vinegar Pie and Other Tales of the Grand Traverse Region*. Traverse City, MI: Horizon Books.

Other Lumbering Gallery Activities

How Large Were the Logs?

The white pine trees found by the first loggers in Michigan were hundreds of years old, tall and straight. Most trees grew 80-120 feet tall with a diameter of three to four feet. But loggers reported finding some trees as tall as 150 to 200 feet. The diameter of the trunk of these trees was five to seven feet.

Cut Kraft paper (tape several pieces together if necessary) to represent the cut end of a five foot or

wider diameter white pine log. Draw circles on it to represent the tree rings. Tape the "log end" on the wall with one end at floor level. Have students stand next to the log and mark their height on it.

Discuss the length of time needed to grow trees of the size of Michigan's original white pines. Learn ways today's loggers are trying to cultivate renewable forests for long-term use and enjoyment.

Lumbermen

In addition to "shanty boys," the lumbering industry employed men to work in many different and fascinating jobs. Using a dictionary and the resources for the activities in this section--for many job titles are unusual and will not be found in the

typical dictionary--learn about each job. Plan an activity around the unique jobs. For example, students might write a song or a Paul Bunyan-type story or make up a "word find" or crossword puzzle using the names of the workers:

Identify Trees by Leaves and Needles

Ask students to collect fallen leaves and needles. Using tree identification books such as *Michigan Trees Worth Knowing* from your school library, identify the trees by their leaves. Find out which trees might have been growing in Michigan when the loggers worked in the forests during the 19th century. Which trees were imported from foreign

lands or other parts of the United States? Make a poster of the leaves and information about the trees for the classroom. Find ways in which the different woods are used and make another poster of pictures of these uses (e.g., oak furniture, tissues from paper pulp made from aspen or other trees.

Rivers and Watersheds

Give each student a map of Michigan and/or project a map on the classroom screen. Trace and highlight the following rivers and watershed areas:

Upper Peninsula

Menominee/Brule/Paint/Michigamme/
Sturgeon/Little Cedar Rivers
Ontonagon River
Escanaba River
Manistique River

Lower Peninsula

Cheboygan/Black/Pigeon/Sturgeon Rivers
Pere Marquette River
Thunder Bay River
Muskegon/Little Muskegon Rivers
Boardman River
Black River
AuSable River
Betsie River Basin
Manistee River
Saginaw/Tittabawassee/Shiawassee/Flint/Cass
Rivers
Grand/Rogue/Flat/Maple/Looking Glass/
Red Cedar/Thornapple Rivers

Discuss the settlement of towns and cities along one or more of the rivers. How does the river help you understand the settlement pattern? Find out which towns had sawmills.

What Is a Baron?

Look up the dictionary definition of "baron." It may read something like this: "A man with great wealth, power, and influence in a specified area of activity." A baron was often a "self-made" man who "pulled himself up by his own bootstraps." How does the word "baron" make you feel about a person when you hear it? What are some of the things done by barons that might give them a bad reputation (e.g., excessive profits; long working hours, poor pay, or unsafe working conditions for

employees)? What are some of the things done by barons that were good (e.g., providing jobs; supporting their community; building hospitals and other public buildings)? Were there people in your hometown who could be called "barons?" What did they contribute to your town? What kinds of barons do we read about today (oil, financial, etc.)? When you come to the museum find pictures of lumber and mining barons. Who were they? Find out more about them.

Source: Michigan Historical Center (in Lansing) website: <http://www.sos.state.mi.us/history/history.html>
Click on "Teacher's Stuff" for some suggestions on material and activities.