



3 1293 10377 1386

This is to certify that the
thesis entitled
A HISTORY OF THE YALE WOOLEN MILL, YALE, MICHIGAN
1881-1963
presented by
Carol Andreae Wiegand

has been accepted towards fulfillment
of the requirements for
M.A. _____ degree in Human Ecology

Anna M. Creekmore

Major professor

Date May 7, 1982



RETURNING MATERIALS:
Place in book drop to
remove this checkout from
your record. FINES will
be charged if book is
returned after the date
stamped below.

Let's-061

SEP 25 1995

AUG 19 2003

6117671

A HISTORY OF THE YALE WOOLEN MILL, YALE, MICHIGAN 1881-1963

By

Carol Andreae Wiegand

A THESIS

Submitted to

Michigan State University

in partial fulfillment of the requirements

for the degree of

MASTER OF ARTS

Department of Human Environment and Design

1982

© Copyright by
Carol Andreae Wiegand
1982

ABSTRACT

A HISTORY OF THE YALE WOOLEN MILL, YALE, MICHIGAN 1881-1963

By

Carol Andreae Wiegand

A brief survey of woolen manufacturing in the state of Michigan and a case study of one Michigan woolen mill was undertaken to compare technological operations, building changes, management techniques and working conditions over time and if possible, to relate these changes to the political, social and technological environments of the manufacturing community.

A search of primary documents, business records and interviews of former management and employees yielded information which was analyzed for historical accuracy and for its relationship with concurrent events in Michigan history. Based on the findings of the study, the operations of a woolen mill reflected most particularly the economic situation of Michigan and on a broader scale the nation.

DEDICATION

This work would not have been possible had the author lacked the love and support of Frederick Niven Andreae Sr., a true industrialist and gentleman and Doris Park Andreae, the best friend a granddaughter ever had.

ACKNOWLEDGEMENTS

The author would like to thank the following people for their wisdom and guidance.

- | | |
|-----------------------|------------------------|
| Dr. Anna M. Creekmore | - Major area Professor |
| Dr. M. Suzanne Sontag | - Committee Member |
| Dr. Justin Kestenbaum | - Minor area Professor |

The author extends a special thank you to Gordon Andreae and to Frederick Niven Andreae Jr. for their patience and help.

TABLE OF CONTENTS

LIST OF FIGURES	Page vi
CHAPTER	
I. Introduction	1
II. Historical Background	12
III. The Early Years 1881-1921	26
IV. The Middle Years 1922-1940	51
V. The Final Years 1941-1963	76
VI. The Mill Closing	91
VII. Summary	109
Recommendations	113
APPENDICES	
APPENDIX A Workers and Management Interviewed	115
APPENDIX B Letter Explaining Need for Interviews	116
APPENDIX C Format Used in Interviews	117
APPENDIX D Interviewee Consent Form	118
APPENDIX E Genealogy of the Andreae Family	119
APPENDIX F Real Estate Description of the Yale Woolen Mills 1963	121
SOURCES CONSULTED	
Literature Cited	122
Interviews	125
Correspondence	126

LIST OF FIGURES

	Page
Figure 1 Geographical Location of Michigan Woolen Mills 1897	16
Figure 2 Geographical Location of Yale, Michigan	19
Figure 3 Yale Woolen Mill 1892	29
Figure 4 Yale Woolen Mill 1908	35
Figure 5 Yale Woolen Mill Spinning Room 1908	36
Figure 6 Yale Woolen Mill Dressing Department	37
Figure 7 Yale Woolen Mill Employees 1908	43
Figure 8 Yale Woolen Mill Management 1908	49
Figure 9 Yale Woolen Mill 1963	99

CHAPTER I

INTRODUCTION

Michigan history encompasses more than Indians and automobiles; the story of the twenty-sixth state also includes the brawn and brains of business. Pioneers to the state brought with them a strong desire for autonomy which was later realized through the building of their own businesses. Manufacturing establishments, each geared to a specific product, made everything from candles to shoes for the new settlers. In 1851, there were 1,979 manufacturing establishments in Michigan, 15 of which were woolen mills.¹

The decade of 1850 was marked nationally by a rapid expansion of the midwestern population and in Michigan by the advent of woolen industries. Small carding mills, as well as fulling mills were constructed and became the pivotal links in the domestic or putting out system of production. Cole sees the development of woolen manufacturing as a unique industrial stage in that these carding and fulling mills, while laying the groundwork for woolen manufacturing, simultaneously depended on household workers for certain processes such as weaving.² In compensation for their labor, the community was able to purchase woolens locally. This reciprocity existed until the factory

¹William F. Swindler, Robert I. Vexler, editors, Chronology and Documentary Handbook of the State of Michigan (Dobbs Ferry, New York: Ocean Publications, 1978) p. 139.

²Arthur Cole, The American Wool Manufacture Volume II (Cambridge, Massachusetts: Harvard University Press 1926) p. 176.

was able to undertake all processes of woolen manufacture and to produce for distant markets. In remote areas the domestic system was perpetuated. Crockett points out that in some areas, household spinning and weaving operated alongside complete factories until the turn of the century.¹

The owners of many Michigan woolen mills avoided the high cost of transporting eastern wool to the midwest by choosing from the abundance of indigenous wool. Area farmers would cart wool shorn from their own sheep to the carding mills where it was carded and spun into yarn. The yarn was returned to the farmers' wives who in turn wove the cloth which could then be sent to a fulling mill for finishing.

By 1870, clothiers and an expanding garment industry on the eastern seaboard were making demands on the woolen industry.² For the ensuing three decades, woolen manufacturing was characterized as a quantity production. Less concern was given to quality.

The turn of the century, marked by an increasingly urban population and growing affluence brought about changes in woolen manufacturing. At that time more attention was placed on "fancy" goods rather than staple ones.³ With the introduction of the automobile in 1904 and

¹Norman L. Crockett, The Woolen Industry in the Midwest (Lexington, Kentucky: The University Press of Kentucky 1970) p. 85.

²Cole, The American Wool Manufacture Volume II, p. 176.

³Ibid. p. 176.

its accompanying popularity and financial prosperity for its makers, woolen enterprises began to produce materials for automobile interiors. On the industrial front, the 1930's were marked by growing labor unrest and formation of unions. Labor intensive industries, such as woolen mills were the scenes of sit-downs, walk outs, shut downs and wordy struggles between union organizers, management, and labor. Industrial and civilian conversion to war time production greatly affected woolen concerns during both World Wars in that products changed from suitings and automobile interiors to blankets and uniform goods and that previously untrained townspeople were employed to meet production quotas. The Korean War in the early 1950s and its resulting shortages of wool fiber and spiraling prices along with the introduction of synthetics and heavy foreign competition contributed to the demise of woolen manufacturing in Michigan.

The purpose of this study was to chronicle the history of one of Michigan's woolen businesses which operated in Yale, Michigan from 1881 to 1963. An overview of Michigan woolen manufacturing will be given, along with a report of the technological operations, business transactions and management, raw materials consumed and products produced, working conditions and employees, building descriptions and community involvement of the Yale Woolen Mill from 1881 to 1963.

STATEMENT OF THE PROBLEM

At the time of this report the demise of woolen manufacturing in Michigan was a relatively recent phenomenon. Many mill structures though somewhat altered still stand. First hand recollections of former mill owners, employees and townspeople were still available. These visual remains and narratives along with scattered primary sources were seemingly the only means to understand the history of woolen operations that at one time operated in the state of Michigan. It was the purpose of the author to collect and assimilate such sources in order to chronicle the history of one of Michigan's woolen businesses which operated in Yale, Michigan from 1881 to 1963.

Objectives

The overall objective of the study was to explain the contribution of one Michigan woolen mill to the economy of the state of Michigan and to explain the forces that led to its demise.

The specific objectives of the study were:

1. To describe the physical location and building changes of the mill.
2. To explain the technological operations of the mill.
3. To document the financial transactions and management techniques of the mill.
4. To depict the working conditions of the mill employees.
5. To relate the above to the political, social and technological environment of the manufacturing community through the time period of 1881 to 1963.

PROCEDURES

A variety of source materials were investigated to give an overall view of woolen manufacturing in the state of Michigan and to satisfy the stated objectives.

The intent of the author was to discover as much existing primary source material as possible. With the assistance of Gordon Andreae, former mill vice-president, a list of former employees and management personnel living in St. Clair County Michigan was drawn up. These people were contacted by letter in March of 1981, informed of the objectives of the research and asked if they would be willing to participate in an interview. See Appendices A and B. The letters were followed by a phone call two weeks later. All people contacted agreed to be interviewed.

Interview sessions lasted one to three hours and were tape recorded. See Appendix C for interview format. Interviewees were asked to sign consent forms. See Appendix D. The following people were interviewed: Frederick Niven Andreae Sr., former mill president; Gordon Andreae, former mill vice president; Frederick Niven Andreae Jr., former mill textile designer; Mrs. Marcia B. Andreae, widow of former mill secretary-treasurer; John J. "Jack" Kaatz, former mill assistant secretary-treasurer; Frank Boughner, Belva Boughner and Clayton Boughner, former employees in the spinning department; John Schaueremann, former mill dye chemist; Elmer Baisley and Annabelle Baisley, former employees in the weaving department; Grant Graybiel, former employee in the finishing and in the power departments and Nancy Graybiel, former employee in the finishing department.

All those interviewed were asked if they had any photographs, journals, ledgers or other primary records of the Yale Woolen Mill. From this request, a number of primary records including a series of photographs taken in 1908 of the exterior and interior of the mill were made available to the author. Members of the Andraee family provided additional photographs, genealogical records, student notes taken at Philadelphia Textile Institute, an employee handbook advising of the contract between the Yale Woolen Mill and the Textile Workers of America dated 1948 and sample books of mill products for the author to examine.

Unfortunately most of the business ledgers, company correspondence and other written transactions had already been destroyed since the management faction foresaw no justifiable reason to retain such records at the time of the mill's closing in 1963 and the corporation's final disbandment in 1972.

The State of Michigan History Division Archives, the State of Michigan Library, the State of Michigan Law Library and the William Jenks History Division of the Port Huron, Michigan Library were searched for all information they had concerning the Yale Woolen Mill. In addition the St. Clair County Register of Deeds and the Land Title Abstract Company of Port Huron, Michigan were searched for any information they might have pertaining to the Yale Woolen Mill.

Primary source material obtained from the State of Michigan included: original Articles of Incorporation dated 1905; the corporation's annual reports of 1906 through 1963 with the exception of 1908, 1914, 1917, 1932 and 1933 which were missing; annual reports of the

inspection of factories in Michigan which were published by the Bureau of Labor and Industrial Statistics during the years of 1895 to 1920; legal description of the land, plat maps and land transactions of the corporation dated 1945, 1946 and 1947 from the St. Clair County Register of Deeds; land transactions concerning the Yale Woolen Mill from 1881 to 1946 from the Land Title Abstract Company in the county seat of Port Huron, Michigan. Michigan Appellate Court records and Michigan Supreme Court records were searched for any litigations involving the Yale Woolen Mill. There were none found.

Primary source material obtained from documents published by the Federal Government included: statistics on Michigan woolen enterprises from the U.S. Census of Manufactures of 1880, 1890, 1905, 1909, 1921, 1939 and 1947; physical land description and environmental conditions of Yale, St. Clair County from the U.S. Department of Agriculture, Soil Conservation Service. Federal Appellate Court records and Supreme Court records were searched for any litigations involving the Yale Woolen Mill. There were none found. Copies of the Sanborn-Perris Fire Insurance maps of Yale, Michigan for the years 1893 and 1900 were acquired from the U.S. Library of Congress. These maps provided physical descriptions of the buildings in Yale including the structures which housed the operations of the Yale Woolen Mill.

The most comprehensive primary materials were found in a survey of the Weekly Expositor from 1882 to 1889 and the Yale Expositor from 1890 to 1963 the weekly newspaper of Yale, Michigan. The author had originally intended to survey the same years of the newspaper from the county seat of Port Huron, Michigan but because the news coverage was

found to parallel that which was found in the Yale newspaper this survey was omitted. The Yale newspaper was also more detailed in its description of local news concerning the Yale Woolen Mill. The author considered surveying the larger metropolitan newspapers of Detroit because of the relatively close 60 mile proximity of this city and Yale but this idea was rejected because indices of the Detroit Free Press and of the Detroit News were not available to the author. However, a depiction of the city of Yale, published in the Detroit Free Press in 1931 and also in 1941 was found in a search of the vertical file titled "Cities and Villages" in the State of Michigan Library.

A number of directories were studied. The Michigan Gazeteer was surveyed from the year 1873 to the year it ceased publication. This source provided little additional knowledge beyond the name and address of the business. A single issue of the Textile World's Directory of the Mill Trade in the U.S. dated 1897 was studied. The author was unable to find any other issues of this directory. Two issues of Davison's Textile Blue Book Directory years 1922 and 1959 were found and studied. Dun and Brad Street, a financial directory first published in 1841 listed the Yale Woolen Mill in their Million Dollar Directory of 1961, 1962 and 1963. The author would have liked to examine original agent manuscripts of Dun and Brad Street reporters but these are housed at the Baker Library at Harvard University and could not be obtained by interlibrary loan.

In addition to the State of Michigan History Division Archives, correspondence was carried on between archivists at Philadelphia Textile Institute in Philadelphia, Pennsylvania where nine members of

three generations of the Andreae family were educated, Wisconsin Historical Society in Madison, Wisconsin which housed correspondence between the Andreae family and the Appleton family from the Appleton Woolen Mills in Wisconsin, CBS News in New York which according to a newspaper account in the Yale Expositor had done a film coverage of the Yale Woolen Mill's closing in 1963, Chrysler Corporation in Detroit, Michigan and Ford Motor Company in Dearborn, Michigan both former customers of the Yale Woolen Mill, the Ford Company also for its correspondence with the management of the Yale Woolen Mill concerning the addition of a textile division in that automobile company. Reference librarians at both the Economic Library at Columbia University in New York and the Pliny Fisk Library of Economics and Finance at Princeton University, Princeton, New Jersey were contacted to see if there was any material in their holdings pertinent to the Yale Woolen Mill.

With the exception of an employee record of Fred Andreae Sr. at Ford Motor Company, all of the above correspondence was virtually futile. Although there was a good possibility that applicable information was present at the Philadelphia Textile Institute, the archival collections were just being organized at the time of this report and a personal trip would have been necessary to search these holdings. The Appleton Collection in Madison, Wisconsin was also in a state of disorganization and partially fire damaged. Retrieval of CBS film coverage would have cost a prohibitive amount for the author

(over \$500.00)¹ and after initial searches at the Chrysler and Ford Archives, no existing information of past purchase orders or correspondence with the Yale Woolen Mill were found.

Secondary sources studied included: textile texts; histories of textile technology; histories of Michigan and St. Clair County and Bulletins of the National Association of Wool Manufacturers of 1890, 1891, 1947, 1948, 1949, 1950, 1956, 1957, 1958, 1959, 1961, 1962, and 1963.

The author had hoped to have more substantial evidence of the financial transactions of the mill but at the time of the report, they were not available.

The Yale Woolen Mill opened in 1881, bringing the total of operating Michigan woolen mills to 39.² The mill in Yale was to outlast the majority of these mills and remained in business for 82 years.

For the purpose of discussion the mill history is divided into three chronological chapters; the time lines being distinguished primarily by a change in production and end product. The early years of 1881-1921 were characterized by domestic or open market production. In 1922 the Yale Woolen Mill began its most profitable period with production slated for the most famous of Michigan industries: the automobile. The middle years from 1922 to 1941 were dominated by

¹Neil Waldham, Director of News Films Videotape Archives CBS News, letter 22 July 1981.

²U.S., Congress, Department of the Interior. Report on the Manufactures of the United States at the Tenth Census, June 1, 1880 Washington, D.C.: Government Printing Office, 1883 p. 966.

automobile trade, expansion, a shut down and union organizing. The period of 1942 to 1963 was marked by conversion to war production and decline. War production had done little for the business and automobile companies became less interested in purchasing woollens for interiors, turning their requests instead to industries marketing synthetics.

CHAPTER II

HISTORICAL BACKGROUND

An historical account of a business begins before the foundations of a building are laid. Preceding brick and bullion are the narratives of the settling entrepreneurs, their reasons for choosing the sites they did, their economic means, their religious, political and social ideals and their skills in community development.

This chapter is divided into four sections: Survey of woolen manufacturing in Michigan; Location: Yale, Michigan; Early Settlers; and Early Yale History.

Survey of woolen manufacturing in Michigan

In Michigan, agricultural development preceded the evolution of manufacturing particularly in the southern part of the state. The attraction Michigan had for its early settlers centered around its wealth of natural resources: the abundant waterways, the rich fertile soil and the age old store of rich minerals.

Early manufacturing complemented and utilized agricultural activities already in existence.¹ Food processing businesses grew up around indigenous materials such as maple sugar trees, sugar beets and grain. Seed companies grew and sold seed for many farmers. Dairies turned to profit the byproducts of livestock as did woolen operations. These early agriculturally based businesses were plentiful, springing

¹Willis Dunbar, Michigan: A History of the Wolverine State (Grand Rapids, Michigan: William B. Eerdman's Publishing Co., 1970) p. 461.

up wherever a settlement large enough to service was present. Woolen enterprises were a good example of this phenomenon. According to Crockett, wool as a finished product was "low in value yet universally demanded"¹ which explains the early geographical spread of woolen mills.

By the mid nineteenth century, southern Michigan had many well established communities as well as admirable transportation facilities. These communities represented a necessary resource often scarce in the developing midwest. The towns and villages had people who enthusiastically supported industry and who were potential laborers. The more sparsely populated northern two-thirds of the lower peninsula was to experience sporadic industrial growth, a pattern which has continued to today.

Michigan's leading cash crops in 1845 were wheat and wool.² At mid century, Michigan ranked ninth in the nation for wool production. For the next two decades, the state was ranked fourth in the amount of wool it produced. In 1878 the Michigan Sheep Breeders and Wool Growers Association was formed.³

The 1880s were monumental in the history of Michigan woolen businesses. During this decade Michigan held the third place position in national woolen production. Thirty-nine indigenous woolen operations

¹Crockett, The Woolen Industry in the Midwest p. 21.

²George N. Fuller, editor, Michigan: A Centennial History of the State and Its People Volume I (Chicago and New York: The Lewis Publishing Co., 1939) p. 487.

³Ibid.

employing 347 Michiganders with a total capital of \$558,800.00 utilized much of the Michigan produced wool.¹ In 1884, the state's largest wool crop was produced, a hefty 14 million pounds.²

Shropshires, a breed of sheep were introduced to the fertile valleys of Michigan and became the most popular type of sheep in the state. Other breeds raised in Michigan included Rambouillets, Cotswolds, Oxford Downs, Hampshires and Lincolns.³ Shropshires, Hampshires and Oxford Downs were all valued for their meat production and yielded a medium textured wool.⁴ Rambouillets, a large bodied merino sheep were more valued for their wool. Lincolns and Cotswolds, big bodied square framed sheep yielded long and coarse staple wool fibers.⁵

By 1890, the number of Michigan woolen operations had begun an unstoppable domino descent. Capital investment and number of employees however, increased, perhaps reflecting consolidations or steadier foot-holds of those businesses still operating. In 1890, there were 32 woolen industries recorded with a reported capital of \$943,598.00 and

¹U.S., Congress, Department of the Interior. Report on the Manufactures of the United States at the Tenth Census, June 1, 1880 Washington, D.C.: Government Printing Office, 1883, p. 966.

²Fuller, Michigan: A Centennial History of the State and Its People p. 487.

³Ibid., p. 487.

⁴American Sheep Producers Council, Denver, Colorado

⁵Werner Von Bergen and Herbert R. Mauersberger, American Wool Handbook (New York: Textile Book Publishers, Inc., 1943) pp. 90-91.

an average number of 518 employees.¹

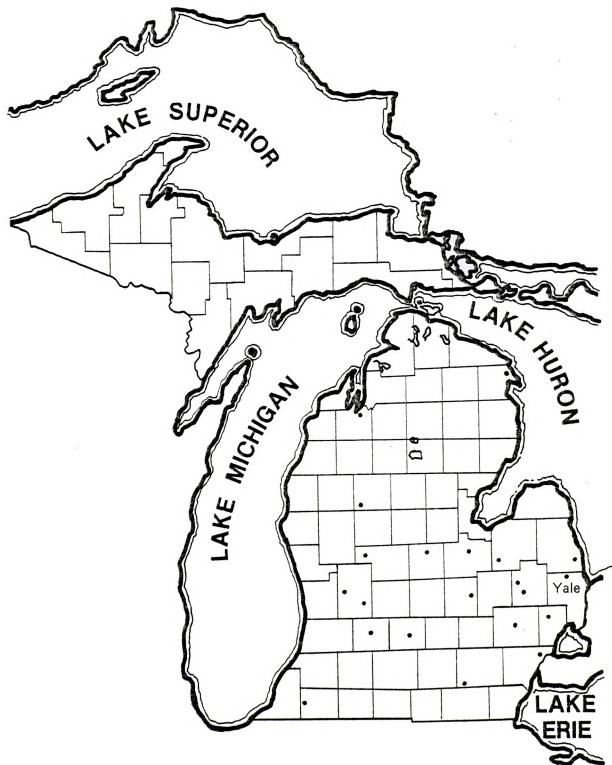
Textile World's Directory of the Textile Establishments in the United States 1897 listed the following Michigan woolen mills and their locations: East Bay Woolen Mills in Acme; H.W. Moore in Alma; Alpena Woolen Mill Co. in Alpena; Clinton Woolen Manufacturing in Clinton; Peter William in Columbiaville; Amsden and Weeden in Corunna; Eaton Rapids Woolen Mills in Eaton Rapids; Felt Boot Co. and Samuel G. Staddon in Grand Rapids; Hastings Wool Boot Co. in Hastings; Messenger and Summers in Howard City; Ira Green in Lapeer; Lexington Woolen Mills in Lexington; C.E. Clark in Lowell; Dorman and Son in Rawsonville; William Lambert in Reed City; Richmond Woolen Mill in Richmond; Stony Creek Woolen Co. in Rochester; Bearinger Co. in Saginaw; Z.H. Willis in Summerville; Vassar Woolen Co. in Vassar and Yale Woolen Mill in Yale.² Refer to Figure 1 for geographical locations of Michigan woolen mills operating in 1897.

By 1905 the number of Michigan woolen mills numbered 15 which was less than half the number of reported totals of 1890.³ In 1905, total capital was in the amount of \$767,350.00 and the average number of

¹U.S., Congress, Department of the Interior. Report on the Manufactures of the United States at the Eleventh Census, 1890 Washington, D.C.: Government Printing Office, 1892 p. 470.

²Textile World's Directory of the Textile Establishments in the United States 1897 (Guild and Lord Publishers 1897) pp. 121-124

³Ibid.



Geographical Location of Michigan Woolen Mills 1897

Figure 1

individuals employed in Michigan woolen operations was 482.¹ The number of reported woolen operations stayed constant in 1910 with an average of 554 wage earners and a conglomerate capital of \$1,421,000.00.² By 1921 the number of woolen establishments in Michigan numbered only eight with a total of 857 Michigan residents earning their livelihood from woolen factories.³ In the 1940 Census of U.S. Manufactures, the number of Michigan woolen concerns were figured together with other states but a number of 1,016 was given for Michigan woolen mill employees.⁴ In the next decade, the number of Michigan woolen establishments stood at six with an average of 879 employees.⁵ According to the Davison's Textile Blue Book Directory of 1959 there were seven operative Michigan woolen mills: The American Felt Company in Detroit; the Davidson Woolen Mills and the Horner Woolen Mills as well as the Maupin

¹U.S., Congress, Department of the Interior. Report on the Manufactures of the United States at the 1905 Census Washington, D.C.: Government Printing Office, 1907 pp. 518-519.

²U.S., Congress, Department of the Interior. Report on the Manufactures of the United States at the 1910 Census Washington, D.C.: Government Printing Office, 1912 pp. 580-581.

³U.S., Congress, Department of the Interior. Report on the Manufactures of the United States at the 1921 Census Washington, D.C.: Government Printing Office, 1924 p. 310.

⁴U.S., Congress, Department of the Interior. Report on the Manufactures of the United States at the 1940 Census Washington, D.C.: Government Printing Office, 1942 p. 331.

⁵U.S. Congress, Department of the Interior. Report on the Manufactures of the United States at the 1947 Census Washington, D.C.: Government Printing Office, 1950 p. 303.

Woolen Mills in Eaton Rapids; the Frankenmuth Woolen Mill Co. in Frankenmuth; the Monroe Woolen Mills in Monroe; and the Yale Woolen Mills in Yale.¹ With the exception of the Yale Woolen Mill none of these mills had been established by the turn of the twentieth century.

There were many contributing factors that led to the gradual demise of woolen manufacturing in the state of Michigan. Some mills were destroyed by fire or by water.² Because the midwest was somewhat removed from the more concentrated textile areas of the east and southeast, Michigan mills tended to be smaller and more specialized, both characteristics that spelled doom when competing with larger and more adaptable mills. Freight costs were always a large concern.

By the 1920s Michigan industry was dominated by the automobile. Agriculturally based concerns once the mainstay of Michigan were superseded by the horseless carriage.

Location: Yale, Michigan

Twenty four miles northwest of Port Huron, 54 miles north of Detroit, 53 miles east of Flint and 70 miles southeast of Saginaw in St. Clair County is a community named after a famous east coast university. Refer to Figure 2 for geographical location of Yale, Michigan. Yale, Michigan is situated in a shallow valley 300 feet above sea level

¹Davison's Textile Blue Book Directory (Ridgewood, New Jersey: Davison Publishing Co., 1959) pp. 280-281.

²Textile World's Directory of the Textile Establishments in the United States 1897.



Geographical Location of Yale, Michigan

Figure 2

and is surrounded by rich farm land.¹ The average yearly rainfall is 32.7 inches while snowfall averages 38.4 inches per year but can vary considerably.² Snowfalls of as much as 84.3 inches and as little as 15.6 inches have been recorded.³ The average January temperature is 23.6°F while in July the average is 70.1°F.⁴ The west boundary of Yale is Mill Creek, a tributary to the Black River which in turn flows into the St. Clair River and finally into one of the Great Lakes, Lake Huron. Mill Creek also served as the source of water power for Yale's early mills and manufacturing industries.

Early Settlers

On Independence Day 1851 a pioneer family stopped at a lumber camp along the banks of Mill Creek and decided to make their home in the vicinity.⁵ Other settlers soon followed and in 1852 William Jury set up a corn and wheat grinding mill along a small ravine leading into Mill Creek.⁶ Several other pioneers began business in the settlement then known as Brockway Centre. Levi Engals began a cobbler's trade and

¹"Early History of Yale" Yale Expositor 9 November 1933.

²U.S., Department of Agriculture, Soil Survey of St. Clair County, Michigan. Washington, D.C.: Government Printing Office, 1974 pp. 110-111.

³Ibid., p. 111.

⁴Ibid.

⁵"Early History of Yale" Yale Expositor 9 November 1933.

⁶Ibid.

Jonas Jones built a water powered saw mill on Mill Creek.¹ By 1866 the first steam powered saw and grist mill to operate in Brockway Centre was built by John Grinnell, Eli and O.P. Chamberlain and S.O. Welch. Taking advantage of local raw wool supplies and the power potential exhibited by previous ventures along Mill Creek, John Grinnell and William H. Palmer opened the first woolen mill in Brockway Centre.

The community continued to grow and prosper with the influx of new settlers, many of who took on the role of entrepreneur. By 1879, the community had a blacksmith shop operated by C. Cooper, a general store operated by W.H. Palmer, a dry goods and grocery store run by J.E. and F.J. Holden, a furniture shop owned by James Brown and a newspaper titled The News. Other businesses included two hotels, a tannery, a machine shop, three saw mills and two grist mills, one of which had recently been refitted from Grinnell and Palmer's woolen mill.²

The majority of new settlers were of English origin. With their support a Methodist Church was built in Brockway Centre. Catholic worshippers could travel to nearby Kenockee township where a Catholic church had already been built.

Sharing an interest in diverting transportation networks through their community, some of the early entrepreneurs approached officials and stockholders of the Port Huron and Northwestern Railroad Company in

¹"Early History of Yale" Yale Expositor 9 November 1933.

²Ibid.

Port Huron. The Brockway Centre business leaders were successful in that the company decided to construct their narrow gauge road through the settlement. With the news that Brockway Centre was to be on the rail line, land prices soared and outlying settlers and business people scrambled to be closer to the site. Construction of the narrow gauge railroad began in 1878.¹

In 1881, attracted by the new rail transportation, Charles Andreae along with his sons William and Rudolph arrived in Brockway Centre to construct a one set carding mill along the banks of Mill Creek. Unlike the majority of woolen mill owners in the pioneer midwest, the Andreaes were skilled in woolen technology.

James Livingston, a Scottish immigrant who had learned his father's trade of weaving had had much experience in flax production by the time he organized a flax mill in Yale.^{2,3} At the Yale establishment, the James Livingston & Co. employed 45 hands during the summer and 23 during the winter. In addition to providing employment for Yale citizens, this company offered Yale farmers a profit for their annual harvest of 600 acres of flax.⁴

These early settlers of Brockway Centre brought with them the

¹"Early History of Yale" Yale Expositor 9 November 1933.

²Ibid.

³Yale Expositor 22 April 1920.

⁴"Early History of Yale" Yale Expositor 9 November 1933.

initiative and enthusiasm required to build a community that was far removed from densely populated areas. These people recognized in Brockway Centre an opportunity to be independent and self sufficient. The timberlands, rich soil and water resources all contributed to their geographic selection. Many of them were immigrants who had learned trades in their homelands. These people could apply their skills to the establishment and operation of farms and businesses. Descendants of these first Yale inhabitants benefitted from the foundations laid by their predecessors. Farms and businesses carved out of a wilderness were passed from generation to generation.

Early Yale History

In 1881 when the Andreae family arrived the community of Brockway Centre had over 700 inhabitants. With this increase in population and in businesses, came a demand to have the community incorporated. By an act approved April 2, 1885 the following territory was incorporated as the village of Brockway Centre:

"the southeast quarter of section 10; the southwest quarter of section 11; the northwest quarter of section 14 and the northeast quarter of section 15; town number 8 north, range number 14 east."¹

Two weeks later the village held its first election and installed J.W. Lamon as President, James Wallace as Clerk, Mark Grandy as Treasurer, Thomas Davy as Assessor, William Wear as Street Commissioner

¹William Lee Jenks, St. Clair County Michigan: Its History and Its People Volume I (Chicago and New York: The Lewis Publishing Co., 1912) p. 261.

and Hi Manning as Constable.¹ Rudolph Andreae, H.F. Leonard and James Holden were elected as trustees; a position held for two years.² One year trustee positions were filled by William McKenna and W.R. Scott.³ The Village fathers first turned their attention to matters of importance such as the building of roads, sidewalks⁴, school facilities and a jail.⁵

Desiring a name that was more descriptive and different from the township name of Brockway, community members discussed various possibilities and finally accepted the suggestion of fellow townspeople B.R. Noble to use the name of Yale after Yale University.^{6,7} From 1886 to 1904 the following citizens held the office of village president: 1886 James Brown; 1887 John D. Grinnell; 1888 James Brown; 1889 William V. Andreae; 1890-1891 James C. Holden; 1892 James McColl; 1893 William V. Andreae; 1894 George W. Waring; 1895-1897 James McColl; 1899-1900 James

¹"Early History of Yale" Yale Expositor 9 November 1933.

²Ibid.

³Ibid.

⁴Marcia B. Andreae, widow of former mill Secretary-Treasurer. Port Huron, Michigan. Interview 21 November 1980.

⁵"Early History of Yale" Yale Expositor 9 November 1933.

⁶Fuller, Michigan: A Centennial History of the State and Its People p. 129.

⁷Jenks, St. Clair County Michigan: Its History and Its People Volume I p. 261.

McColl; 1901 George Mann; 1902 George McIntyre; 1903-1904 Edward F. Fead.¹

All of the above named men were Yale businessmen and four out of the nine presidents were at one time involved in textile manufacturing. John D. Grinnell had the first woolen mill in Brockway Centre. James McColl supervised the Yale and Fargo branches of the Livingston and Co. flax operations. Edward F. Fead as a young man worked in his father's woolen mill in Lexington, Michigan. William Andreae along with his father Charles and his brother Rudolph had also been involved with the Fead's woolen operation in Lexington until the Andreaes moved to Yale in 1881 and established the C. Andreae and Sons Woolen Mill.

The founding fathers worked diligently to establish a community that would attract other settlers. Their efforts to have Yale recognized as a city of Michigan paved the way for state intervention and assistance. On June 7, 1905 Yale became a city of the fourth class.²

¹Jenks, St. Clair County Michigan: Its History and Its People
Volume I p. 261.

²Ibid.

CHAPTER III
EARLY MILL HISTORY (1881-1921)

In 1860 Michigan's population was 749,113.¹ By 1890 the number of the state's inhabitants had almost tripled with the count of 2,093,889.² This increase in population was attributed largely to the influx of immigrants. In 1890 there were 181,000 Canadian born residents making Michigan their home.³ German born Michiganders made up the second highest figure of immigrant groups in the state with a count of 135,000.⁴

The phenomenon of a population explosion paralleled a great surge in industrialization in the Great Lakes region. The Yale Woolen Mill was established in 1881 by German immigrants. In this same decade 38 other woolen mills were operating in Michigan. This number was never surpassed in the history of the state.

The story of the beginnings of the Yale Woolen Mill was not unlike the experiences of other early mills: the hardships of the physical environment; the problems of cash flow and financing and the admitted dependence on neighbors and fellow businessmen.

¹F. Clever Bald, Michigan in Four Centuries (New York: Harper and Row Publishers 1961) p. 293.

²Ibid.

³Ibid.

⁴Ibid.

Background of Mill Management

Charles Andreae, a 66 year old immigrant founded the C. Andreae & Sons Woolen Mill (later known as the Yale Woolen Mill) in 1881 and managed it until his death in 1892. The ninth and youngest child of a German councilman,¹ Karl (Charles) Friedrich Valentin Andreae as a young man had learned the skills of a weaver in his homeland. In 1843 Charles married Louise Marie Oertle in Germany and two sons were born within the following two years; Karl Julius Valentin and Rudolph Valentin. In 1845 the young family bid their friends and relatives Auf Wiedersehen and embarked on a route that other hopeful and desperate people had travelled. They and others like them voyaged to America, the land that had yet to celebrate its first centennial, the country that loomed vast and plentiful and full of opportunity.

From their point of entry in New York, the Andreaes moved to and settled in the manufacturing community of Ashland, Ohio where Charles earned his livelihood by his textile skills. The Andreaes briefly tried farming in Chatham, Ontario, Canada. After his wife Louise died in 1860 and oldest son Karl died in 1863, Charles moved his remaining family which included 15 year old Rudolph and ten year old William to Sanilac County Michigan. In 1869, along with John Fead, Charles and his sons began a woolen enterprise in Lexington, Michigan, 16 miles north of the city of Port Huron on the western shore of Lake Huron.

Eleven years later when the plans were made for a narrow gauge

¹from letters dated 1908 by Reverend Johannes E. Andreae

railroad to be laid through the community some 20 miles southwest of Lexington, Charles Andreae and his two surviving sons, Rudolph and William moved to Brockway Centre and constructed a woolen operation boasting of "two of the best custom roll cards in the country"¹ on the banks of Mill Creek. This small venture began like many other pioneer mills that utilized indigenous resources of rivers and streams and relied on the business of neighbors. Local sheep growers would cart their fleeces to the mill where it would be made into yarn, cloths or flannels. Wives of farmers and lumbermen would then make warm garments that would ward off the chill from the sometimes harsh winter winds blown across Lake Huron to the east.

In 1882 a severe wind in cyclone form toppled over the small building bearing the name of C. Andreae and Sons. The mill was rebuilt and the following year the owners made a trip east and purchased two looms.² Refer to Figure 3 which pictures this early mill site. For a brief period the business of C. Andreae and Sons offered their customers the service of tailoring:

"C. Andreae and Sons have secured Mr. Otten a first class tailor, a man of experience and recommended by J.L. Hudson the leading clothier of Detroit. They are prepared to warrant first-class fits or no pay. All in want of a neat and stylish suit of clothes or an overcoat give them a call."³

¹Weekly Expositor 18 May 1882.

²Jenks, St. Clair County Michigan: Its History and Its People
Volume II p. 521.

³Weekly Expositor 9 October 1884.



Figure 3 Yale Woolen Mill 1892

By the following year, the Andreaes had relinquished their tailoring service but continued to expand their business in the manufacturing of woolen goods. The mill owners had added new machinery including a doubling and twisting machine built by the Collins Brothers of Rhode Island. People interested in woolen manufacturing came from the surrounding counties of Sanilac, Huron, Macomb and Lapeer to tour the thriving business in Brockway Centre in St. Clair County.

Technological Operations

James Menzies, the editor of the Weekly Expositor paid the mill a visit and was impressed by what he saw:

"We were shown the various different processes that wool had to go through before it is made into the class of goods wanted. In the first place a fleece of wool is laid on the sorting table and the different grades are sorted from the same then from there it is taken to the dye house then colored into the different colors desired, then from there it is carried up to the second floor into the picking room and from there it is put into the wool spout to the cards and from these it is taken to the spinning machine, which has a capacity of 288 spindles, and then to the dresser where it is prepared for the looms, where it is woven into all patterns, thence to the scouring mill and from there to the fulling napper then it is stretched onto the tenter bars to dry, from the tenter bars it is taken to the shearing machine and from there it is put into the press and from thence it goes to the baling room and is baled for market."¹

The editor concluded by urging his readers to visit the C. Andreae and Sons establishment:

"Parties who have never visited a woolen mill know but very little about the machinery used. Some day when you have nothing else to do make a point to visit C. Andreae and Sons immense establishment and you will find them willing to show you through. These gentlemen are all accomodating and straight forward and we will

¹Weekly Expositor 28 May 1885.

advise all who have wool to be manufactured to give them a call."¹
 In the C. Andreae and Sons mill, crude oil was the source of fuel used²
 and power and heat were derived from steam. Wood was burned to generate
 steam and the Andreae mill required large amounts of wood:

"Wanted at the Brockway Centre Woolen Mills, 300 cords of good
 soft wood this winter. C. Andreae and Sons"³

On March 15, 1892 Charles Andreae died in Yale leaving the opera-
 tion of the family woolen mill in the capable hands of sons Rudolph and
 William.⁴

By 1895, the mill was running full time, 60 hours per week and em-
 ployed nine males and five females who worked ten hours per day with a
 60 minute interval allowed for dinner. The average monthly payroll
 was \$380.00.⁵ The business was energetically involved in manufacturing
 several grades of cashmere, flannels, blanket goods and yarns.⁶

Working Conditions

For the most part, the Andreae management adhered to the laws
 enacted by the state of Michigan to provide regulation and inspection

¹Weekly Expositor 28 May 1885.

²U.S., Library of Congress Fire Insurance Maps Sanborn and Perris
 of Yale, Michigan 1893 Washington, D.C.

³Weekly Expositor 14 December 1882.

⁴from letters dated 1908 by Reverend Johannes E. Andreae

⁵Michigan, Third Annual Report of Inspection of Factories in
 Michigan 1896 p. 102.

⁶"Early History of Yale" Yale Expositor 9 November 1933.

of the state's manufacturing establishments. In the inspection conducted on August 30, 1895 it was noted that hoisting shafts were properly guarded and screened at sides and bottom; where possible shifters were used in throwing belts and loose pulleys; and all machinery was properly guarded. Wash rooms and water closets were provided for employees but a separate water closet for females was ordered by the state inspector.¹

By an act approved May 22, 1895 all manufacturing establishments consisting of two or more stories were ordered to have specifically designed fire escapes.² The state inspector made no mention of whether the Yale Woolen Mill had complied with this directive issued three months prior to his inspection. Rudolph Andreae was well attuned to the hazards of the "all devouring element".³ Prompted by the number of fires in the community, the Brockway Centre Common Council in 1891 acted to install a fire department complete with a fire engine. Rudolph Andreae was appointed foreman. Ironically, the foreman's place of business suffered its second major setback on November 21, 1895 when the Yale Woolen Mill was destroyed by fire causing a loss to the proprietors of over \$20,000.00. Undaunted, Rudolph and William immediately began rebuilding their business and ran the following advertisement, appealing to their neighbors less than two months later:

¹Michigan, Third Annual Report of Inspection of Factories in Michigan 1896 p. 102.

²Ibid., p. 382.

³"Early History of Yale" Yale Expositor 9 November 1933

"It takes money
 To buy material and pay workmen
 The work of clearing away the rubbish from our late fire, preparatory to erecting new buildings on the old site is begun. The architect is busy drawing plans but these will only be on paper. It takes money to buy material with which to build. We therefore wish to say to the public that we have a large stock of cloths, flannels, yarns, sheeting, etc. on hand and would like to convert the same into money. The goods are all first class (no damaged stock being offered) and worth more money than we are selling them for. You will need goods from our line and we will be pleased to have you call and look over our stock. We will be found in our warerooms prepared to meet customers. Our finances are very low and we must have money."¹

Building Changes

By the following June, the demolished wooden structure had been replaced by a brick one and the new building was open once again for business. The new mill was large enough to house nine looms, had a capacity for handling 500 pounds of wool per day² with 24 employees that earned an average monthly payroll of \$600.00.³ The Sanborn Perris Fire Insurance maps of Yale dated 1900 depicted the Yale Woolen Mill as one main building that had weaving and dry finishing operations on the first floor, carding and spinning on the second floor and drying on the third floor. The main building was connected to another building by a second floor bridge. This smaller building had wet finishing equipment on the first floor, a picker room on the second

¹Yale Expositor 10 January 1896.

²Ibid. 27 November 1896.

³Michigan, Fifth Annual Report of Inspection of Factories in Michigan 1898 p. 149.

floor and a separate dye house. The mill also had two separate storage buildings; one of them measuring 20'x22' to house raw wool. It was further noted that the source of power and heat was supplied by coal; that electricity supplied light; that there was a 100' cotton hose on each floor of the main building and that the picker room had an iron floor. The map of 1900 illustrated a new street in Yale that bordered the east side of the mill. The street bore the name of the family who owned and operated the Yale Woolen Mill.¹ Refer to Figure 4, Figure 5 page 36 and Figure 6 page 37 for depictions of the Yale Woolen Mill at the turn of the century.

Working Conditions

There were no factory inspection citations made against the Yale Woolen Mill in 1897, 1898, 1899 or 1900.^{2,3,4,5} In 1901 the Yale Woolen Mill was cited for an inoperative low water alarm on their

¹U.S., Library of Congress Fire Insurance Maps Sanborn and Perris of Yale, Michigan 1900 Washington, D.C.

²Michigan, Fourth Annual Report of Inspection of Factories in Michigan 1897.

³Michigan, Fifth Annual Report of Inspection of Factories in Michigan 1898.

⁴Michigan, Sixth Annual Report of Inspection of Factories in Michigan 1899.

⁵Michigan, Seventh Annual Report of Inspection of Factories in Michigan 1900.

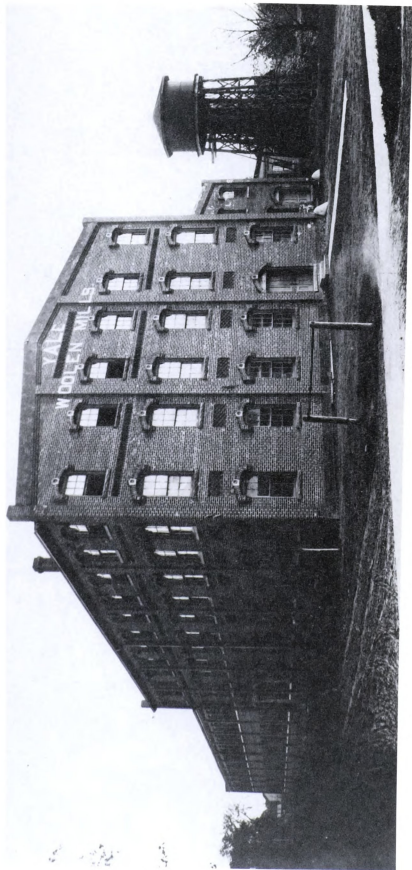


Figure 4 Vale Woolen Mill 1908

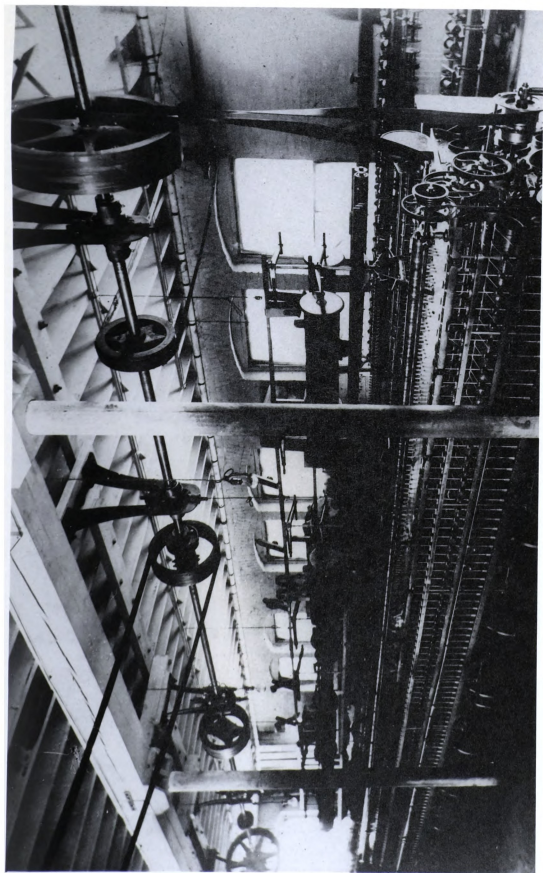


Figure 5 Yale Woolen Mill Spinning Room 1908



Figure 6 Yale Woolen Mill Dressing Department

boilers.¹ In 1902 the factory inspector assigned to survey conditions at the Yale Woolen Mill recorded the following daily wages: foremen: \$2.00; the two man office staff: \$3.00; all other employees: \$1.25. It was noted that employees were not covered by accident insurance. The general outlook for business was reported to be good. There were no inspector ordered changes.² The following year the woolen mill along with 64 other mills in the 23 county district were ordered to make changes in the alarm systems on their steam boilers.³ These were deemed serious infractions by A.B. Glaspie the inspector who noted:

"I again feel it my duty to call your attention to the subject of low water alarms on steam boilers. During my work I have found so called low water alarms which I believe insufficient to meet the requirements and, as in my previous canvass, I have taken the liberty to so manipulate the alarm as to destroy its efficiency. In each case I have given strict orders to have the alarms put in proper condition and not to be further tampered with."⁴

The same infractions of safety standards were reported in the 1904 inspection of the Yale Woolen Mill. The inspector again expressed the futility he felt dealing with the problem of low water alarms:

"The subject of low water alarms continues an unsatisfactory

¹Michigan, Eighth Annual Report of Inspection of Factories in Michigan 1901.

²Michigan, Ninth Annual Report of Inspection of Factories in Michigan 1902. p. 367.

³Michigan, Tenth Annual Report of Inspection of Factories in Michigan 1903 p. 94.

⁴Ibid., p. 87.

part of a factory inspector's work. Nearly every expansive device proves nearly worthless. The brass tubes corrode and the alarm clogs up, creating dissatisfaction with the alarm and the law which permits its use. Those who use the float device without exception praise the value of a low water alarm."¹

Community

The Andreaes' dependency on their fellow townsmen was not a one way street. Being well aware of the myriad of problems faced by businessmen, the Andreaes often found themselves active participants in village activities. A first place award went to C. Andreae and Sons for their entry of ten pieces of cloth and a horse blanket in the second annual fair of the Brockway Centre Agricultural Society.² Most certainly the Andreaes added their affirmative votes along with the majority of their townsmen who in 1893 voted for the construction of an electric light and a water plant.³ By the next year the village streets and businesses as well as many private residences were illuminated by incandescent lights, an invention of one of St. Clair County's own; Thomas Alva Edison. Prior to 1899 the community relied on kerosene and metal lamps for light.⁴ Because the village lay in a valley getting water to all parts of the town proved to be a problem until a 135' high

¹Michigan, Eleventh Annual Report of Inspection of Factories in Michigan 1904 p. 102.

²Weekly Expositor 18 October 1883.

³"Early History of Yale" Yale Expositor 9 November 1933.

⁴U.S., Library of Congress Fire Insurance Maps Sanborn and Perris of Yale, Michigan 1893 Washington, D.C.

water tower with a capacity to furnish water for the town's needs was built.

Management and Financial Transactions

On February 11, 1901 Rudolph Andreae one of the mill's co-founders died. He was mourned by a community and later eulogized by a St. Clair County historian as:

"ever ready to lend a helping hand to any worthy cause, he did much for Yale, his actions and motives being animated by the broadest spirit of humanitarianism and unquestioned public spirit. He was identified with the Democratic party in politics and in addition to having served a number of terms as member of the council was school treasurer for years."¹

The mill management for the next year was conducted by William and by Rudolph's estate. The following year William sold his interests to Rudolph's heirs: Frank, Edward, Rudolph, Walter and Clara.

In 1905 Yale became a city of the fourth class and the C. Andreae and Sons Woolen Mill became incorporated as the Yale Woolen Mills. The purposes of this new corporation were manufacturing, buying and selling woolen goods. The business began with assets of \$56,000.00. Mill machinery and real estate were valued at \$31,390.00. Stock on hand was valued at \$19,619.26 and accounts receivable, being book account of the said C. Andreae and Sons were listed in the amount of \$1,523.91.² The mill and mill machinery were located on the following land description:

¹Jenks, St. Clair County Michigan: Its History and Its People Volme II p. 769.

²Michigan, Department of Commerce Articles of Association of the Yale Woolen Mills 1905

"W. part of Lot 3 and Lots 4-5 & 6 of Block 1 & Lot 5, except W 70 feet of Block 2, Reid and McNutt's addition to Yale."¹

On February 4, 1905 17 people all stockholders stood before Circuit Judge Harvey Tappan and swore testament to the Articles of Association drawn up for the Yale Woolen Mills. They were:

Lena Andreae	Maitland Irwin
William V. Andreae	Fannie Beecher
Edward Andreae	Hiram Holcomb
J.A. Rapley	Fred Carrier
Abner D. Jackson	Elmer Carney
Andrew Depeel	V.A. Lacy
Bart McNulty	James Livingston
James McColl	

All were Yale residents with the exception of James Livingston who listed his residence as Baden, Ontario, Canada.²

Livingston, a man long acquainted with the business of textiles was named President of the newly incorporated firm. This was the same James Livingston who in 1887 had introduced flax crops and a flax mill to the region that was to become the city of Yale. James McColl, another stockholder and director of the Yale Woolen Mills was actively involved in the Livingston's flax business until its demise in 1922. Frank and Edward Andreae were also named as directors; Frank having the position of Vice-President and Edward as Secretary-Treasurer, a position he would hold for the ensuing 46 years. Livingston acted as president until 1908 and held Yale Woolen Mill stock until 1916. During his tenure the mill employed an average of 40 people and there were no

¹Michigan, Department of Commerce Articles of Association of the Yale Woolen Mills 1905.

²Ibid.

safety violations reported by the state inspector.^{1,2,3} In 1907 the difference between assets and liabilities was a black figure of \$96,912.72.⁴

William Andreae, one of the original founders consented to reenter the family business when he assumed the postion of president from 1908 to 1911. The number of employees continued to expand, with an average roll count of 96 people in the three year interim. Refer to Figure 7 for a 1908 depiction of the mill employees.

The 30 stockholders of the Yale Woolen Mill must have been encouraged with the figures of the 1909 Annual Report; after liabilities were deducted, the corporation's value was \$109,216.81.⁵

Working Conditions

Safety, always a consideration continued to be monitored by a state inspector who again in 1908 cited the mill for inoperable low

¹Michigan, Twelfth Annual Report of Inspection of Factories in Michigan 1905.

²Michigan, Thirteenth Annual Report of Inspection of Factories in Michigan 1906.

³Michigan, Fourteenth Annual Report of Inspection of Factories in Michigan 1907.

⁴Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1907.

⁵Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1909.



Figure 7 Yale Woolen Mill Employees 1908

water alarms on the boilers.¹ It was noted in 1909 that the following corrections needed to be made at the Yale Woolen Mill: cover all exposed set screws and guard pit containing hot water pump.² The following changes were ordered after the safety canvass done in 1910: guard fly wheel of main machine and end of shaft key of fan engine, cover all exposed set screws of shafting.³ Adequate machine guards were top priority concerns in manufacturing establishments and were deemed properly guarded at the Yale Woolen Mills when George Worden a 22 year old single man was injured on January 6, 1906 and disabled for twelve days.⁴

Like the majority of other midwestern mill management at the time, the Andreaes did not provide accident insurance for their workers. In Michigan until 1912 the old English common law stood which sided with the employer in instances of employee mishaps incurred while on the job. If it could be proved that the employee had been negligent in following established safety policies the employer was not held responsible. Under Governor Chase Osborn's progressive governance from

¹Michigan, Fifteenth Annual Report of Inspection of Factories in Michigan 1908 p. 257.

²Michigan, Sixteenth Annual Report of Inspection of Factories in Michigan 1909 p. 222

³Michigan, Seventeenth Annual Report of Inspection of Factories in Michigan 1910 p. 255.

⁴Michigan, Fourteenth Annual Report of Inspection of Factories in Michigan 1907 p. 288

January 1, 1911 to December 31, 1912, a workmen's compensation law was passed making it impossible for employers to shrug liability in employee on the job accidents.¹

Just as autocratic in their view of union organizing, manufacturing management of this epoch disdained any such collective tendencies on the part of their employees. Concerning a walkout of the Yale Woolen Mill weavers in 1910, Edward Andreae, Secretary-Treasurer of the mill wrote F.J. Harwood of the Appleton Woolen Mills in Wisconsin:

"if they had any grievances.... they should have notified us in a proper manner, instead of stopping their looms."²

One of the last acts passed by the Michigan legislature in 1909 was one called the "fifty-four hour" labor law which stipulated that no females of any age nor any males under 18 years could work more than ten hours in any one day or more than 54 hours in any one week. In the 1911 inspection of factories report the Yale Woolen Mill was ordered to cease working female employees more than 54 hours per week and to put guards on all exposed gears.³ A second infringement of the "fifty four hour" law was recorded in the inspector's report of 1913 of the Yale Woolen Mill. The inspector ordered to:

"at once make such arrangements that no females or males under

¹Dunbar, Michigan: A History of the Wolverine State p. 522.

²Crockett, The Woolen Industry in the Midwest p. 91.

³Michigan, Eighteenth Annual Report of Inspection of Factories in Michigan 1911 p. 355.

18 years of age in your employ work for a longer period than 54 hours in one week nor more than ten hours in any one day."¹

This reprimand affected the 45 females employed at the mill or almost one half of the total work force of 109 employees. An even stronger rebuke was recorded in the factory inspector's report of six years later:

"within five days arrange hours of female employees to conform to the fifty four hour work law."²

In the six year interim, there were no safety violations cited against the Yale Woolen Mill nor were there any in 1920 the final year of published factory inspector reports in the state of Michigan.^{3,4,5,6,7,8}

¹Michigan, Twentieth Annual Report of Inspection of Factories in Michigan 1913 p. 384.

²Michigan, Twenty-sixth Annual Report of Inspection of Factories in Michigan 1919 p. 375.

³Michigan, Twenty-first Annual Report of Inspection of Factories in Michigan 1914.

⁴Michigan, Twenty-second Annual Report of Inspection of Factories in Michigan 1915.

⁵Michigan, Twenty-third Annual Report of Inspection of Factories in Michigan 1916.

⁶Michigan, Twenty-fourth Annual Report of Inspection of Factories in Michigan 1917.

⁷Michigan, Twenty-fifth Annual Report of Inspection of Factories in Michigan 1918.

⁸Michigan, Twenty-seventh Annual Report of Inspection of Factories in Michigan 1920.

Management

In 1912 a man finely honed to the mechanics of woolen technology stepped to the forefront as President of the mill. It was said by those who knew him that:

"he was so much a part of that mill... he could just feel if a machine was down."¹

Frank William Andreae at age 37 had spent a good deal of his life observing the processes involved in turning raw wool into finished cloth and taking for granted the family pride and dedication that made the Yale Woolen Mill a source of community and customer respect. Under his reign the mill was to triple in size and number employed and become integrally involved in the biggest industrial concern in Michigan. As a small boy he and brother Edward played in and around the mill sometimes not without incident. A seven year old "Eddie" while running in the mill fell and fractured his arm in 1885.² A product and purportor of the philosophy that experience is the best teacher, Frank Andreae's formal education consisted of completion of the eighth grade and a general course of studies at the Philadelphia Textile Institute in 1896. He was later judged as a hard taskmaster but was not above rolling up his shirt sleeves and getting down on his hands and knees to diagnose a troublesome machine.

Frank's former position as Vice-President was filled by J.A.

¹Marjorie Sheridan Andreae, wife of former mill textile designer. Port Huron, Michigan. Conversation 6 July 1981.

²Weekly Expositor 21 May 1885.

Rapley of North Branch until 1918 when brother Rudolph Andreae, 37, also a Philadelphia Textile Institute alumnus took the position.

By 1912 the year that Frank Andreae and J.A. Rapley came to the helm, the mill was comprised of three brick factory buildings plus a separate office building. The main factory building measured 50'x300' and a portion of it was three stories high. The other two buildings were 44'x100' with two stories and 30'x200' with one story.¹ (Refer to Figure 4 page 35 for a depiction of the exterior of the Yale Woolen Mills.)

In 1915 the youngest brother, Walter completed training at Philadelphia Textile Institute and joined his brothers as a director of the family mill in 1918, an action which made the executive personnel at the Yale Woolen Mill all Andreaes. Refer to Figure 8 for a depiction of the supervisors of the Yale Woolen Mill at this time. Stock previously owned by other area citizens was bought up and held exclusively by the family.

Involvement in World War I

By 1917 the United States abandoned its neutral position in a world war which had been raging in Europe since 1914.¹ U.S. men were sent to fight a war that they had sustained as farmers and factory workers.

Michigan agricultural interests and industries experienced full

¹Jenks, St. Clair County Michigan: Its History and Its People Volume II p. 521.

²F. Clever Bald, Michigan in Four Centuries p. 379



Figure 2 Yale Woolen Mill Management 1908

employment and prosperity in their attempts to meet the demands for goods needed for the war.¹ Automobile factories were expanded to turn out not only autos and trucks but also airplane engines, cannons and other war materials.² Textile mills bid for military production also.

At the Yale Woolen Mill:

"They made army overcoating which was olive drab in color... also shirting fabrics which were all sent to Philadelphia where the fabrics were made into coats and shirts for the Army."³

Post World War I

Following the war the main product of the mill continued to be quality woolens for men's wear and the executive brothers, Frank, Edward, Rudolph and Walter often visited a tailor in Detroit to have suits made from the cloth made in the establishment founded by their father and grandfather.⁴ Visits to Detroit were soon to have a profound effect on the mill in Yale as a family long acquainted with the processes involved in producing cloth from wool were to join forces with a family dedicated to assembly line accomplishments.

¹F. Clever Bald, Michigan in Four Centuries p. 379

²Ibid.

³Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Conversation 23 December 1981.

⁴Ibid. Conversation 12 August 1981.

CHAPTER IV

THE MIDDLE YEARS (1922-1941)

The middle years of the Yale Woolen Mill, 1922-1941 paralleled a roller coaster economy. This epoch was characterized by unheralded prosperity in the early 1920s to deep depression at the decade's end followed by uncertainty, speculation and finally an economic shot in the arm, entry into a world war. Mill procedures, financial transactions, management tactics, building changes and working conditions at the Yale Woolen Mill reflected the larger national picture.

Technological Operations

By Independence Day 1922 an additional 100 employees had been added to the payroll of the Yale Woolen Mill. Two eight hour shifts were implemented and the corporation was to experience a gain of almost \$200,000.00 in one year. Prosperity had arrived in Yale via a large order for broadcloth from the Ford Motor Company. Woolen cloth manufactured in the Yale Woolen Mill was to be used as automobile upholstery. Management and workers alike were pleased.

Purchasing agents for Ford and for other automobile concerns such as Packard, Chrysler, DeSoto, Marmon, Imperial and General Motors all companies which were to accept bids from the Yale Woolen Mills were easier to satisfy than representatives of the garment industry. Plain broadcloths, the stuffs ordered for upholstery materials were less difficult to produce. There were a number of reasons for this and it was reflected throughout most of the eight departments of the mill:

Dyeing, Picking, Carding, Spinning, Dressing, Weaving, Finishing and

Power.

In the early years of the plant when Charles and sons utilized raw wool from area farmers, the wool was scoured at the mill, a process necessary to remove the natural oils from the fleeces. This procedure was later eliminated as only cleaned and scoured wool ready for dyeing was purchased. Wool had to be purchased six to eight months ahead of time and during sheep shearing time when it was available.¹ The mill superintendent personally oversaw the purchasing of wool. Domestic as well as imported Australian grades were acquired according to grades.

When the first shift arrived at 6 a.m. the work began. John Schauermann, former dye chemist at the Yale Woolen Mill related the techniques involved in wool dyeing, the first operation in processing woolens at the Yale mill.² Purchased bags of raw wool were opened, weighed and placed in the wooden dye kettles some of which held between 600 and 800 pounds. From the kettles the wet wool was dried and blown upstairs into bins, layer upon layer. If six kettles of wool had been dyed red, for example, the wool from the first kettle would be blown into the bottom of the bins, the wool from the other five dye tubs would then be blown successively in layers. Automobile broadcloths were always stock dyed as opposed to goods made for the open market which were often piece dyed. Stock dyeing, though as expensive

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²John Schauermann, former mill dye chemist. Yale, Michigan. Interview 25 March 1981.

as piece dyeing was easier to do as far as the dye chemists were concerned. They dye in powder form was placed inside the outer concentric kettle of the dye tub, diluted, mixed with wetting and chromate solutions, stirred well and boiled. The raw wool was then lowered into the inner perforated tub and sealed. A pump then forced the dye liquor up through the inner tub via a perforated pipe leading from the inner tub to the outer dye filled tub. The wool was then boiled at around 120° for an hour and a half depending upon what dye procedure was used. After all the dye liquor was exhausted onto the wool a little acid or emulsion was added onto the dye. This solution then exhausted the complete dye onto the wool and the liquor became clear, an indication that the wool had absorbed all the dye. A small carding machine was kept in the dye house to make a color test patch of the dyed wool. The wool from various bins was cross sectioned through the layers, laid out and carded and if the color matched the desired shade the same proportions from various bins were used. Batches could sometimes weigh from 1,000 to 10,000 pounds and it was not expected that the finished dyed wool would come out a 100% match of the preferred color. In stock dyeing matching the color at this stage was not as crucial as in piece dyeing because the desired results could still be obtained by mixing different colors together in the carding and mixing processes. In piece dyeing the dye men had to be more exact in the preparation of the dye liquor because it had to match the dye to the dot. On the basis of this, stock dyeing required less accountability on the part of the dye chemist and mixers.

Once dyed, the wool was run through burr pickers, a process

necessary to remove all the vegetable matter such as burrs, twigs or leaves which the sheep may have picked up on their fleeces while grazing.¹ Gordon Andreae, a former mill Vice-President, recalled the ensuing processes.² Wool blending was done at the same time as picking. Expensive high grade Australian wool was blended with lower grade domestic wools which may have originated in Texas, Utah or Wyoming. While blending of various grades was done to keep the ultimate cost of the cloth down, blending of various colors was done to produce even colored cloth. This process was repeated twice, each time with the addition of an anti static agent. The first time through, the wool would be put on the floor in a pile of layers. The layers would be cross sectioned through and put in a bin. The second time through the wool would be oiled and blown up over the cards. Then,

"instead of just blasting it in, these screens would come down, air would come out and the wool would drop. Someone would be in there putting it [the wool] in layers so they'd take it out and put it in [the] card room the same way."³

Once the stock had been thoroughly picked, blended and oiled, it was subjected to the carding process where individual fibers were straightened and blended into a long rope form called a roving. This roving was then wound on spools. When the spools on the feed table of the

¹Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

²Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

³Ibid.

carding machine were full a carding room employee would take the filled spools off and fill the machine all in one motion. Eighty spools would be placed on a cart and taken into the spinning room.

The wool stock in roving form was then ready to be spun into the yarn which would eventually be used for the warp and filling yarn of the cloth. Woolen spinning basically involved three operations whether it was done on a mule spinner which moved back and forth on tracks and was used exclusively at Yale or on a frame spinner which remains stationary. The latter type of machine was installed on a trial basis at the plant in Yale but did not prove successful.¹ The process of spinning consisted of drafting or drawing out, twisting and winding on.² After the drawing out and in on the mules, the spun yarn was put on bobbins. The warp yarn was then rewound by automatic spoolers known as warp or jackspoolers. The warp was then passed to the Dressing Department where preparations for weaving were made.³

Frederick Niven Andreae Jr., former mill textile designer described the steps involved in preparations for weaving and the actual weaving.⁴ Warp ends were combined to form a section of 560 to 670 ends

¹Frank Boughner, former mill spinner. Yale, Michigan. Interview 26 March 1981.

²Werner Von Bergen and Herbert R. Mauersberger, American Wool Handbook p. 423.

³Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

⁴Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

and were arranged on a large reel until the whole warp was completed. Once this was accomplished, the warp was transferred from the reel to the loom beam. A machine called a beamer was used for this purpose. In the Yale Woolen Mill this was generally a job that was designated to male employees. Women were assigned to do the drawing in, a task which meant putting the warp ends through the loom's heddles and then through the reed according to weave patterns designated by the boss weaver or designer. Baskets of filling yarns on bobbins were then brought in and placed on boxes at the end of the loom in preparation for actual weaving.

The woven cloth was formed by the interlacing of warp and filling yarns and was basically accomplished by three successive steps: shedding, picking and beating up. A shed was formed when a series of warp yarns were raised. A shuttle filled with a filling bobbin was then shot through this opening forming one pick. The shed closed and the reed moved forward "beating" the inserted filling yarn up to the already woven cloth. Standard woven lengths of one dye lot and one pattern would average approximately eight cuts or lengths of 60 to 65 yards but this would depend on the purchase order or executive decisions as to what would sell. The cloth was then ready for finishing processes.

Gordon Andreae explained the finishing procedures at the Yale Woolen Mill.¹ The woven goods were taken to the burling room where women inspected the cloth for broken ends and knots. The broken ends

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

would be reworked or resewn into the cloth and the knots would be fixed by hand. From the burling room the cloth was taken to the male operated fulling machines. The cloth which may have left the looms 72" to 73" wide and 60 yards long would end up approximately 56" wide and 50 yards long by subjecting it to heat, agitation, moisture and an alkaline solution in the fulling tubs a combination which caused the cloth to felt or shrink. Fulling also made the cloth more dense which increased the covering power of the finished product. Carbonizing, a process which removed vegetable matter from the wool was done either before or after fulling. The cloth was steeped in an acid solution and oven baked which caused the foreign particles to char off. The cloth was then neutralized. After the cloth was fullled, it was washed to remove soap and other impurities. The cloth was then dried and then the nap was raised. This friction process lifted fibers from the ground fabric and created a napped surface. Both napper wires and teasel burrs were used at the Yale Woolen Mill according to Fred Andreae Jr.¹ The napped cloth was then layered with a mantle layer between each layer of cloth and subjected to steam which acted to set the nap. From there it went to be sheared. Shearing created a uniform surface in that any fibers sticking up a certain level were nipped off. The cloth was then fed into the inspection room where women examined the cloth a final time. The letter

¹Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

Y for the Yale Woolen Mill was stamped on the back of the cloth.¹ The cloth was then rolled for shipment. Some lengths were rolled in paper. Other rolls were placed in canvas bags that had two sewn on "ears" so that the bags could be easily lifted.²

The raw wool as well as coal were shipped by rail and were transported to the mill from the Yale railyard by team and wagon and later by truck.³ In 1922 trucking equipment was added to the mill assets. A Graham truck from Eilber and Barth, Yale Dodge dealers was purchased for daily runs between the Ford factory in Detroit and the woolen mill in Yale.⁴ The raw wool in bales was taken to be weighed and then to be processed. The coal was unloaded outside the south side of the engine room and then wheeled in a wheelbarrow to the boilers. In the winter an average of ten tons of coal were used for each eight hour shift and as much as 30 tons were needed in 0° weather.⁵ Less coal was used in the summer months. Men who worked as "firemen" or boiler tenders had to go outside and wheel the coal in by hand. The coal was

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²Ibid.

³John J. "Jack" Kaatz, former mill Assistant Secretary-Treasurer. Yale, Michigan. Interview 25 March 1981.

⁴Yale Expositor 10 August 1922.

⁵Grant Graybiel, former mill employee. Yale, Michigan. Interview 26 March 1981.

burned to make steam. The steam was converted into the electricity which supplied power. There were two back-up diesel generators that ran off of oil.¹ By 1923 if needed they could switch over to an energy line supplied by the Detroit Edison Company. At times a fireman might be guilty of producing too hot a fire or of putting too much coal in the boilers. This would sometimes throw soot all over the city.²

Shortly after the Ford Motor Company became customers of the Yale Woolen Mill, Edsel Ford paid a visit to Yale. He spoke with Frank and Edward Andreae and asked their advice concerning the implementation of a textile division at Ford. The Andreaes allowed tool makers from Ford to work in the mill to gain experience in woolen technology and in 1925 sent one of their own to the Ford Company.³

Management

In 1925 Frank's eldest son Frederick Niven Andreae Sr. completed his program at Philadelphia Textile Institute. Fred had taken a general course of studies which included chemistry, dyeing, carding, spinning, weaving and other woolen processes.⁴ From June 18, 1925 to January 24, 1927 Fred worked as an hourly cloth finisher at Ford's newly

¹Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

²Ibid.

³Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

⁴Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Interview 22 June 1981.

established textile division.¹ His first assignment was to paint the guards on the textile machinery.²

During most of the 1920s the woolen mill in Yale operated three shifts to keep up with the heavy demand from automobile manufacturers. There were however periodic shut downs. In the fall of 1922 the mill was closed for a few weeks so that boilers could be replaced and repair work could be done.³ In 1923 an auxiliary engine blew up which caused a one day shut down.

"Up until Monday morning at about 4 o'clock the Yale Woolen Mill had a 35 horse power vertical engine which was used at night to run the dynamo which furnished the lights. But now it is gone. Night watchman Al Thomas had just completed his rounds on the first floor and started in on the second story work when the explosion occurred. He states that he thought someone had shot off a cannon in the engine room. Hurrying to that part of the mill he was enveloped in a cloud of steam, and had a time locating the trouble. As soon as the steam cleared away he was able to see what had happened. It is supposed that the drive belt had broken and in flapping around had knocked off the governor belt and this is what caused the engine to "run away".⁴

Other shut downs were planned. It was customary to provide a two week vacation at Christmas.⁵

Business was booming and like many other entrepreneurs of this

¹David R. Crippen, Reference Archivist, Ford Archives, Dearborn, Michigan. Letter 11 August 1981.

²Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Interview 22 June 1981.

³Yale Expositor 14 September 1922.

⁴Ibid., 15 March 1923.

⁵Ibid., 19 December 1929.

epoch the Andreaes made some speculative investments. In 1922 a representative of the Excelllo Tool and Manufacturing Company came to Yale hoping to win town support to build a factory there. Excelllo had developed a machine called the Parker Grinding, Drilling and Turning Machine which according to a report in the Yale Expositor could be called "a complete machine shop in itself."¹ The Andreaes were interested in one of their other products called the Parker High Speed Grinding Spindle which had been developed in the Ford Motor Company's plant and was used extensively by Ford. Frank Andreae was chairman of the investigating committee appointed to look into the financial health of Excelllo and to present the findings to the citizenry of Yale. The city turned down Excelllo but the Andreaes were impressed. Frank and his brothers initially invested \$25,000.00 each in Excelllo.² These and later investments made in Excelllo were to pay off since Excelllo became an international multi-million dollar business with valuable stock. Because of their stock holdings in Excelllo family members served on the Board of Directors of Excelllo for a number of decades. The Andreaes also became stockholders in a company which manufactured toilets. Duro-Wood Products Incorporated was located in nearby Capac, Michigan. In 1929 Frank Andreae was elected as one of Duro-Wood's directors.³

¹Yale Expositor 17 August 1922.

²Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Interview 22 June 1981.

³Yale Expositor 28 February 1929.

Building Changes

The officials of the Yale Woolen Mills also invested in real estate:

"The entire triangular block of real estate lying between the Pere Marquette railroad and Andreae Street on the north and south and Main Street and the woolen mill on east and west has been purchased by the Andreae brothers, sole owners of the Yale Woolen Mill and has been added to the woolen mill property. While the mill owners have no specific plans in mind for the use of this property for mill purposes other than to beautify it and hold it in reserve for future needs and that they have seen fit to purchase it at this time is extremely gratifying to citizens of Yale."¹

Two years later the Yale Woolen Mill executives purchased the Edward Sheehy property on Main Street.² These acquisitions were part of the expansion that was implemented in 1934, 1935 and 1936.³ The Yale Woolen Mill expanded from a 36 loom operation to a plant with 112 looms.⁴ The 76 new looms were all W3s purchased from the Crompton Knowles Company.⁵ At 120 picks per minute, these looms represented more than half the reduction of labor time required throughout the mill.⁶

¹Yale Expositor 29 August 1929.

²Ibid., 17 December 1931.

³John J. "Jack" Kaatz, former mill Assistant Secretary-Treasurer. Yale, Michigan. Interview 25 March 1981.

⁴Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

⁵Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

⁶Ibid.

Because of the additional looms all other departments also were enlarged. The building assets increased by \$176,061.40 from 1933 to 1936.^{1,2} In honor of this addition to the mill and to the community a large party was held to honor the Andreaes:

"Sponsored by Yale business and professional men and women, over 700 residents of this city and friends from this section of Michigan honored the Andreae family - Frank, Edward, Rudolph and Walter, all brothers, and their sister - Mrs. Duncan [Clara] McKeith at a surprise party in the new unit of the Yale Woolen Mill, on Tuesday evening.

The party was given in appreciation of the new building and all that this great manufacturing concern means to Yale and vicinity. The gathering was unique in that the rank and file of the city and other cities intermingled through four hours of good fellowship in what proved to be one of the most joyous occasions Yale has ever known - and perhaps ever will enjoy."³

Workers

An increase in business and in production capacities required additional employees. Besides recruiting more blue collar workers, the Yale Woolen Mill management saw a need to search for experienced overseers and office personnel to add to their staff. Their purpose was twofold. The four brothers were approaching retirement age and Edward in particular wished to retreat to his home on Lake Huron.

On December 22, 1929 John J. "Jack" Kaatz arrived in Yale to begin work at the mill. Earlier in the decade Jack had worked in the

¹Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1933.

²Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1936.

³Yale Expositor 10 January 1935.

accounting department of the John Deere Company in Regina, Saskatchewan, Canada. From there he was transferred to their head office in Moline, Illinois. While in Moline Jack had responsibility for all the Canadian branches on the general books. Haskins and Sells of Chicago, certified public accountants, were auditors of the John Deere Company. When one of the senior officers of Haskins and Sells left the company and went to work for the Rockriver Woolen Mill in Janesville, Wisconsin, he asked Jack Kaatz to join him. While at Rockriver Jack served as an assistant manager.

The Andreae family were friendly with the family who owned the Rockriver Woolen Mill and when the brothers from Yale made it known that they were seeking a man with management skills, Jack Kaatz was recommended by the Janesville family. Edward Andreae approached Jack and offered him a position as Assistant Secretary-Treasurer. While Edward still held the title of Secretary-Treasurer he became semi-retired when Jack Kaatz arrived to begin his responsibilities:

"When I came here they had a single entry bookkeeping system and I put in a double entry bookkeeping system... I went to Detroit a lot to deal with automobile manufacturers..., New York several times but not a lot to speak of."¹

In many of the mill's departments husbands, wives and other family members worked side by side. In the spinning department, the name of Boughner was well represented. Considered to be some of the best

¹John J. "Jack" Kaatz, former mill Assistant Secretary-Treasurer. Yale, Michigan. Interview 25 March 1981.

spinners, the Boughners certainly "taught a lot of 'em to spin."¹ Brothers Frank, Clayton, James and Allen Boughner moved to Yale in 1917 when their father secured work there as a railroad foreman. As each boy graduated from high school, he went to work for the Yale Woolen Mill and all with the exception of James worked in the spinning department. Frank Boughner, one of the new crop of people hired in 1922 stayed on 41 years until the mill closed. In 1928 his future wife, Belva Foster came from nearby Marlette, Michigan to visit her sister and found work in the mill's burling department. Two weeks later there was an opening in the spinning department and Belva joined newcomer Clayton as a helper in the department with a salary of \$.16 an hour. Their salaries gradually increased to \$.25 an hour and finally to \$.28 an hour which according to Clayton was the highest salary paid to helpers.² Once a helper was trained, he gained responsibility for his own machine and was then paid by piecework.

Like Frank Boughner, Elmer Julius Baisley was one of the newly hired men in 1922 and stayed until the mill closed in 1963. Elmer worked as a weaver and later as a loom fixer. In 1924 Elmer married a kindergarten teacher in Peck, Michigan and brought her home to Yale. He taught his new wife Annabelle Smith Baisley to weave. Annabelle also stayed in the mill until it closed. When they were first hired,

¹Belva Foster Boughner, former mill spinner. Yale, Michigan. Interview 26 March 1981.

²Clayton Boughner, former mill spinner. Yale, Michigan. Interview 26 March 1981.

the Baisleys each worked on one loom. In 1935 when the mill expanded they and others in the weaving department found themselves responsible for not one but four looms. A change, which according to Annabelle was "hard to keep up with."¹ The weavers were paid by piece work which amounted to about \$1.00 an hour but could vary with the weave pattern that was being produced. Plain weaves were the easiest to work with and represented the most earnings for weavers. Pattern work could pay less because it took more time.

Yet another husband-wife combination employed by the Yale Woolen Mill was Grant and Nancy Graybiel. Like so many of the other Yale High School graduates, Grant went to work for the town's woolen mill. He started in 1928 and worked in the Finishing Department for 13 years and for four years after that in maintenance and power. Nancy Hinton came to Michigan in 1930 to help her recently widowed sister. Nancy would work one shift at the mill and her sister would work the other. This allowed one of them to always be home with the fatherless children. Nancy worked in the Finishing Department:

"sew-in they called it... I learned my job in the old mill and then when they added more girls.... I went in evenings to learn. I didn't get paid for that."²

Nancy married Grant and worked for 11 years before she took off 13 years to raise a family. She then went back to work part time at the

¹Annabelle Smith Baisley, former mill weaver. Yale, Michigan. Interview 26 March 1981.

²Nancy Hinton Graybiel, former mill finisher. Yale, Michigan. Interview 26 March 1981.

mill until it closed. Nancy's starting salary in 1936 was \$.35 an hour and unlike some of the other department's workers:

"I wasn't paid by the piece - I guess years before I went in they were paid by the piece but there was too much hard feelings so by the time I got in there we were all paid the same but we did have to keep track of our production... of course if we didn't put out the right amount of production we were told about it but there was a reason a lot of times because some materials were worse than others."¹

Like the weavers, apparently the finishers also preferred plain weaves.

Grant started in the mill earning \$.23 an hour running the big washers that fulling the woolen cloth. Seventeen years later he was earning \$.70 an hour and working as a mill fireman in the Power Department. Shovelling ten ton of coal on winter evenings was no easy chore and Grant suggested to Frank Andreae that the mill should install a conveyor to move the coal inside. The mill superintendent's response was: "I'll get you a bigger shovel."² Grant also worked on the maintenance crew who went through the whole plant checking engines, drive shafts and other apparatus to see if they needed oiling or other attention.

The Graybiels had other relatives who worked in the mill. When Grant's mother was widowed in 1918 she moved her family into Yale from their outlying farm and went to work in the burling room. Nancy had two brothers who worked in the mill. John Hinton briefly worked

¹Nancy Hinton Graybiel, former mill finisher. Yale, Michigan. Interview 26 March 1981.

²Grant Graybiel, former mill employee. Yale, Michigan. Interview 26 March 1981.

as a weaver. Ben Hinton worked in the Power Department.

The majority of employees worked a switch shift schedule which meant that they would work from 6:00 a.m. to 2:00 p.m. one week and from 2:00 p.m. to 10:00 p.m. the next week. If the mill was running three shifts the night shift would be from 10:00 p.m. to 6:00 a.m. Only men were allowed to work the night shift and generally night shift workers were paid a little extra. When a shift changed a whistle blew and tallies individually kept by piece rate workers were turned back. Because most people were paid by piece rates they didn't take breaks during their eight hour shifts. Most employees walked to work although some people did drive in from their farms. Michigan's unpredictable weather would frequently interfere with travelling back and forth from work:

"One time there was a big snowstorm in Yale... people couldn't get home so they slept in the wool bins."¹

While the Yale Woolen Mill officials recruited skilled employees from other midwestern woolen mills, they also lost some of thier employees to other textile establishments. James B. Tait like Jack Kaatz had been recruited from the Rockriver Woolen Mills in the late 1920s and held an executive position at Yale for three years before he returned to Janesville, Wisconsin to manage the woolen mill there.² Henry Weldon who had been employed as a weaver in the Yale Woolen Mill

¹Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

²Yale Expositor 8 June 1933.

for about two years moved to Chicago and found employment in the Dan'l Boone Woolen Mills.¹ Willard Cole, a Yale resident found work in the Eaton Rapids Woolen Mill in Eaton Rapids, Michigan.² E.W. Mercer, overseer in the Carding Department at the Yale Woolen Mill resigned his position for a similar one in mills situated in Piqua, Ohio.³ Some of this employee transferring was due to the depressed economy in the early and mid 1930s. With automobile production slowed down there was a resultant work loss at the Yale Woolen Mills. Although the mill never shut down entirely during this time, work days were short and sporadic:

"I'd go up in the morning and stand by the gate. My boss would come out and say "Well, we've got two hours of work. Do you want to work?"⁴

Some workers were laid off. Employees with seniority were given first consideration for work.

Worker Discontent

Loss of work and subsequent impoverishment led to employee discontent. Factories all over the state were scenes of sit downs and strikes. The United Auto Workers Union was "organizing everything in sight".⁵

¹Yale Expositor 3 February 1921.

²Ibid., 23 June 1927.

³Ibid., 19 December 1929.

⁴Grant Graybiel, former mill employee. Yale, Michigan. Interview 26 March 1981.

⁵Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

Rumors became thick in Yale of the possibility of a strike at the city's woolen mill. The trouble supposedly originated in the Finishing Department where workers threatened a sit down. Delegates chosen by their fellow workers approached the President of the Port Huron Trades and Labor Council for assistance. He suggested that the UAW could best serve their needs. Anticipating a walk out, the officials of the Yale Woolen Mill instead shut the employees out:

"We didn't want a sit down at the mill, so we went ahead and finished everything up so if they went on strike we wouldn't be jeopardized by having stuff spoil.. we got all that stuff done and we turned the key and they [employees] were out for eight weeks."¹

A report in the Port Huron Times Herald outlined the situation:

"The Yale Woolen Mills are closed today while recently organized union employees and the management are preparing for a conference Tuesday on wages and working conditions. The closing was a surprise action by the management, which posted notices on the factory entrances this morning, before men arrived for work stating that the plant is "closed indefinitely". It was an aftermath of an organization meeting in the Barr auditorium Sunday, in which union organizers say that 207 of the 526 employees of the mill were signed as union members. A spokesman for the company this morning said it was understood that not more than 10 percent of the employees had joined the union. The employees had not previously been organized."²

Minor job complaints were ordinarily channelled through the department foreman or straw boss. These department heads in turn approached the mill executives. Frank Andreae, mill superintendent, still hoped to

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²"Yale Textile Plant Closes" Port Huron Times Herald 1 March 1937.

be able to handle employee dissatisfaction in this paternal manner:

"In any dissatisfaction which may have arisen in our mill, over any working condition, we are willing to meet regularly selected representatives from any and all departments to discuss any grievance or grievances with them. We court a thorough and open discussion of any problem confronting our workers. We propose that meetings of workers in the various departments be held this afternoon and their delegates meet in the mill office on Tuesday at 9 o'clock for such conference."¹

During the two month interim there were harsh words and hard feelings expressed. Each day employees would mill up and down the streets with banners proclaiming "UAW or die" and "We won't starve". A soup line was set up and organized by workers.² The Andreaes and those town people who sided with them were unpopular. When Frank Andreae, the mill superintendent was hung in effigy, Orin Lane, the Yale fire chief was hung beside him because Orin supported the Andreaes.³ According to reports in the Yale Expositor the following precautions were taken: sherrif's deputies were called in to guard the plant; paychecks were distributed at a designated time at the Yale State Bank and proprietors of the local hotel and of the local bar agreed to refrain from selling intoxicating liquors until the dispute was settled.⁴ These precautions were taken in view of violence that was occurring in

¹"Yale Textile Plant Closes" Port Huron Times Herald 1 March 1937.

²Belva Foster Boughner, former mill spinner. Yale, Michigan. Interview 26 March 1981.

³Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

⁴Yale Expositor 4 March 1937.

factories all over the nation. This potentiality was brought closer to home for Yale residents by a front page report in the Yale Expositor of a strike at the Holmes foundry in Sarnia, Canada. Sarnia is directly across the St. Clair River from Port Huron. This factory made V-8 engine blocks for Ford Motor cars manufactured in Canada. At a sit down staged by the employees there a fight broke out which injured eight employees and sent three to the hospital with broken arms and legs.¹

Aftermath

When the mill reopened a majority of the employees belonged to the UAW, wages had been increased and the work week had been shortened. A closed shop was not in effect although those workers who did not belong to the UAW were labeled as scabs by some fellow employees. For the most part workers, town citizens as well as mill management were glad to have the mill operating again. The two month long shut down had created great hardships for many people.

Worker Accidents

The State of Michigan ceased publication of factory inspection reports in 1921. Worker accident accounts that occurred after 1920 were contributed by newspaper accounts and by interviews.

Engineers, maintenance people and straw bosses were particularly responsible for safe working conditions. Metal guards had to be kept around all moving machinery. Stairwells had to be kept painted. Signs were posted in each department ordering "Do not clean machinery while

¹Yale Expositor 4 March 1937.

in motion". It was often a temptation to disregard this rule. Turning off a machine to unclog it meant lost time for piece rate wages.

"Mrs. James McIntyre while working cleaning up a loom at the Yale Woolen Mill Friday morning last had the misfortune to get her fingers in the cogs and two of the fingers of her right hand were badly mutilated. It was necessary to cut off part of the little finger."¹

Fingers were also lost in the spinning room and in the carding room because of carelessness:

"One guy nipped off part of his thumb in the card room when he stuck it in a gear. About a week after he got back on the job, someone asked him how he did it and he stuck his thumb in and nipped off a little more."²

A similar accident in the weave room occurred when a female weaver caught her long hair in a gear on the loom. She reached down to pull her hair out and cut off three fingers.³ The heavy rollers used in fulling were also potentially dangerous. Harold Sischo, a 24 year old employee caught his left arm in a fulling machine which left the arm badly lacerated.⁴ A more serious accident occurred when a finisher became caught in the fulling rollers and was lucky to survive although he suffered some broken ribs.

Other accidents including the first and only fatality at the Yale

¹Yale Expositor 11 August 1921.

²Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

³Belva Foster Boughner, former mill spinner. Yale, Michigan. Interview 26 March 1981.

⁴Yale Expositor 7 May 1931.

Woolen Mill involved outside workers:

"Our little city was thrown into instant pause and utter horror on Tuesday morning about 8:30 when word was flashed from mouth to mouth that one of our young men had fallen to his death. The young man was on a scaffold 35 feet above the concrete floor in the boiler room of the Yale Woolen Mill repairing the electric system. One fellow workman had his back to him and turned around just in time to see Archie falling from the plank on which he was standing. The only solution possible is that he must have made a misstep... He [Archie Ludington] graduated from the High School in 1920 and had since worked with his father who is a conductor and builder, and also had made himself familiar with electricity."¹

Community

During the mill's middle years the Andreae family received much praise and some notoriety in their home town. They were acclaimed for acquiring the automobile industry's trade, for supplying employment for fellow townspeople and for expanding their buildings and business. They were denounced during the shut down and union organizing in 1937. They were called upon to offer leadership in guiding the town as their father Rudolph and grandfather Charles had. The third generation: Frank, Edward, Rudolph and Walter, Philadelphia Textile Institute graduates except Edward, were active in town leadership roles.

In 1922 when a Chamber of Commerce was organized in Yale, Edward Andreae was elected president. As moderator he presented ideas to the citizens that the Yale Woolen Mill was considering for civic improvement.² In 1931 both Frank and Rudolph Andreae were elected to the

¹Yale Expositor 29 May 1923.

²Ibid. 25 May 1922.

Board of Directors of the First National Bank of Yale.¹ When improvements were made at the town cemetery in 1922, it was Frank Andreae who purchased a water pump.² And in 1923 the mill officials sponsored a band called the Yale Woolen Mill City Band which gave weekly concerts for town citizens and visitors.³

Together the mill family and their home town had experienced great changes in the golden middle years of the Yale Woolen Mill. They had shared joy in the prosperity that automobile trade had brought, frustration in the swell of union organization and pride in the accomplishments of a well respected business.

On December 7, 1941 the Japanese bombed Pearl Harbor and immediately after this President Franklin Roosevelt announced the United States's entry into World War II. Involvement in this war dramatically altered the nation's networks of politics, social issues, economy and business. The small community of Yale, Michigan, its woolen mill, its citizens and its leaders were all to be affected by World War II.

¹Yale Expositor 20 August 1931.

²Ibid., 12 October 1922.

³Ibid., 31 May 1923.

CHAPTER V

THE FINAL YEARS (1941-1963)

The epoch of 1941 to 1963 witnessed United States involvement in two overseas wars: World War II and the Korean War. At home unions gained a steadier stronghold on industrial fronts. With President Roosevelt's declaration of War in December 1941, U.S. men were shipped to Europe and sacrifices were experienced by those who remained behind. Citizens were asked to economize on everything, to give up luxuries, to buy war bonds, and to maintain victory gardens all for the sake of supporting the war effort. Businesses were called upon to convert from civilian production to war needs. Following the wars, industries experienced more changes as conversion to synthetic materials became more popular and nations rebuilt and nurtured by American dollars began to export items that were marketed at lesser prices than Americans could produce them.

Involvement in World War II

Michigan, the center of automobile manufacturing, became a frenzied scene of scrambling for war production bids. Much of the war slated goods were made in Michigan. Ford and other auto companies began cranking out tanks and other military vehicles. On February 10, 1942 automobile production for civilian ceased until the war's end.¹ Automobile suppliers also turned their efforts in the direction of war

¹Dunbar, Michigan: A History of the Wolverine State p. 615.

production.

Management at the Yale Woolen Mill bid on both Army and Navy contracts. Army bids were sent to Philadelphia and Navy bids to Washington, D.C.¹ For the interim of the war, wool supplies were controlled by the government and wool purchases had to go through bureaucratic channels. In October of 1941 the Yale Woolen Mill was awarded a government contract to produce approximately 225,000 yards of woolen cloth suitable for overcoatings for air cadets and suitings for Army uniforms.² Other contracts were received for blankets and khaki uniform cloth. Some overcoatings from the Yale Woolen Mill ended up on the backs of Russian officers.³ Once the military contracts were begun a government inspector from the Quartermaster Division was assigned to oversee production at the mill. These men were well versed in woolen technology:

"They knew more than the law allowed. We had one inspector... he'd work right along with you... load the cloth and everything."⁴

Military quartermaster officers were also men who had textile training. When Gordon Andreae attended Philadelphia Textile Institute from 1932 to 1934 his student partner was a man named Peter Painter. Painter at

¹John J. "Jack" Kaatz, former mill Assistant Secretary-Treasurer. Yale, Michigan. Interview 25 March 1981.

²Yale Expositor 9 October 1941.

³Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1981.

⁴Ibid.

that time was an Army Major assigned to the Quartermaster Division in Philadelphia. By the time war broke out in 1941 Painter was a Colonel in charge of Army cloth. Gordon's former partner offered him a position as a senior cloth inspector. The job would have included the opportunity of travelling around the country inspecting the various fabric mills.¹ Gordon turned the job down choosing instead to remain with his family's woolen mill in Yale.

Government inspectors frequently moved into the city or town where they were assigned. In November 1941 Frederick Morey of Milwaukee was assigned to inspect the military cloth produced at the Yale Woolen Mill. Morey and family stayed for a few months and occupied a house owned by Walter Andreae, one of the mill owners.² Not only were the inspectors skilled in textile production they also set high standards:

"They were very, very particular. [They complained] in our department if we didn't pick the knots off or sew in.. see we sewed in the missing threads ... as it came from the weave it would be missing threads. It was our duty to sew those threads in. Now if we missed some it would show up in the finishing perch. So we had to watch pretty close and of course when it comes from the weave shop it had knots on and double threads and things and we had to take those off and the double threads out or if we didn't why when it got up on the finishing perch they showed up and that's one thing they were particular about."³

During the early years of the War automobile upholstery continued to be produced in Yale but as the war progressed and civilian

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²Yale Expositor 20 November 1941.

³Nancy Hinton Graybiel, former mill finisher. Yale, Michigan. Interview 26 March 1981.

automobile manufacturing ceased so did automobile orders at the Yale Woolen Mill. Government contracts were always large and consequently the mill was running full time with three shifts often nine hours long. Additional looms to fill the work quotas were set up in nearby Marysville, Michigan a community just south of Port Huron.¹ Another method used to meet the demands of war production was to send some of the work to other mills. The Horner Woolen Mill in Eaton Rapids, Michigan subcontracted some government work from the Yale Woolen Mills. Military blankets woven in Yale were trucked over to Eaton Rapids for finishing, binding and packaging.²

At the same time, a shortage of workers was experienced by the woolen mill in Yale as by many factories across the United States. Remaining townspeople were called upon to man the woolen mill and to load the finished cloth on the mill's own railroad boxcars.³ Previously untrained men and women found themselves doing woolen mill work. A local minister working in the mill during the War suffered the loss of an arm. Disregarding safety regulations which called for wearing short sleeved shirts, the minister's long sleeves got caught in the wires of a carding

¹Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

²Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

³Ibid.

machine.¹

The Yale Woolen Mill management took an active patriotic role in the war effort. Both Rudolph Andreae and Jack Kaatz held top positions in the Yale Civilian Defense Committee. A chart indicating the position of each member was prepared by Jack and copies were made available to the members, compliments of the Yale Woolen Mill.² The following full page ad prepared by the Treasury Department appeared in the Yale Expositor and was paid for by the Yale Woolen Mill management:

"Read that figure again, neighbor. It's not just a lot of numbers pulled out of a hat. It's our share, your share in the mighty 7th war loan. Does it sound big neighbor? Well, those superforts that are plastering Japan are big - and cost plenty. Battleships are big - and cost millions. The job our fighting men are out to finish is big - and the cost is staggering. So of course our job is big, but we can do it if you and every other patriotic American in this city buys a BIGGER bond than before - or invests a BIGGER portion of income in War Bonds now"³

At the War's end factories experienced a de-escalation. The amount of production at the Yale Woolen Mill did not drop but the number of employees did. Production changed back to automobile upholstery fabrics and mill management turned their attention to improving mill operations.

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²Yale Expositor 8 October 1942.

³Ibid., 24 May 1945.

Workers

In 1950 the Andreaes hired a Romanian immigrant trained in dye chemistry. John Schauermann had acquired his interest in dye chemistry via painting:

"I had my first exhibit when I was 17 and in high school and roughly one when I was 18. By graduation [I had] around 40-50 oil paintings and from this mixing [of] colors I said it must have some relation to dye chemistry and I went to IGA which was a big company at that time in the city where I went to high school back home. They said there is no relation at all. They were wrong. Because there is a relation. The matter how it is fixed is different. You use a brush to paint the painting and mix the color. You use dye liquor or a printing machine or rollers to make a certain color to put it on the cloth but the mixing to get a certain shade to a certain color is the same principle."¹

John graduated with a degree in textile engineering from Germany in 1939 and was one of the first natives to be employed in the Romanian textile industry. Prior to that time all of the textile specialists working in Romania were from Germany, Switzerland or Sweden. This first job was one of his best as a young man but short lived. War broke out and John went to Hungary in 1942 and worked for a knitting mill. In April of 1945 John went to Germany, "keeping 100 miles ahead of the Russians".² After the war John started his own company and married in 1947. At that time Germany was an occupied land with the American government serving as its governor. A four year old visa application was finally processed by the United States government and

¹John Schauermann, former mill dye chemist. Yale, Michigan. Interview 25 March 1981.

²Ibid.

John and his wife made plans to move to the U.S. They first stayed with some relatives in New York and then accepted an invitation from some friends to visit them in Cleveland, Ohio. John found a job at the Cleveland Worsted Mill in Urbana, Ohio, working in the dye house.

Hoping to improve the efficiency in the dye house, the management of the Yale Woolen Mill began a search for an experienced dye chemist. The Superintendent at Urbana recommended John Schauermann. John accepted the position offered him by Edward Andreae and moved to Yale. In Yale, John along with Art Patton was a boss dyer. All of the piece dyeing slated for the garment industry was under John's authority. Stock dyeing for automobile upholstery and garments was handled largely by Art. John and Art supervised approximately 20 dye house employees who had various responsibilities. They had to watch their dye kettles, adhere to the dye recipe, make sure that all dye was dissolved and that the temperature of the dye liquor was regulated. Dye house work periodically involved lifting heavy weights so the great majority of employees in that department were male.

Technological Operations

Other improvements in the mill occurred after World War II. Grant Graybiel's prewar suggestion for a coal elevator was finally implemented by the mill management.¹ A big silo was built to house the coal and mechanized conveyor belts moved the coal from the silo to the

¹Grant Graybiel, former mill employee. Yale, Michigan.
Interview 26 March 1981.

hoppers and boilers, a procedure which alleviated a considerable amount of human energy. Twenty new Warner-Swasey looms with steel shuttles were purchased to replace some of the older Crompton Knowles W3 looms.¹ The newer looms were capable of 240 picks per minute which made them twice as fast as the old looms which wove at 120 picks per minute.² Inspection methods were updated with the purchase of tensile strength, colorfastness and abrasion testers.³ Samples of finished woolens were also sent to an independent testing company in Florida to test for sunlight resistance, an important consideration for automobile interiors. Frederick Niven Andreae Sr. noted that blue was the least color fast color.⁴

Community

Service was also extended to the community of Yale by members of the Yale Woolen Mill management. Jack Kaatz served as mayor of Yale during the 1940s and again during the 1950s.^{5,6} Andreae men

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

³Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Conversation 23 December 1981.

⁴Ibid.

⁵Yale Expositor 31 May 1945.

⁶Ibid., 21 January 1953.

participated in the Yale Businessmen's Club.¹ The mill sponsored community teams in volleyball, bowling and horseshoes as well as Boy Scout troops.^{2,3} A city park was subsidized and made possible by the official mill family.⁴

Business Transactions

In the mid 1950s the economic picture appeared optimistic. The editor of the Yale Expositor reported:

"It is very encouraging to see our local industries stepping-up production this spring - due to increased orders. The Yale Woolen Mill has been hiring help the past week or so with the prospect of much more production in the future on clothing and upholstery materials."⁵

Automobile requests for woolen interiors however, began to wane as raw wool prices spiralled following the Korean War and synthetic fibers were introduced as appropriate upholstery stuffs. To supplement their lowered auto production orders the Yale Woolen Mill management turned once again to the open market for customers. The customers from the garment industry in New York proved to be more difficult to deal with. Purchase orders would be approved by a garment businessman and sometimes later rejected. Shrewd business partners would then try to

¹"Camera Caravan Visits Yale" Detroit Free Press 29 June 1941.

²Yale Expositor 19 April 1945.

³Ibid., 21 October 1953.

⁴Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

⁵Yale Expositor 9 May 1956.

purchase the 'rejected' cloth at a lower price knowing that the woolen mill had little alternative.¹ Other problems resulted from the payment system followed by garment manufacturers. Payment was often not realized for up to twelve months.²

The golden days of supplying automobile companies with upholstery cloth were coming to an end. Dealing with the open market for income was particularly discouraging and often demoralizing as well.

Management

In 1952 the mill management changed. Frank, Rudolph, Edward and Walter relinquished their positions to their sons but remained on the Board of Directors at the Yale Woolen Mill.³ Frederick Niven Andreae Sr., Frank's eldest son was named mill Superintendent and President. Gordon Andreae, also Frank's son filled one of the Vice-President positions.

Fred and Gordon began their mill careers early as did most of the other mill family members. As young boys they had miscellaneous duties like painting bricks, digging holes for the boilers and helping in some of the new construction following World War I.⁴ Following his studies

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²Ibid.

³Michigan, Department of Commerce. Annual Report of the Yale Woolen Mills 1952.

⁴Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

in Philadelphia and his employment at Ford Motor Company, Fred began his duties at the family's mill as Assistant Superintendent on the 2 p.m. to 10 p.m. shift.¹ After Gordon's two year education at Philadelphia Textile Institute he helped supervise the night shift from 10 p.m. to 6 a.m. He also worked in the machine shop and during the big mill expansion in the 1930s Gordon was on a crew that installed all the conduit for the electrical systems of the new machines.²

Richard Andreae, son of Edward, graduated from the Textile Institute in Philadelphia in 1937 and was named a mill Vice-President in 1952.³ His unofficial title was mill textile designer.⁴ Robert, also a son of Edward graduated from Mercersburg Academy, Mercersburg, Pennsylvania and received both a BA and an MBA degree from the University of Michigan.⁵ Robert was named Secretary-Treasurer.⁶ Edward Andreae, Walter's son was a member of the class of 1942 at Philadelphia

¹Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Interview 22 June 1981.

²Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

³"The Andreaes of Michigan" Textile Engineering Winter 1950 Volume 8 Official Publication Alumni Association of the Philadelphia Textile Institute.

⁴Ibid.

⁵"Death Takes Robert E. Andreae" Port Huron Times Herald April 1975.

⁶Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1952.

Textile Institute and was named Assistant Designer under Richard.¹
 Maynard Andreae, one of Rudolph's sons completed textile training in Philadelphia in 1933 and was named to the mill's board of directors in 1955.^{2,3}

The last Andreae member slated for mill management to graduate from Philadelphia Textile Institute was Fred Sr.'s eldest son, Frederick Niven Andreae Jr. Fred Jr. majored in Personnel and Management and graduated with a BA in business administration from Michigan State University in 1952. While a student at Michigan State, Fred Jr. compiled a prospective employee handbook for employees of his family's woolen mill. As an introduction to the work he wrote:

"My plans are to go to the Philadelphia Textile School upon my graduation from Michigan State. This specialized school will teach me the technical knowledge that I will have to know in order to hold an executive position at the Yale Woolen Mill. I have worked my way through each department in the mill on my summer vacations to gain the practical knowledge of how wool is processed into cloth to be used in automobile upholstery and mens and womens apparel fabric. I have written this employee's manual as a future handbook that I will use when I go into the mill as Personnel Executive."⁴

The following excerpt titled "The President's Welcome Message" was taken from the above mentioned paper and reflected the attitude that

¹"The Andreaes of Michigan" Textile Engineering Winter 1950 Volume 8 Official Publication Alumni Association of the Philadelphia Textile Institute.

²Ibid.

³Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1955.

⁴Frederick Niven Andreae Jr., "A.B.C.'s of the Yale Woolen Mill Employee Handbook" 1952 unpublished typewritten paper.

had been formed by four generations of a mill owning family:

"Welcome to the Yale Woolen Mills family of employees! If you are a new employee, you will find that not only are we a congenial group, but that the company management seeks always to be fair and honest in its association with the employees. We neither ask nor expect the impossible. We do ask that you perform your duties diligently and conscientiously. All of us, from the official family on down, believe the Yale Woolen Mill offers more attractive benefits than can be had in other comparable organizations. From the beginning it has been a matter of principle with us to see that the employee's welfare is given every consideration. Thus through providing for a background of harmonious employer-employee relationships, we have experienced a labor turnover smaller than other similar organizations in the area."¹

Had Fred Jr.'s scholarly and practical preparation for a personnel position been realized, management tactics would have experienced a change in the mill. The responsibilities of hiring and firing had traditionally been under the direction of the foremen and straw bosses. Perhaps because of this, departments became somewhat segregated in the nationality and or creed of people working in the individual departments. For a long time the Carding Department had predominantly Irish Catholic employees with an Irish Catholic straw boss named Lou Joyce.² On a social level, the straw bosses and foremen did not fraternize much with either the mill management or the laborers. They were perhaps considered the middle class of the factory hierarchy.³

¹Frederick Niven Andraee Jr., "A.B.C.'s of the Yale Woolen Mill Employee Handbook" 1952 unpublished typewritten paper.

²Frederick Niven Andraee Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

³Ibid.

In 1954 Fred Jr. completed his technical training in Philadelphia and returned to Yale with his wife and two baby daughters. His position at the mill was in the Design Department and he was responsible for pattern drafting. He was also in charge of all sample yardages sent to prospective customers. He was often assigned the task of leading tours of school or interested community groups through the mill.¹

The Last Generation of Mill Management

Some of the problems faced by this fourth generation were similar to those experienced by their fathers. Other problems were so different that their elders could not have foreseen them. Natural disasters had been endured by each management generation and the new guard of 1952 was not exempt. In May of 1953 a hailstorm with hail reported as "large as baseballs" struck Yale breaking over 1200 windows in the building that housed the weaving and finishing rooms.^{2,3} The pains of building and production expansion and of initial union organizing at the mill had been smoothed over by the 1950s. Unionized mill workers by that time belonged to the Textile Workers of America (TWA) Union. Straw bosses continued to be non union employees.⁴ The new generation

¹Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

²Ibid.

³Yale Expositor 27 May 1953.

⁴John Schauermann, former mill dye chemist. Yale, Michigan. Interview 25 March 1981.

was faced instead with the problems of a market flooded by synthetics and imports, accusations and demands instigated by the Department of Natural Resources concerning water pollution and competition from larger, more capital intensive cloth mills. The compounded problems proved insurmountable and in January 1963 after 82 years of business, the Yale Woolen Mills ceased operations.

CHAPTER VI

THE MILL CLOSING

On Tuesday January 22, 1963 the Yale Woolen Mill succumbed to the same national and international conditions that caused the cessation of hundreds of domestic textile mills. The threat of communism and the uneasy chill of the Cold War in the 1950s prompted the U.S Executive branches to approve subsidies for textile production by third world countries. Millions of dollars were poured into establishment of factories overseas and relaxed tariffs at home allowed foreign cloth to be imported and sold at a price lower than American manufacturers could match. U.S. unions had continued to grow in strength from their awkward and violent births in the 1930s and American workers out-priced themselves compared to the labor payrolls of foreign mills. The popularity of synthetics due to their novelty and ease of care overshadowed traditional fibers like wool. Awakening interests in protecting the environment and improving working conditions also represented red marks on the balance sheets of textile mills.

Reasons for the Mill Closing

The fourth generation of mill operating Andreaes carefully read and analyzed the indicators of the mounting difficulties in keeping the mill operating. Sister mills were dropping by the wayside. In 1947 the Yale Woolen Mill was counted among the 828 domestic mills employing 167,00 workers.¹ By 1962 this number had diminished to

¹"Yale Woolen Mills Closes; Victim of Changing Times" Port Huron Times Herald 23 January 1963.

around 528 mills employing 60,000 to 65,000 people.¹

The inevitable closing was postponed for a number of years.

Robert Andreae, mill Secretary-Treasurer was quoted in a Detroit News report of the mill's closing:

"We considered closing the mill two years ago because we had been losing money each year for four years. But at that time we were talked out of it by state leaders who pointed out that Michigan's economic climate at that time precluded any other industry considering this state for a new business to go into the mill."²

Robert also gave his embittered views of the factors that led to the mill's closing:

"In 1947 only three million yards of woolen goods were imported. Last year 49 million yards came in from Japan and Italy. Overseas mill workers are paid about 14 cents an hour. We paid an average of \$1.85. Through loopholes in our import laws and the recent chopping down of tariffs on these products, they can sell these goods at a fraction of our costs. We believe the State Department wants these imports to keep coming so there will be work overseas to keep friendly nations prosperous and out of the Communist camp. That's important, of course, but it doesn't help our people."³

Gordon Andreae, mill Vice-President traced the steps leading to the mill's demise to World War II production:

"We made a mistake. We should never have gone 100 percent military because after it was over... all we were doing was

¹"Yale Woolen Mills Closes; Victim of Changing Times" Port Huron Times Herald 23 January 1963.

²"Looms Weave Ironical Tale" Detroit News 27 January 1963.

³Ibid.

wearing out our machinery.. we should have stayed part civilian"¹

The circumstances surrounding the Korean War also contributed to the decline of domestic woolen operations:

"Our most prosperous years were those of automobile production... up until the Korean War. Then the price of wool went up to around \$4.00 a pound as compared to \$1.00 and something a pound. The auto companies said "Hey, we can't pay this." [We] had to start putting in shoddies... the quality went down according to their [the auto companies] directions."²

The auto companies were experiencing problems of their own which in turn were felt by their suppliers. A large General Motors hydromatic plant burned down and many orders were permanently cancelled.³

Gordon also cited the discouraging trade of the New York garment market and low foreign wages as contributing factors in the decision to close the mill:

"Our cost for a piece of flannel was \$1.57. The Italians shipped the same thing for \$.99. The Japanese could come over here, buy our cotton, make shirts and send them back here [at a profit]."⁴

The most damaging blow suffered by the diminishing mills was according to Gordon, the rising popularity of synthetics:

"We tried to switch over to synthetics but we needed different equipment."

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²Ibid.

³Ibid.

⁴Ibid.

⁵Ibid.

Accusations and demands instigated by the Department of Natural resources threatened the already depleted capital of the Yale Woolen Mills. The charges of water pollution were not new:

"Whenever dye baths were emptied and they went into Mill Creek the DNR [Department of Natural Resources] claimed that Mill Creek was a navigable stream at one time and that there had been some complaints by farmers that it was bad for their cattle and that it was killing some fish. We made a lot of changes on how we handled some things. There were times when Mill Creek was blue or green but it was all dissipated two to three miles down stream. That still caused some complaints."¹

Fred Andreae Jr. also remembered the phenomenon of the waterway behind the mill changing colors, particularly in the winter:

"Sometimes there was too much dye in the batch... dye came in powder form... [it] was mixed with sodium bichromite. When there was more dye than the batch needed, it would go down the sewer system into the creek. [You] would see south of the mill in the creek red ice, blue ice or green ice."²

Actual litigation concerning the pollution of Mill Creek was conducted throughout the early 1960s:

"The Michigan Water Resources Commission has tentatively set Wednesday August 30 as the date for the final hearing of claims and notice of determination regarding the pollution of Mill Creek by the City of Yale.

A Water Resources Commission study that was conducted in April of this year showed that pollution did exist due to the six major sewage outlets in Yale that empty into the creek, including one that handles waste materials from Yale's chief industry, the Yale Woolen Mill."³

¹John J. "Jack" Kaatz, former mill Assistant Secretary-Treasurer. Yale, Michigan. Interview 25 March 1981.

²Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

³Yale Expositor 3 August 1961.

By the following year an order was issued by the Commission to the City of Yale and to the Yale Woolen Mill:

"The commission stated in their order that Yale and the Yale Woolen Mill will be restricted to the extent necessary to prevent conditions whereby fish or aquatic life may be destroyed or the growth or propagation thereof be prevented or injuriously affected and conditions injurious to the conduct of lawful occupations."¹

The decision to close the mill had profound effects on the management, the employees and the community of Yale and attracted the attention of national news media:

"Announcement last week by the owners of the Yale Woolen Mill that operations at the mill have been suspended permanently has made news in news medium all over the nation. Newspapers all over the United States have carried the story after it was put on Associated Press wire services. Last Sunday morning, CBS television men from Chicago were in Yale taking television news photos at the mill and around the city of Yale. The news film will be shown sometime in the near future on Channel 6, Lansing [Michigan] on the 6:45 news with Walter Cronkite. Nationally, the interest has lain in the fact that mills in the United States are being slowly strangled out of business, leaving jobless workers, while the Government continues to allow imported foreign goods to flood our markets at a lower price than goods can be produced locally."²

Effect of Mill Closing on Management

Robert Andraea's public acknowledgment that the Yale Woolen Mills had been steadily losing money was evident in a review of the corporation's annual reports. In 1958 the corporation founded by Charles

¹Yale Expositor 1 March 1962.

²Ibid., 31 January 1963.

Andreae and sons recorded a capital surplus of \$1,280,193.66.¹ In 1959 the capital surplus dropped considerably with a figure of \$957,208.87.² The dramatic drop seen here was attributed largely to the decrease in demand for automobile broadcloths:

"It was in 1957 or 1958 when broadcloth really slowed down... up until then I think it was almost exclusively broadcloth."³

The descent continued into the next decade. The capital surplus for 1960 was \$898,892.87.⁴ In 1961 the figure was \$603,293.36.⁵ In 1962 the figure was \$397,523.50.⁶ By 1963 the year the mill closed, capital surplus was valued at \$200,226.83.⁷

When the management made the decision to permanently cease operations at the mill there were a number of things to be resolved. Goods on hand needed to be disposed. The assets of buildings and machinery

¹Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1958.

²Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1959.

³John Schauermann, former mill dye chemist. Yale, Michigan. Interview 25 March 1981.

⁴Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1960.

⁵Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1961.

⁶Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1962.

⁷Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1963.

needed to be sold or otherwise liquidated. Responsibilities to employees and to the community were a deep concern also.

In the mid 1950s the management opened a retail outlet for Yale Woolen Mill yard goods:

"The mill opened a retail store at 1439 Pine Grove Avenue in Port Huron in 1954. It was staffed by Mr. Elden Summers, who had previously driven the finished cloth to the auto factories in Detroit. The store was opened to sell the sample and remnant pieces that were now being produced for the mens and womens wear trade. I think it was in 1956 that they closed the store in Port Huron and opened a remnant store in the mill. They took an old storage room by the time clock and used this as a factory outlet. The former watchman, Mr. Glenn Chandler was in charge of this."¹

Before the mill closed many clearance sales were announced in local newspapers advertizing "many styles at only \$1.79 a yard".²

To use up the raw materials:

"We took all our wools, bid on an army contract... used up all our stuffs... after that we shut down."³

The mill machinery was considered quite valuable:

"The machinery which the company will dispose of or lease had had a great production potential. It was said last year that the mill's 8,000 spindles were capable of producing a length of yarn each day which would reach around the world at the equator with 2,500 miles to spare."⁴

¹Frederick Niven Andreae, former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

²Port Huron Times Herald 3 January 1963.

³Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

⁴Port Huron Times Herald 23 January 1963.

Even though the mill's assets were valued, the disposal of machinery and buildings presented the greatest problems faced by the management:

"Then the big trouble [was] selling all our machinery. We could only sell so much. One reason was that we were so far away from the rest of the textile markets. Some of the machinery went to South America ... but the shipping charges would eat you up... a lot of it we smashed up... like the engine, the boilers, spinning machines.... they came in with a new type spinning machine, we had the old mule type spinning machine and so we smashed them up and sold them for junk."¹

The mill buildings presented a similar problem:

"What we wanted was insurance on the 70,000 square foot front new building. We couldn't get insurance because the buildings were vacant. We finally tore down the three and two story buildings. The front building was sold to a fellow named Mitchell. There were three different outfits [in the building]. Mitchell had seat belt manufacturing in part of the 70,000 square foot building. He was instrumental in getting another outfit in... think it had to do something with plastics... seat belts stayed there for a few years."²

Refer to Figure 9 and Appendix F for depictions of the Yale Woolen Mill real estate in 1963.

The Yale Woolen Mill remained a legal corporation until 1972.³

Robert Andreae, Secretary-Treasurer acted as the resident agent for the

¹Gordon Andreae, former mill Vice-President. Yale, Michigan. Interview 10 August 1980.

²Ibid.

³Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1972.

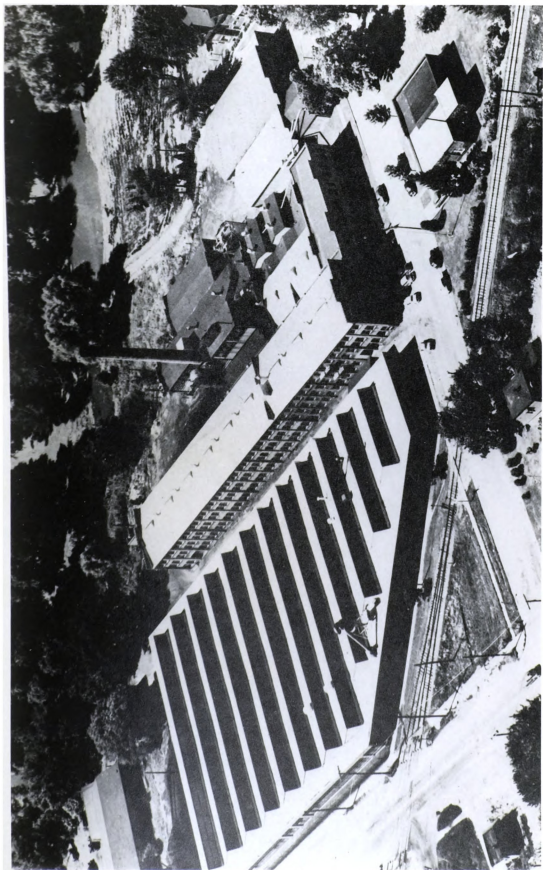


Figure 9 Yale Woolen Mill 1963

years 1963 to 1972.^{1,2,3,4,5,6,7,8,9,10} Jack Kaatz, Assistant Secretary-Treasurer remained on the corporation's payroll until the corporation's disbandment.¹¹ The Board of Directors consisted of the same men from 1955 to 1972. They were: Fred N. Andreae Sr., Gordon B. Andreae; Richard C. Andreae; Robert E. Andreae and Maynard R.

¹Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1963.

²Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1964.

³Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1965.

⁴Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1966.

⁵Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1967.

⁶Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1968.

⁷Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1969.

⁸Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1970.

⁹Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1971.

¹⁰Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1972.

¹¹John J. "Jack" Kaatz, former mill Assistant Secretary-Treasurer. Yale, Michigan. Interview 25 March 1981.

Andreae. From 1964 to 1972 the corporation's business was "currently liquidating".^{1,2,3,4,5,6,7,8,9} In 1972 Albert Mitchell from Royal Oak, Michigan purchased the following property from the Yale Woolen Mills Corporation:

"PARCEL NO. 1: All that land lying between Main Street and Mill Creek and South of Lots 1 and 7 inclusive, Block 1 of Reed and McNutts Addition to Yale, and North of Bettes Addition to Yale except South 207.5 feet thereof, Section 10, Town 8 North Range 14 East. Also including Lots 1 and 7 inclusive, Block 1, Plat of Reed and McNutts Addition to the Village of Brockway Center, according to the plat thereof as recorded in Liber 4 of Plats, page 34, St. Clair County Register of Deeds Office: and also PARCEL NO. 2: Lot 5, except the West 20 feet, Block 2, Plat of

¹Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1964.

²Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1965.

³Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1966.

⁴Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1967.

⁵Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1968.

⁶Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1969.

⁷Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1970.

⁸Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1971.

⁹Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1972.

Reed and McNutts Addition, according to the plat thereof as recorded in Liber 4 of Plats, page 34, St. Clair County Register of Deeds Office."¹

The property was purchased for a sum of \$210,000.00.² In 1972 following this land transfer the corporation disbanded.³

All of the members of the Board of Directors were of or close to retirement age but kept active in other manufacturing and community interests. Both Fred Andreae Sr. and Robert Andreae served on the Board of Directors for the company that their fathers had helped stabilize financially, the Excello Company which had grown to be a multinational corporation.^{4,5} These two men also served on the Board of Directors for the Michigan National Bank.^{6,7} Maynard Andreae was involved in another family owned manufacturing establishment in Oxford, Michigan:

"Syncro Products have been manufactured since 1932 and are distributed nationally and internationally by hardware stores,

¹St. Clair County, Michigan: Register of Deeds Liber 992 page 370 24 November 1972.

²Ibid.

³Michigan, Department of Commerce Annual Report of the Yale Woolen Mills 1972.

⁴Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Conversation 23 December 1977.

⁵"Death Takes Robert E. Andreae" Port Huron Times Herald April 1975.

⁶Ibid.

⁷Frederick Niven Andreae Sr., former mill President. Port Huron, Michigan. Conversation 23 December 1977.

department stores and power tool dealers. Syncro electrifying saws, Syncro electric home sharpeners and Syncro electric sand polishers are used extensively by public schools, factories and home work shops... Wayne Andraee, President, and Maynard Andraee, Vice President are sons of R.E. [Rudolph] Andraee of Yale."¹

Fred Andraee Jr. received unsolicited job offers from woolen mills in Jamaica, North Carolina and Washington State.² He chose instead to remain in Michigan and venture into the retail fabric business. In 1961 he and his wife Marjorie opened the first Andraee Fashion Fabrics in Flint, Michigan. In June of 1963 a brief five months after the Yale Woolen Mills closed the following advertisement announcing the opening of the second Andraee Fashion Fabrics appeared in the Yale Expositor:

"Mr. Fred Andraee Jr. former designer for the Yale Woolen Mills is announcing the GRAND OPENING OF ANDRAEE FASHION FABRICS 5651 Lakeshore Rd. Port Huron, Michigan Just south of the Lakeshore Drive-In Theatre
FRIDAY JUNE 21st 10 a.m. to 8 p.m.
A lovely line of woolens, silks, cottons, velvets, linens, linings and interlinings, sweaters, patterns, zippers, thread, buttons and trim. Everything for sewing. Plenty of free parking. Regular store hours: 9:30 to 5:30 Monday thru Saturday Friday evening 'til 9"³

Effect on Workers

The Yale Woolen Mills Board's decision to close the mill was made approximately three months before the imminent closing was disclosed

¹"Former Yale Boys Build New Factory at Oxford, Michigan" Yale Expositor 6 April 1950.

²Frederick Niven Andraee Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

³Yale Expositor 20 June 1963.

to the public. Foremen and straw bosses were privately informed and then the local TWA union heads were informed.¹ Finally the news reached the workers and the news media.

A one million dollar payroll, the annual income distributed to over 300 employees disappeared with the closing of the Yale Woolen Mills.² Workers were affected in other ways:

"The mill closing caught many older employees at an awkward economic period - in the 50s and this not generally sought after by employers and a few years too early for Social Security benefits. Lee Thompson, 56, of 506 North Main Street has worked 38½ years for the mills and his wife, Iva, 53 has been employed there 28 years. "It's the only thing I know. I've worked there all my life," Mr. Thompson said."³

These middle life employees were also exempt for the severance pay which was provided to those employees who were 65 or older and who had worked for the Yale Woolen Mills for at least 15 years.⁴ There was no pension plan at the mill.⁵ Department foremen were kept on at the mill after it closed. These men worked at cleaning the buildings out, packing and shipping machinery or smashing it up.

The mill closing meant the loss of two jobs to many families:

¹Frederick Niven Andreae Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981.

²Port Huron Times Herald 23 January 1963.

³"Workers Mourn Closing of Yale Woolen Mills" Port Huron Times Herald 24 January 1963.

⁴Ibid.

⁵"Looms Weave Ironic Tale" Detroit News 27 January 1963.

"Howard Barr, 57, of 306 North Street has worked 41 years for the Yale Mills. His wife Verna, 58, has worked there 40 years. Losing both jobs "means quite a bit to us" Mr. Barr said."¹

The Detroit News also interviewed mill employees to acknowledge the effect of the mill's closing on their lives:

"Oh, we heard stories things weren't going so good" said Harold Winn, 56, a 32 year veteran of the mill "and we expected a layoff until times got better, but we weren't prepared for a death notice."

As a young man, Winn cast his future with the mill. It was in his home town, the work was pleasant and the future appeared secure, with many opportunities for advancement. He worked his way up through the finishing department to overseer- a big job at the mill.

Today, soft from 10 years as a supervisor, and totally unprepared for anything but textile work, Winn faces the prospect of trying to find a new way of making a living."²

Selling mill machinery and buildings posed a problem largely because the Yale Woolen Mills were so far removed from the centers of textile manufacturing. This same uniqueness of geographic location proved detrimental to workers who knew only textile mill trades. Laid off employees had two options: remain in Yale and find another type of work or move to another state to find textile mill work.

John Schauermann, the mill's dye chemist, was offered a similar position in a textile mill in Cleveland, Ohio. He commuted from Yale for seven months, February to August 1963 before he decided to go into the modular housing industry in Marlette, Michigan. This allowed the Schauermann family to remain in Yale, much to the satisfaction of Mrs.

¹"Workers Mourn Closing of Yale Woolen Mills" Port Huron Times Herald 24 January 1963.

²"Looms Weave Ironic Tale" Detroit News 27 January 1963.

Schauermann.¹

Elmer Baisley, former weaver found work in the employ of the City of Yale as did Jack Kaatz.^{2,3}

Other former employees had left the Yale Woolen Mills prior to the mill's closing. Clayton Boughner, a 27 year veteran of the mill's spinning room left in 1945 to go into the funeral business.⁴ Grant Graybiel also left the mill at the end of World War II to work for another manufacturing establishment with Yale roots. Grant's power department training at the Yale Woolen Mills earned him a similar job at the Yale Rubber Manufacturing Company in Sandusky, Michigan.⁵

The closing of the 82 year old establishment entombed the sights, sounds, smells and memories of generations of Yale area residents working side by side, many of them husbands and wives, brothers and sisters, parents and children. A lifetime of work patterns and pride were not easily forgotten:

¹John Schauermann, former mill dye chemist. Yale, Michigan. Interview 25 March 1981.

²Elmer Julius Baisley, former mill weaver. Yale, Michigan. Interview 26 March 1981.

³John J. "Jack" Kaatz, former mill Assistant Secretary-Treasurer. Yale, Michigan. Interview 25 March 1981.

⁴Clayton Boughner, former mill spinner. Yale, Michigan. Interview 26 March 1981.

⁵Grant Graybiel, former mill employee. Yale, Michigan. Interview 26 March 1981.

"Do you know as long as I've been out of that spinning room, it's amazing how often I dream that I'm back in that mill working those machines."¹

Effect on Community

To many people the closing of the Yale Woolen Mills signified the end of the city of Yale also. Yale merchants bemoaned the loss of a one million dollar payroll. Some were more poetic in describing what the loss of the Yale Woolen Mills meant to the community:

"The mill, said Howard A. Pelton, a husky, ruddy-faced hardware man and Yale mayor "was the heart and soul of Yale."

"In the summer, when the windows were open, you could drive past the old buildings and listen to the soothing music of the looms as they slid back and forth weaving beautiful things. To us it was like a summer symphony, and when it played we felt good and restful."²

Yale, despite the loss of its "summer symphony" went on. The mill owning Andreaes promised to work with state leaders to identify and encourage other manufacturing establishments to locate in Yale. A citizen's group titled "The Yale Community Improvement Association" was formed with the same purpose.³ The group prepared a brochure which capitalized the advantages of industrial location in Yale and met with the Michigan Economic Development Corporation and the Industrial Development Corporation.⁴

¹Clayton Boughner, former mill spinner. Yale, Michigan. Interview 26 March 1981.

²"Looms Weave Ironic Tale" Detroit News 27 January 1963.

³Yale Expositor 31 January 1963.

⁴Ibid.

Neither the Andreaes nor concerned Yale residents were successful in attracting a comparable industry to Yale. In spite of this, Yale's population count remained relatively stable. In the 1970 Census, Yale's population was reportedly 1,505.¹

The doomsayers were spared the last word. Yale had begun as an agricultural town and had supplied farm owning employees to do the work in producing woolen cloth:

"Everyone thought that was the end of Yale. Yale was a farmer's town. The farmers patronized it and Yale went on."²

¹U.S., Congress, Report on the Population at the 1970 Census
Government Printing Office: Washington, D.C.

²Clayton Boughner, former mill spinner. Yale, Michigan.
Interview 26 March 1981.

CHAPTER VII

SUMMARY

A growing number of historians are questioning the long standing orientation of chronicling history only in reference to politics. Cochran, one such historian, points out that events in history may be interpreted in terms of the businesses that existed during any given time.¹ In 1978, a report compiled by the Home Economics sector for the purpose of illuminating areas needing research, listed under Historic Clothing and Textiles the following topics as most important problem areas:

" 2. Determine the effects of supply of raw materials and labor on the production, design and use of costume and textiles over time. 3. Trace the migration of textile knowledge and workers over time and relate each to political or social events which might explain the spread of textile technology and garment design geographically."²

A study of a business history is deemed as an insightful and credible approach to viewing history. This study proposed to look at one manufacturing enterprise in Michigan, the Yale Woolen Mills and to relate its growth and development to the economic, political and social environments of the manufacturing community. This particular mill was chosen because out of the one time 39 woolen enterprises operating in Michigan, the Yale Woolen Mill was one of the longest and last survivors.

¹Thomas C. Cochran, *Business in American Life: A History* (New York: McGraw-Hill Book Company, 1972) p. 1.

²Home Economics Research Assessment Planning Projections Report
Virginia Polytechnic Institute and State University 1978.

On the eastern seaboard, industrialization occurred early in the 1800s. The midwest and the Great Lakes region was to experience the beginnings of mechanization in the mid part of the 1800s as skilled pioneers began their trek west. Agriculturally based factories with small beginnings appeared wherever there was raw materials and a community large enough to obtain laborers and customers. Textiles were a much needed product. Michigan's climate did not support cotton production. Its lack of a large labor supply nullified sericulture. Small quantities of linen were grown. Sheep, however, presented no problem in Michigan's temperate climate and on its fertile soil. Wool represented the largest quantities of indigenous raw textile materials during this epoch and early textile entrepreneurs were primarily involved in woolen mills.

The Yale Woolen Mills began as a carding mill with one set of cards. Their clientele were area farmers who brought in raw wool to be prepared for spinning and woven cloth to be fulled. Structural processes such as spinning and weaving were primarily done in the home until woolen mills blossomed into full factories capable of producing woolen materials from fleece to fabric. Encouraged by population growth, an increase in raw wool and improved transportation which allowed reaching bigger markets, the Yale Woolen Mill continued to expand.

There were a number of early setbacks, a cyclone and a fire and each catastrophe forced a decision: to give up or to rebuild. Similar types of unpredictable destruction were the last straw for some early Michigan woolen mills. Management at the Yale Woolen Mill however

chose rebuilding in each event. Their reasons for recouping each time are lost today but determination, dedication and faith in the support of their fellow townsmen may have been the keys in their choices.

Products and services during the early years of the Yale Woolen Mill could best be typified as diverse. Yarns, cloths, flannels and cashmeres were all manufactured in the mill. Tailoring services and offers to convert an individual's raw wool to fabric were advertized. Seemingly the management during these developing years were testing a variety of business ventures within the confines of their woolen operation.

While the early years were characterized by diversity, the middle years were distinguished by uniformity of products. The most prosperous and energetic years, from 1922 to 1941 were accented by automobile industry trade. The Yale Woolen Mills happened to be in the right place at the right time. Though their geographic location was later to work against them, the fact that they were only 60 miles from Detroit made them a very practical market for supplying the automobile industry. Goods from the Yale Woolen Mill could arrive daily in Detroit and automobile companies must have appreciated the potential this allowed. During this epoch there were a great number of automobile companies who all used natural fibers for their interiors. The Yale Woolen Mill began their automobile upholstery production for the Ford Motor Company, one of the largest of the automobile concerns. Smaller auto companies also contracted for woolen upholstery goods from the Yale Woolen Mills. Additional employees, production hours and a 100 percent machinery and building expansion were implemented to take

advantage of the tremendous demand from Michigan automobile factories. Like many other businessmen of the early 1920s, the Yale Woolen Mill management did much speculative investing in other industries. Returns from these initial investments were later the financial saving grace of the mill owning family.

During World War II automobile companies converted to military production and one of their suppliers, the Yale Woolen Mill, followed suit. War production also required around the clock shifts and many workers. Extra efforts colored by patriotic ideals were exhibited by the Yale Woolen Mill management in readying goods slated for war consumption.

Following the War, Yale Woolen Mills machinery depreciated from war production again began churning out automobile upholstery fabrics. The prosperity experienced in the earlier decades however, was not to be repeated. Automobile companies numbered less than they had as did Michigan woolen mills. Synthetic fibers made their appearance in the late 1930s and offered less expensive fabrics for automobile upholstery.

The Yale Woolen Mill management once again tried diversification and entered the open market apparel trade. Relying on garment trade business was very disheartening following the low incidence of contractual problems and cloth rejection from the automobile manufacturers. A community once supportive enough for Charles Andreae to print a newspaper advertisement stating "We need money to rebuild"¹ and asking for town support now began pointing their fingers at the Yale Woolen Mills

¹Yale Expositor 10 January 1896.

for polluting an area tributary to the Black River and demanding retribution. Workers, once prideful of their textile skills and appreciative for the opportunity to work were perhaps less so following the bitterness and ferment of union organizing. The nation as a whole continued this lack of support for her domestic woolen mills. Lowered tariffs allowed less expensive textile imports to flood U.S. markets. The geographic location which made the lucrative automobile trade practical, contributed to loss of garment industry trade to larger cost competitive eastern factories. All of these factors contributed to the painful decision of giving up on a family tradition.

The decision to terminate the Yale Woolen Mills is an obvious one if social, political and environmental indicators of the 1950s and 1960s along with the financial records of the corporation are examined. The recycling of diversification came too late. Dependence on one market and the marketability of one product type may have been a mistake. If supplemental machinery and technical knowledge had been acquired to produce synthetics in the 1940s, the Yale Woolen Mills may have been able to later convert to production of synthetics and kept going.

Recommendations for Further Study

At the time of this report, the automobile, still Michigan's product supreme represented great peril for the economic environment in the state. Many have claimed that the crisis is due in part because Michigan is a one product industry. In view of this, the following is proposed for further study:

1. Compare and contrast the fate of other Michigan enterprises, which like the Yale Woolen Mills depended on the automobile industry for a market.

Other areas of research that would be suggested from the findings of this report:

2. Research the remainder of the Michigan based woolen mills to compare and contrast management tactics, technological developments, conditions experienced by workers and physical assets.
3. Compare and contrast woolen factories with other businesses that coincided with the beginnings of Great Lakes area industrialization in the mid 19th century.
4. Trace the migration of textile knowledge via one textile industry family, the Andreaes. This study would include an account of textile technology learned in Germany, Ashland, Ohio, Lexington, Michigan, and Yale, Michigan as well as Philadelphia Textile Institute in Philadelphia, Pennsylvania.

APPENDIX A

WORKERS AND MANAGEMENT INTERVIEWED

ANDREAE, Frederick Niven Andreae Sr., Born 8 May 1904. Graduated from Philadelphia Textile Institute in 1925. Worked in the mill as Assistant Superintendent from 1927 to 1952. Held the position as mill President from 1952 to 1963.

ANDREAE, Frederick Niven Andreae Jr., Born 17 December 1929. Graduated from Philadelphia Textile Institute in 1954. Worked in the mill as a textile designer from 1954 to 1963.

ANDREAE, Gordon Balmore Born 1908. Graduated from Philadelphia Textile Institute in 1934. Worked in the mill as Assistant Superintendent from 1934 to 1952. Held the position as mill Vice-President from 1952 to 1963.

ANDREAE, Marcia Beecher. Born March 1878. Widow of Edward Andreae, former mill Secretary-Treasurer; mother of Robert and Richard Andreae.

BAISLEY, Elmer Julius Born 11 October 1899. Worked in the mill from 1922 to 1962 in the weaving department as a weaver and later as a loom fixer.

BAISLEY, Annabelle Smith Born 16 February 1900. Worked in the mill from 1924 to 1963 as a weaver in the weaving department.

BOUGHNER, Belva Foster Born 11 November 1910. Worked in the mill from 1928 to 1963 as a spinner in the spinning department.

BOUGHNER, Clayton Born 12 April 1909. worked in the mill from 1928 to 1955 as a spinner in the spinning department.

BOUGHNER, Frank Born 30 September 1905. Worked in the mill from 1922 to 1963 as a spinner in the spinning department.

GRAYBIEL, Grant Born 7 May 1910. Worked in the mill finishing department from 1928 to 1941 and in the power department from 1941 to 1945.

GRAYBIEL, Nancy Hinton Born 15 July 1911. Worked in the finishing department at the mill from 1936 to 1947 and part-time from 1960 to 1963.

KAATZ, John J. "Jack" Born 7 June 1893. Employed in the Yale Woolen Mill as Assistant Secretary-Treasurer from 1929 to 1972.

SCHAUERMANN, John Born 19 April 1917. Worked in the mill as a dye chemist from 1950 to 1963.

APPENDIX B

MICHIGAN STATE UNIVERSITY

COLLEGE OF HUMAN ECOLOGY
DEPARTMENT OF HUMAN ENVIRONMENT AND DESIGN

EAST LANSING · MICHIGAN · 48824

March 14, 1981

Dear

My name is Carol Andreae Wiegand and I am a Master's candidate in Historic Clothing and Textiles at Michigan State University. I have a special interest in the history of Michigan's woolen industries. My approved thesis topic is The History of the Yale Woolen Mills.

My intent is to chronicle the history of the mill from its beginning in 1881 to its closing in 1963, paying particular attention to the following topics:

1. Technological operations
2. Working conditions
3. Physical location and building changes
4. Management and financial transactions

The best way to collect information about the first two topics is to talk with those people who were directly involved, namely former employees. I asked Mr. Gordon Andreae to compile a list of former mill employees living in the Yale area and he supplied me with your name.

I would very much like to meet with you and talk about your recollections of working at the former Yale Woolen Mills. I will be in the Port Huron area the week of March 23-28 and will call you March 23 or 24 to arrange a time we can meet.

I do hope that you can set aside an hour or two that week so that I can talk with you. I am looking forward to it! You will be helping record history!

Appreciatively,

Carol Andreae Wiegand
1620 G Spartan Village
East Lansing, Michigan 48823

APPENDIX C

FORMAT FOR INTERVIEW

Full name

Birthdate

Ethnic Background

Parents' Birthplace

Reason of seeking employment at the Yale Woolen Mill

Number of years worked in the Yale Woolen Mill

Age while in the employ of the Yale Woolen Mill

Job description while employed at the Yale Woolen Mill

Description of working conditions

Descriptions of safety standards in working area

Description of how job complaints were channeled

What changes (if any) occurred during:

The Depression of the early 1930's

World War II

Mill Shut Down of 1937

Unionization of mill employees

What effect mill closing had on your life

Number of years lived in the city of Yale, Michigan

APPENDIX D

MICHIGAN STATE UNIVERSITY

COLLEGE OF HUMAN ECOLOGY

EAST LANSING • MICHIGAN • 48824

DEPARTMENT OF HUMAN ENVIRONMENT AND DESIGN

I give my consent for Carol Andreae Wiegand of Michigan State University to utilize and quote information given by me in an interview on the History of the Yale Woolen Mills, Yale, Michigan.

This said interview was conducted on

Signed _____

Date _____

APPENDIX E

FAMILY GENEALOGY

ANDREAES

Karl (Charles) Friedrich Valentin Andreae

born 18 June 1815 in Calw Germany

died 15 March 1892 in Yale, Michigan

married 1843 in Germany

Louise Marie Oertle

born 18 June 1816

died 2 July 1860

had five children:

1. Karl Julius Valentin 1844-1863
- *2. Rudolph Valentin 1845-1901
3. Marie Louise 1846-?
4. Wilhelm (William) 1850-?
5. Louis Herman 1854-1854

Rudolph Valentin

born 4 April 1845 in Germany

died 11 February 1901 in Yale, Michigan

married in 1873

Lena Wolfel

born 20 August 1852

died 19 January 1926

had six children:

1. Frederick Charles 1874-1897
- *2. Frank William 1875-1957
3. Edward 1878-1951
4. Rudolph Ernst 1881-1949
5. Clara Louise 1886-1977
6. Walter Wolfel 1893-1962

Frank William Andreae

born 18 December 1875 in Yale, Michigan

died 3 January 1957 in Yale, Michigan

married 30 June 1903

Christina MacKenzie

born 15 October 1872 in Ontario, Canada

died 22 May 1932 in Yale, Michigan

had four children:

- *1. Frederick Niven 1904-
2. Harold Urquhart "Tim" 1907-
3. Gordon Balmore 1908-
4. Clarke Franklin 1912-1978

FAMILY GENEALOGY

(continued)

Frederick Niven

born 8 May 1904

married 18 May 1922

Doris Park

born 15 April 1904 in Lynn Township, Michigan

died 15 August 1981 in Port Huron, Michigan

had four children:

- | | |
|-------------------------|-----------|
| 1. Barbara | 1923-1945 |
| 2. Jane | 1926- |
| *3. Frederick Niven Jr. | 1929- |
| 4. James | 1933- |

Frederick Niven Jr.

born 17 December 1929

married 1952

Marjorie Sheridan

born 7 December 1931

had six children:

- | | |
|-------------------|-------|
| 1. Carol Jean | 1952- |
| 2. Patricia Lee | 1954- |
| 3. Jamie Marie | 1957- |
| 4. Jennifer Niven | 1960- |
| 5. Julieanna | 1962- |
| 6. Margorie Clare | 1963- |

APPENDIX F

Description of Real Estate

YALE WOOLEN MILLS

Yale, Michigan

- LOCATION:** 3 First Street, Yale, Michigan.
56 miles north of Detroit via US 25 and M 19.
26 miles west of Port Huron via M 21 and M 19.
- LAND AREA:** Approximately 4½ acres on Mill Creek.
- BUILDINGS:** One story brick and steel construction, sprinkled, humidified — approx. 70,000 sq. ft.
Two story brick construction, elevators, sprinkled — approx. 35,000 sq. ft.
Three story brick construction, sprinkled, elevators — approx. 54,000 sq. ft.
Warehouse — metal and brick construction, sprinkled — approx. 10,500 sq. ft.
Office Building — 3,000 sq. ft.
- TRANSPORTATION:** Chesapeake & Ohio Railway Co.
4 Major Truck Lines.
Air Freight for airport 30 miles away.
- UTILITIES:** Detroit Edison Company — electricity.
Southeastern Gas Company — natural gas.
- WATER SUPPLIES:** Mill Creek, own well, city wells.

For Sale or Lease

SOURCES CONSULTED

LITERATURE CITED

- "The Andreaes of Michigan" Textile Engineering Winter 1950 Volume 8
Official Publication Alumni Association of the Philadelphia
Textile Institute.
- Bald, F. Clever. Michigan in Four Centuries. New York: Harper and
Row Publishers, 1961.
- Cole, Arthur. The American Wool Manufacture. Volume II. Cambridge,
Massachusetts: Harvard University Press, 1926.
- Cochran, Thomas C. Business in American Life: A History. New York:
McGraw-Hill Book Company, 1972.
- Crockett, Norman L. The Woolen Industry in the Midwest Lexington,
Kentucky: The University Press of Kentucky, 1970.
- Davison's Textile Blue Book Directory. Ridgewood, New Jersey: Davison
Publishing Company, 1922.
- Davison's Textile Blue Book Directory. Ridgewood, New Jersey: Davison
Publishing Company, 1959.
- The Detroit Free Press 9 September 1931; 29 June 1941.
- The Detroit News 21 January 1963.
- Dun and Bradstreet Million Dollar Directory. New York, New York: Dun
and Bradstreet Inc., 1961, 1962 and 1963.
- Dunbar, Willis. Michigan: A History of the Wolverine State. Grand
Rapids, Michigan: William B. Eerdman's Publishing Company,
1970.
- Fuller, George N., editor. Michigan: A Centennial History of the
State and Its People Chicago and New York: The Lewis
Publishing Company, 1939
- Home Economics Research Assessment Planning Projections Report
Virginia Polytechnic Institute and State University 1978.

Jenks, William Lee. St. Clair County Michigan: Its History and Its People. Volume II. Chicago and New York: The Lewis Publishing Company, 1912.

Michigan, Annual Report of Inspection of Factories in Michigan
1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905,
1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915
1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925.

Michigan, Department of Commerce Annual Report of the Yale Woolen Mills
1906, 1907, 1909, 1910, 1911, 1912, 1913, 1915, 1916, 1918,
1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928,
1929, 1930, 1931, 1934, 1935, 1936, 1937, 1938, 1939, 1940,
1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950,
1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960,
1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970,
1971, 1972.

Michigan, Department of Commerce Articles of Association of the Yale Woolen Mills 1905.

The Port Huron Times Herald 1 March 1937; 24 January 1963; April 1975.

Swindler, William F. and Vexler, Robert I., editors. Chronology and Documentary Handbook of the State of Michigan. Dobbs Ferry, New York: Ocean Publications, 1978.

Textile World's Directory of the Textile Establishments in the United States 1897. Guild and Lord Publishers, 1897.

U.S. Congress, Department of the Interior. Report on the Manufactures of the United States Washington, D.C.: Government Printing Office. Census of:
1880, 1890, 1905, 1910, 1921, 1940, 1947

U.S. Congress, Department of the Interior. Report on the Population at the 1970 Census. Washington, D.C.: Government Printing Office.

U.S. Department of Agriculture. Soil Survey of St. Clair County, Michigan. Washington, D.C.: Government Printing Office, 1974.

Von Bergen, Werner and Mauersberger, Herbert R. American Wool Handbook New York: Textile Book Publishers, Inc., 1948.

The Weekly Expositor 18 May, 14 December 1882; 18 October 1883;
9 October 1884; 21, 28 May 1885.

The Yale Expositor 10 January, 27 November 1896; 22 April 1920;
3 February, 11 August 1921; 25 May, 10, 17 August, 14
September; 12 October 1922; 15 March, 29, 31 May 1923;
23 June 1927; 28 February, 29 August, 19 December 1929;
7 May, 20 August, 17 December 1931; 8 June, 9 November 1933;
10 January 1935; 4 March 1937; 9 October, 20 November 1941;
8 October 1942; 19 April, 24, 31 May 1945; 6 April 1950;
21 January, 21 October 1953; 9 May 1956; 1 March, 3 August
1961; 31 January, 20 June 1963.

INTERVIEWS

- Andreae, Frederick Niven Sr., former mill President. Port Huron, Michigan. Interview 22 June 1981. Conversations 23 December 1977, 12 August, 23 December 1981
- Andreae, Frederick Niven Jr., former mill textile designer. Port Huron, Michigan. Interview 20 February 1981
- Andreae, Gordon., former mill Vice-President. Yale, Michigan. Interview 10 August 1980
- Andreae, Marcia Beecher., widow of former mill Secretary-Treasurer. Port Huron, Michigan. Interview 21 November 1980
- Andreae, Marjorie, wife of Frederick Niven Andreae Jr. Port Huron, Michigan. Conversation 6 July 1981
- Baisley, Annabelle Smith, former mill weaver. Yale, Michigan. Interview 26 March 1981
- Baisley, Elmer Julius, former mill weaver. Yale, Michigan. Interview 26 March 1981
- Boughner, Belva Foster, former mill spinner. Yale, Michigan. Interview 26 March 1981
- Boughner, Clayton, former mill spinner. Yale, Michigan. Interview 26 March 1981
- Boughner, Frank, former mill spinner. Yale, Michigan. Interview 26 March 1981
- Graybiel, Grant, former mill employee. Yale, Michigan. Interview 26 March 1981
- Graybiel, Nancy, former mill finisher. Yale, Michigan. Interview 26 March 1981
- Kaatz, John J. "Jack", former mill Assistant Secretary-Treasurer. Interview 25 March 1981
- Schauermann, John, former mill dye chemist. Yale, Michigan. Interview 25 March 1981

CORRESPONDENCE

Crippen, David R., Reference Archivist Ford Archives. Dearborn, Michigan. letter 21 July 1981; 11 August 1981

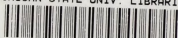
Ellis, Arthur R., Director of Public Relations and Marketing
Philadelphia College of Textiles and Science Philadelphia,
Pennsylvania. letter 27 March 1981

Hyde, Charles, Associate Professor of History. Wayne State University.
Detroit, Michigan. letter 14 July 1981

Jallings, Jack K., Reference Archivist The State Historical Society
of Wisconsin. Madison, Wisconsin. letter 14 November 1980

Waldham, Neil, Director News Film Videotape Archives. CBS News.
New York. letter 22 July 1981

MICHIGAN STATE UNIV. LIBRARIES



31293103771386