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BUILDERS OF THE MODEL T:  
Some Aspects of the Quality of Life and Social History  
of Highland Park 1910-1927

By  
Clarence Odell Hooker

A DISSERTATION

Submitted to  
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## ABSTRACT

### BUILDERS OF THE MODEL T: SOME ASPECTS OF THE QUALITY OF LIFE AND SOCIAL HISTORY OF HIGHLAND PARK 1910-1927

By

Clarence O. Hooker

This dissertation is an initial step into the exploration of the history of Highland Park, Michigan; it is a study which is easily classified as labor history, community studies and social history. The primary aim is to understand how the Ford Motor Company's production, employment and managerial policies at the Crystal Palace influenced the quality of life of the City of Highland Park and the average Model T worker.

In an effort to build a profile of the population of Highland Park, the study relies heavily on numerical data, especially census reports, and a variety of statistics found in the Ford Motor Company Archives, the Bentley Historical Library and the Burton Historical Collection.

The study concludes: (1) Demographic transformation was one of the most immediate results of employment practices at the Crystal Palace, and the rate

of population change was greater in Highland Park than in any other city in the US. (2) While Ford's Sociological Department worked to create a new type of worker, a new class of managers was incubating in the Crystal Palace; this study argues that this 'new class of managers' played a greater role in displacing skilled workmen than the immigrants that Ford sought to Americanize. (3) Highland park may have been the earliest case of a city to 'deteriorate' as a result of a major automotive company's decision to relocate a primary facility. (4) While it is correct to argue that Ford led the automotive industry in the employment of black workers, the argument needs to be modified to reflect the reality that Ford hired a significantly smaller percentage of blacks in the Crystal Palace. (5) More generally, it was found that many workers profited from Ford policies. Whatever advantages accrued to Model T workers, they were often achieved at the expense of privacy, autonomy, and perhaps dignity and self-esteem.

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## INTRODUCTION

Scholars devoted to the study of the history of Detroit and the automotive industry have recently called for a change in focus. Meyers, for example has noted that while biographies and autobiographies of the emperors and barons of the automotive industry abound, the histories of the workers have not been written. In stark contrast to the history of the barons which has been given so much attention, the history of automotive workers such as those who toiled in Ford's Highland Park plant (i.e., the Crystal Palace) remains hidden in the corners of the shops and departments throughout the automotive belt (Meyer, 1981:4). Nora Faires is among those who have made a call for a change in the focus of studies aimed at elucidating the history of Detroit and the automotive industry.

In her recent review essay, Nora Faires concluded that the books of Babson, Meyer and Zunz all added to the limited understanding of Detroit's ethnic groups of the late nineteenth centuries; "the influx of foreign-born workers of the Highland Park plant undergirds Meyer's discussion of the changing policies implemented in the factory; the shifting fortunes of the city's



immigrant groups is the centerpiece of Zunz's analysis, and accounts of immigrant workers weave through Babson's saga (Faires, 1985:16). But, and this is the important point, "despite each author's concern with ethnic issues, the thinness of the secondary literature shows through the books, diluting their descriptions of the city's changing ethnic mosaic" (Faires, 1985:5). Given her special interest in women's history, Faires is most emphatic in noting that "the paucity of research on the lives of the city's women and the isolation of women's history from the mainstream of social history impoverishes all three books" (Faires, 1985:5). It is in the final paragraph of her astute critique that Faires makes the most useful appeal for a change in focus. Here, she argues that the full historical reconstruction of Detroit's past will require that we know more about domestic servants, beauticians, waiters, and janitors; more about those outside the paid labor force, such as those tending children, the unemployed, and the aged; and more about various neighborhoods in the vast urban expanse, from the central city to the suburb. (Faires, 1985: 17).

If the perspectives of Meyers and Faires are correct, as this writer believes they are, then it is time for two shifts in focus. First, it is time to

shift from Henry Ford, Ransom E. Olds, Walter Chrysler, the Dodge Brothers, et al., that is from the so-called emperors and barons of Detroit, to the heretofore anonymous men, women and children whose energy fueled the industrial expansion, and whose collective biography is hidden in a variety of statistical reports, personnel department narratives, and (perhaps) in Upton Sinclair's, *THE FLIVVER KING*. Secondly, it is time to analyze Detroit in terms of the larger regional context; that is to say in terms of Wayne County and the surrounding counties out of which Detroit was carved. And, at the same time, it is necessary to understand how various neighborhoods and suburbs within Detroit were shaped by Detroit's growing pains. As Warner has put it, it is time to ask, "What is the changing distribution of population and economic activities within a changing area?" And, "where did Newark fit into the settlement patterns of New York:" (Warner, 1977:68); or as it is more appropriate in this instance, where did the city of Highland Park fit into the settlement scheme of Detroit?

Olivier Zunz's book, *THE CHANGING FACE OF INEQUALITY: URBANIZATION, INDUSTRIAL DEVELOPMENT AND IMMIGRATION IN DETROIT 1880-1920* (1982), has dominated this writer's thinking about how to analyze the

interaction between the Ford Motor Company and the community of Highland Park. Recognized as a modern classic, Zunz's study has shown the relationship of industrial growth and changing patterns of inequality, but has not specified the impact of particular industries or firms. Utilizing a variety of sophisticated statistical and sampling techniques, and focusing on industrial expansion, land use patterns, and inter-ethnic social mobility, Zunz's work builds upon earlier studies (among which David Katzman, Stephen Thernstrom, and Forester B. Washington's studies are prominent), and an impressive array of primary materials. Among the major findings of this important study is that, by 1920, race and class had replaced ethnicity as the best explanation of inequality in Detroit. That is to say, "translated into city's space, inequality took many faces, from largely self-imposed segregation of the nineteenth century ethnic communities, to the enforced segregation of Blacks in the twentieth century" (Zunz, 1982: 403).

Generally speaking, Zunz's work is important because it has added to our understanding of the relationship of race, ethnicity and class to industrial growth in early twentieth century Detroit; and because, as a 'methodological guidebook' it is incomparable.

More significantly however, Zunz's book is important because in its brilliance, it demonstrates the need for studies which focus more directly on the quality of life of a particular locality (e.g., a six sided-block), and on a particular people, and which considers the consequences of industrial expansion and contraction. In the final analysis, as Faires has concluded, Zunz's work demonstrates the need for a shift in focus.

This study of the umbilical connection between the City of Highland Park and the Ford Motor Company is conceived as an initial response to those who recognize the need for a new focus which (1) gives primary consideration to the wage-laborer and the underclass of the automotive empire; (2) gives systematic consideration to the quality of life, and understands the quality of life to be a function of industrial expansion and contraction; and (3) looks at these concerns from a historical perspective. In short, by focusing on a select group at a very particular point in the history of the automotive industry, this research hopes to contribute to the understanding of how the expansion and contraction of the Crystal Palace affected the quality of life in Highland Park.

Even though Highland Park, or what this researcher has come to think of as the town that the Model T built,

was the birth place of the modern assembly line, and the first city which clearly owed its existence to the automotive industry, relatively little scholarly attention has been devoted to understanding the social history of this small, yet extraordinarily important community. With the exception of Ellen Hathaway's two books, the HISTORY OF HIGHLAND PARK (which was written for children), and FROM WILDERNESS TO CITY, along with the ubiquitous paragraph or two in prominent works such as Nevins and Zunz's, there are apparently no published studies focusing on the history of Highland Park. To reiterate then, in an effort to add to our knowledge of the region, the principal aim of this research is to understand the historic relationship between the Ford Motor Company and Highland Park, and to understand how that relationship affected the quality of life in that municipality c.1910-1927.

More specifically, and in the order in which they appear in this dissertation, the present analysis of the relationship of the expansion and contraction of the Ford Motor Company in Highland Park and the quality of life in that community includes the following. Chapter One, "Highland Park Before The Crystal Palace: The Genesis of a Midwestern Island Community," provides some insight into what the community was like before the

coming of the Crystal Palace; and a special effort is made to identify the movers and shakers, and to show how they helped to shape the economic life of the community, and to lay the foundation for its transformation. Chapter Two, "Birth of The Model T Assembly Line: The Big Event In The Social History of Highland Park," is a discussion of the main features in the evolution of the production processes in the Crystal Palace c.1910-1914; the goal in this chapter is to show how advances in machine-tool technology laid the foundation for the "logical next step," the moving assembly line whose appetite for labor resulted in an unprecedented, explosive change in the size and composition of the community. Chapter Three, "The Model T Cohort and The Demographic Transition of Highland Park," outlines the major demographic changes resulting from the demands of the new system of production, and attempts to understand these changes as part of a larger trend. Chapter Four, "Taylor-Made: Occupational Stratification In The Crystal Palace," looks at the new pattern of stratification in the plant, and a special attempt is made to explain how the principles of scientific management contributed to the development of a new manager-class. Chapter Five, "Ford's Welfare Work: The Americanization And Molding of The Ford Man," is an assessment of the impact of Ford's

profit-sharing plan and its affect on Ford workers; special attention is directed towards understanding the work of Ford's Sociological Department and its effectiveness in improving the quality of life of the "ethnics" who labored in the Crystal Palace. "Ford Men Living In: Boarding and Boarders c.1910-1927," the sixth chapter, is a discussion of home and housing conditions in Highland Park and Ford's efforts to improve them. The next chapter, "Black and White Workers in the Shadows of the Crystal Palace: Some concluding Observations on the Quality of Life in Highland Park and Vicinity 1910-1927," is based on findings presented in preceding chapters and additional material relating to the Black community. The main goal of this chapter is to shed some light on the quality of life in Highland Park by contrasting Highland Park with a distinctly different community. Finally, the "Conclusions," makes note of some of the most important findings, discusses some of the key data problems, and considers the direction that future research might take.

Throughout this study, the major aim has been to identify a strategy, and sources of data which will permit the longitudinal analysis of quality of life issues, and with a little luck, to engender further study of the Crystal Palace and Highland Park.

## CHAPTER ONE

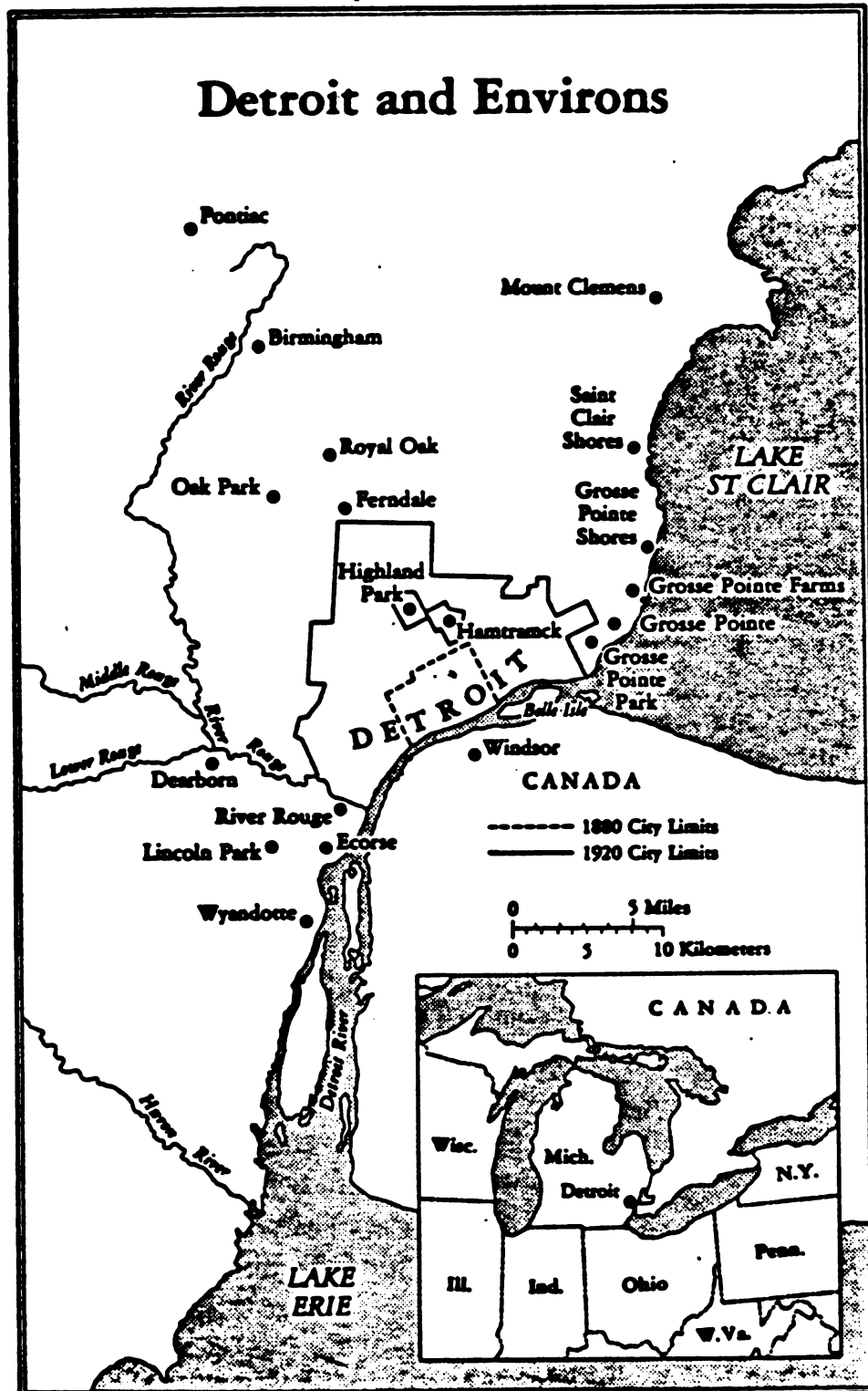
### HIGHLAND PARK BEFORE THE CRYSTAL PALACE: THE GENESIS OF A MIDWESTERN ISLAND COMMUNITY

Highland Park, first known as Woodwardville, and later Whitewood before becoming Highland Park in 1889, was carved out of a virtual wilderness where the life cycle was determined by the seasons. Wild animals, including deer, bear, and turkeys were plentiful, and honey bees and mosquitoes were numerous.<sup>1</sup> A variety of trees thrived in the area, pine, elm, and oak trees dotted the landscape, but the whitewood tree was especially prominent.<sup>2</sup> In the spring, the fragrance of flowering fruit trees and berry bushes mingled with the scents of wild animals in various stages of their reproductive cycles, the barnyard manures, and the heavy springtime odor of hogs. Summer harvests gave way to the cool breezes of fall which carried ducks, geese and other fowl in their southward migration while the reds, yellows and oranges of the trees painted, first the horizon and then the landscape. Cold, deep white winters slowed the pace of human and animal life, as the cycle started anew.



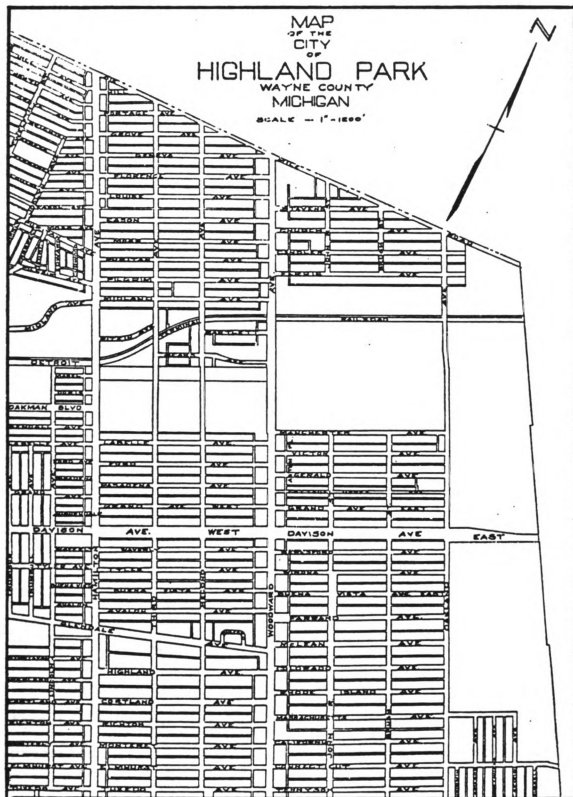
MAP 1.1

DETROIT AND ENVIRONS



# MAP 1.2

## MAP OF THE CITY OF HIGHLAND PARK



This erstwhile wilderness is located about six miles northeast of downtown Detroit in what was once Greenfield Township, and lies entirely within the city limits of Detroit. Trapezoidal in shape and about 647 feet above sea level, Highland Park's 2.98 square miles are bisected by Woodward Avenue; McNichols Road (formerly Six Mile Road) marks the northern boundary, while Tuxedo and Tennyson Avenues are the southern boundary of Highland Park. The Grand Trunk Railroad right-of-way and Thompson Avenue serve as the eastern and western boundaries respectively.<sup>3</sup> It was as a result of an accident that this wilderness was opened to settlement.

The entire city of Detroit was destroyed by fire in 1805; in order that a new court house and jail could be built, the federal government gave the city of Detroit permission to sell land north of Grand Boulevard, including the swamp land where Highland Park would be built. Thus, it was as an indirect result of the 1805 fire that federal lands were publicly sold.

In 1818 the 'highland', which was separated from Detroit by a swamp, was purchased by Judge Augustus B. Woodward, but owing to the obstacles presented by the swamp, his attempts to found a

village were unsuccessful. The swamp was also the major obstacle for B.F.H. Withersell, another Detroit judge who attempted to found a village in 1836.<sup>4</sup> Although there were settlers, the area would not achieve the status of a village until Captain William H. Stevens' efforts had attracted enough financial backing to eliminate the swamp.

Most of the early settlers were New England Protestants. The first known settler, Richard Ford, (not related to the Henry Ford Family) a farmer of English descent arrived in c.1818. Ford built his cabin on a ridge which was separated from Detroit by a swamp; the ridge (i.e., the highland) has since been leveled, but it was the geographic feature for which the village would ultimately be named. Richard Ford's son, George Thomas Ford was born c.1843 in Greenfield Township. The Fords were farmers who tilled the soil with a wooden plow; in addition to losing crops to flooding low lands, bear, deer and wild turkeys also contributed to losses. George T. Ford later developed a prosperous wholesale business.

The Richard Riley, Tyler, and Pallister families were also among the early settlers. Richard Riley was a native of Yorkshire England, arriving in the United States in 1830, he brought a wife and three

children to settle in Greenfield Township. Mary Riley Maskill, one of the three children stated that, "I came to Detroit with my parents in 1831. We settled on land near Greenfield. It was a dismal wilderness then, with great forests filled with Indians."<sup>5</sup> The Riley family apparently owned land on both sides of English Settlement Road, later renamed Glendale Avenue. Howell S. Tyler came in an ox-cart from Vermont, arriving on March 17, 1849.<sup>6</sup> The Howell farm extended from the alley north of Waverly to Monterey, and from Waverly to Hamilton. Having taken eight weeks to sail from England to America, William, Robert and George Pallister arrived in 1846; Robert took up farming on land located at Woodward and Pallister Avenues. Ten years later, three more brothers, Paul, Thomas and Joseph arrived in Detroit and walked to Robert's farm; Paul and Thomas took up farming in Hamtramck.<sup>7</sup>

Several families in the second cohort of Highland Park's settlers, most notably the Langdon, Mott and Fitzgerald families, were distinguished through providing soldiers for the Union Army during the Civil War. John Langdon came to America in 1830 when he was two years old; upon the death of his father, John became the ward of his uncle, Jared

Davison who was living in Highland Park. As a young man, John Langdon bought a twenty acre farm on Woodward Avenue. In 1862, John Langdon enlisted in the 24th Michigan Infantry.

John T. Mott was born on April 4, 1846 in Franklin Connecticut, and later moved to Port Huron with his parents. John was among the first volunteers to come forward for the Union cause during the Civil War; he joined Company E of the 16th Michigan Infantry on August 13, 1861. During the war John Mott was cited for bravery and promoted to second lieutenant; after approximately three years of service, he was discharged from Company C of the 16th Michigan Infantry on May 12, 1863. After the war, John (affectionately known as Uncle John) opened a general store at the southeast corner of Woodward and Davison. John Mott married into one of the original families of Highland Park; on March 19, 1874 he wedded Emily A. Davison. Both the marriage and the general store prospered. Even though Adolphus Thombley was already operating a post office out of his home in 1873, Mott opened the Whitewood Post Office (the name of the community had not yet been changed to Highland Park) in his store in 1876. Unlike Langdon and Mott who

served as Michigan volunteers, Fitzgerald joined the Union forces before moving to Michigan.

James D. Fitzgerald was born in Castle Gregory Ireland on March 30, 1825. In 1841, Fitzgerald arrived in the United States, settling in Vermont in the fall of the year; the following year he moved to Cleveland Ohio, and then to Beria, Ohio where he worked in stone quarries. Fitzgerald's wife to be, Mary C. Runion had been born in Prescott, Canada on January 20, 1835; the wedding took place in 1850, and in due time produced four children (Mary A., who would ultimately become Mrs. William Davison, Ella, Jennie N. who would become Mrs. George Pell, and the only son James Fitzgerald Jr.). Having enlisted in Company E of the 65th Regiment of the Ohio Volunteers, Fitzgerald was wounded and subsequently given a disability discharge. It was not until 1864 that the Fitzgerald family moved to Michigan, initially settling in Detroit on Woodward Avenue, but within a year purchasing a thirty acre farm in Highland Park. In addition to his farm work, Fitzgerald worked as a landscape gardener for Senator Thomas Palmer. Fitzgerald, known throughout the community for his kindness, died July 1883; Mrs. Fitzgerald died on June 2, 1917.<sup>9</sup>

To the extent that the Langdon, Mott and Fitzgerald families inter-married with first cohort settlers, and were principally farmers, they were typical Highland Parkers----Protestant farmers, seemingly in agreement about issues of mutual concern. It appears that most of the farms were approximately twenty acres (there were several thirty acre farms, and it is conceivable that some were larger). Thomas V. Brown, was able to purchase a Gaar Scott threshing engine in 1890 and threshed grain throughout the region for twenty six years; he recalled threshing for the Davisons, Tylers, Pallisters and Fords in Highland Park. Brown also recalled that during one harvesting season, he threshed oats for a whole week on Senator Palmer's farm at Six Mile and Woodward Avenue. In addition to the major efforts devoted to grains, Isobel Stonehouse recalled that other farm work was also important.

George Stonehouse and his family, including a young daughter named Isobel, left England for America in 1851; after traveling for seven weeks, the Stonehouses landed in Detroit at the southern end of Pontiac Plank Road, where they were met by George's brothers, Jabez, et al. Isobel recalled that the spring of the year saw the considerably hard work of



clearing land before planting crops; the land between the tree stumps was sown with grain, small patches of potatoes and fields of corn. Mrs. Stonehouse did her marketing in Detroit, bartering berries and farm produce for staples such as sugar, flour and salt; while George did the work of a veterinary and, like other farmers (all of whom apparently had one or more hunting dogs), hunted for deer, bear and other wild game. Considered together, life as experienced by the Stonehouses, Langdon, Mott and Fitzgerald families was typical for the second cohort of Highland Parkers.

Except for adding their numbers to the population, the second cohort of settlers did not experience life much differently than had the first cohort. It was the third wave of settlers, the real movers and shakers coming in the latter decades of the nineteenth century, who would begin significant diversification in the economy of Highland Park. For example, established in 1891, the first factory in Highland Park was the McAlpine Shoe factory;<sup>10</sup> it was located on the north corner of Woodward and Colorado Avenues in the old waterworks building owned by Captain Stevens. In addition to the McAlpine Shoe factory, the Seiss Wagon factory and Percheon's Blacksmith Shop were prominent among the non-farm

economic activities in late nineteenth century Highland Park. In other words, it was the third generation, including Stevens who would be the most influential among them, Voorhis, Siess, Smith et al. whose non-farm economic interests would contribute to significant changes in Highland Park.

Robert Smith came to Highland Park c.1900, and he is representative of residents who would live with one foot in the past, and the other in the twentieth century. While working at the Union Market on Cadillac Square, he met George Ford who often sold calves and hogs at the market. Ford invited Smith to visit his farm located at Ford and Woodward Avenues in Highland Park; apparently, Smith was favorably impressed and purchased a lot on the corner of John R and Stevens Avenue where he built an 18'x 24' framehouse at the cost of about \$350.00. Reminiscing about life on the farm, Smith related that he bought a prize jersey cow (formerly owned by Senator Palmer) from Joe Marshall, and had to get up at four in the morning to milk the cow, and feed the chickens (which roosted under the house until he was able to build a chicken coop) before leaving for the market located in downtown Detroit. To get to the market, he rode his bicycle as far as Holznagle's (the local florist's),

and rode the street car from there. Smith also recalled that in order to cook or wash, he had to carry water from the neighbors; on Saturdays he took his weekly bath in a wash tub behind the stove. Smith was apparently well liked by many people, and in 1912 he was elected village treasurer, in which capacity he served for twenty seven years while being opposed by no more than three candidates for that office.<sup>11</sup>

Siess and Voorhis were among the third generation of settlers whose primary work included non-farm activities. Charles August Siess was the village wagon-maker and blacksmith. In 1882 Siess leased four acres from Stevens and moved his family from his mother-in-law's farm on Holbrook Avenue and Russel Street, to a little house near his shop. During the economic difficulties of 1893, Siess went out of business, but the family continued to live in the area and some of them would work in the Crystal Palace.

George Voorhis, who would become the village assessor in 1913, came to Highland Park with his father and mother, and three younger children (Fred, Alice and Dora) around 1895. Mr. Voorhis came from Detroit to Highland Park as the proprietor of the Highland Park Resort Hotel and the race track which

had been leased from Captain William Stevens; the resort was situated on 58 acres with Oakland and Woodward avenues as the east and west boundaries, with Manchester on the south. The main attractions of the resort were a well producing mineral water (which was used for medicinal purposes), and harness racing. Voorhis leased the track to the Highland Park Jockey Club which brought professional horses and drivers during the trotting season (the racing took place during June and September). The hotel had 15 rooms and was usually filled to capacity; the rooms were reserved for owners of horses, their families and jockeys. George Voorhis reported that, according to City Hall records, in 1895 a tax totaling \$164.00 was levied against the 58 acres where the hotel and race track were located and the personal property of the Highland Park Jockey Club which were assessed at \$33,000.00.<sup>12</sup> This hotel and race track, for the moment owned and operated by the Voorhis family, would later be sold to the Ford Motor Company and become the site of the Crystal Palace.

The one eyed, Captain William H. Stevens stands out as the most prominent personage in Highland Park's early growth and development. Stevens was born in New York state in 1819, and moved to Wisconsin and then to

Michigan while he was still a youngster. In Michigan, he became acquainted with some men employed by the Summit Mining Company (this company was apparently based in Boston); Stevens managed to get himself hired by the company as an "official land looker," or prospector, in the copper regions of Michigan. Taking valuable lessons he had learned while working for the Summit Mining Company, Stevens went to Colorado to seek his own fortune in mining. Stevens did succeed in making a considerable fortune in silver mining in Colorado, and returned to the Detroit area in 1887 and began a vigorous effort to 'develop' the swamplands north of Detroit. Stevens was able to attract the support of Senator Thomas W. Palmer in a scheme to develop portions of the 'highland' area north of Detroit. In addition to lending his name to Steven's efforts, Senator Palmer donated one-hundred acres of his Log Cabin Farm to be used as a Detroit Park; located north of the 'highland,' the one-hundred acres donated by Senator Palmer were low and wet, therefore sewers were dug to drain the park site. Since the park had been donated to the public, public funds were used to pay for the drainage sewers. Apparently to no one's surprise, the drainage sewers also brought drainage to the swamps between the 'highland' and the

Detroit River. With the obstacle of the swamp removed, the village of Highland Park (previously known as Woodwardville and Whitewood), with about 400 inhabitants was officially etched into Greenfield Township in 1889.<sup>13</sup>

More than any other individual in the third generation of Highland Parkers, Captain Stevens had his hand in shaping daily life in Highland Park. Stevens helped to lay out the streets, and loaned money to people to build their homes. Stevens also played an important role in bringing the streetcar to the village in 1886; improved versions of the streetcar ran on Woodward Avenue for seventy years (1886-1956), and it was the last line to run in Michigan. In 1892 Highland Avenue was the first street to be graded, and in 1909 the world's first mile of concrete road was laid on Woodward Avenue between Six Mile and Seven Mile Roads. While Stevens, a real mover and shaker, was instrumental in the development of Highland Park's infrastructure, he showed a special interest in schools.

The first village schools were the direct result of Stevens' efforts. In 1892 the second floor of the waterworks building, located on the corner of Colorado and Woodward, and owned by Stevens, became a

school house. Stevens bought furnishings and supplies for the school, and hired Edna Phelps to teach the class of 16 children that fall. The next year Clifton Gordon was hired to teach the older children in the same room where Edna Phelps continued to instruct the younger children. Sometime during the year, the school was moved to a store on the corner of McClean and Woodward Avenues. The first building to be especially constructed as a school was a four-room building located on the south side of East Buena Vista near Woodward; known as the Stevens' School, it opened with an enrollment of 75 pupils. Soon after the completion of the Stevens' School, Robert Barber arrived in Highland Park to become the village's first superintendent of schools.<sup>14</sup>

Having devoted much of his energy, influence, and financial resources to building the village of Highland Park, at a ripe 82 years of age, Stevens died in 1901 in his farm home at the present site of McGregor Library. Stevens' civic influence continued to be felt when, after his death the daughter of his close friend, David Whitney, bought the Stevens' house and used it as a home for 'backward', crippled and homeless children. Later the children's home was given to the City of Highland Park for use as a

library, and in 1926 the stonehouse was replaced by the impressive structure which now houses the McGregor Library. At this writing, the McGregor Library is the only known repository of Highland Park's first newspaper, the HIGHLAND PARK TIMES which began publication in 1909. In 1917 another weekly, the HIGHLAND PARK NEWS was published by Arthur Kingsley. After a period of military service, Kingsley returned to Highland Park and purchased the HIGHLAND PARK TIMES, which he combined with the HIGHLAND PARK NEWS to found the HIGHLAND PARKER, which was published until 1926. It is appropriate that these records have been deposited on the site which was "home" to Captain William H. Stevens.

Coincidentally, Steven's death was a harbinger to a new era in Highland Park. Throughout the lives of the first two generations of settlers, and for much of the life-time of the third generation, Highland Park was typical of mid-western island communities such as those studied by Robert Wiebe.<sup>15</sup> Wiebe has suggested that in the late nineteenth century, America was essentially a "nation of loosely connected islands"----like Highland Park. Wiebe began his analysis by noting that the purpose of his study was to describe the break down of island communities and



the emergence of a new system; he then characterized island communities as satellites of larger communities (i.e., Highland Park is seen as a satellite of Detroit), to which they looked for "markets and supplies, credit and news." Wiebe observes that life in the island communities was regulated by the rhythms of agriculture: "the pace of the sun's day, the working and watching of the crop months, the cycle of the seasons."<sup>16</sup> In the same sense as the agricultural harvests, society and social life were also predictable.

Island communities such as Highland Park were remarkably stable with little evidence of internal conflict. As Wiebe has expressed it, these communities were, "usually homogeneous, usually Protestant" communities enjoying an inner stability which the coming and going of members did not disturb. Moreover, even when new towns and villages were established in other locations, continuity and stability were undisturbed because the gathering families brought the same familiar habits and customs.<sup>17</sup> The homogeneity of these communities, apparently, contributed to the lack of significant open conflict.

From a distance the towns and villages characterized as island communities appeared to be levelled democracies, "sustaining neither an aristocracy of name nor an aristocracy of occupation," .... But, despite appearances and the lack of conflict, "each community was divided by innumerable, fine gradations;" at the top sat a few men who not only had greater wealth than their neighbors, but who, owing primarily, to their contacts outside of the community, controlled access to wealth. These men---merchants, bankers, successful farmers, etc.---were referred to as "mister" or "major" (or 'captain' in the case of Stevens in Highland Park), not "Bill" or "Sam".<sup>18</sup> Although differences in religion, language, and skin color distinguished individuals, groups, and even entire communities from each other, characteristically, the island community was an ethnically, culturally and religiously homogeneous society without overt, socially important conflict. Before January 1, 1910 when the first Model T Ford was built in the Crystal Palace, Highland Park was a typical island community, but all of that was about to change.

Of the many changes wrought in Highland Park by technological innovations, production, employment, and

social policies emanating out of the Crystal Palace, a few had an observable impact on the social order and quality of life experienced in the community. If the quality of life (QOL) is defined "as a function of the objective conditions and subjective attitudes involving a defined area of concern," and measured by social, economic, political, health and environmental indicators, then it is clear that the QOL experienced by the third and fourth cohort of Highland Park's residents was radically different from that of earlier settlers; and it is clear that most of the difference in the QOL can be attributed to the influence of the Ford Motor Company.<sup>19</sup>

## FOOTNOTES

## Chapter One

1. This sketch of early life in Highland Park is based primarily on information given to Ellen Hathaway by members of the Highland Park Historical Society. Many of the charter members of the society were direct descendents of early settlers. What appears to be the original typescript of this information may be found in Highland Park's McGregor Library/Museum; pages in this document are not consecutively numbered. This document is hereinafter identified as HPHS.

2. WPA Writer's Project in Michigan, MICHIGAN: A GUIDE TO THE WOLVERINE STATE (1937), 290.

3. WPA, 1937: 289-293.

4. HPHS, 1946: passim.

5. HPHS, 1946: passim.

6. HPHS, 1946: passim.

7. HPHS, 1946: passim.

8. HPHS, 1946: passim.

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10. HPHS, 1946: passim.

11. HPHS, 1946: passim.

12. HPHS, 1946: passim.

13. HPHS, 1946: passim; WPA, WOLVERINE STATE, 290.

14. HPHS, 1946: passim.

15. HPHS, 1946: passim.

16. Robert H. Wiebe, THE SEARCH FOR ORDER 1877-1920 (New York: Hill and Wang, 1967), xiii and 1-10.

17. Wiebe, SEARCH FOR ORDER, 1-10.

18. Wiebe, SEARCH FOR ORDER, 1-10.

19. For a more complete discussion of this definition of the quality of life (QOL), and the rationale behind it, see Appendix B.

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## CHAPTER TWO

### BIRTH OF THE MODEL T ASSEMBLY LINE: THE BIG EVENT IN THE SOCIAL HISTORY OF HIGHLAND PARK

There is no doubt that the major event in the social history of Highland Park was the 'birth' of the moving assembly line where the Model T was built; this event was the basis for the economic, political and social transformation of Highland Park. The new social order brought to the Crystal Palace with the birth of the assembly line was replicated throughout the community, and in the final analysis it meant a redistribution of the tangible and the aesthetic values associated with the quality of life in Highland Park. The overall objective of this chapter is to provide a brief description of events and innovations leading up to the production of the Model T on the world's first mass production-automated assembly line. The chapter begins with a discussion of some of Henry Ford's early 'tinkering' and 'entrepreneurial' adventures, followed by a sketch of the sequence of events leading up to the transfer of production of the Model T from the Ford Plant at Piquette and Beaubien streets, to the Crystal

Palace in Highland Park. The chapter then turns to a consideration of some of the primary innovations in machine-tool technology and their relationship to the invention (birth) of the moving assembly line.

Born on a farm in Dearborn, Michigan in 1863, Henry Ford was destined to play the leading role in revolutionizing automotive production. While he was a youngster living in Dearborn, Ford often worked as a water boy for farmers in Whitewood (the village of Whitewood would later become Highland Park); the task of a water boy was to keep the tanks of steam driven threshers filled. At the age of sixteen, urged on by his mechanical interests, Ford left Dearborn and moved to Detroit where he worked as a machinist's apprentice in a shop that was building marine engines for the lake trade, and within a few years he had achieved the status of journeyman, and was hired to travel along the waterfront and to the larger farms where he installed and repaired steam and gasoline engines.<sup>1</sup> In subsequent years, Ford became the chief engineer (i.e., machine operator) at the Edison Illuminating Company, which later became Detroit Edison; in 1896, during his employment at Edison, Ford built his 'quadricycle'. Within a few years of the early experiments with the 'quadricycle', Ford attracted the financial support of



local businessmen, and in 1899 the Detroit Automobile Company was formed with Henry Ford as the mechanical superintendent. Owing primarily to Ford's doubts about the adequacy of the horseless carriage produced by the Detroit Automobile Company, and perhaps to Ford's<sup>2</sup> interest in racing, the company was dissolved.

The first fruit of Ford's interest in racing the horseless-carriage was harvested at Grosse Pointe where he drove his racing carriage to victory over Alexander Winton of Cleveland, Ohio. As a result of his victory in the internationally proclaimed race of horse-less carriages, Ford again attracted financial backing from some of the local businessmen who had been involved in organizing the short-lived Detroit Motor Company; now late in 1901 they provided the financial backing for the organization of the Henry Ford Company. Apparently, again unfulfilled, Ford left the Henry Ford Company to pursue his interest in racing. While the company was renamed and reorganized to produce Henry Leland's Cadillacs, Ford built two more racing cars during 1902, and one of them established an American speed record in a race at Grosse Pointe.<sup>3</sup>

Encouraged by an increasingly efficacious supply of knowledge about the mechanics of automotive

vehicles, and bouyed by his racing successes, Ford resumed work on a two-cylinder passenger car, "and he persuaded a new, less prestigious group of investors to join him in forming the Ford Motor Company in 1903."<sup>4</sup> The newly organized Ford Motor Company produced over a thousand cars in 1903. In 1904 and for several years thereafter, the Ford Motor Company introduced a succession of new models, including the four-cylinder Model N during 1906-7. The Model N was the first sustained attempt to build and market an inexpensive vehicle that was not a horseless-buggy, and it "gave as good or better service than the much more expensive cars of the period."<sup>5</sup> Between 1903 and 1905, the Ford Motor Company was among the top four American producers of automotive vehicles; in 1906 Ford became number one.

The Ford Motor Company's mercurial rise to the number-one position among automotive manufacturers was assured when the plant on the corner of Piquette and Beaubien streets was streamlined in 1904-1905. The changes included dividing up certain tasks into simple operations that less-skilled workers could perform. Under the new arrangement, these workers pushed huge bins of parts up and down the rows of stationary cars, with each work gang stopping to install a particular part----a fender, wheels, the dashboard, etc.----before

moving to the next car.<sup>6</sup> As a result of the changes introduced in the plant at Piquette and Beaubien streets, production rose considerably; but not rapidly enough, especially after the introduction of the Model T in 1908, to keep up with demand.

When the Model T was brought out in 1908, "assembly techniques were much the same as they had been in Strelow's carpenter shop five years earlier."<sup>7</sup> With the soaring demand for the Model T, it became apparent that, even though the Ford plant at Piquette and Beaubien was only three years old, it was already out of date. The site chosen for the new facility, the Crystal Palace, was the fifty-eight acres occupied by the Highland Park Resort Hotel and the race track, located well within the orbit of the city of Detroit. Since this area had been relatively slow in developing, it was possible to find a sufficiently large tract of land at a 'good' price, and where three railroads (Michigan Central, the Grand Trunk, and the Detroit Terminal Railroad) converged. Moreover, since Henry Ford had been born here in Greenfield Township, and had worked in this area when he was a young boy, he was already quite familiar with the site. Thus, it was in Highland Park on a plot of land covering about sixty acres that the Ford Motor Company institutionalized the

production and assembly methods that would revolutionize automotive production.<sup>8</sup>

While Ford and his associates were rightfully proud of their accomplishments at the Piquette Street plant, and considered that facility to be as good as, perhaps a little better than, any automobile factory in the world,<sup>9</sup> they were even more proud of the 'Crystal Palace,' as some called the Highland Park building which was being erected by the leading architect of the times, Albert Kahn, assisted by Gray, Ford's chief construction engineer from 1909-1915.<sup>10</sup> The Crystal Palace was uniquely situated in both the spatial and temporal evolution of industrial technology, and "represented [the] full realization of the American system of production and the maturation of the modern industrial age .... it transcended craft techniques in the metal and the carriage and wagon trades and moved toward the sophisticated, capital-intensive technologies of the auto-industrial age."<sup>11</sup>

The design of the Crystal Palace was advanced beyond anything previously known in the industry. In 1913 the chairman of the board of Dodge Brothers, Frederick J. Haynes expressed the generally held view that the Ford Motor Company possessed the best factory arrangement for car production known in the United

States. Similarly, F.L. Faurote, a noted author of books and articles on automobile manufacturing declared that this facility was one of the most efficient plants he had seen anywhere; and having visited all of the principal manufacturers, Ford's construction engineer, "was satisfied that the works were unequalled."<sup>12</sup> With the exception of a few ornamental bricks, the Crystal Palace was built of steel, concrete and glass; on bright days the more than fifty thousand square feet of glass allowed the structure to be flooded with sunlight. With its four stories, its length of 865 feet, and breadth of 75 feet, the Crystal Palace was the largest building under one roof in Michigan.<sup>13</sup>

According to descriptions recorded c.1910, the buildings comprising the Crystal Palace were unique, and quite different from previous factory construction. There was a craneway between each pair of buildings, and the roof of the craneway was glass so that the entire length of the building was lit with natural light. The heating and air-conditioning plant was on the roof; and the roof was also designed to ventilate the buildings. The waste air, on its way out, heated the craneway without added expense. The layout of the building facilitated the unloading and loading of freight cars. An especially unique feature enabled raw

materials to be hoisted as near the roof as possible, letting the work down in the process of manufacture. Thousands of holes were cut through the floors so that the parts that started in the rough on the top floor gravitated down through chutes, conveyors, or tubes, and finally became a finished article on the ground floor.<sup>14</sup> Clearly, the innovations that would catapult the Ford Motor Company into its number one position among automotive manufacturers were to be found in both the design of the Crystal Palace, and in new uses of machine-tool technology.

In a characteristically poignant manner, the FORD TIMES noted that the move from the Piquette and Beaubien facility to the Crystal Palace was accomplished, "without a brass band, a ball, a clambake, or even a speech from the mayor."<sup>15</sup> The move was quick and remarkably efficient; On December 31, 1909 the Ford Motor Company was shipping all of its cars from the Piquette and Beaubien plant, but on January 1, 1910 most of the cars were being shipped from the Crystal Palace. Extensive planning had assured that the department-by-department transfer would go smoothly. Although only about one-quarter of the Crystal Palace had been completed at the time of the transfer, production continued without

interruption. The first part of the Crystal Palace to be finished housed the most important elements of production: "the machine shop for making engines, transmissions, and axles, the main room for assembling cars, the radiator shop, the painting room, and the shipping room."<sup>16</sup>

Eckstein has noted that, the ten years 1899-1909 witnessed a remarkable economic development which assured Michigan's leadership in the American automotive industry.<sup>17</sup> Thus, in 1910 when the Ford Motor Company transferred production of the Model T to Highland Park, the revolution of organizational and production technology in the automotive industry was already well under way; but there remained many obstacles to be cleared before the revolution would be completed. An immediate concern was the practice of subcontracting.

During the decade of the 1890s Henry Ford had been one among many 'tinkerers' who built homemade cars, and as late as 1903 the production processes at the Ford Motor Company were much like those of other automotive manufacturers. During the formative years of the industry, it was common to subcontract (i.e., farm-out) the production of parts and components to outside machine shops and foundaries. Beginning in

1906, and more rapidly with the introduction of the Model T in 1908, the Ford Motor Company manufactured more and more of its own parts and components; and by 1920 Ford, like other automotive companies produced all of the major parts and components, while some of the small and minor parts continued to be subcontracted.<sup>18</sup> The subsumption of the production of the major parts and components was an important, indeed critical step toward the system of continuous production which was achieved late in 1914.

Despite the fact that automotive manufacturers had begun to subsume the production of the major parts and components, automotive production in 1910 remained a relatively complicated, inefficient process which consisted of (1) the foundry production of castings which were machined into individual parts, (2) the assembly of individual parts and components, (3) and finally, the assembly of parts and components onto the vehicle. The Ford Motor Company, within the space of a few years, would lead the way in revolutionizing every aspect of automotive production.

Technological changes implemented in Ford's Highland Park plant, herein also referred to as the Crystal Palace, were directly related to efforts to increase the supply of the ever popular Model T. As



the quantity of Model Ts produced increased, so did the Ford Motor Company's demand for labor. Given the short supply of skilled mechanics who could machine and assemble parts for the Model T, Ford resorted to the hiring of less-skilled and non-skilled workers. It was under the conditions of a shortage of skilled mechanics that the Ford Motor Company increased its workforce from an estimated 450 in 1908, to about 14,000 in 1913. By 1914, three-quarters of Ford's wage laborers were foreign-born, and about half of these workers were immigrants from southern and eastern Europe who lacked "traditional industrial skills."<sup>19</sup> Under existing conditions it would have been difficult to significantly increase the volume of production, but the fact that such a large proportion of Ford's newly recruited laborers were non-skilled and foreign-born presented an immediate obstacle to the increased production of the Model T. Fortunately for the Ford Motor Company, recent improvements in machine-tool technology meant that these were obstacles which Ford managers and engineers were able to resolve by re-designing machines, by further rationalizing work tasks and routines, and by the rearrangement and integration of production processes. Thus, although on a scale and with a degree of sophistication theretofore unseen,

Ford, "... relied on the traditional American solution to labor shortages. Technical and organizational innovation displaced skill."<sup>20</sup>

The changes in Ford's manufacturing processes were aimed at developing and perfecting mass production. According to Henry Ford himself, "Mass production is focusing upon a manufacturing operation... seven different principles: power, accuracy, economy, continuity, system, speed and repetition."<sup>21</sup> The foundation upon which the seven principles were to be laid, was standardization in product design, i.e., standardization in the design of the Model T. Between 1908 and 1914 the Ford Motor Company implemented and perfected three types of innovations which led the way in revolutionizing industrial production in general, and automotive production in particular. The first of the three innovations was consistent with the manufacturing trends of the period; it involved an increasingly specialized use of machinery in the production processes. The second innovation was based on the standardization of parts and components of the Model T; this second tier of innovations consisted of the increasingly more [cost] efficient synchronization, organization and mechanization of the production and

assembly processes. The third type of innovation, which will be given more detailed consideration in the following chapter, was aimed at creating (inventing) a new type of machine operator. The "five-dollar day" or the "guaranteed minimum wage" was one of the primary incentives offered to workers, and the Sociology Department, the Americanization program and the Ford Security Department were among the principal instruments employed in creating and perfecting the new type of worker.

The primary aim of the Ford Motor Company's early innovative uses of machinery was to "... select, design and construct machine tools and attachments to match the skill level of the labor force. The innovative uses of jigs and fixtures were among the initial efforts to optimize the production of unskilled labor." [Note: Jigs and fixtures were work-holding devices which adapted multi-purpose and special-purpose machines for the high volume production of identical parts. Technically speaking, a jig held work but was not fastened to the machine. A fixture, often referred to as 'furniture' or 'appliance' by engineers, also held work but was fastened to the table or bed of the machine.]<sup>22</sup> Thus, it was initially through the use of jigs and fixtures that the Ford Motor Company was able

to accomplish the high volume production of identical parts. While thousands of innovative jigs and fixtures remained prominent in the high volume production of identical parts, special use machines, such as those used in the production of the Model T cylinder block and pistons, became increasingly important.

In the early days at Ford, ". . . the engine block was apparently passed by hand from one work station to another to have various operations performed."<sup>23</sup> The Foote-Burt Company made a number of special use machines for the Ford Motor Company; among these were machines built especially for drilling the Model T cylinder block, and for machining pistons. The Foote-Burt multiple drilling machine was arranged to simultaneously drill all forty-five holes in the cylinder block. As described by Abel and Colvin, the process was quite simple: "The cylinder is jugged into position, the operator throws the starting lever, the machine is equipped with automatic stop and reverse, the operator takes the cylinder out and the work is done." In this instance, forty-five separate operations were accomplished with one special-purpose machine.<sup>24</sup> Similar improvements were made in machining Model T pistons.

Improvements in the production of Model T pistons may also serve to demonstrate how special-use machines were used during the early phase of skill displacement. Except for placing the casting on the inverted spindle and starting the machine, the machining of pistons had become entirely automated. According to Colvin's 1913 description, the top of the pistons were faced off at the same time that the outside diameter was being turned and three piston-ring grooving tools were automatically fed to the required depth. The feed was automatically tripped, and the cutters were automatically returned to their starting position. Therefore, all the machine operator had to do was to release the clamp which held the pistons in position, slip out the retaining pins and put another piston on the spindle.<sup>25</sup>

In the same sense that innovative uses of jigs and fixtures, and the uses of ever more powerful special-purpose machines was important in transferring skill from worker to machines in the production of parts like the Model T cylinder block and pistons, the synchronization of production processes was an important element in the development of "continuous" or "progressive" production. "Progressive production and progressive assembly involved the arrangement of men

and machines and the coordination and synchronization of productive operations;" and this was, as Meyer has observed, the next logical step from the division of labor and the use of advanced specialized machine tools.<sup>26</sup> Progressive production began c.1912-1913 in the machine shops which produced finished metal parts, and then was gradually adapted to the assembly operations during 1913-1914.<sup>27</sup>

As described by Arnold, "Progressive production was the . . . scheme of placing both machine and hand work in a straight line sequence of operations, so that the component in progress will travel the shortest road from start to finish, with no avoidable handling whatever."<sup>28</sup> In order to achieve the constant and continuous movement of raw materials, parts and components, it was necessary for Ford engineers to develop many new devices which included gravity work-slides and rollways that moved work by hand, and endless chains and endless conveyor belts, and overhead cranes which moved work from location to location. The revolutionary changes in the production and assembly of the magneto and the chassis are excellent examples of both the pace and the significance of innovation within the Ford Motor Company.

The flywheel magneto provided the electrical charge to ignite the fuel in the Model T and was the first component to be assembled on the moving assembly line. The assembly of the magneto changed radically between May 1913 and March 1914. By May 1913, it was normal for one skilled-worker to assemble from 35 to 40 magnetos in a nine-hour day. As Arnold has noted, the assembly was done by experienced men, "but was not uniformly satisfactory as desired, and was costly . . . as all one-man assembly must of necessity be forever."<sup>29</sup> In May of 1913, Ford managers and engineers subdivided the task into twenty-nine separate operations and added a chain-driven conveyor to move the magneto from one worker to another. With continued experimentation and modification, productivity increased dramatically; by the end of March 1914, fourteen workers assembled 1,335 magnetos in an eight-hour day. Thus, "even though the working day was reduced by one hour, the assemblers more than doubled their average productivity and produced an average of 95 magnetos per person each day."<sup>30</sup> Similar strides toward increased efficiency were made in the assembly of the chassis.

During the period c.1913-1914, Clarence Avery was the principal agent in the coordination and

synchronization of production in the various departments of the Crystal Palace. By the end of 1914 Avery had succeeded throughout the Highland Park plant in replicating the pattern of increased efficiency which had been seen in the magneto department. After about an eight month period during which the production routines in each of the departments in the Highland Park plant were analyzed, the necessary timing schedules were worked out, and one by one (those) operations were revamped so that finally, continuously moving conveyors delivered assembled parts to the final assembly floor. The resulting efficiency in production was phenomenal, in some instances parts were put together six times faster.

The ultimate challenge during the period of 1913-1914 was the chassis assembly; it was the chassis line to which the thousands of parts and components flowed, and it was here that they would be assembled to the chassis, and here that the Model T would take its shape. According to the recollection of one worker, in 1903 the assembly of automobiles at the Ford Motor Company was entirely manual: The cars were assembled on the spot, to which the chassis, the motor and the body were brought. "As near as I can remember," said the worker, the body was brought on a hand truck, and was



lifted up and placed onto the chassis, and after the car was assembled, "one fellow would take hold of the rear end and one of the front end, and they'd lift the whole thing up! . . . . I would say there would be just one or two men for each assembly, as near as I can remember."<sup>31</sup> The chassis assembly procedures apparently did not change significantly in the decade between 1903 and 1913.

H.L. Arnold's description of the Model T chassis assembly process in 1913 lends further support to the contention that little in this process had changed since 1903. According to Arnold, "First, the front and rear axles were laid on the floor, then the chassis frame with springs in place were assembled with the axles, next the wheels were placed on the axles, and the remaining components were successively added to complete the chassis."<sup>32</sup> With this method of assembly, 250 skilled assemblers with the assistance of 80 non-skilled "component carriers" were able to assemble 6,182 chassis per month; at this rate, the assembly of one chassis required an average of twelve and one-half workman hours.

In August of 1913, Ford managers and engineers had begun the experimentation which would synchronize chassis assembly with the already improved production

of the thousands of parts and components which were combined to make the Model T. In September of that year, engineers had experimented with a "rope and windlass" which was used to pull the Model T chassis along a row of parts and components. As the chassis moved along the rows of parts, six skilled assemblers, accompanied by their helpers, walked along side the moving chassis and attached the various parts and components. This "rope and windlass" technique lessened chassis assembly time considerably; more specifically, assembly time for each chassis was reduced by about fifty percent to five hours and fifty minutes. Additional improvements followed in October.

In October, Ford engineers mechanically pulled the chassis along a line of 140 stationary assemblers who stood near supplies of parts and components which they attached to the passing chassis; this innovation further reduced chassis assembly time to slightly less than three hours per worker. Before the end of 1913, changes in the length of the assembly line and the number of assembler-stations resulted in greater efficiency. The "endless chain-driven" conveyor which was developed in January 1914, and the April 1914 modifications which introduced the 'man-high line' (i.e., work stations were raised or lowered so that

they were about waist high) to eliminate more of the unnecessary and non-productive movements of workers, marked the last in the series of experiments and innovations which combined to reduce chassis assembly time from twelve and one-half hours to one hour and thirty-three minutes.

The formation of the Ford Motor Company in 1903, the introduction of the Model T in 1908, and the move from the Piquette and Beaubien streets to the Crystal Palace during the last days of 1909 had marked the initial phase of a "major technological phenomenon of this century."<sup>33</sup> From the outset, that is beginning on January 1, 1910, production in the Crystal Palace was a constant stream of experimentation, innovation and modification. Beginning with the standardization of design of the Model T, the innovative uses of jigs and fixtures, the designing and adaptation of special-use machines, the synchronization of production and chassis assembly operations, and the incorporation of the mechanical conveyor system were major accomplishments. Finally, September and October of 1913, and January and April of 1914 witnessed improvements in chassis assembly, and by June 1914 Ford managers and engineers were sufficiently satisfied so that the new chassis

assembly line was incorporated as the final phase in the world's first continuous-production assembly line.

Unmistakable evidence of the technological revolution could be seen in 1915, by which time, "the fifty-six acre Highland Park facility had dozens of buildings, 55,000 humming machines, fifty miles of belting, and one and one-half miles of conveyor track and 18,000 workers."<sup>34</sup> While the technological revolution was being consolidated in the Crystal Palace, the community of Highland Park was experiencing some primary affects. One of the most thoroughly sensationalized results could be seen on January 5, 1914 when Ford announced a profit sharing plan and people flocked to Detroit and Highland Park to reap the promised bonanza which was scheduled to begin on January 12.<sup>35</sup> Ford hired only a fraction of 10,000 angry job seekers who, threatening to break into the plant, pressed against the gates of the Crystal Palace. Plant guards inside the gates and city fire trucks parked outside drenched the crowd (it was 9-10 degrees below zero), driving the people back and caking their clothes with ice. Infuriated, the crowd cut the city's fire hoses, attacked policemen, and broke hundreds of plant (Palace) windows along Manchester before dispersing.<sup>36</sup> But, even before the announcement

of the \$5 day the Ford Motor Company had attracted thousands to Highland Park. The following chapter seeks to understand, (1) the relationship between the labor needs of the Ford Motor Company and the demographic transformation of Highland Park, (2) and to understand how the Ford Motor Company succeeded in the invention of a new breed of worker.

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### CHAPTER THREE

#### THE MODEL T COHORT AND THE DEMOGRAPHIC TRANSITION OF HIGHLAND PARK

The objective of this chapter is to understand the connection between the growth and expansion of the Ford Motor Company, the introduction of the moving assembly line, and the demographic transition of the community of Highland Park and its implications for the composition of the workforce in the Crystal Palace. The analysis is based primarily on the 1910, 1920 and 1930 United States Census reports, and on a special census of the population of Highland Park which was conducted by the United States Census Bureau during November of 1915.

Before turning to a discussion of some of the details of the demographic transition of Highland Park, it should be noted that the demographic changes in the Detroit region are part of a larger trend. More precisely, the shift in location and composition of the US population may be described as part of a world-wide

phenomenon----i.e., "the demographic transition." The years between 1890 and 1920 serve as the approximate dates at which the United States and Europe reached the "modern state," which is characterized by a slow-growing population.<sup>1</sup> For the US, the transition has meant that during each decade since 1860, the population has grown more native born (except 1860-1870), less black, and more female. And, in every decade since 1860, (except 1940-1970) the population has also contained a growing proportion of adults and a smaller proportion of persons under the age of twenty. Value added in manufacture per capita has also mounted with each decade since 1860.<sup>2</sup> It is within this larger context that the present study hopes to understand the demographic transition of Highland Park.

Warner's analysis of the demographic transition of the USA includes the generalization that, "During the nineteenth century maleness was not strongly associated with manufacturing areas one way or the other, but since 1920 the two have increasingly diverged;"<sup>3</sup> the statistics in Table 3.1 suggest that this generalization either does not apply to the Detroit region, or (perhaps) that the statistics need to be refined. More specifically, the period of increase in "manufacturing" [\$MFG/PER CAP in Table

3.11, was also a period during which the male to female ratio was the greatest; this is clearly contrary to Warner's expectations. For the puposes of this study, what is important is that the apparent inconsistencies between Warner's generalizations with the historic pattern of manufacturing and population composition in the Detroit region, support this researcher's contention that an understanding of the economic and social history of the region, can only come from the study of cities like Highland Park and Hamtramck.

TABLE 3.1

DETROIT REGION (BEA#71); POPULATION CHARACTERISTICS INCLUDING PERCENT FOREIGN BORN, PERCENT BLACK, RATIO OF MALES TO FEMALES, PERCENT ADULT POPULATION, VALUE ADDED PER CAPITA IN MANUFACTURE, AND NUMBER IN TOTAL POPULATION 1860-1960

	%FOREIGN BORN	%BLACK	MALES/100 FEMALES	%ADULTS	\$MFG/ PER CAP	POPULATION
1860	26.7	1.1	106.8	49.4	18.	272,992
1870	28.7	1.3	105.3	50.4	45.	375,617
1880	28.3	1.2	104.3	52.8	39.	472,662
1890	29.5	1.0	101.6	55.5	67.	577,529
1900	25.6	1.0	100.4	58.0	96.	687,848
1910						
1920	25.1	3.0	116.6	62.7	660.	1,649,460
1930	21.0	5.6	109.6	61.6	537.	2,636,967
1940	16.7	6.3	104.7	65.1	392	2,886,605
1950						
1960	8.8	13.3	97.9	59.2	1137.	4,582,233

Source; Sam Bass Warner Jr, and Sylvia Fleisch, MEASUREMENTS FOR SOCIAL HISTORY, Sage Publications (1977) "Appendix B" excerpts. Warner noted that, the exact data which have been employed for the above mentioned book are on computer tape as "Socioeconomic Indicators for Functional Urban Regions in the United States, 1820-1970" (ICPSR#7506), which are available for members of the Inter-University Consortium.

Warner further generalized that, "During the twentieth century concentrations of women and factories are found more and more together. [Moreover], one might note that femaleness and factories and big cities are three characteristics postulated as the companions of the modern stage of the demographic transition."<sup>4</sup> Here again, Warner's observation seems contrary to the experience of the Detroit region. For example, femaleness in the Motor City is not dominant until the era of deindustrialization is well under way.<sup>5</sup> In each instance, Warner's generalizations confirm the need to further disaggregate the social statistics of the Detroit region, and to focus on communities like Highland Park, and to analyze the various groups within such communities. Therefore, as this study now turns to a discussion of the expansion of the automotive industry and the demographic transition of Highland Park, it must be recalled that it is a transition that occurred within a larger regional context.

With the establishment of the Olds Motor Company in 1899, followed by Cadillac (1902), Ford, Packard and Hupp (1903), and Hudson (1904), the foundation for Detroit's future was in place; and beginning in 1909 with Ford's high-volume, low cost production of the Model T, the sustained growth of

Detroit and the automotive industry was assured. Hence, "Detroit's growth trajectory was set by the rhythm of auto production,"<sup>6</sup> and Detroit became, "a place where----more than anyplace in the United States----the industrial society was changing the way people lived."<sup>7</sup>

Of the many primary changes which came in the wake of the innovations leading to automated production and assembly technology, the demographic transformation of Detroit and its environs is among the most easily identifiable. In 1900 Detroit was a city of 285,784 people, most of whom lived in ethnic neighborhoods near the Detroit River. Census reports show that by 1910 the population had grown to 465,766. By 1920 the population had grown to 993,000, and by the 1930 census to 1,720,000. While the population of Detroit practically doubled during each of the three decades after 1900, the city also increased its territorial base. The annexation of outlying lands increased the size of the city from 28.35 square miles in 1900 to more than 40.00 on 1910, and to more than 80 square miles in 1920. Both the increase in population and the expansion of the city boundaries were fueled by the automotive industry.<sup>8</sup>

In order to insure a sufficiently large supply of labor to feed the growing appetite of the automotive industry, corporate and public officials were aggressive in their efforts to attract workers to the Detroit area. As early as August 1907, the Detroit Board of Commerce asked immigration officials at New York's Ellis Island to steer foreign workers to the city, and "the Employer's Association of Detroit placed advertisements in nearly 200 newspapers across the country, encouraging both skilled workers and immigrant laborers to come to the Motor City."<sup>9</sup> [It appears that the EAD served as something of a 'labor trust' for area manufacturers!!] It may be argued then, that the comparatively rapid increase in the size of Detroit's population was a 'mere' reflection of the labor needs of the automotive industry. "In 1908 the automotive industry in the city gave employment to only 7,200 workers. In 1909 some 17,000 were employed,... By 1915 the figure increased to 81,000. In 1916, even prior to America's entrance into World War I, the industry employed 120,000 persons,"<sup>10</sup> and by 1920, that figure had risen to 135,000. If nothing else, these statistics (See Tables 3.2 and 3.3) should leave the impression of the rapidity with which the population of the Detroit region and the automotive workforce grew.

TABLE 3.2  
MAJOR GROUPS IN DETROIT, 1910 AND 1930

	1910	% of total	1930	% of total
Total Population	466,000	100%	1,720,000	100%
Black	5,700	1%	125,300	7%
Foreign Born or Children of Foreign Born	345,000	74%	1,018,000	59%
Polish		?	Polish	13%
German		29%	Canadian	11%
Canadian		16%	German	8%
Russian		6%	Italian	4%
Austrian		5%	English	4%
Irish		4%	Russian	3%
English		4%	Scottish	2%
Italian		2%	Irish	2%
Hungarian		2%	Hungarian	1%
Scottish		1%	Yugoslavian	1%
Belgian		1%	Czechoslovakian	1%
(1%=about 4,700)			Austrian	1%
			Belgian	1%
			Greek	½%
			Finnish	½%
			Mexican	½%
			Syrian/Lebanese	½%
			(1%=about 17,000)	

Source: Steve Babson, WORKING DETROIT, 1984:27.

TABLE 3.3

FOREIGN BORN WHITE BY COUNTRY OF BIRTH: HIGHLAND PARK  
1920 AND 1930

COUNTRY OF BIRTH	#1920	#1930
Armenia	606	442
Austria	537	121
Belgium	8	25
Bulgaria	37	24
Canada (French)	119	333
Canada (Other)	3609	4043
Czechoslovakia	113	114
Denmark	97	61
England	1445	2660
Finland	102	174
France	87	90
Germany	558	521
Greece	253	181
Hungary	559	136
Ireland	417	436
Italy	970	979
Yugoslavia	282	339
Lithuania	40	35
Netherlands	45	40
Norway	79	82
Poland	230	219
Rumania	473	356
Russia	580	312
Scotland	411	1250
Sweeden	180	199
Switzerland	33	47
Syria/Palestine	500	360
Vales	50	64
Mexico	7	0
Spain	0	22
Turkey	0	514
All Others	234	183
Totals	12,661	14,362

Source: United States Department of Commerce. Bureau of Census.  
ABSTRACT OF THE FOURTEENTH AND FIFTEENTH CENSUS OF THE UNITED  
STATES, 1920 AND 1930.



While all of the major immigrant groups were represented among the industry's new workers, not all groups were equally represented, not all of the automotive manufacturers got their 'fair share' of immigrant workers, and not all neighborhoods received the new arrivals in equal proportions. Therefore, in order to understand how the automotive industry is related to demographic change in the Detroit region, it will be necessary to further disaggregate the statistics shown in Table 3.1. As suggested by Warner, the basic question is, where did Highland Park fit into the settlement patterns of Detroit, and more pointedly, "What is the changing distribution of population and economic activities within a changing area?"<sup>11</sup> That is to say again, that while the emphasis here is on Highland Park, it should be understood that the changes noted herein are part of a larger, more complex regional transformation. On this basis then, giving special attention to changes in (a) total population, (b) color and ethnic origin, (c) and male/female ratio and age composition, this study now turns to an analysis of the 1900-1930 census reports for Highland Park.

Table 3.2 shows that the percent of foreign-born white in the population of the Detroit region

ranged from a high of 29.5% in 1890, and down to 25.6% in 1900 and 25.1% in 1920. The US Census shows that the foreign-born white population in Highland Park was 27.2 in 1920 and 27.1 in 1930. Generally speaking, it can be said that for the period under consideration, the proportion of foreign-born white in the Detroit region approximated that in Highland Park. Furthermore, a cursory inspection of Tables 3.1 and 3.3 reveals that Canada provided Highland Park with its largest contingent of immigrants in both 1920 (28.5%) and 1930 (28.1%), and England provided the second largest number of foreign-born whites in both 1920 (9.0%) and 1930 (18.4%). Italians ranked third (7.6%) at the 1920 census, and the fourth (6.8) most numerous at the 1930 census. Table 3.3 clearly shows that all of the major immigrant groups were represented in the Highland Park population, and that English speaking countries [Canada and England in the period between 1910 and 1930, and Scotland in the decade between 1920-1930] were most prominent as points of origin, and Italy provided a significant immigrant population for the entire period. It is worth noting that the English-speaking countries and Italy provided a greater proportion of immigrants to Highland Park, than to the region as a whole (compare data in Tables

3.2 and 3.3). Although immigrants often lived in ethnic neighborhoods which had been well established by 1900, there was a considerable variety in settlement patterns.

Highland Park is an excellent, perhaps the best example, of how during the early decades of the twentieth century, demographic change in the region is directly related to the rise of the automotive empire. "At the time of Ford's arrival in Highland Park its population was approximately 425 persons, but within a year it soared to 4,120. [And] following Ford's announcement of the five-dollar minimum daily wage in January 1914, the number of residents increased to 46,499 in 1920."<sup>12</sup> This "wonderful" increase in population made Highland Park one of the biggest population gainers in the whole country.<sup>13</sup> The decline in Highland Park's population was equally precipitous; the rate of increase slowed in the decade of the 1920s, reached a peak of 52,959 by the 1930 census, and began a decline which reduced the population to 50,810 in 1940. By 1980 the population of Highland Park had dropped to 27,909, a level which approximated the 1915 level of 27,170.<sup>14</sup>

TABLE 3.4

TOTAL POPULATION OF HIGHLAND PARK FOR 1910, 1915, 1920 AND 1930 BY SEX, RACE AND RATIO OF MALES TO FEMALES OVER 21 YEARS OF AGE

CENSUS	TOTAL POPULATION	# MALE	# FEMALE	MALES 21+	FEMALES 21+	MALES 21+/ 100 FEMALES
1930	52,595	27,367	25,592			
1920	46,499	25,565	20,843	17,971	13,494	133.7
1915	27,170	14,721	12,499	10,060	8,052	124.9
1910	4,120	2,162	1,958	1,233	1,287	95.8
NATIVE WHITE						
1930	51,680					
1920	33,394	17,707	15,687	11,191	9,387	119.2
1915	27,100	14,687	12,413	10,031	8,024	125.0
1910	4,105	2,151	1,954	1,226	1,284	95.0
BLACK						
1930	1,171	585	586			
1920	358	193	165	133	11	
1915	57	24	33	19	26	
1910	15	11	4	7	3	

Source: United States Department of Commerce, Bureau of Census, Thirteenth, Fourteenth and Fifteenth Census Reports; "Michigan Census," and the "Special Census of the Population of Highland Park, Michigan, November 15, 1915." The male/100 female ratios are based on these reports and computed by this researcher.

This is a detailed street map of the Village of Mount Pleasant. The map shows a grid of streets with various block numbers. Key streets include 'DETROIT UNITED KY.' running horizontally across the middle. To the right, 'MOUNT PLEASANT AVE' and 'MOUNT PLEASANT ST.' are visible. The map is divided into several sections, with block numbers 1 through 13 clearly marked. The streets are labeled with names like 'MOUNT PLEASANT AVE', 'MOUNT PLEASANT ST.', and 'DETROIT UNITED KY.'. The map is oriented with North at the top.

The boundaries of the enumeration districts are indicated by heavy black lines: \_\_\_\_\_

The rate of change in Highland Park's population is indeed remarkable. According to a tally taken by village officials in 1914, there were 22,000 residents in Highland Park. At the request of the village council, the request having been made through the village attorney to the president of the United States, the United States Bureau of the Census conducted a special census of the village of Highland Park. The special census began on November 15, 1915 and was completed in six days; this count revealed that the population of the village was 27,170. During the period between the 1914-tally and the special census of 1915, Highland Park gained 5,170 residents, an increase of 23.5 percent. But, during the five years and seven months between the decennial census of 1910 and the special census of November 1915, Highland Park gained 23,050 residents; this was an increase of 559.5 percent!

Given that both Highland Park and Hamtramck owed their growth almost exclusively to the automotive industry, and given their adjacent location, the contrasts in their settlement patterns are especially interesting. Both Highland Park and Hamtramck are independent cities within the city of Detroit. With the Dodge Brothers' plant as its driving force,

Hamtramck grew from a village of a few hundred people in 1900, to a city of 48,615 in 1920, and to 56,268 in 1930.<sup>15</sup> The population increases in Hamtramck and Highland Park were very similar in number, but the settlement patterns were completely different. Babson notes, for example, that although English-speaking immigrants were dispersed throughout the area, there was a greater than usual concentration in Highland Park. Adding to the existing English-speaking community, "The new Ford plant in Highland Park attracted nearby colonies of Finns, Yugoslavs, Rumanians, and Lithuanians, while the Dodge Brothers' sprawling plant in Hamtramck drew Polish immigrants north from Poletown."<sup>16</sup>

In an analysis of occupational stratification and residential segregation in Detroit and its surrounding communities, Zunz noted the contrasts between Highland Park and Hamtramck. Zunz wrote:

Hamtramck was a working-class community dominated by one ethnic group: 65.8% of the city's heads of households were Poles and another 4% native-born Americans of Polish parents; 85% of them were factory workers, 43% skilled or semiskilled and 42% unskilled, leaving, then only handful of white-collar positions, mostly shopkeepers. In short, Hamtramck was an extension of the city's Polish community.

Highland Park was completely different. Even though the Ford Motor Company employed many immigrants and more Blacks than

any of the other auto companies, Highland Park was inhabited primarily by native white American and other Anglo-Saxon workers. Of a sample of 202 heads of households, only two were Poles, one Hungarian, and one Black. In addition to the 60% skilled and unskilled workers, 42% of Highland Park families were headed by native white American or generally Anglo-Saxon white-collar workers. Parts of Highland Park, then, were made up of residences of an ethnically homogeneous group of workers, different from that of neighboring Hamtramck, and another part of it was a middle-class neighborhood.<sup>17</sup>

Zunz's description of Hamtramck and Highland Park shows that while these two cities were similar in some important ways, there were significant differences. Especially interesting is the apparent fact that Hamtramck was an ethnically homogenous community in which residential segregation was based on class (i.e., occupational status). Highland Park, on the other hand, was ethnically more heterogenous and consisted of two communities, one of which may be described as primarily WASP and white-collar, while the other may be described as ethnically mixed, working class with a few blacks. The occupational stratification and ethnic segregation in Highland Park was underscored by the influx of an exceptionally large number of young immigrant males.



TABLE 3.5

TOTAL POPULATION OF HIGHLAND PARK, MICHIGAN: NUMBER AND RATIO OF  
MALES TO FEMALES OVER 21 BY ENUMERATION DISTRICT, 1915

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DISTRICT	#MALES	#FEMALES	MALES/100 FEMALES
1	772	905	85.3
2	732	756	96.8
3	985	982	100.3
4	575	667	86.2
5	902	835	108.2
6	945	674	140.2
7	1685	989	170.3
8	1799	687	262.8
9	235	210	111.9
10	280	259	108.1
11	526	524	100.3
12	624	564	110.6

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Source: United States Department of Commerce. Bureau of The  
Census. SPECIAL CENSUS OF THE POPULATION OF HIGHLAND PARK,  
MICHIGAN: NOVEMBER 15, 1915. Male/Female ratios computed by this  
researcher.

TABLE 3.6

BLACK POPULATION OF HIGHLAND PARK MICHIGAN IN TWELVE  
ENUMERATION DISTRICTS BY NUMBER OF MALES AND FEMALES,  
21 AND OVER, 1915

DISTRICT	# MALES	# FEMALES	MALES 21+	FEMALES 21+
1	3	7	3	6
2	6	12	4	9
3	-	1	-	-
4	-	3	-	-
5	-	2	-	3
6	-	2	-	2
7	11	5	9	3
8	1	-	1	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	3	1	1	1
TOTAL 57:	24	33	21	26

Source: Department of Commerce. Bureau of Census,  
Special Census of The Population of Highland Park,  
Michigan, November 15, 1915.

When the 1910 and 1915 ratios of males to females in Highland Park (110.3/100 in 1910, and 118.3/100 in 1915) are compared to the ratios of males to females during 1910 in the United States (106/100), the state of Michigan (107.3/100), and the city of Detroit (106.6/100), the magnitude of Highland Park's truly phenomenal character is evident.

A comparison of the male to female ratio among those who are "21 and over" at the 1910, 1915 and 1920 census reports (See Table 3.4), reveals an especially significant increase in the ratio for the decade between 1910 and 1920. With the exception of 1920, when the ratio for the Detroit region is 116 males to 100 females (See Table 3.1), the Highland Park ratio is significantly higher than that of the region. More specifically, the male to female ratio changed from 95.8 in 1910, to 124.9 in 1915, and 133.1 in 1920. By 1930 the ratio was down to 106.9; a ratio which is much closer to that of the Detroit region. Further analysis, that is to say the comparison of the male to female ratio of the 1920-Native White population with the 1920-Total Population, reveals a difference which may be attributed to the large number of immigrant-males in the population. The foreign-born white population was 27.2 percent in 1920, and the male to

female ratio among those in the twenty-one and over grouping was 162.3/100. Although this ratio for Highland Park is unusually high, it is consistent with the general pattern wherein, "Maleness in a population [i.e., a high male to female ratio] has always been associated in America with areas of many foreign immigrants since migrants were disproportionately male."<sup>18</sup>

Among those who were twenty-one years of age and over, the male to female ratio in Highland Park (1915) is most startling when the population is disaggregated to enumeration districts. Generally speaking, the districts which had the largest populations and the highest male to female ratios were closest, while the districts with the lower ratios were farthest away from the Crystal Palace. Specifically, and in the order of their nearness to the Crystal Palace, the ratios were an alarming 261.8, 170.3, 140.2 and 110.6 for districts 8, 7, 6 and 12 respectively. In other words, four districts near the Crystal Palace contained respectively 50.2% and 36.2% of Highland Parks males and females over twenty-one years of age; and the average male to female ratio for these districts was 173.4/100, while the overall ratio

for the twenty-one and over age group was 124.9 (See Table 3.5).

The male to female ratio in the twenty-one and over black population of Highland Park (1915) was quite different from that of the white population. To begin with, black females were more numerous than black males, and with the exception of district 7, there were more females in each district where blacks were counted. In fact (See Table 3.6), there were three districts (4, 5 and 6) where black females lived and no black males were counted, and four districts (3, 9, 10 and 11) where no blacks lived. In sum, more than 50% of the black females in this age group lived in districts where the male to female ratio favored females (85.3 and 96.8 in districts 1 and 2 respectively), and approximately 25% lived in districts where no black males lived. The statistical description of the male to female ratio of blacks in Highland Park is no less astounding than those for whites, and together, they add up to reveal an aberrant demographic profile for Highland Park.

The demographic profile of Highland Park was aberrant in at least two ways. First, although not unlike that of many towns which were rapidly industrializing and urbanizing, the high male to female

ratio was contrary to the national trend. Secondly, not only was the male to female ratio in the opposite direction of the national trend, the ratio was large when compared to most other cities in the region. While it is clear that the "surplus" i.e., "the number or proportion above 50-50 ratio,"<sup>19</sup> is directly related to the region's automotive industry, the consequences of the "surplus" of males is open to a number of interpretations. One consequence of the "surplus" of males was that the long established tradition of taking in boarders and lodgers came under attack as a threat to the family.

Whatever the particular (local) consequences of the "surplus" of males (or females) for the practice of taking in lodgers and boarders, it remains that the demographic transition has had some important affects. Characterized by a male to female ratio which increasingly favors females, increased longevity, widening sex differences in mortality, aging populations, low fertility, etc., the demographic transition has given "rise to new circumstances between men and women that force alterations in sex roles;"<sup>20</sup> in Highland Park, these new roles were shaped in a "boom town" environment.

It goes without saying that the particular male to female ratio in Highland Park and the "boom town" environment were the direct result of Ford's production schedules and employment practices. Perhaps even more profoundly than the Detroit described by Babson, Highland Park was "like prospecting towns in the old West,... full of single men... Living in houses and small hotels near the factories or on the city's lower East side, these bone-weary workingmen relied on the city's numerous saloons for escape from the lonely grind of factory labor."<sup>21</sup> Clearly, Highland Park was a "boom town" nourished by Ford, but urbanologists have noted that, "there is a very strong cultural influence in the differential locations of men and women and that variations are not a simple function of industrialization and urbanization,"<sup>22</sup> nor are they the exclusive result of any one firm in Highland Park.

In any case, regardless of the variety of cultural influences and despite the "evils" such as those denounced by Veiller et al., there is no doubt that "any non parental adult" in the nineteenth or twentieth century household, whether a boarder who was employed in the Crystal Palace, grandparent, spinster aunt, or servant, "was a candidate for personal, significant relationships," and the presence of such an

TABLE 3.7

TOP TEN EMPLOYERS IN HIGHLAND PARK RANKED BY NUMBER  
OF EMPLOYEES, 1920

NAME OF FIRM	NATURE OF BUSINESS	MALES	NUMBER EMPLOYED;		TOTAL
			FEMALES	UNDER 16	
Ford Motor Co.	Automobiles	40,511	978	6	41,489
Maxwell Motor Co., Inc.	Automobiles	3,999	212	9	4,211
Detroit United Railway	Car Building	531	5	-	536
Michigan State Telephone Co.	Telephone Service	20	168	-	188
Detroit Creamery Co.	Milk & Cream	86	10	-	96
Ideal Box Lunch	Lunch & Baked Goods	60	23	-	83
H.S.H. Lunch Co.	Baked Goods	42	22	-	64
Pittman's & Dean Co.	Coal & Ice	54	-	-	54
Highland Park Creamery	Milk & Cream	48	1	-	49
Harding H.W.	Lumber	43	4	-	47

Source: Michigan Department of Labor, THIRTY-SEVENTH ANNUAL REPORT, "Factory  
Inspection,"/ by county: 286-287.



adult was a considerable contrast to the strict mother-father pattern in the US since 1900.<sup>23</sup> In Highland Park, single men (and/or perhaps married men living away from their own household) who labored in automotive plants were a significant number of those who were candidates for the personal, significant relationships described by Warner. In Highland Park, their wages, more often than not, were paid at the Crystal Palace (See Table 3.7).

In sum then, the foregoing chapters began with a narrative of the major events unfolding in Highland Park before the Building of the Crystal Palace, and it was noted that before Henry Ford, Captain William H. Stevens was the most influential individual in determining the direction of Highland Park's development. Following the brief outline of Highland Park's history, an effort is made to outline the changes in machine-tool technology and organization that culminated in the creation of the world's first automated production and assembly system. Then, attention was focused on the demographic transition of the Detroit region; here, it was shown that in response to the labor needs of a rapidly growing automotive industry, the increase in the population and the male to female ratio was greater in Detroit than in

the nation as a whole, and proportionally, even greater in Highland Park. Moreover, it was noted that a few of the enumeration districts accounted for the most phenomenal aberration in the demographic transition of Highland Park. Finally, it was suggested that the enormous "surplus" of immigrant males and the practice of lodging and boarding [each deserving of separate investigations which are well beyond the scope of this study] are important to the full understanding of the social history of the labor cohort which built the Model T. Generally speaking, the aim of this chapter has been to describe the demographic context out of which Ford invented the "continuous production assembly line worker."

## FOOTNOTES

## Chapter Three

1. Sam Bass Warner, and Sylvia Fleish, MEASURES OF SOCIAL HISTORY (Beverly Hills, California: Sage Press, 1977), 17.
2. Warner and Fleisch, MEASURES OF SOCIAL HISTORY, 17-18.
3. Warner and Fleisch, MEASURES OF SOCIAL HISTORY, 20.
4. Warner and Fleisch, MEASURES OF SOCIAL HISTORY, 20-21.
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## CHAPTER FOUR

### TAYLOR-MADE: OCCUPATIONAL STRATIFICATION IN THE CRYSTAL PALACE

Revolutions in machine-tool technology, the synchronization of manufacturing and assembly, and the automated conveyors had been combined to create the continuous production process, and the flood of raw labor (consisting largely of single, immigrant males) had been channeled to the gates of the Crystal Palace. Hence, the first phase of a major revolution in American manufacturing had been completed. Before the revolution would be consolidated, it was necessary to replace the old regime with a new set of social relations, i.e., a new occupational hierarchy.

Table 4.1 is a record of the number of hourly employees at the Highland Park plant, that is to say at the Crystal Palace, between 1911 and 1933, and Table 4.2 records the number of Model Ts produced during each of the nineteen years (1908-1927) that the car was in production.

TABLE 4.1

NUMBER OF HOURLY EMPLOYEES AT THE CRYSTAL PALACE:  
1911-1933

YEAR	NUMBER
1911	3,488
1912	5,710
1913	13,198
* 1914	14,000
1915	18,028
1916	31,298
1917	35,246
1918	32,531
1919	43,080
1920	49,337
1921	31,745
1922	44,194
1923	63,168
1924	61,759
1925	50,565
1926	41,326
1927	31,051
1928	33,125
1929	13,444
1930	3,661
1931	1,840
1932	780
1933	524

Source: The statistics for the years 1911, 1912 and 1913 were taken from FMCA Accession 6, Box 31. The remaining figures were extracted from Nevins' FORD 1954, and the source was given as the Ford Motor Company Industrial Relations Analysis Department. \*Meyer, FIVE DOLLAR DAY.

TABLE 4.2

NUMBER OF MODEL T's PRODUCED EACH YEAR 1908-1927

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YEAR	NUMBER
1908	309
1909	13,852
1910	23,739
1911	54,000
1912	82,400
1913	199,100
1914	240,700
1915	372,251
1916	586,203
1917	834,663
1918	382,247
1919	828,545
1920	1,038,448
1921	939,652
1922	1,315,000
1923	2,055,300
1924	1,991,532
1925	1,605,534
1926	1,631,299
1927	385,679

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Source: FMCA Accession 922, "Model T Production Statistics."

With the exception of the cutbacks in both levels of employment and in production which may be associated with WWI and the 'recession' of 1920, these tables reveal a pattern of virtually continuous growth in the number of hourly employees and the number of Model Ts produced. The increased levels of employment and production were accomplished by dramatic changes in the ethnic, skill-level and class composition of the workforce. This chapter seeks to comprehend: (1) the extent to which Frederick Winslow Taylor's "scientific management" was the basis of the new occupational hierarchy, (2) the origins of the new manager-class,<sup>1</sup> and its position in the production process, (3) and how the quality of worklife of the Model T cohort of Ford workers was affected by the revolution. Herein, the analysis is driven by this researcher's opinion that existing scholarship has not given sufficient attention to the manager-class.

Much of the writing, both the scholarly and the somewhat more journalistic, which analyzes the transformation of the Ford Motor Company has more or less focused on the invention of automated production and assembly process, the \$5 daily-wage, and the welfare work of the Sociology Department. The particular



emphases have, of course, varied in accordance with the scope of the author's objective.

Glazer, for example, exclaimed that Ford's Highland Park plant saw the inauguration of two revolutionary practices which set the pace for the expansion of the automotive industry, and thereby for the transformation of the Detroit area. The first of the revolutionary practices was the introduction of the mass-production assembly principle, which Glazer rightfully characterized as a major technological phenomenon of this century; the second practice, continued Glazer, the minimum \$5 daily-wage was one which soon revolutionized wage scales throughout the nation.<sup>2</sup> Similarly, in THE CAR CULTURE (1975), James Flink remarked that Ford's major innovations----the movable-belt assembly line, the five dollar a day wage, the Model T and the Fordson tractor----influenced America in the twentieth century more than the Progressive Era and the New Deal combined.<sup>3</sup> In part, because of the fanfare with which they were announced, and perhaps because of the particular perspectives of some writers, the implementation of the continuous assembly line and the \$5 daily-wage have tended to overshadow the equally, if not more important changes which brought a new breed of managers into the production process.

Writing in 1975, Nelson is among the writers who has been especially attentive to the revolution in management. According to Nelson, there were three essential elements in the transformation of the Ford Motor Company: the first was, "a technological dynamic, as technological innovation produced, often inadvertently, fundamental changes in the factory environment and in human relationships that derived from it," the second element was a managerial dynamic, as managers attempted to impose order and system on the manufacturing organization," the final element, Nelson argued, was a "personnel dynamic, as managers began deliberate efforts to organize and control the factory labor force."<sup>4</sup> Unlike many observers, Nelson has attached a major significance to both the intellectual and the human dimensions of the managerial revolution.

Regarding the significance of the creation of a manager-class, Peter F. Drucker has asserted that, "Indeed, Scientific Management is all but a systematic philosophy of worker and work. Altogether it may well be the most powerful as well as the most lasting contribution America has made to Western thought since the Federalist Papers."<sup>5</sup> Along with Drucker, Nelson and Chandler, the most prominent scholars of the transformation of the Ford Motor Company, including

Hervins and Meyer, and the less complimentary observers, Dunn and Sward, have all recognized the significance of the managerial revolution.

In each case, although from different critical perspectives with different emphases, noted scholars have concerned themselves with the relationship of Taylorism, i.e., scientific management to (1) increased production, (2) problems associated with the flood of "unskilled" labor, (3) and the consequential displacement of "skilled" craftsmen. Yet, despite the eloquence and fastidiousness with which authors have analyzed Ford's implementation of Scientific Management, the analyses have often suffered for having taken a perspective which attempts to understand how the "Taylorized" pattern of social relations in the Crystal Palace gave control of the production processes to managers, without giving due consideration to the origins of this newly created manager-class. Although Braverman's work (1974) does not focus exclusively on the Ford Motor Company, his observations regarding scientific management and the new manager-class are most instructive.

Referring to the political economy in which the social and technological revolutions of the Crystal Palace took place, i.e., the context out of which the

new manager-class was born, Braverman has pointed out that the social formation of monopoly capital had its beginnings in the latter decades of the nineteenth century. "It was then that the concentration and centralization of capital, in the form of the early trusts, cartels and other forms of combination, began to assert itself, it was consequently then that the modern structure of capitalist industry and finance began to take shape."<sup>6</sup> In an earlier chapter, entitled, "The Origins of Management," Braverman noted that, in a setting of rapidly revolutionizing technology the capitalist, ". . . brought into being a wholly new art of management, which even in its early manifestations was far more complete, self-conscious, painstaking, and calculating than anything that had gone before."<sup>7</sup> With respect to the insertion of the manager-class into the production equation, Braverman noted that, "It was not that the new arrangement was 'modern,' or 'large' or 'urban' which created the new situation, but rather the new social relations which now frame the production process," and the antagonism between the owners for whose benefit the process is carried on, those who manage, and the production workers who provide the labor."<sup>8</sup>

Braverman recognized the significance of the displacement of skilled craftsmen and the appearance of increasingly large numbers of "unskilled workers." But, unlike some other writers, especially Meyer and Nevins, Braverman argued that the displacement of skilled labor is deeply imbedded in the capitalist mode of production; and in accordance with Taylor's principles of scientific management, the replacement of skilled craftsmen with unskilled labor entails (indeed, depends upon) the creation of a managerial class which functions as a buffer between the antagonistic interests of the production workers and the owners, and as the repository of skill in the production process. In other words, the displacement of skilled craftsmen involved much more than merely replacing skilled labor with unskilled labor, it embodied a whole new set of social and class relations.

Prior to the technological revolution which brought with it a managerial revolution, labor was socially divided, but the rationalization of tasks, (i.e., the detailed division of labor) which subdivided human labor into its lowest common denominators: (1) labor of the mind, (2) and labor of hand, would wait for the revolution in assembly and production technology. In the context of the Ford Motor Company and the Crystal

Palace, as elsewhere in manufacturing in the early decades of the twentieth century, the labor of the mind was given to the newly created, white collar manager-class, while the labor of the hand was left for the blue collar unskilled worker. According to Braverman's assessment, "The separation of hand and brain is [was] the most decisive single step in the division of labor taken by the capitalist mode of production."<sup>9</sup> At bottom, the transfer of knowledge employed in production (i.e., skill) to managers, partially fulfills the conditions of the first principle of scientific management, which may be characterized as ". . . the disassociation of the labor process from the skills of the worker," or as "the principle of separation of conception from execution."<sup>10</sup>

While the distinction between managers and production workers may be symbolized by white and blue collars respectively, Braverman has cautioned that the traditional distinctions between "manual" and "white collar" labor has virtually ceased to have meaning in the modern world of work.<sup>11</sup> Braverman continued, "It was not the color of the employee's collar, still less the mode of payment on an annual or monthly basis as distinguished from the daily or hourly wage of the manual worker, that in themselves had a determinate

meaning, but rather the whole complex of social position and position in the enterprise and the labor process that these terms symbolized."<sup>12</sup> As presently suggested by Braverman, and certainly as demonstrated in a variety of statistics and reports in the FMCA, the method of distinguishing between owners, managers and workers on the basis of white and blue collars, or on the basis of the manner in which one is paid, is inaccurate and (perhaps) misleading; Kalleberg and Griffin have devised an alternative way to make the distinction.

Kalleberg and Griffin have distinguished between workers, managers and employers on the basis of responses to two questions: (1) the first question asks whether the respondent is self-employed; (2) the second question asks whether the respondent supervises anyone as part of their job. Those who answer "yes" to both questions are employers, those who answer "no" to both questions are workers, and those who answer "no" to the first question and "yes" to the second question are managers.<sup>13</sup> The hypothetical situation in which the workforce in the Crystal Palace responds to the Kalleberg/Griffin questions, Reitell's descriptive list of "important operations in the automobile industry," Zunz's sample of 1920-Detroit and Highland Park occupations, and Meyer's discussion of social relations

in the Highland Park plant (along with a variety of statistics from the FMCA), are sufficient to provide a reasonably good sketch of the origins and function (i.e., consolidation) of the manager-class.

Meyer has described the social relations of shops and factories of the late nineteenth and early twentieth centuries. According to Meyer, present scholarship and existing fragmentary evidence suggests that the typical work relationships in the carriage and wagon shops, the small automobile factories, and the metal working shops retained an essentially "artisan character." That is to say that, generally speaking, skilled mechanics controlled the labor process and were centrally involved in both the mental and physical aspects of the productive operations of the workshop or factory. In this pre-revolutionary environment, the skilled workers supervised unskilled laborers and/or helpers who did the physically most strenuous tasks in production. Even in the technologically advanced shops and factories, the dominant pattern of social relations was one in which the fundamental division in the workforce was between the skilled "mechanic" and the unskilled "laborers."<sup>14</sup> Meyer also noted that a symbolic manifestation of the social relations of the workplace may be seen in photographs of the period which often showed skilled



workers wearing white shirts and ties, while the unskilled worker is seen wearing the more conventional blue collar or traditional immigrant clothing.<sup>15</sup>

The social relations which Meyer described are numerically illustrated in table 4.3, which shows the proportions of mechanics, specialists, unskilled workers and foremen in an 1891 sample of workers in Detroit's metal industries. It will be noted that in this sample, which probably typified the period, mechanics represented 39 percent of the workforce, while the less skilled specialists and unskilled workers represented 59 percent of those involved in production. The foremen, representing 2 percent of the production workforce were, as suggested by their income and age, and as verified by the conditions of production in the metal working industries, essentially upgraded mechanics. The major point to be made here is that, while there is clearly a division of labor which may be understood in terms of the symbolic 'white' and 'blue' collars, the reality is that despite the differences in income (see table 4.3), most of the workers were physically involved (albeit in varying degrees) in the production processes.

TABLE 4.3

DETROIT WORKERS IN METAL INDUSTRIES BY  
OCCUPATIONAL CLASSIFICATION, 1891

Occupation	Number	Percent	X Weekly	X Age
Mechanics	153	39	12.58	32
Specialists	117	30	8.18	24
Unskilled	113	29	6.60	27
Foremen	9	2	19.67	38
TOTAL	392	100	9.95	29

Source: This is an adaptation of a table that appears in Meyer (1982). Meyer noted the sources as, "A Canvas of Agricultural Implement and Iron Working Industries in Detroit," in MICHIGAN BUREAU OF LABOR AND INDUSTRIAL STATISTICS, EIGHTH ANNUAL REPORT (Lansing, Michigan 1891)1-151. The statistics reported here are the result of a computer analysis of a one in ten sample of the original data (Meyer, 1982:46).

In contrast to the distribution of production workers shown in table 4.3, the occupational classification of Ford's employees in January 1917 (table 4.4), reveals a dramatic change in the workforce of the erstwhile trend-setter of the automotive industry. Most important, of course, is the appearance of technical workers (13%), clerks (4.2%), and salaried supervisors (0.4%) who were not present in the 1891 sample.

TABLE 4.4

FORD EMPLOYEES AS OF JANUARY 1917:  
BY OCCUPATIONAL CLASSIFICATION

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Occupation Group	Number	Percent
Specialists	22,652	55.3
Unskilled	5,986	14.6
Technical	5,391	13.2
Foremen	3,523	6.2
Clerks	1,710	4.2
Inspectors	1,533	3.7
Skilled Trades	1,003	2.4
Salaried Supervisors	198	.4
TOTALS	40,966	100.0

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Source: FMCA Accession 940, Box 16, "List of Trades and Occupations and Number of Men Employed in Same." See also, Charles Reitell, "Machinery and Its Effect Upon the Workers in The Automobile Industry," ANNALS AAPS, 116 (November 1924) 37-43; Meyer, 1982.

When those classified as foremen (6.2%) and inspectors (3.7%) who were present in the 1891 sample, are added to the former, it adds up to a manager-class which was not physically involved in production; and which equals 28 percent of those employed. As demonstrated in tables 4.3 and 4.4, a revolution had indeed taken place. What follows is attempt to understand the relationship of Frederick Winslow Taylor's "principles of scientific management" to both the revolutionary process and its consequences.

Before turning to a consideration of "Taylorism" and its place in the technological and managerial revolution in the Crystal Palace, it is important to place Talyor's work in its proper perspective. The emergence of management engineering, or "scientific management" as it was popularly known, can be associated with the enormous increase in the size and complexity of American corporations between the

Civil War and c.1900.<sup>16</sup> In a manner similar to that in the professions of medicine, law and education which became increasingly specialized and segmented in response to the demands and opportunities offered by a rapidly growing, and increasingly complex industrial society, industrial engineers recognized an opportunity to create a new specialization within the profession of

industrial engineering; but, unlike other established professions, such as medicine and law, scientific management carried relatively little traditional [intellectual] baggage."<sup>17</sup> More precisely, it may be noted that the origin of modern personnel management is to be found in "two converging strands in American economic life." "One is the movement which has been designated 'welfare work.' The other, associated with the profession of engineering, is Scientific Management."<sup>18</sup>

At the outset, "efficiency" was the primary concern of engineers who became associated with the development of the 'new profession,' that became known as management engineering. Their traditional concerns had been with material, structure, and machine process, but in the midst of revolutionary developments in corporate organization, and machine and tool technology, it soon became apparent that "efficiency" could only be achieved when the workman was taken into consideration. This new direction taken by some engineers around the beginning of the twentieth century, is symbolized by the most famous of the engineers, "Frederick W. Taylor. . . who remains best known for his 'discovery' that the methods of work and the methods of management could and should be improved, that is for

Scientific Management."<sup>19</sup> It is generally conceded that Frederick Winslow Taylor is the "Father of Scientific Management,"<sup>20</sup> and students who search the literature of American management will find abundant evidence that the "aims, principles and procedures first presented by Taylor have, like the ripples of a stone cast into a pool, spread out into American industry, although many a management of 1929 [and beyond] may not know the source of that which it believes or practices."<sup>21</sup>

Among the critical steps towards the insertion of mechanical engineers into the "management engineering" mold, the first was taken with the founding of the American Society of Mechanical Engineers (A.S.M.E.) in 1880. It should be noted that a variety of specializations, such as accounting and marketing had already developed within corporate structures, but "There is [however] no such evidence of early application of the principles of specialization to labor administration. Before 1900, the day-to-day relations with labor were in the hands of foremen."<sup>22</sup>

By 1886 a new direction was made apparent. At the annual meeting of A.S.M.E. in Chicago on May 26, the first in a long series of papers on management were presented to the members. Two of the papers, one by Captain Henry Metcalfe entitled, "The Shop Order System

of Accounts,"<sup>23</sup> and a second by Oberlin Smith, "Inventory Valuation of Machinery Plant,"<sup>24</sup> had no lasting impact on the development of "management engineering," but a third paper by Henry Townsend, "The Engineer as an Economist," in which the presenter reminded his listeners that the engineer's value to any firm was [ultimately] measured in dollars and cents, stands out as a watershed in industrial management. The discussion following the presentation of these three papers was lively, and one of the persons involved was a thirty-five year old engineer who had joined A.S.M.E. in 1885;<sup>25</sup> his name was Frederick Winslow Taylor. Here in 1886, is where Taylor began his contribution to management engineering. His first formal presentation to A.S.M.E. would not come until 1895.

Four years after Frederick A. Halsey delivered a paper in which he introduced the element of "time", a proposition in which Taylor had long been interested, as a consideration in devising incentive pay,<sup>26</sup> Taylor presented his first paper to A.S.M.E. The paper was titled, "A Piece Rate System, Being a Step Toward Partial Solution of the Labor Problem."<sup>27</sup> For the next several years, thinking among engineers continued to focus primarily on using wages as a means of achieving efficiency on the part of workers. It was Taylor's

opinion that "the greatest obstacle to efficient production was poor management, simply because employers<sup>28</sup> knew little about the elements of production." In other words, Taylor believed that the emphasis on wage incentives as a means of achieving efficiency in production was misdirected. Therefore, Taylor "attempted to remedy the misdirection of attention in the 1903 meeting of A.S.M.E. in Saratoga, where he read his famous paper, "Paper Number 1003," which bore the title, "Shop Management,"<sup>29</sup> and in which he outlined the principles through which management could unite high wages with low labor costs.<sup>30</sup> As in the case of the "Piece Rate" paper, the "Shop Management" paper "failed to stimulate sympathetic interest in the idea that a day's work could be measured,"<sup>31</sup> and thereby be used as the foundation for achieving efficiency in production. It was not until eight years later that the Eastern Rate Case hearings of 1910-1911 gave Taylor's ideas a sudden vogue under the name of "Scientific Management."<sup>32</sup>

Innovations in the Crystal Palace and the explication of the principles of scientific management were developed simultaneously. There is no doubt that Ford engineers were aware of Taylor's work; for example, ". . . Flanders in his improved tooling system at Piquette, Hawkins in his departmentalization, and



P.E. Martin in his elementary time studies, had doubtless caught some of "Taylor's ideas."<sup>33</sup> Among managers in the Crystal Palace, Clarence W. Avery had the broadest grasp of scientific management. "He had read widely, knew the latest European and American advances in engineering, and kept in touch with the ideas of men like Frederick Winslow Taylor."<sup>34</sup> And, as Nevins has reminded us, the year (1911) that the Crystal Palace was in full use, "was the year in which Taylor published THE PRINCIPLES OF SCIENTIFIC MANAGEMENT, and laid before Congress his report on the Taylor system."<sup>35</sup> Moreover, Taylor himself recognized the independent implementation of the principles of which he is the recognized inventor.

According to the record as reported by Nevins, Taylor lectured to Detroit area engineers and managers on at least two separate occasions. In 1909 Taylor spoke for more than four hours at the Packard plant, and late in 1910 he addressed a group consisting of more than six hundred superintendents and foremen employed in Detroit area industries. On the latter occasion, Taylor was told that, "without special prompting or counsel," several Detroit area firms "had anticipated his ideas." Being informed of this development, Taylor expressed his interest and stated that it was the "first instance in

which a group of manufacturers had undertaken to install the principles of scientific management without the aid of experts." <sup>36</sup> Clearly then, as Nevins concludes, independent of Taylor's work, the machine process in the automotive industry (most notably in the Crystal Palace) was generating and perfecting its own procedures. It is significant that "plant engineers and production superintendents, knowing little theory but schooled in machine-shop, foundry, and assembly room . . . were creating a system of management to meet" their practical problems. "Ford, Willis, Galamb, Emde, and Sorensen may well have learned something from Taylor, but they could also have taught him something." <sup>37</sup> Whatever the role played by Taylor's scientific management, the revolution in the Crystal Palace would soon be consolidated.

In 1924 Reitell described some of the effects of the revolution; he wrote that, "So pronounced have been the changes that they record definite influences upon worker's wages, upon his mental actions and reactions, upon his physical being, and upon the whole social and industrial fabric of which he is a part." <sup>38</sup> Reitell continued by noting that within a century, inventions such as the steam engine, the cotton gin, the typewriter, the radio, the telephone and the automobile were all witnesses "of a conquering of mankind over

blind nature." "But," he added, "there is a backfire to all of this mechanical achievement. The workers by the millions in mills and factories are being shaped to meet the demands of these rigid machines. The requirements of dexterity, alertness, watchfulness, rhythmic and monotonous activities, coupled with a lessening of much of the older physical requirements, are registering results that portray a new type of worker in industry."<sup>39</sup> In more recent times, Stephen Meyer has echoed Reitell's remarks.

Meyer maintains that the new industrial technology which had become a reality in the Crystal Palace, "was a mixed social blessing, and perhaps even a curse which promised a material cornucopia for all," while exacting incredible social costs. Following the implementation of the new technology, "The world of work would never be the same again. . . the worker's daily routine became more monotonous and more repetitive. It dramatically altered the social structure of the shop, the factory, and, in fact modern industrial society. . . . Indeed, the new industrial technology had a profound impact on modern social existence"<sup>40</sup>

While the tools were being perfected and raw immigrant labor flocked to the gates of the Crystal Palace, there was an equally profound revolution of

another sort in the offing. Frederick Winslow Taylor referred to scientific management as a "great mental revolution." Taylor asserted that scientific management involved a complete mental revolution on the part of the workingman, and on the part of those in management (i.e., foremen, superintendents, owners of the firms, and boards of directors). For the workingman the mental revolution would mean a reorientation "as to their work, toward their fellow men, and toward their employers;" for the managers it meant rethinking "their duties toward their fellow workers in management, toward their workmen, and toward all their daily problems." "And," Taylor emphatically added, "without this complete mental revolution on both sides scientific management does not exist."<sup>41</sup>

Whether or not the system which was instituted in the Crystal Palace was drawn directly from Taylor's work, it was clearly in line with his prescriptions, and therefore, the principles outlined by Taylor offer an excellent framework within which to analyze the process and the results of Ford's managerial revolution. Recognized as the "father of scientific management," and the "original efficiency expert," Frederick Winslow Taylor had begun careful time and motion studies in the machine shop of the Midvale Steel Company in 1881,<sup>42</sup> and

in 1893 in Philadelphia he opened an office where he worked as a consultant in shop management and manufacturing costs.<sup>43</sup> In describing his book, Taylor wrote that, "This book is written mainly with the object of advocating high wages and low labor cost as the foundation of the best management, of pointing out the general principles which render it possible to maintain these conditions even under the most trying circumstances, and of indicating the various steps which the writer thinks should be taken in changing from a poor system to a better type of management."<sup>44</sup> Taylor maintained that scientific management, "in its essence, consists of a certain philosophy, which results, . . . in a combination of four great underlying principles of management." In brief, the four principles included: (1) the development of a true science, (2) the scientific selection of the workman, (3) his scientific education and development, and (4) intimate friendly cooperation between the management and the men.<sup>45</sup>

It may be argued that, in the Crystal Palace, the first, second and third principles of scientific management were accomplished simultaneously. In his testimony to the House of Representatives' Special Committee, Taylor stated that the first principle involved managers in the deliberate collection of "the

great mass of traditional knowledge which in the past has been in the heads of workmen." This "first principle may be called the development of a science to replace the old rule-of-thumb knowledge workmen had . . . and of which there was no permanent record."<sup>46</sup>

Taylor outlined the second principle when he testified that, it "is the scientific selection and the progressive development of the workingmen;" and "the third of the principles of scientific management is the bringing of the science and the scientifically selected and trained workmen together."<sup>47</sup> Certainly, the Ford workmen were not "scientifically selected," and therefore, the second and third principles were not literally accomplished. But the objectives were achieved through the scientific selection and progressive development of tools and machines, rather than through the scientific selection of workmen; that is to say, in the initial stages of the production of the Model T, the conditions which principles two and three were expected to satisfy, were created primarily through the use of tools and the arrangement of machines, rather than by the scientific selection and education of workmen.

The fourth principle, Taylor continued in his testimony, "is perhaps the most difficult of the four

principles of scientific management for the average man to understand."<sup>48</sup> Worded somewhat differently in SHOP MANAGEMENT (1911), the fourth principle calls for an almost equal division of the actual work of the company between workmen and management. "That is, the work which under the old type of management practically all was done by the workmen, under the new is divided into two great divisions [classes], and one of these divisions is deliberately handed over to those on the management side."<sup>49</sup> In the Crystal Palace, the successful implementation of the principles of scientific management was marked by the emergence (late in 1914) of mass produced Model Ts from the continuous production and assembly lines.

Meyer, in his unusually perceptive and meticulous study, noted three areas in which Ford's new industrial technology (a technology which coincided with the fulfillment of the four principles of scientific management), had a dramatic impact on the character of work and on the social relations at the workplace.<sup>50</sup> First, the new technology transformed the tasks and routines in the various shops and departments of the Crystal Palace, so that the "traditional notion of skill was completely removed from the tasks and routines of the workman." Second, a new system of workplace

stratification and new patterns of social relationships emerged as the "deskilled specialist" became the principal occupation-group, and foremen, subforemen, "straw bosses," clerks, and inspectors increased their numbers. Finally, the new technology brought with it a new method for the control of the "deskilled specialist." "The design of machines, the arrangement of men and machines, the new forms of record keeping and inspection, and the new means of mechanical conveyance all controlled the pace, the intensity, and the quality of production."<sup>50</sup>

From the perspectives of workplace stratification and social relations, the net result of the new technology was the insertion of a new factor in the production equation. The new factor was the MANAGER. That is to say that, if prior to the introduction of the new technology the value of production (Pv) could be measured by capital (c) and labor (l), then after the new technology had been implemented, the value of production was a function of capital, management (m) and labor;  $Pv=c+l$  became  $Pv=c+m+l$ .

The formulaic expression [ $Pv=c+m+l$ ] is imprecise and perhaps too simple to be of much use. But, it is sufficient to suggest that in order to understand the significance of the new managerial factor, it is



necessary to distinguish between management and labor, and it is necessary to specify the hierarchy within these two occupational classes; this necessity is one upon which Reitell's work sheds considerable light.

In 1924 Reitell noted that changes in how the automobile was produced, added to the existing confusion associated with terms such as "skilled, semi-skilled and unskilled workers."<sup>51</sup> More recently, further confusion has been added by the use of terms like "deskilled" and "deskilling."<sup>52</sup> While such phrases are intuitively appealing, they are ahistorical and, unfortunately, they detract from the most profound change in workplace stratification, i.e., the insertion of the manager class. Fortunately, Reitell outlined an excellent alternative to such phrases.

Reitell wrote that, "in lieu of unskilled, semiskilled and skilled there now exist tenders who operate machines, the technical force who design, plan schedule, route and cost the work, the clerks, inspectors and foremen who record all the miscellaneous activities of the shop, check the quality and quantity of production and who keep watch on the flow of materials."<sup>53</sup> According to Reitell's observations, "important operations in the automobile industry" could be reduced to the six primary groups which he listed:

(I) The Machine Tenders, (II) The Assemblers, (III) "Skilled Workers," i.e., those with a trade, (IV) Inspectors and Testers, (V) The Helpers, (VI) The Laborers.<sup>54</sup> Reitell added that, in the eleven years between 1912 and 1923, Groups I and II, consisting of machine tenders and assemblers, grew to represent a larger proportion of the total workforce, while Groups III and VI, "skilled workers" and common laborers decreased as a proportion of the total workforce.<sup>55</sup> Reitell's classification is invaluable, but with the exception of "Inspectors and Testers" included in Group IV, the manager-class is excluded. Table 4.5 complements Reitell's classification scheme.

TABLE 4.5

AUTOMOTIVE INDUSTRY OCCUPATIONS BY SKILL CLASSIFICATION  
AND NUMBER EMPLOYED, DETROIT 1920

CLASSIFICATION	OCCUPATION	NUMBER
White Collar	Inspector	42
"	Accountant	10
"	Salesman	9
"	Engineer	6
"	Stock Clerk	6
Skilled and semi-skilled	Machinist	195
"	Foreman	66
"	Toolmaker	53
"	Painter	29
"	Assembler	27
"	Carpenter	18
"	Millwright	18
"	Mechanic	17
"	Trimmer	17
"	Repairman	16
"	Electrician	12
"	Woodworker	11
"	Bricklayer	11
"	Auto body builder	10
"	Auto body maker	9
"	Finisher	9
"	Steamfitter	9
"	Grinder	9
"	Molder	8
"	Blacksmith	6
"	Motor Assembler	5
Unskilled labor		
"	Laborer	184
"	Machine hand	22
"	Auto worker	12
"	Sheet metal worker	12
Unskilled Service Worker	Watchman	6

Source: This table is based on data which appears in Zunz's, THE CHANGING FACE OF INEQUALITY (1982), "Table A 3.2;" Zunz's table is based on a stratified sample of 4,864 heads of household who were counted in the 1920 United States Census.

Table 4.5 is based on a stratified sample of 4,864 heads of household counted in the 1920 United States census, and is a valuable supplement to Reitell's classification of workers. When summarized, the table reveals that 73 workers were classified as "white collar;" there were 555 skilled and semi-skilled, and 230 unskilled workers in the sample. Considered along with Reitell's classification of workers involved in the "important operations in automobile production," it will be noted that only Group IV/Inspectors and Testers may be categorized as white collar workers; moreover, it will be observed that the number of inspectors (42/864) is consistent with Reitell's assertion that this group of workers included about five-percent of the total. Together, the foregoing tables (4.3, 4.4 and 4.5), and Reitell's classification of automotive workers record a change from the workplace hierarchy which had prevailed in the 1891 sample.

Among the many changes wrought by the new factory system pioneered by Ford, the displacement of the foremen by the manager-class was, perhaps, the most profoundly important. Prior to the advent of the new factory system which has been described by one writer as "Fordism,"<sup>56</sup> it was common for manufacturers to entrust most aspects of the day-to-day operations to first-line

supervisors (i.e., foremen) and other skilled workers<sup>57</sup>

Typically, "the technicians, clerks and other staff specialists----not to mention the union representatives----who dominate the present-day manufacturing plant were unknown in the late nineteenth century factory." Clearly, "before 1900 and in most factories before 1920, the foreman was the undisputed ruler of his department, gang, crew or shop."<sup>58</sup>

The foreman's status and authority, which were usually achieved through the acquisition of a "skill," were based on several important functions which the foreman performed: First, and most important, he "got the work out;" a job that varied according to the degree of management participation in production decisions. A second function was to interpret the management's policies to the workers, . . . Finally, the foreman hired, trained, motivated and disciplined workers."<sup>59</sup>

Although nineteenth century managers and foremen seldom distinguished the three activities from "getting the work out" and enforcing the employer's rules, the foreman's personnel function (in the new system) became the responsibility of 'expert' managers. While firms such as the Ford Motor Company gradually reduced the foreman's power to recruit and train the factory labor force, they also added new personnel programs outside

the foreman's jurisdiction that ultimately reinforced the trend toward centralized control over employee recruitment and training,<sup>60</sup> and eventually extended that control into the homes of the workers.

As the internal authority structure of the Ford Motor Company was overturned, i.e., as skilled workers and foremen were displaced by the manager-class, there was also a significant change in the size and ethnic composition of the workforce (See table 4.1 for a record of the increased number of "Hourly" employees.) Generally speaking, it would be correct to conclude that the ethnic composition in the Crystal Palace was merely a reflection of the ethnic make-up of the region as a whole. Richard Lee, who headed Ford's first Personnel Department, and who preceded Samuel Marquis as head of the Sociological Department, noted the significance of foreign-born employees in the Crystal Palace. Lee stated that, among those employed in the Highland Park plant, there were fifty known nationalities and one unknown. In summary, Lee noted that, "Out of the [8,000] men working here, there are 73 that did not know what they were, 1,829 Americans, 1,812 Poles, 1,465 Russians, 522 Roumanians, 366 Germans and 137 Servians [sic]" . . . "So you can see, the foreign element predominates."<sup>61</sup>

Lee's statement is borne out in table 4.6.

TABLE 4.6

NATIONALITIES AND RELIGIONS OF FORD'S CRYSTAL PALACE  
EMPLOYEES IN JANUARY 1916 BY NUMERICAL PROMINENCE

---

Nationality	Number
<hr/> American	<hr/> 12,328
Polish	5,280
Canadian	1,392
Italian	1,197
Roumanian	1,002
German	1,001
*	*
<hr/> Religion	
Roman Catholic	13,586
Protestant	12,427
Greek Catholic	1,660
Jewish	995

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Source: Ford Motor Company Archives, Dearborn Michigan, Accession 62, Box 59. \*More than fifty other nationalities were recorded, each with less than one-hundred persons employed in the Crystal Palace.

Table 4.6 is further testimony to the prominence of the "foreign element;" here, it is shown that in January 1916, while most of the employees at the Crystal Palace were "American," Polish, Canadian, Italian, Roumanian and German workers [along with fifty other nationalities, each with less than one hundred employed], were significant among the total number of employees. Since the Roman Catholic religion is often included as an ethnic characteristic of the foreign workers who came to the Detroit area during the late nineteenth and early twentieth centuries, the fact that 13,586 employees at the Crystal Palace were designated "Roman Catholic" also attests to the prominence of the "foreign element."

It goes without saying, of course, that although the ethnics were prominent in their numbers, they were not proportionately distributed throughout the workforce hierarchy. One Ford Motor Company official (c.1914) noted that, while the percentage of foreign people who come to work as laborers in the Highland Park plant was rather high, they were of various "types." More precisely, the official continued:

You see, in the machine lines, I would say they were more or less Americans or they were maybe of German descent or people of that type, you know. More skilled help was



naturally the American type, but we did secure a lot of Austrians and Germans, you know, good die makers, you know. I would say the highest percentage was an American type.

In the lower classifications, such as press operators or grinders or laborers, well, we had the foundry here, foundry help. In the beginning it was a lot of Russian, Polish, Croatian, Austrian, people of that type. We didn't have any Negroes until WWI. That was the beginning of the migration of the colored people in Detroit. 62

The Ford official's assessment of the proportion of the various "types" of workers employed in the Crystal Palace, and the particular classes of jobs that they held, is confirmed in the 1920-United States Census report which included statistics on job classification by nationality. According to Zunz's analysis of a sample of the 1920 statistics, the "American type" occupied the white collar, skilled and semi-skilled positions in the hierarchy of Highland Park's workforce, while the "lower classification" was reserved for the Polish, Croatian, Italian, and other "people of that type." In short, the testimony of Ford officials, combined with the statistics recorded in table 4.7, strongly suggest that virtually all of the manager-class would come from the ranks of the "American type!" In some ways, the bias in favor of the "American type" is both ironic and paradoxical.

TABLE 4.7

OCCUPATIONAL STATUS OF HIGHLAND PARK AUTOMOTIVE WORKERS,  
BY ETHNIC GROUP AND OCCUPATIONAL CLASSIFICATION

Ethnic Group/ & Number	Occupational Classification			
	White Collar	Skilled and Semi-skilled	Unskilled *(wl)	(sw)
Native White				
American/80	32.5	42.5	6.3	6.3
British/17	17.6	47.1	29.4	---
Canadian:				
English/13	23.1	46.2	15.4	7.7
American/13	30.8	38.5	15.4	---
Brt/Am /4	---	25.0	---	25.0
German Am/9	11.1	66.7	---	---
British Am/7	42.9	14.3	14.3	14.3
Italian/7	---	28.6	57.1	14.3
Armenian/6	---	33.3	16.7	16.7
Irish Am/3	---	66.7	---	---
Swiss Am/3	66.7	33.3	---	---
German /2	---	---	---	---
Other Foreign born/22	22.7	31.8	31.8	4.5
Other Native born/5	20.0	40.0	20.0	---
TOTALS: /164	49	77	27	11
PERCENT	25.7	40.3	14.1	5.8

Source: This table is based on, "Table 13.5" in Zunz's, THE CHANGING FACE OF INEQUALITY (1982), 358-9. Zunz's statistics are derived from 1920 United States Census, and represent the results of an equal probability sample of heads of households in Highland Park.

\* (wl) and (sw) designate wage labor and service worker

The bias is ironic in two respects. In discussions regarding the displacement of the artisan class, the artisan is usually cast as the victim of the villainous, "unskilled" immigrant worker whose lowly habits allowed him to live on lower wages than those required by the artisan. Since it was rational to employ labor at the cheaper rate, it is generally surmised, that the artisan was replaced by the immigrant. The present analysis strongly suggests that the foregoing scenario is ahistorical (at least incomplete). It would be more correct to argue that while the artisan was replaced, he was not replaced by the immigrant, but by the manager-class, almost none of whom were of the "immigrant type!" Secondly, the bias is also ironic in that, while it is often recognized that Taylor's scientific management may have been the basis for stratification in the Crystal Palace, there is only silence on the question of, "How scientific was the selection of the manager-class?"

## FOOTNOTES

## Chapter Four

1. As conceived here, the 'manager-class' in the Crystal Palace is thought to be like the 'class' defined by E.P. Thompson. Thompson agrees with R. Dahrendorf in recognizing that, "Classes are based on the differences in legitimate power associated with certain positions, i.e., in the structure of social roles with respect to authority expectations.... An individual becomes a member of a class by playing a social role relevant from the point of view of authority ....He belongs to a class because he occupies a position in a social organisation; i.e., class membership is derived from the incumbency of a social role." (Thompson cites, R. Dahrendorf, CLASS AND CONFLICT IN INDUSTRIAL SOCIETY, 1959, 148-9).

Thompson's elucidation of Dahrendorf emphasized that, "The question, of course, is how the individual got to be in this 'social role,' and how the particular social organization (with its property-rights and structure of authority) got to be there. And, Thompson continued, "these are historical questions."

With this, then, along with Thompson, "By class I understand an historical phenomenon, unifying a number of disparate and seemingly unconnected events, both in the raw material of experience and in consciousness. I emphasize that it is an historical phenomenon. I do not see class as a "structure," nor even as a "category," but as something which in fact happens (and can be shown to have happened) in human relationships."

In sum then, "The class experience," of managers in the Crystal Palace, as for class experiences elsewhere, "is largely determined by the productive relations into which men are born----or enter voluntarily." Note: See E.P. Thompson, THE MAKING OF THE ENGLISH WORKING CLASS (New York: Vintage Books, 1966), 9-11.

2. Sydney Glazer, DETROIT: A STUDY IN URBAN DEVELOPMENT, (Bookman Associates, 1965), 81.
3. Robert C. Ackerson, "Historiography: Some Milestones In Automotive Literature," MICHIGAN QUARTERLY, No. 4 (1980) and No. 1 (1981), 768.
4. David Nelson, MANAGERS AND WORKERS: ORIGINS OF THE NEW FACTORY SYSTEM IN THE UNITED STATES, 1880-1920 (Madison, Wisconsin: The University of Wisconsin Press, 1975), ix.
5. Peter F. Drucker, "Work and Tools," in Melvin Kranzberg and William H. Davenport (eds.) TECHNOLOGY AND CULTURE (New York, 1972), cited in Harry Braverman, LABOR AND MONOPOLY CAPITAL: THE DEGRADATION OF WORK IN THE TWENTIETH CENTURY (New York: Monthly Review Press, 1974), 88.
6. Braverman, THE DEGRADATION OF WORK, 252.
7. Braverman, THE DEGRADATION OF WORK, 65.
8. Braverman, THE DEGRADATION OF WORK, 69.
9. Braverman, THE DEGRADATION OF WORK, 126.
10. Braverman, THE DEGRADATION OF WORK, 113; 114.
11. Braverman, THE DEGRADATION OF WORK, 326.
12. Braverman, THE DEGRADATION OF WORK, 349.
13. Arne Kalleberg and Larry Griffen, "Class, Occupation, and Inequality in Job Rewards," AMERICAN JOURNAL OF SOCIOLOGY, 85: 731-768.
14. Stephen Meyer III, THE FIVE DOLLAR DAY (Albany, New York: State University of New York Press, 1981), 42-43.
15. Meyer, FIVE DOLLAR DAY, 43.
16. Milton J. Nadworny, SCIENTIFIC MANAGEMENT AND THE UNIONS 1900-1932, Harvard University Press, Cambridge, Massachusetts 1955, "The Origins of the Taylor System," 1-13; Wiebe, SEARCH FOR ORDER, 151; Eilbirt, "The Development of Personnel Management in the United States," BUSINESS HISTORY REVIEW, XXXIII (1959): 345.

17. Wiebe, SEARCH FOR ORDER, 151. Similarly, Eilbirt has observed that there is no evidence of the application of specialization to labor administration before 1900; and that in 1900, there did not yet exist a comprehensive personnel department, as we know it today. See, Henry Eilbirt, "The Development of Personnel Management In The United States," in BUSINESS HISTORY REVIEW, XXXIII, 1959, 346, 350.

Moreover, it should be noted that prior to Taylor's established efforts, there were those who demonstrated an interest in "time" as a consideration in improving efficiency in production, none are found to have a direct link to Scientific Management. Among Taylor's predecessors, Charles Babbage is especially noteworthy. See footnote number 2, page 155 in Nadworny: Babbage was among England's most renowned mathematician who, in 1832 published, ON THE ECONOMY OF MACHINERY AND MANUFACTURES, which was a treatise on his observations of English and French factory methods, and his own ideas about good business practices. As Taylor would argue about three-score years later, Babbage believed that in order to remove friction between employer and employee resulting from inappropriate levels of production, it was of the utmost importance to determine scientifically the amount of work a man could do. Although he considered timing workers with a watch, he believed a better average of the general rate of production could be obtained by asking various employers what quantity was considered a fair day's work. Babbage also emphasized the need for knowledge of the costs of production, and advised that a division of labor in management functions be instituted in factories. Taylor probably never heard of Charles Babbage, and probably never read the latter's book. It remained for the chroniclers of the scientific management movement to discover Babbage and mark him as an indirect forerunner of modern management protagonists. See C. Berterand Thompson, ed., SCIENTIFIC MANAGEMENT (Cambridge, Massachusetts, 1914); Frank B. Copley, FREDERICK W. TAYLOR: THE FATHER OF SCIENTIFIC MANAGEMENT (2 volumes, New York, 1923) 278-279; Harlow S. Person, GRAPHICAL ANALYSIS OF SCIENTIFIC MANAGEMENT (New York, 1944).

18. Eilbirt, "Development of Personnel Management," 1-13.

19. Eilbirt, "Development of Personnel Management," 1-13.

20. The Taylor Society, (edited by H.S. Person) SCIENTIFIC MANAGEMENT IN INDUSTRY, 1929 (Harper and Brothers Publishers, New York):xviii; Nelson, MANAGERS AND WORKERS, 55; Copley, 1923:passim. Nelson has noted (see fn 3, page 186 in Nelson, 1975:186), that Frank Barkley Copley, FREDERICK W. TAYLOR, 2 vols. (New York, 1923), remains the most valuable source on Taylor's career prior to 1900. Copley had the assistance of Taylor's widow and disciples and included much information not available elsewhere.

21. Person, "The Origin and Nature of Scientific Management," 1929:12.

Frederick Winslow Taylor was born in Philadelphia in 1856 of well-to do parents, and had the benefit of education in Philadelphia, France and Germany as well as at Exeter Academy where he graduated at the head of his class. Taylor reconsidered plans to study law at Harvard, and at the age of 19 became an apprentice pattern maker and machinist in a Philadelphia firm. When his apprenticeship ended in 1878, he took a job as a laborer at the Midvale Steel Company. In six years, he progressed through the positions of gang boss, assistant foreman, and foreman in the machine shop; through master mechanic and chief draughtman to chief engineer of the plant. On his own, he took engineering courses offered by Stevens Institute of Technology in Hoboken, and in 1883 he received his degree in mechanical engineering. After more than a decade at Midvale, Taylor decided to embark on a career as a "management consultant." Armed with his ideas on planning, research, the differential piece rate, and the stop watch, he sought to widen the influence of his management practice and ideas. In May 1898, Taylor was hired to reorganize the shop at Bethlehem Steel, and it was here that Taylor's experiments bore their greatest fruits, and where the system reached maturity. Despite his successes at Bethlehem Steel, Taylor was dissatisfied there and willingly accepted a note from President Linderman dated April 17, 1901, which read, "I beg to advise you that your services will not be required by this company after May 1st, 1901." (Nadworny, 1955:11). One of the first tasks he took after his retirement was to write "Shop Management" for the purpose of advertising the management system; which it did indeed, and thereby established the A.S.M.E. as the parent organization of "management engineering." (Nadworny, 1955: 1-13). Nelson, MANAGERS AND WORKERS, 1975, Chapter Four "The Rise of Scientific Management,"

also traces the development of Taylor's career and is especially attentive to the conflicts between Taylor and his disciples.

22. Eilbirt, "Development of Personnel Management," 356.

23. American Society of Mechanical Engineers, TRANSACTIONS (New York, 1886), Number 7: 440-468.; Nadworny, SCIENTIFIC MANAGEMENT AND THE UNIONS, 1.

24. A.S.M.E., 1886: 433-439.

25. Person, "The Origin and Nature of Scientific Management," 7.

26. Frederick A. Halsey, "A Premium Plan for Paying Labor," in A.S.M.E., TRANSACTIONS, 1891: 755-764.

27. A.S.M.E., TRANSACTIONS, vol XVI, 1895: 856-858.

28. Eilbirt, "Development of Personnel Management," 1-13; Nelson, MANAGERS AND WORKERS, 61-68.

29. Frederick W. Taylor, SHOP MANAGEMENT (New York, 1911).

30. Person, "The Origin and Nature of Scientific Management," 8; Nadworny, SCIENTIFIC MANAGEMENT AND THE UNIONS, 7.

31. Person, "The Origin and Nature of Scientific Management," 7.

32. Henry L. Gantt, who first worked with Taylor at Midvale, and later became his chief assistant, and Carl Barth, a mathematician played important roles in solving many problems, and played key roles in spreading and implementing the "Taylor" idea. The Barth slide rules, marked one of the great advances in the Taylor system. Sanford E. Thompson was also among the early insiders who played a key role in the development of the Taylor system; Thompson who had extensive training in the building trades, became a specialist in time study.

See, Interstate Commerce Commission, EVIDENCE TAKEN BY THE INTERSTATE COMMERCE COMMISSION IN THE MATTER OF PROPOSED ADVANCES IN FREIGHT RATES BY CARRIERS, August to December, 1910, 61st Congress, 3rd session (Washington, 1911), 4: 2660-67.



33. Alan Nevins, FORD, THE TIMES AND THE MAN (New YORK: Charles Scribner's Sons, 1954), 468.
34. Nevins, FORD, 474.
35. Nevins, FORD, 468.
36. Nevins, FORD, 468-9.
37. Nevins, FORD, 469.
38. Charles Reitell, "Machinery and Its Effect Upon The Workers in The Automotive Industry," THE ANNALS, November 1924, 37.
39. Reitell, "Machinery and Workers," 37.
40. Meyer, FIVE DOLLAR DAY, 35-36.
41. Frederick Winslow Taylor, "Testimony Before The Special Committee of the House of Representatives to Investigate The Taylor and Other Systems of Shop Management/1912," in Taylor, SCIENTIFIC MANAGEMENT (New York: Harper and Brothers Publishers, 1947), 27.
42. Taylor, "Testimony Before HR." 27.
43. Nevins, FORD, 468.
44. Taylor, "Principles of Scientific Management/1911," in Taylor, SCIENTIFIC MANAGEMENT, 22.
45. Taylor, "Principles of Scientific Management/1911," fn. page 130.
46. Taylor, "Testimony Before HR," 40-41.
47. Taylor, "Testimony Before HR," 42.
48. Taylor, "Testimony Before HR," 44.
49. Taylor, "Testimony Before HR," 44.
50. Meyer, FIVE DOLLAR DAY, 37-38.
51. Reitell, "Machinery and Workers," 39.
52. Meyer, FIVE DOLLAR DAY.
53. Reitell, "Machinery and Workers," 39.

54. Reitell, "Machinery and Workers," 39.

55. Reitell, "Machinery and Workers," 40.

56. According to Rothschild, who is often credited with coining the phrase, it (i.e., 'Fordism') was the technology of mass assembly-line production which was made possible by the rapid expansion of output and capital investment. The new technology was based on machinery, [management], and on the "rational" reorganization of work to fit the rhythm of the new machinery.

Rothschild explained that, "In the new organization of auto production, unskilled workers were seen by management as rather simple machines which happened to be alive---Henry Ford expressed this attitude most clearly in his description of factory life: "A business is men and machines united in the production of a commodity and both the men and the machines need repairs and replacements.... Machinery wears out and needs to be restored. Men grow uppish, lazy or careless...." Note: See Emma Rothschild, PARADISE LOST: THE DECLINE OF THE AUTO-INDUSTRIAL AGE (New York: Random House, 1973), 34.

57. Nelson, MANAGERS AND WORKERS, 34.

58. Nelson, MANAGERS AND WORKERS, 42.

59. Nelson, MANAGERS AND WORKERS, 43.

60. Nelson, MANAGERS AND WORKERS, 101.

61. FMCA/Accession 940, Box 18: "Mr. Lee's Talk to the First Group of Investigators, April 15, 1914."

62. FMCA/Accession 940, Box 16: "Interview with William P. Baxter."

CHAPTER FIVE  
FORD'S WELFARE WORK  
AMERICANIZATION AND THE THE MOLDING OF THE FORD MAN

It has already been noted that, within the historical context of large-scale industrialization and urbanization during the latter part of the nineteenth century, modern personnel management had its origin in 'welfare work' and 'scientific management,' being two converging strands in American economic life (See Chapter Four); and the relevance of Taylorism to the implementation of employment engineering in the Crystal Palace has also been discussed. This chapter focuses on the welfare work accomplished by Ford's Sociology Department, and Ford's Americanization campaign centered in the Ford English School, both of them embodied and symbolized in the famous Five Dollar Day, and thereby adds two sides to the triangle of the system of modern personnel management that created the Ford Man.

There is no doubt that the major event in the social history of Highland Park was the announcement of the profit-sharing plan, better known as the Five-Dollar Day. During meetings early in January 1914, the

board of directors of the Ford Motor Company had discussed wages and had allotted \$10,000,000 for a profit-sharing plan. A few years later, Samuel Marquis referred to the plan as the "granddaddy of company-initiated reform plans," and explained that the plan involved rationalizing the Ford employment and wage structure by reducing the number of job categories, regularizing pay scales, reducing the foreman's power to hire and fire employees, and raising the pay of certain classes of employees to a five-dollar minimum.<sup>1</sup> As simply as this, the basis for the most famous labor-management reform in the annals of American business, the Ford Five Dollar Day had been etched into the historical record. As initially conceived, the profit-sharing plan supplemented and extended earlier reforms which, in the rapidly developing tradition of Frederick Winslow Taylor's "scientific management," had been aimed at making the administration of the Ford factory more efficient. In contrast to John R. Lee's reforms of October 1913 emphasizing the more scientific management of labor, the Five Dollar Day added the extra dimension of welfare activities to the industrial betterment program of the company.<sup>2</sup>

On Monday afternoon of January 5, 1914 the announcement of the reforms came with much fanfare; the press release stated that on January 12, 1914 the Ford Motor Company, "the greatest and most successful (company) in the world would inaugurate the greatest revolution in ... rewards for workers ever known in the industrial world."<sup>3</sup> The press release explained that the foundation of the revolution was a profit-sharing plan which would increase the minimum daily wage of qualified workers to five dollars; it was also noted that three eight-hour shifts would replace the existing two nine-hour shifts, and that 4,000 more workers would be added to the existing workforce of 15,000. The objective of this chapter is to understand (1) the intellectual and social context into which the plan was introduced; (2) to understand the Sociological Department which was created to implement the plan; (3) and to begin an assessment of the overall effectiveness of the Sociological Department in upgrading the quality of life of those working in the Crystal Palace, and the Highland Park community; and finally, (4) to understand the "Americanization" of Ford workers.

In a manner of speaking, Ford profit-sharing was like much of the welfare work which was common during

the early decades of the twentieth century. Rooted to some extent in the intellectual traditions of the Social Gospel and Progressivism, "industrial betterment" and "industrial welfare work," as it was then called, was as diverse as were the companies wherein they were instituted. The leading institutional proponent of welfare activities, the National Civic Federation, reflected the diversity of welfare policies and programs when it attempted to define the boundaries of welfare work. According to the National Civic Federation's definition, industrial betterment or industrial welfare work of the era involved, "special consideration for physical comfort wherever labor is performed; opportunities for recreation; educational advantages; the providing of suitable sanitary homes ... plans for saving and lending money, and provisions for insurance and pensions."<sup>4</sup> In short, welfare work was aimed at improving the quality of life of industrial workers and their families.

There is no doubt that the above definition conforms fundamentally to the stated objectives of Ford's profit-sharing plan; and, as far as the definition goes, the Ford Motor Company was like many other companies. But, the Ford Motor Company was also

different from other companies in some important ways; a major difference, as it appears to this researcher, was the zeal and absolute conviction with which the Sociological Department operatives pursued their objectives. The Health and Safety program within the Crystal Palace, and the effort to upgrade the 'home and housing conditions', and the "Americanization" program are excellent examples of Ford's commitment.

On the basis of official statements, organizational and operational reforms within the Ford Motor Company, and the reported results of Sociological Department operations, it is reasonable to conclude that what motivated the Ford Motor Company to develop and implement the profit-sharing plan, of which the five-dollar minimum wage was a part, was the desire to (1) increase efficiency in production, and therefore increase profits by reducing the rate of turnover in the labor force; (2) give workers a "stake" in contributing to the increased production while re-shaping the workforce to suit the needs of the new industrial system; and (3) to upgrade the quality of life of the workforce. Regarding some of the accomplishments attributed to the profit-sharing plan, one top level official remarked that, as evidenced by the fact that with the profit-sharing plan, the "Ford

Motor Company made more cars and greater earnings than ever before," the Five-Dollar Day was the greatest success for the Ford Motor Company."<sup>5</sup> Another official said, "I think the Ford profit-sharing plan made real citizens out of our employees, out of the type that never would have been [real citizens] otherwise."<sup>6</sup> Henry Ford himself had much to say about the profit-sharing plan; he often hastened to assert: (a) that the plan was not charity, but profit-sharing based on the level of production and sales, (b) that employees should use their share of the profits to upgrade the quality of their lives, (c) and that the plan was the best cost-cutting device ever introduced by the company. Regarding the reforms associated with the profit-sharing plan, Nevins has captured the sentiment which is most often expressed. Nevins concluded that, "The enlightened new labor rules, the five-dollar minimum, and the struggle of the Sociological Department to raise living standards constituted, despite inescapable shortcomings, a lustrous chapter in the history of the company and a memorable page in the record of American industry."<sup>7</sup>

It has already been suggested that part of what motivated the implementation of the profit-sharing plan were the diseconomies associated with the enormous



turnover in the workforce of the Crystal Palace.<sup>8</sup> Although there were a number of plausible explanations for the high turnover (including the preference for more 'suitable' work elsewhere), John R. Lee's poll of the workforce during the summer of 1913 revealed that much of the dissatisfaction among workers resulted from: (a) work-days that were too long, (b) wages that were too low, (c) unsanitary and otherwise undesirable shop conditions, (d) bad housing, (e) and perhaps most importantly, the unintelligent and often abusive handling of men by foremen and superintendents.<sup>9</sup> The combination of factors contributing to dissatisfaction with conditions in the Crystal Palace, and perhaps the availability of more 'suitable' work elsewhere, may explain why in December 1912, 776 men (the highest in number company history) were discharged; and why in 1913 the Ford Motor Company needed to hire 52,445 men to maintain a workforce of 14,000, and why in March of 1913 the number of five-day men, i.e., men quitting without notice or explanation, was 5,156. In any case, the high turnover was undoubtedly a compelling argument for the worker reform package introduced the following  
10  
year.

The reforms, sometimes referred to as the "Lee Reforms," to which the profit-sharing plan was a

supplement, were implemented in 1913. Apparently in response to the dissatisfaction recorded in the poll<sup>11</sup> taken during the summer, on October 12, 1913 the Ford Motor Company introduced: (1) a 15 percent wage increase, (2) a new skill-wages classification system, (3) and created the Employee's Savings and Loan Association. The skill-wage classification system was the result of an analysis of the content of each job. Following the analysis, jobs were organized into a graded hierarchy wherein each job was classified and ranked according to skill-level. "The new system," Lee concluded, "was a broad plan for the stratification of workers in the plant along clearly defined lines and on<sup>12</sup> the basis of definite standards." Along with the new system of job classification, and the Employee's Savings and Loan Association, a major change in departmental organization was made; the Ford Employment Office became the Ford Employment Department, and it gradually acquired and centralized the functions which had been in the foreman's domain, and it became responsible for all phases of labor relations.

Having allotted \$10,000,000 to the profit-sharing plan, the board of directors appointed John R. Lee to implement the plan, and left it to him to work out the

"details." Among the first actions taken by Lee was the establishment of the department which would be the primary instrument for implementing the plan. Reflecting the apparent fact that sociology had, "matured and gained acceptance as an academic discipline for the study, analysis, and management of the affairs of men," the Sociological Department was named after a similar institution in Rockefeller's<sup>13</sup> Colorado Fuel and Iron Company. In 1914, O.J. Abell estimated that the Sociological Department was staffed by about 100 investigators, including physicians on the medical staff, and others who were among the most trusted employees of the Ford Motor Company; according to Abell, later in 1914 the Sociological Department numbered about 200, before leveling off to a permanent staff of 50 persons.<sup>14</sup> On July 3, 1915 an internal source stated, contrary to Abell's estimates, that "... our Sociological Department, which now consists of about 20 men, is what is left of the initial<sup>15</sup> appointment of 75..." Here, the accuracy of Abell's estimates is not at issue, but the disparity between the estimates of an astute outsider with privileged access, and those of internal sources may suggest that the Sociological Department appeared to be, and was reported to be larger and doing more than it was ever

equipped to do. In any case, whatever the size of the Sociological Department's staff, it set out to accomplish tasks of a size and scope which, theretofore, were unprecedented in the annals of welfare capitalism.<sup>16</sup>

From the outset, the central task of the Sociological Department was to determine whether or not workers were eligible to participate in the profit-sharing plan, and to advise those who were not eligible as to how they might become eligible to share in the profits of the company. In order to determine eligibility, the Sociological Department investigated everyone employed, except high level managers and supervisors; those investigated included salesmen, foremen, clerks and factory workers. The determination of eligibility was largely at the discretion of the investigators, all of whom were apparently "good Ford men" of the type the company hoped to create. It was not until early in 1915 that the "Sociological Department Instructions for Investigators" emerged with detailed methods for the determination of eligibility. In essence, the instructions codified the criteria which had been used up to that point; generally speaking, to be eligible a worker had to exhibit or demonstrate thrift, good habits, and good home

conditions.<sup>17</sup> Additionally, in an effort to stem the flood of job seekers who appeared at the gates of the Crystal Palace shortly after the announcement of the Five-Dollar Day, a six-month residency in the Detroit area became a condition of eligibility.

With thriftiness, good habits, good home conditions, and a six-month residency as the conditions of eligibility, 10 percent of the employees failed to qualify on the basis of age or sex (unmarried men and females were categorically excluded from profit-sharing), and another 40 percent could not qualify without raising their standards to meet those outlined by Ford.<sup>18</sup> Not only was there an age and sex bias against participating in the profit-sharing plan, the fact that out of 1400 employees who were in the first group to qualify for profit-sharing, 1,381 were of British ancestry, suggests that there was a strong bias against the ethnics.<sup>19</sup> To a large extent then, the mission of the Sociological Department was to reform the "ethnics" so that they might qualify for participation in the profit-sharing plan.

The manner in which the work of the Sociological Department was initially organized and the work distributed, official reports and the "reminiscences" of Sociological Department staff and other officials of

the Ford Motor Company, as well as statements made by some of the ethnics who were the objects of reform, all suggest that it was believed that the desired reform depended on the restoration, maintenance and/or creation of "good home conditions." In short, as Meyer has put it, "A fundamental premise of the Ford program was a particular middle-class vision on the role of the family and the home in the formation of social and

cultural values."<sup>20</sup> S.S. Marquis expressed the sentiment which appears to have dominated official thinking in the Ford Motor Company about the relationship of cultural values to production in the Crystal Palace; Marquis stated that, "... the family is the foundation of the church and the state." Marquis continued, "We found that it is the foundation of right industrial conditions as well. Nothing tends to lower a man's efficiency more than wrong family relations."<sup>21</sup>

Chapter Six of this paper will discuss the home and housing conditions of Ford workers in Highland Park more fully, but for the moment it should be noted that there was clearly room for improvement, and that as part of efforts to increase efficiency in production, there can be no doubt that the Ford Motor Company took the task of uplifting its workers seriously. From another perspective, it is apparent that the commitment

to improve production through improving home and housing conditions, was part of a general effort aimed at "Americanizing" the workforce employed in the Crystal Palace. In order that Ford's efforts to Americanize the workforce may be viewed in its proper perspective, this study now turns to a discussion the larger "Americanization Movement."

#### Americanization

According to an extensive survey conducted in 1918 (February to June) under the auspices of the Committee on Public Information and the National Americanization Committee, "Americanizing" the industrial workforce was a multidimensional movement which included private and voluntary, state and municipal, and federal involvement.<sup>22</sup> Three overlapping, yet distinct phases and two groups of protagonists may be seen in the Americanization movement. The first phase, having begun sometime before the turn of the century, was clearly in evidence when, by the end of the century, a movement actively to encourage "Americanization" of [the 'new immigrants'] had begun to stir.<sup>23</sup> A second phase evolved out of "the wartime drive for unity, spearheaded by Creel's

Committee on Public Information, led naturally to a campaign for accelerated "Americanization" of newcomers.<sup>24</sup> A third phase is marked by a post-war economy that saw both prosperity and depression, an intensified, more militant, effort to organize the workforce; this phase also witnessed government involvement to a degree which had not been anticipated by management. Throughout these three phases, proponents of the Americanization movement expressed views, supported 'objectives,' and implemented programs which were often in conflict with each other.

Kennedy and Higham have suggested that one element which may be associated with the first phase of the Americanization movement consisted of settlement house workers and social reformers, among whom Lillian Wald, Jane Addams, and Josephine Roche, and many people associated with the American Union Against Militarism were prominent. Frances Kellor, a leader in the Committee for Immigrants in America, founded in 1914 to promote the education of immigrants and to protect them from predatory padrones and employers, was especially prominent. In this faction, the first concern was for the immigrants themselves; they strove to "temper as well as improve the ordinary course of assimilation by providing a receptive



environment for Old World heritages. Preaching the doctrine of immigrant gifts, Jane Addams and her fellow workers concentrated less on changing the newcomers than on offering them a home." The countervailing faction in the Americanization movement was a coalition that consisted of "old-stock Americans who feared for the continued ascendancy of their cultural values and social position, and businessmen who sought to discipline a troublesomely varied labor force."<sup>25</sup>

But, the war cemented the loose coalition of business interests and, if only temporarily, drove the reformist (Progressive) faction into the camp harboring business interests.

It is worth noting that, generally speaking, industrialists did not concern themselves with Americanization until the labor shortages of 1914 presented the spectre of production levels far below demand. Notable exceptions before 1910 include International Harvester which wanted workers to become good Americans while learning to think and talk intelligently about important operations in the factory.<sup>26</sup> As early as 1907, the industrial secretary of the YMCA, Peter Roberts, had started a language and citizenship program for factory workers, and he ably adjusted the program to the needs of corporations.<sup>27</sup>

In the Detroit area, the Ford Motor Company led manufacturers in adopting "Americanization" objectives. The seed of what would become a full blown Americanization campaign in 1914 could be found in the FORD TIMES in 1908; the TIMES was incessant in exhorting Ford workers (primarily Americans and Germans at this time) to ingest the American work ethic. One example of many early entreaties was embodied in a New Year's resolution for Ford workers which stated, "Of my own free will and accord, I sincerely covenant with myself, . . . To exalt the Gospel of Work, . . . To keep head, heart, and hand so busy that I won't have time to think of my troubles. Because idleness is a disgrace, low aim is criminal, and work minus its spiritual quality becomes drudgery."<sup>28</sup> While the Ford Motor Company would take the lead during the second phase in "Americanizing" workers in the Detroit area (and in the whole of the USA), "the Americanization movement at Ford was not an isolated eccentric phenomenon, but a well publicized symptom of a general trend in Detroit;"<sup>29</sup> Ford's Americanization program was recognized as "One of the most extensive and best organized efforts made by an industry for the Americanization of foreign-born, . . . ,"<sup>30</sup> and its success was so impressive to "local proponents of

Americanization activities that they convinced the Detroit Board of Commerce to promote Ford's methods in other local factories. Thus, what had started as a purely economic program at the Ford plant, soon became the basis of a broad patriotic and nationalistic endeavor.<sup>31</sup>

In an effort to replicate and disseminate the program at Ford, in 1915 the Detroit Board of Commerce spawned the Detroit Americanization Committee whose primary official purpose included the promotion and inculcation of the principles of American institutions and good citizenship, . . . and the exhortation and assistance of immigrants "to learn the English language, the history, laws and government of the United States, the rights and duties of citizenship; and in becoming intelligent Americans."<sup>32</sup> It should be noted that in the same year, the National Americanization Committee was also formed, under the leadership of Frances Kellor, with the more limited goal of celebrating national Independence Day by bringing together "all Americans, wherever born."<sup>33</sup>

From the outset, the Detroit Americanization movement was dominated by the large employers of the city, and "they set the tone and policy."<sup>34</sup> The eleven-member Americanization Committee of Detroit, a

committee within the Detroit Board of Commerce, included six representatives of Detroit's leading corporations: including Henry W. Hoyt, vice-president of the Great Lakes Engineering Company; F.S. Bigler, president of Michigan Bolt and Nut Company; Ernest L. Lloyd, president of Lloyd Construction Company; John R. Lee, director of the Ford Sociological Department; Horace Rackham, an attorney and "capitalist" who was Ford's legal counsel; and W.E. Scripps of the Scripps Motor Company, Scripps-Booth Cycle Car Company, and the DETROIT NEWS. In addition to those representing big business, the committee included Frank D. Cody, assistant superintendent of the city schools, A.J. Tuttle, U.S. District Court Judge, A.G. Studer, general secretary of the Y.M.C.A, and Oscar B. Marx who was the mayor of the city, and a businessman.<sup>35</sup> Levine noted that the committee included two other members who deserved mention. One is Fred Butsel, a Detroit attorney, Jewish, always interested in social causes, and a man who will appear in the story of the leadership of the Detroit Urban League. The second man is Chester M. Culver, general manager of the Employer's Association of Detroit (EAD); the EAD was unquestionably the most powerful group in the city, and every worker, whatever his nationality or race, was in

some way dependent upon it. Often, he was dependent in ways he would never know.<sup>36</sup> Culver would also appear in the affairs of the Detroit Urban League.

As stated by one Ford official, "It is our aim and object to make better men and better American citizens, and to bring about a larger degree of comforts, habits, and higher plane of living among our employees...."<sup>37</sup> Meyer has pointed out that, in some ways Ford's Americanization program was unique, and in other ways it was like the Americanization programs of other manufacturers and industrialists. Despite the fact that there were many Americanization programs, and perhaps because of the vigor with which Ford's efforts were publicized, the Ford program served as a model for a city-wide Americanization campaign in Detroit. And, in 1915, Detroit in turn became the model for the National Americanization Day Committee and its national campaign for the assimilation of immigrants into American society.<sup>38</sup> If the profit-sharing plan was the principal instrument through which Ford's workers would be Americanized, and the work to upgrade home and housing conditions was a major component of Americanization, then the Ford English [language] School was the avenue where full assimilation would be assured.

The organizer of the Ford English School, which was coincidentally first located in the old Stevens School, was Peter Roberts who was hired by the Ford Motor Company in April 1914. Roberts, an educator who was officially associated with the YMCA, had published an English language textbook (ENGLISH FOR COMING AMERICANS, 1909), which became the foundation for the instruction of immigrant workers of the Crystal Palace. "The core of the program centered around domestic, commercial, and an industrial series of lessons which applied the English language to different aspects of the immigrant worker's life."<sup>39</sup> As described by Marquis in 1916, the Ford English School which was established for immigrants employed in the Crystal Palace, provided five compulsory courses: "There is a course in industry and efficiency, a course in thrift and economy, a course in domestic relations, one in community<sup>40</sup> relations, and one in industrial relations."

A 1916 report on the Ford English School revealed that in a class of 518 workers, there were 163 Poles, 134 Russians, 46 Austrian, 28 Italians, 23 Hungarians, 20 Germans, 16 Rumanians, 13 Jews, and 11 Bohemians. The remainder of the 518 persons enrolled, presumably fewer than 10<sup>41</sup> in any one group, represented 28 nationalities. Apparently owing, at least in part, to

the efforts of the language school and the incentive of profit-sharing, between 1914 and 1917 the percentage of English speaking employees rose from about 59 to 88 percent (see table 5.1)<sup>42</sup> From 1915 to 1916, the company reported that some 16,000 workers graduated from the Ford English School, and Ford statistics indicate that while 35.5 percent of the workforce did not speak English in 1914, only 11.7 percent did not speak the language in 1917.<sup>43</sup>

While speaking the English language may have been the most readily observable sign of the transformation of immigrant workers, Ford officials believed that marital status, home ownership, a savings account and life insurance were important indicators of a worker's desire and willingness to be transformed into the preferred type of worker. Table 5.1 suggests that there was a steady increase in the percentage of workers in the Crystal Palace who succeeded in fitting into the mold of the preferred type of worker. The ability of a greater percentage of Ford workers to speak the English language, and improvements in home and housing conditions may be considered as indications of the Ford Motor Company's commitment to improving the quality of life of Ford's workers, while improving efficiency in production. Further evidence of Ford's

overall commitment to upgrading the quality of life of Ford workers may be seen in the health and safety record in the Crystal Palace.

TABLE 5.1

SOME CHARACTERISTICS OF FORD'S CRYSTAL PALACE EMPLOYEES:  
A COMPARISON BY PERCENT FOR 1914, 1915 AND 1916

Characteristic	1914	1915	1916
Married	59	76	70
Citizens	39	45	51
English Speaking	64	76	87
Buying or Owning:			
(a) a home	12	27	27
(b) a lot	6	11	14
With Bank Accounts	44	66	42
With Life Insurance	19	43	48

FMCA/Accession 62, Box 59/ Note: In 1917 24,533 workers in the Crystal Palace were married, and 9,335 were single, see FMCA/Accession 572, Box 27.



Consistent with the objective of upgrading the quality of life of Ford workers, the Ford Motor Company was apparently very much concerned with safety. [Production workers have heartily disputed that such a concern was paramount in the Crystal Palace.] A superior safety record during much of the 1910s and 1920s, and the Ford Motor Company's top ranking among auto companies may be considered as evidence of Ford's concern for safety. The Health and Safety Department was created as part of the 1914 reforms, and in addition to providing a variety of medical services, the newly instituted department issued monthly accident reports on a variety of physical conditions and diseases that existed among employees. Table 5.2 is based on data such as those recorded by the Health and Safety Department; the table suggests that, despite concerted efforts and a superior record for safety, both occupational diseases and injuries resulting from accidents contributed significantly to the poor physical condition of many of the employees in the Crystal Palace.

In the automotive industry, as well as elsewhere in the industrial world, there were and still are occupational hazards that may have deleterious effects on the health of workers. Occupational hazards include

accidental injury and conditions in the workplace that may be considered to be "normal" but which are associated with the cause of certain diseases. Arnold and Faroute have reported on the notoriously unhealthy conditions in the foundry; it was reported that foundry workers suffered from severe heat and lack of ventilation, and "the air during work hours cannot be endured by workmen save those possessing respiratory organs of the most robust description, and many visitors are unable to walk through the Ford greyiron foundry...because they cannot breath the air."<sup>44</sup>

Conditions such as those described by Arnold and Faroute, and conditions in other parts of the factory have been associated with particular diseases. Lowery observed that jobs connected with painting and metal finishing carried the most severe health problems in the auto industry; and lead poisoning, tuberculosis and silicosis led the list of job related diseases;<sup>45</sup> table 5.2 shows that c.1925, 629 workers in the Crystal Palace were experiencing serious respiratory conditions comparable to those noted by Lowery.

TABLE 5.2

PHYSICALLY SUB-STANDARD EMPLOYEES IN THE CRYSTAL PALACE  
TABULATED FROM INFORMATION RECEIVED ON 44,500 WORKERS

<u>CONDITION:</u>	<u>NUMBER</u>
Chest: TBC; serious lung trouble; asthma	629
Deaf; and deaf and dumb	111
Epileptics and mental conditions	187
Eyes: Blind	51
Blind in one eye	187
Bad Vision	1032
Feet: Amputated	31
Toes amputated	104
Deformed, crippled, etc.	312
Hands: Fingers Amputated	1390
Hands Amputated	13
Deformed, crippled, etc.	227
Heart: high blood pressure	417
Hernias (conservative estimate)	5000
Kidneys and bladder (conservative estimate)	800
Legs: Amputated	121
Deformed, crippled, etc.	423
Nervousness	122
Paralysis	56
Rheumatism/arthritis	505
Spine and Back	264
Stomach (ulcers)	552
Miscellaneous: anemia, bladder, cancer, deformed, cripples, dropsy, gall stones, goiter, head fractures, hemorrhoids, locomotor ataxia, sleeping sickness, and temporary concessions for bronchitis, gastritis, nose, throat and head conditons, etc.	650

Source: FMCA/Accession 940, Box 16, "Samuel M. Levin Papers," dated April 25, 1925

Table 5.2 also records the fact that amputated limbs were a major source of incapacity among employees in the Crystal Palace. Specifically, the table shows that there were 1390 amputated fingers, 121 legs, 13 hands, and 31 amputated feet. It comes as no surprise then, that in the Ford Motor Company the most common cause of permanent disability in the early 1920s was the loss of fingers or parts of fingers.<sup>46</sup> It has been widely publicized that the the Ford Motor Company made a concerted effort to hire handicapped workers who might be found in the Detroit area. One official recalled that in the 1920s it was no longer necessary to look outside the Ford "family" to find handicapped workers, "... we had enough of our own company liabilities to take care of .... It helped the employee and the Ford Motor Company. The company didn't have to pay workmen's comp because the man was employed.<sup>47</sup> Despite the high number of injuries, it is quite clear that most injuries were "slight".

The Michigan Department of Labor classified injuries resulting from accidents as fatal, serious, severe or slight. A survey of reports published during the period under consideration shows that in the Crystal Palace the vast majority of injuries were slight. While there is a wide variation in the number

of days that slightly injured persons were disabled (0-24), it was not possible, except in cases of the more extreme severe injuries, to determine by the number of days lost whether the injury was slight or severe.<sup>48</sup> It is worth noting that while injuries of all classes appear to be evenly distributed among the various age groups of employees, a sample of injuries reported during 1914 reveals that there was a disproportionately large number of injuries in the 18-25 age group at a time when the mode was 25 and the median was about 30<sup>49</sup> years of age.

TABLE 5.3

A SAMPLE OF INJURIES IN THE CRYSTAL PALACE WHICH WERE  
RECORDED DURING 1914 AND 1915

Years of Age	Number of Injuries	
	1914	1915
18-25	100	78
25-30	54	93
30-35	27	48
35-40	28	30
40-45	13	22
45-50	8	15
50-55	4	7
55-60	2	1
60-65	-	1
65-75	-	-
75-85	-	-
TOTAL	236	295

Note: Injuries to workers under 21 years of age: 1914 (N/390) 22; 1915 (N/300) 10.

Source: MICHIGAN DEPARTMENT OF LABOR THIRTY-FIRST ANNUAL REPORT 1914, and MICHIGAN DEPARTMENT OF LABOR THIRTY-SECOND ANNUAL REPORT 1915, "Record of Accidents Given by Counties." (pp. 315-321 for 1914, and 367-372 for 1915).

Given what has been said about occupational hazards, it may be argued that in 1914 the high rate of injury among the 18-25 years old employees resulted from a greater exposure to high risk jobs, inexperience on the part of workers, and/or "speed-ups", etc. Alternatively, it can be argued that, in contrast to the mode of 25 years of age in 1916, the mode in 1914 was lower, and this characteristically lower age in 1914 is the best explanation of the comparatively high number of injuries in 1914 to employees 18-25 years of age. The sample [N/295] of injuries reported in 1915 reveals a more even distribution among the workers whose age closely approximated the median (See table A.5).

Accidental injuries involving Ford's workers who were under 21 years of age, needs to be understood within the context of their employment in metal-manufacturing in Michigan. The Children's Bureau of the U.S. Department of Labor conducted a study of representative metal-manufacturing companies in Michigan; it was reported that 11 percent of all employees were persons under 21 years of age. Of those under 21 years of age, 99 percent were over 16, and about two-thirds were between 19 and 21.<sup>50</sup> In 1918, "there were 1,905 industrial accidents to minors,

resulting in death, dismemberment, or incapacity for work lasting from 15 days to 1 year. A large number of these accidents occurred in the metal-working industries,"<sup>51</sup> in which the auto industry was a major employer; it is in this context that Ford's record should be analyzed.

During 1914 there were about 390 recorded injuries in the Crystal Palace, 22 involved workers who were twenty-one or fewer years of age. All of the reported injuries in this age group were classified as "slight". F. Syzmerski, age 16 was injured on March 11, 1914 and was disabled for one day; and W. Johnson was injured on October 13 and disabled for four days. Syzmerski and Johnson were the youngest among workers who reported injuries, all other injured workers were 18 or more years of age, and most of these were 19 or 20 years of age. The year of 1915 recorded a dramatic decrease in injuries to workers under twenty-one years of age; a total of about 300 injuries among all workers were reported, and 10 of these involved this youthful group. Again, there are several plausible explanations for the significant decrease in injuries to workers of this age group, but in this writer's opinion, the decrease most probably resulted from a decrease in the number of young workers employed in production, and from the



comparatively vigorous safety program of Ford's Health and Safety Department. Whatever the cause of the decrease, the Ford Motor Company is deserving of applause for its superior safety record. The record of injuries to workers between the ages of 25 and 40 is considerably less deserving of applause. (See table 5.4 above.)

In sum, it may be observed that the Ford Motor Company's apparent commitment to improving the quality of life of its workers by (a) upgrading home and housing conditions, (b) Americanizing the workforce, (c) and minimizing the risk of injury in the workplace, were doubly motivated. That is to say, Ford's efforts were based on the assumption that an improved quality of life was essential to the achievement of optimal efficiency in production. Despite the duality in motivation, several indicators of the objective aspect of the quality of life suggest that the quality of life of the labor force which produced the Model T was higher (i.e., set the standard) than that of other automotive workers in the Detroit area. The comparatively high quality of life of the builders of the Model T was achieved at the expense of privacy, autonomy, and perhaps dignity and self-esteem. Ford officials, scholarly and journalistic writers, and the

workers have often disagreed on whether the end justified the means; one critic's remarks seem to summarize the thinking most often encountered by this researcher: Ida Tarbell, who visited the Crystal Palace with the intention of exposing the abuses of Ford's paternalism, was so thoroughly impressed by what she saw, that she told the Detroit Executive Club that, "I don't care what you call it---philanthropy, paternalism, autocracy---the results which are being obtained are worth all you can set against them, and the errors in the plan will provoke their own remedies."

## FOOTNOTES

## Chapter Five

1. FMCA/Accession 63, Box 1: S.S. Marquis, "Profit Sharing;" John R. Lee, "The So-Called Profit Sharing System in the Ford Plant," *Annals AAPSS*, 45 (May 1916) 299 and 308; O.J. Abel, "The Making of Men, Motor Cars, and Profits," *IRON AGE*, 95 (January 7, 1915) 37; John A. Fitch, "Ford of Detroit and his Ten Million Dollar Profit Sharing Plan," *SURVEY* 31 (February 7, 1915) 545-50.

2. Stephen Meyer III, *THE FIVE DOLLAR DAY* (Albany, New York, 1981), 108.

3. FMCA/Accession 940, Box 16: "Press Release on Five Dollar Day;" *NEW YORK TIMES*, January 6, 1914. Almost immediately, Highland Park was flooded with job seekers. See, *DETROIT NEWS*, January 5-7, 10, 1914; *DETROIT TIMES*, January 7-10, 1914; *DETROIT NEWS JOURNAL*, January 12, 1914; *DETROIT FREE PRESS*, January 12-14, 1914.

4. Daniel Nelson, *MANAGERS AND WORKERS: ORIGINS OF THE NEW FACTORY SYSTEM IN THE UNITED STATES, 1880-1920* (Madison, 1975), 101. For discussions of the various origins and assumptions about welfare work, see: Henry Eilbirt, "The Development of Personnel Management in The United States," *BUSINESS HISTORY REVIEW*, XXXIII, 1959; Don D. Lescohier, "Working Conditions," in volume 3 of John R. Commons, et al., *HISTORY OF LABOR IN THE UNITED STATES, 1896-1932* (New York, 1935); Leon P. Alford, "The Status of Industrial Relations," *MECHANICAL ENGINEERING*, Vol. 41 (June, 1919); U.S. Bureau of Labor Statistics *BULLETIN*, number 250, page 13.

5. Charles E. Sorensen, *MY FORTY YEARS WITH FORD* (New York, 1959), 142. Sorensen's opinion is, as are the opinions of all observers, undoubtedly biased but representative of Ford insiders and sympathizers. James Couzens, who at the time was vice president of the Ford Motor Company, stated in a press interview that he thought the profit-sharing plan was good, and that it might serve as an example for other employers (*NEW YORK TIMES*, January 6, 1914). On the other side of the issue, Meyer has suggested that, "In the end, Ford paternalism failed, and, perhaps, even proved

irrelevant [sic]. Remembering that the Five Dollar Day was but a part of a larger effort which included the Americanization campaign, Meyer's remarked that, "Perhaps the most significant feature of the Ford Americanization program was its failure and eventual termination," clearly, Meyer's remark is significantly biased in a direction opposite of Henry Ford, Couzens, Liebold, and et al. (See Stephen Meyers, "Adapting The Immigrant To The Line; Americanization in the Ford Factory, 1914-1921." JOURNAL OF SOCIAL HISTORY, 14 (Fall, 1980)).

6. FMCA/Oral History Section: "The Reminiscences of E.G. Liebold," 226.

7. Allan Nevins, FORD: THE TIMES, THE MAN , THE COMPANY (New York, 1954), 550.

8. The problem of 'turnover' was a major concern at the Crystal Palace as elsewhere in the automotive industry. Eilbirt (1959) has noted that, around 1910 the "a new idea" played an important part in advancing personnel administration. Specifically, in an environment bent on achieving efficiency in production, the computations of Alexander, Fisher, et. al., revealed theretofore hidden costs of considerable magnitude in labor turnover. "After c.1910, one could scarcely read any subsequent treatment having to do with labor, whether written by friend or critic, executive, physician, psychologist, psychiatrist or any academic student, which omits some mention of turnover as a universal evil to be avoided." Moreover, "Less than a decade had passed before some were concluding that," the key measure of incompetency was the level of turnover (Eilbirt, 1959:356); Magnus W. Alexander, "Hiring and Firing," Annals AAPSS, Volume 65 (May, 1919); Boyd Fisher, "Methods of Reducing the Labor Turnover," Annals (May 1919).

9. FMCA/Accession 940, Box 17: "Instructions to Investigators."

12. Lee, "Profit Sharing System," 300; Meyer, FIVE DOLLAR, 104.

13. FMCA/Accession 63 A: S.S. Marquis, "Memo on Profit Sharing" ca. 1916. As reported by Meyer (p.115) the first memo clearly suggesting a "Sociological" Department was dated November 1914; See FMCA, Accession 683, Box 1, "Letter to Cleveland Branch, April 29,

1914. Kryder noted that Marquis disdained the use of the phrase "welfare work" altogether and instead spoke of "sociological" or "educational work." See Leeanne Giannonne Kryder, "Humanizing the Industrial Workplace: The Role of the Early Personnel Manager 1897-1920," HENRY FORD MUSEUM AND GREENFIELD VILLAGE HERALD, vol. XIV, 1985, p.18.

14. Oliver J. Abell, "The Ford Plan for Employees," IRON AGE, January 29, 1914; Meyer, FIVE DOLLAR DAY, 127.

15. FMCA/Accession 62, Box 19: Letters to Lacking and Helfman, and Lacking and Hanlon from Leibold, dated July 3, 1915.

16. Both Stephen Meyer (1981), and Alan Nevins (1954) have written extraordinarily incisive chapter-length discussions on the Sociological Department. Hence, this study includes only the details which are essential to the elucidation of questions raised in this study.

17. FMCA/Accession 940, Box 17: "Instructions to Investigators."

18. The Crystal Palace had about 250 women workers at the time. A vocal outcry from feminist leaders such as Helen Keller, Anna Howard Shaw, et. al., apparently persuaded the Ford Motor Company to include women in profit-sharing. (Meyer, FIVE DOLLAR DAY).

19. FMCA/Accession 62, Box 58: "Report of Sociological Department," October 12, 1914.

20. Meyer, FIVE DOLLAR DAY, 123; Boris Emmett, "Profit Sharing in the United States," BULLETIN OF THE BUREAU OF LABOR STATISTICS, 208 (1916), 106; Ford Motor Company, "Helpful Hints," 13.

21. FMCA/Accession 293, Box 1: "Profit Sharing."

22. Harold C. Hill, "The Americanization Movement," THE AMERICAN JOURNAL OF SOCIOLOGY Vol. XXIS, No. 6 (May 1919), 613.

23. Kennedy, OVER HERE: WORLD WAR AND AMERICAN SOCIETY, 63.

24. Kennedy, OVER HERE: WORLD WAR AND AMERICAN SOCIETY, 63.

25. John Higham, STRANGERS IN THE LAND: PATTERNS OF AMERICAN NATIVISM, 1860-1925 (New York: Athenum, 1963) 236; cited in Kenndy, 1980:64.
26. Gerd Korman, INDUSTRIALIZATION: IMMIGRANTS AND AMERICANIZATION, Madison, 1967:144; see also, Korman's "Americanization at The Factory Gate," INDUSTRIAL AND LABOR RELATIONS REVIEW 18 (April 1965), 396-41.
27. Korman, INDUSTRIALIZATION: IMMIGRANTS AND AMERICANIZATION, 144); Nelson, MANAGERS AND WORKERS, 144.
28. FORD TIMES, 2 December 1908:1; Meyer, FIVE DOLLAR DAY, 68-69.
29. Meyer, FIVE DOLLAR DAY, 68; Zunz, CHANGING FACE OF INEQUALITY, 313; Nelson, MANAGERS AND WORKERS, 144-145.
30. Hill, "The Americanization Movement," 633.
31. Nelson, MANAGERS AND WORKERS, 144-145.
32. ARTICLES OF ASSOCIATION OF THE AMERICANIZATION COMMITTEE OF DETROIT, Art 1, sec 2 (1925) ACD Papers:3.
33. Higham, STRANGERS IN THE LAND, 243; Hill, "The Americanization Movement," 617; Zunz, CHANGING FACE OF INEQUALITY, 1982: 313.
34. Zunz, CHANGING FACE OF INEQUALITY, 313; Levine, INTERNAL COMBUSTION, 28.
35. Members of the Education Committee of the Detroit Board of Commerce to Corporation Executives, May 1915, ACD Papers; also Membership lists and communications in A. J. Tuttle AMC Papers, MHC; Zunz, CHANGING FACE OF INEQUALITY, 314; Levine, INTERNAL COMBUSTION, 27-28.
36. Levine, INTERNAL COMBUSTION, 28.
37. FMCA/Accession 683: "Letter to Omaha, January 29, 1914; cited in Meyer, FIVE DOLLAR DAY, 150-1.
38. Gregory Mason, "Americans First: How the People of Detroit Are Making Americans of Foreigners in their City," OUTLOOK, 114 (September 27, 1915), 200; S.S. Marquis, "The Ford Idea in Education," in National

Education Association, ADDRESSES AND PROCEEDINGS, 1916, Volume 64 (1916), 911-916 passim; Clinton C. DeWitt, "Industrial Teachers," in United States Bureau of Education, PROCEEDINGS AMERICANIZATION CONFERENCE, 1919 (Washington, D.C., 1919), 116; also Ester Evrett Lape, "The English First Movement in Detroit," IMMIGRATION IN AMERICA REVIEW, 1 (September 1915), 46-50; Meyer, FIVE DOLLAR DAY, 161.

39. FMCA/Accession 940, "Preliminary Report of Work Done Teaching the English Language to Employees of the Ford Motor Company at Stevens School, Highland Park, Michigan, June 12, 1914; Peter Roberts, ENGLISH FOR COMING AMERICANS (New York, 1909), 20-23, passim; Meyer, FIVE DOLLAR DAY, 157.

40. S.S. Marquis, "The Ford Idea in Education," 911-916 passim; Meyer, FIVE DOLLAR DAY, 156.

41. FMCA/Accession 1, Box 21: "Report on Ford Language School, March 1916."

42. FMCA/Accession 571, Box 27; FMCA/Accession 62, Box 59.

43. FMCA/Accession 572, Box 31.

44. Horace L. Arnold and Fay L. Faurote, FORD METHODS AND THE FORD SHOPS, (New York, 1916), 330.

45. Joel John Lowery, "Labor Relations in The Automobile Industry During the Nineteen Twenties," MA Thesis, Michigan State University, 1958.

46. FMCA/Accession 572, Box 27: "Report of Safety Activities."

47. FMCA/Oral History Section: "The Reminiscences of William P. Baxter," 15.

48. State of Michigan, "Record of Accidents Given by Counties," in DEPARTMENT OF LABOR THIRTY-SECOND ANNUAL REPORT (1915).

49. FMCA/Accession 62, Box 59.

50. U.S. Department of Labor Children's Bureau, MINORS IN AUTOMOBILE AND METAL-MANUFACTURING INDUSTRIES IN MICHIGAN (Bureau Publication No. 125, 1923) 57-59.

51. U.S. Department of Labor, MINORS IN AUTOMOBILE INDUSTRIES, 57-59.

52. Fisher, "How to Reduce Labor Turnover," 33.



## CHAPTER SIX

### FORD MEN LIVING IN: BOARDING AND BOARDERS IN HIGHLAND PARK c.1910-1927

During the seventeenth, eighteenth, and much of the nineteenth century, boarding was one of the major ways in which the biologically defined limits of the American family were breached "by an instrumental relationship based on economic and service exchange."<sup>1</sup> Modell and Hareven have outlined what appears to be a universally appropriate assessment of the motives and immediate consequences of taking in boarders: While characteristics of the housing market, variances in income and employment, and demographic changes all affected the overall pattern of boarding, it is clear that economic factors were the primary considerations. Families which took in boarders profited in a variety of ways, (1) they were able to receive a 'brokerage fee' for adapting dwelling places of various sizes to the needs of (usually) unmarried immigrants of their own social level and standard of living; (2) they earned an income for work performed by the wife or other woman who was recognized as the authoritative female in the household; (3) they acquired possible access to an income during periods of their own illness or unemployment; (4) and

they made it possible for many widows and single women in their forties, fifties, and sixties to maintain their own households rather than live with their relatives.<sup>2</sup> Clearly, the practice of taking in boarders had its advantages.

In Highland Park, the boarding of Ford workers was big business; in fact some houses, like those on Manchester near McGregor Library, were built especially for boarders.<sup>3</sup> The "want ads" section of area newspapers carried the call of those seeking board and those seeking boarders. A typical advertisement read, "Wanted 2 men in good German home, near Ford factory: steam heat, privileges, good meals \$8 Hem 2584-R." Similarly, another ad read, "Protestant Christian Ford Man can partly pay for room and board by occasional driving of lady's car: References. Near Palmer Park, Box 18, HP."<sup>4</sup> While advertisements may suggest that boarding was a big business, there is no doubt that most boarders found their way to rooming houses through word of mouth, and they most likely roomed in households where the ethnic, economic, etc. realities were similar to their own.

Despite the apparent social, psychological and economic benefits of taking in boarders, by 1910 the widespread practice of "boarding and lodging within the

family had been under attack for a quarter of a century,..."<sup>5</sup> With the large influx of immigrants beginning in the 1870s, the practice of boarding and lodging had come under attack from certain reform-minded persons, and by the end of the nineteenth century the noted housing reformer, Lawrence Veiller, and other Progressive reformers had begun to refer to the institution of boarding and lodging as, "the lodger evil."<sup>6</sup> Veiller wrote that, "room overcrowding as we know it in America is almost entirely wrapped up with the lodger evil; and, Veiller added, "Aside from its impact on the family, lodging and boarding was clearly associated with the decline of neighborhoods and with social disorder."<sup>7</sup> Some of the conditions described by Modell and Hareven could be found in Highland Park; and by 1914, Ford officials were also concerned about the negative consequences of boarding.

Housing conditions in sections of Highland Park were abominable. According to the description of a local newspaper, Ford workers had, "taken up living quarters in thoroughfares that formerly were delightful, exclusive residence streets, crowding the dwellings to their utmost capacity." "Apparently, "there were a number of houses in Highland Park in which these foreigners used the beds in three shifts of eight hours

each 24 hours each day. These houses had beds in practically every room, even renting out cots in the attic and bath rooms.<sup>8</sup> Home and housing conditions were such that in 1917 Henry Ford himself, "toyed with the idea of building an extensive housing complex divided into areas to house different ethnic groups,<sup>9</sup> each with its own community center, school and stores." Already, by 1914, Ford officials had been expressing a dim view of the consequences of boarding (i.e., poor home and housing conditions) on the quality of life of Ford workers, and its impact on production in the Crystal Palace.

Among Ford Motor Company officials it was widely believed that a major obstacle to the creation and maintenance of the "desired" home condition was the presence of boarders. Given that boarders created an undesirable home environment, and an undesirable home environment was believed to affect the productive capacities of Ford workers, it followed that the presence of boarders in the households of Ford workers was believed to have reduced production in the Crystal Palace. S.S. Marquis summed up the sentiment which appears to have dominated the Ford Motor Company's official thinking about boarders; Marquis stated that, "... the family is the foundation of the church and the

state. We found that it is the foundation of right industrial conditions as well. Nothing tends to lower a man's efficiency more than wrong family relations."<sup>10</sup>

As a consequence of the perception that boarders had a negative impact on production in the Crystal Palace, Sociological Department workers were specifically instructed to discourage the well established American tradition of boarding.

That the Ford Motor Company took the presence of boarders seriously, may be seen in a variety of records kept by the Sociological Department and published reports. Emmett published the story of a worker whose living conditions were believed to be typical of the new immigrants who flocked to the Detroit area.<sup>11</sup> This particular worker was a German Catholic who had migrated from the German area of Poland. In 1914, the worker's family consisted of a wife and four children. The Sociological Department investigator described the worker as having "poor habits" which included drinking and smoking. The investigator described the worker's environment as a neighborhood of foreigners living in one and two-story frame houses which were all apparently in poor condition; and of course, the investigator noted that the neighborhood was unacceptable for the habitation of a Ford Man. "This man," wrote the

investigator, "lives in a dirty unsanitary hut and has a room full of boarders, who sleep 3 and 4 to a room. Some of the boarders go through the room where the man and his wife sleep to reach their own room." Moreover, the investigator added, "The wife looks haggard from overwork. She and the children are as dirty as their<sup>12</sup> surroundings."

Similarly undesirable conditions were reported by other investigators. William H. Pickel found one worker, his wife and three children, along with four male roomers, living in one large room which was<sup>13</sup> partitioned by a cheap curtain. Another investigator reported the situation of a worker named Joe Kostruba who, along with his wife and children had emmigrated (c.1912) from Russia. Kostruba reportedly lived in Highland Park at 812 Beaubien Street; the house was described as a one and one-half story framehouse which was old and tumbled-down. At the time of the investigation, the house was occupied by Kostruba's family consisting of a wife and six children ranging in age from 12 years old to a nursing baby, and three other<sup>14</sup> families, one of which was a black family.

In cases such as those described above, which were apparently quite numerous among workers in the Crystal Palace, the investigators would normally refuse to

certify the worker as eligible to participate in the profit-sharing plan; or the investigator might find that the worker was eligible to participate, but only on the condition that the additional income provided by participation be used to maintain home conditions comparable to those exhibited by the Armenian machine operator whose story was recorded by Porter. According to Porter, the Sociological Department investigator reported that this Armenian worker was a Catholic who had been living in the Detroit area for 3 to 5 years. The worker boarded in an apartment which was occupied by two men and one woman; the apartment consisted of five rooms and a bath. <sup>15</sup>

Another interesting case of a "reformed" worker was recorded by Emmett. Having been advised by the investigator to discontinue the practice of taking in boarders and to move to a better neighborhood, a German Catholic worker who had been found living in a "dirty unsanitary hut," apparently in a fashion typical of workers who were initially denied participation in the profit-sharing plan, "purchased a lot in the suburbs on which was built a three room structure where he and his family lived without boarders. By August 1915, the investigator rewarded the reformed worker by approving him for participation in the plan, and in December the

investigator reported that, "Our employee is making wonderful progress with his share of the profits. His home is comfortably furnished; the family is neat and clean." Furthermore, the investigator added, "He can now speak English, and he has taken out [the] first naturalization papers."<sup>16</sup> The incentive of profit-sharing was so great, and the guidance of Sociological Department investigators so persuasive, that 13,000 families moved during the first year of the plan.

It is impossible to know from existing evidence the degree to which standards may have changed and the precise impact of the Sociological Department in improving the percentage of "good home conditions." Table 6.1 suggests that some changes probably occurred in home conditions, quality of neighborhoods, and the habits of those who worked in the Crystal Palace. Specifically, for 1914, 1915 and 1916, table 6.1 shows changes from 47 to 70 and 87 percent respectively, in "good home conditions," while showing a commensurate decrease in "poor" home conditions from 23, to 3 and 2 percent respectively for 1914, 1915 and 1916.<sup>17</sup> By 1917 88 percent of the workers' homes were rated "good," 10 percent "fair" and 2 percent "poor." Not surprisingly, Canadian and English workers had the highest percentage of "good" homes, 97 and 96 percent respectively, while



only 75 percent of the Italian, and 76 percent of the Rumanian homes were rated "good."<sup>18</sup>

TABLE 6.1

COMPARATIVE STATUS OF LIVING CONDITIONS OF CRYSTAL PALACE WORKERS AS DETERMINED BY SOCIOLOGY DEPARTMENT INVESTIGATIONS, 1914, 1915 AND 1916 BY %

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Status	Year		
	1914	1915	1916
Home Condition:			
Good	47	70	87
Fair	30	28	11
Poor	23	3	2
Neighborhood:			
Good	41	66	81
Fair	40	32	18
Poor	19	2	1
Habits:			
Good	80	66	73
Fair	19	33	26
Poor	1	1	1
Citizenship:	39	45	51

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Source: FMCA Accession 62, Box 59/ "Social Statistics of Home Plant as of January 12, 1916."

For many workers, especially the ethnics, the prospects of establishing "good home conditions" (according to Ford's standards) were not good in 1914, and by 1920 the prospects had diminished considerably. According to Marquis, a "genuine" housing shortage existed, and consequently, Ford softened its preference for single family dwellings. Marquis remarked that, "In the old days, if a worker lived in bad housing we could tell him to get it straightened out, now we beg the Board of Health to let him stay in a condemned house."<sup>19</sup>

Whatever the motives and the net affect of the Sociological Department's efforts to improve the home and housing conditions of Ford workers, the record shows many cases where the Sociological Department was directly responsible for improved conditions.

One case is especially interesting; it is interesting not only because of the exceptionally large number of boarders involved, but because it also attests to the importance of the income earned by taking in boarders. In this particular case, a married workman lived in a rented house with his family which included a wife and five children; in addition to the worker's family there were eighteen boarders living in the house. "The investigator found that the couple, neither of whom spoke English, ... had rented [the] house for \$80 a month, and were realizing a gross income of more than \$300 monthly. This and the husband's factory earnings had enabled them to save \$890."<sup>20</sup> The workman, of course, was not approved for participation in the profit-sharing plan. This case apparently warranted special attention, and after some effort on the part of the investigators, the workman was persuaded to invest part of his savings in a house on the outskirts of the city. After three months he was put on the profit-sharing plan, and the investigator found that the family had been transformed.

Many observers, especially those close to the Ford Motor Company, applauded the contributions that the profit-sharing plan made to the improvement of housing conditions, and therewith, improvements in the QOL of

some Ford workers and their families. For example, one investigator wrote that, "It is more than one year that I have been working in the Sociological Department of the Ford Motor Company, and I am glad to substantiate that our investigative work has been highly successful and that a significant progress is evident regarding the home and living conditions of our employees and their understanding of the intentions of the profit-sharing plan."<sup>21</sup>

Although it is quite possible that, like many assessments recorded by Sociological Department investigators, the statement by John Clarken, who was the Chief Housing Inspector of the Board of Health of the City of Detroit, may be biased in its confirmation that housing conditions of Ford's employees did improve. Clarken wrote that, "...it has been my observation that the conditions under which the Ford employees are living have been greatly improved, especially in certain sections of the city where they live in large numbers."<sup>22</sup>

Despite biases in reports regarding the improved home and housing conditions of Ford Workers, there is no doubt that, owing to the work of the Sociological Department, and the "Ford" real-estate and housing-construction companies, the conditions did improve. Nevertheless, there is considerable evidence suggesting that the improvement

was not constant, and that not all Ford workers benefitted equally.

Speaking in favor of a cooperative housing plan on June 25, 1920, Edsel B. Ford remarked that, "There seems to be an impression that housing conditions are improving. This idea is not borne out by actual conditions. Housing conditions in this area are just not so acute because large numbers are for the summer living in tents and shacks which will not furnish them proper shelter in the winter,..." Ford also noted that reports from the public schools showed that large numbers of families were leaving the city, and it appeared therefore that conditions had improved. More importantly, Ford added that, "The houses for sale and rent in this city at the present time are still beyond the reach of the man earning from \$6.00-\$7.00 per day. This class of men makes up the bulk of our employees..."<sup>23</sup> It appears then, that the home and housing conditions of many Ford workers improved during the early phase of the profit-sharing plan, and the conditions of many other workers were not affected while the home and housing conditions of other workers certainly deteriorated during the early 1920s. Whatever the overall state of the home and housing conditions of Ford workers, the program to upgrade those conditions

was but part of a larger effort aimed at "Americanizing" the workforce.

FOOTNOTES

Chapter Six

1. John Modell and Tamara K. Hareven, "Urbanization and The Malleable Household: An Examination of Boarding and Lodging in American Families," in Michael Gordon (ed.), THE AMERICAN FAMILY IN SOCIAL AND HISTORICAL PERSPECTIVE (New York: St. Martins Press, 1978), 52.
2. Modell and Hareven, "An Examination of Boarding and Lodging in American Families," 59.
3. Interview: Katherine Hill, Librarian-Curator, Megregor Library/Museum, October 1986.
4. HIGHLAND PARKER, 2 January 1927.
5. Modell and Hareven, "An Examination of Boarding and Lodging in American Families," 51.
6. Robert W. DeForest and Lawrence Veiller, THE TENEMENT HOUSE PROBLEM, 2 vols. (New York: Macmillan Co., 1903) 1: 60.
7. DeForest and Veiller, THE TENEMENT HOUSE PROBLEM, 60-61.
8. DETROIT SATURDAY NIGHT, Volume 7, Number 21. (July 19, 1913).
9. FMCA/Accession 62, Box 28: "Outline of Suggestions For Housing of Employees of Henry Ford at Ford Tractor Plants and the River Rouge."
10. FMCA/ Accession 293, Box 1: "Profit Sharing;" also cited in Meyer, FIVE DOLLAR DAY, 133.
11. Boris Emmett, "Profit Sharing in the United States." BULLETIN OF THE BUREAU OF LABOR STATISTICS (1916), 99-100, cited in Meyer, FIVE DOLLAR DAY.
12. Emmet, "Profit Sharing," 99-100.
13. FMCA/ Accession 940, Box 17: "Human Interest Story Number-One."

14. FMCA/ Accession 940, Box 17: "Human Interest Story Number-Nine," reported by F. Andrews.
15. Harry Franklin Porter, "Giving The Men A Share: What It's Doing for Ford," SYSTEM 31 (March 1917), 267.
16. Emmet, "Profit Sharing," 99-100.
17. FMCA/ Accession 62, Box 59: "Social Statistics of Home Plant as of January 12, 1916."
18. FMCA/ Accession 62. Box 59: "Social Statistics of Home Plant as of January 12, 1916."
19. FMCA/ Accession 293, Box 1: "S.S. Marquis."
20. Nevins, FORD, 559.
21. FMCA/ Accession 940, Box 17: A.E. Gruenberg, "Progress Among Foreigners Since Proclamation of Profit Sharing Plan," June 3, 1916.
22. FMCA/ Accession 940, Box 17: "The Board of Health," nd.
23. FMCA/ Accession 940, Box 17: "S.S Marquis Papers/ Frank Hill Papers."



## CHAPTER SEVEN

### BLACK AND WHITE WORKERS IN THE SHADOWS OF THE PALACE: SOME OBSERVATIONS ON THE QUALITY OF LIFE 1910-1927

The aim of this chapter is to elaborate on the lives of the Model T cohort of workers by putting some flesh on the statistically reconstructed skeleton of the inhabitants of Highland Park.<sup>1</sup> The fundamental objective of previous chapters remains, that is, to understand how the combination of the new manufacturing and managerial technology adopted in the production of the Model T, and the resulting demographic transition of the region affected the quality of life experienced in particular segments of the community. Following the EPA definitions and prescriptions regarding the study of the quality of life, and focusing on (a) migration, (b) home and housing conditions, (c) employment and income, (d) health, (e) and political power, this chapter attempts to contrast the quality of life experienced by the Black community with that experienced in Highland Park.<sup>2</sup>

The vast majority of Blacks, wherever they lived in the region, had a shared experience which made them one people, and which was manifest in the quality of their lives. In an attempt to shed some light on the small number of blacks who made their way into the Crystal Palace, this section expands upon the experience of Ossian Sweet (pronounced "ocean"),<sup>3</sup> an extraordinary Black Detroiter, in order to experience the larger Black Detroit and, perhaps, thereby to see Highland Park more clearly.

Ossian Sweet was born in Orlando, Florida in the late 1890s. He was the eldest of ten children born to a household headed by a Methodist preacher. As a young boy, Sweet witnessed an event which would have a deep and lasting effect on him, and on those with whom he came in contact. One day he saw a mob consisting of what appeared to be thousands of white people driving a young black boy down a road near the Sweet home. While hiding himself, Sweet saw the mob pour kerosene on the boy and set fire to his flesh. He heard the boy's tortured screams pierce the air, and after a while when the crusty body no longer cried out, he listened to the gleefully triumphant howls of the drunken mob as they celebrated their work, and "He saw them laughingly take pictures of the scene and then watched in horror as

dozens of whites pulled souvenirs of bones and flesh off the charred remains."<sup>4</sup>

Sweet left home when he was twelve years old and worked at numerous jobs, including bellboy, waiter on steamships and in hotels, Pullman-porter, and janitor before attending Wilberforce University in Ohio and Medical School at Howard University in Washington, D.C. By 1925, Ossian Sweet was "A young man barely in his thirties, married, with an infant daughter, he was a physician and surgeon, and specialized in gynecology," living in the city of Detroit. Sweet, like the vast majority of Black Detroiters, never lived in Highland Park and never worked in the Crystal Palace. But, despite his 'professional status,' Sweet did have much in common with the 'average' Black Detroiters; and here it is asserted that the few blacks living in Highland Park and working in the Crystal Palace had much in common with the larger community of Black Detroit.

### Migration

Black immigrants in significant numbers first appeared in Michigan about 1840. At this time there were 707 Negroes in Michigan and 193 in Detroit, and by

1850 the number had increased to 2,283 and 587 respectively; among these migrants was a small colony of ex-slaves who settled in Cass County, but the largest settlement of blacks, nearly one-quarter of Michigan's Negro population, lived in Detroit in 1850. Most of these early settlers were descended from free Negro migrants from urban centers in the state of Virginia; they came from Richmond, Fredericksburg, and Petersburg.<sup>5</sup> When contrasted with the waves of blacks who would arrive later, these early migrants were but a mere splash in an ocean of black souls in search of better lives.

The black immigrants were pushed from the socially and economically inhospitable conditions in their homestates of Alabama, Georgia, Florida and Tennessee;<sup>6</sup> in some cases floods and boll-weevil pests had made it virtually impossible for those who would emigrate to make a living.<sup>7</sup> Their movement was vigorously stimulated by labor agents who were seeking to supply the labor needs of a rapidly growing city; the agents enticed the willing migrants with offers of free transportation, promises of higher wages, improved working conditions and greater social freedom.<sup>8</sup>

The vast majority of black people who came to the Detroit area came in one of two waves. The first wave

was part of the 'great migration,' which brought blacks during 1916-17 to alleviate a labor shortage that resulted from the fact that WW I had disrupted the flow of immigrants who might normally have been expected to meet the labor needs,<sup>9</sup> and the fact that certain other members of the workforce had been drafted or had volunteered to do military service. The second wave in 1924-1925 brought a few like Ossian Sweet, and many thousands of others, especially, single black men in their prime, to fill a vacuum in the labor force created by legislation restricting immigration into the United States.<sup>10</sup>

The immigration of blacks to the Detroit area was part of a larger, more complex movement that Donald described as a social phenomenon representing the maladjustment of 500,000 Negroes.<sup>11</sup> Generally speaking, the north and western parts of the United States saw an increase in the black population from 1,078,336 in 1910 to 1,550,754 in 1920; an increase of 472,448 or approximately 44 per cent. Within the context of this movement, Michigan experienced an increase in the Negro population of 251 per cent, that is from 17,115 in 1910 to 60,082 by 1920. Of this number, 35,097 migrated to Detroit and most others settled in southeastern Michigan communities.<sup>12</sup> More than any other city in

Michigan. Detroit attracted the migrants; specifically, the city's increase in the black population was an astounding 623.4 per cent, that is from 5,751 in 1910 to 41,532 in 1920.<sup>13</sup> What is important is that during this period, the percentage increase in Detroit's blacks was the highest in the nation, followed by Cleveland, Ohio with an estimated increase of 307 per cent while all other urban communities in the United States which had more than 25,000 blacks in 1920 had increased less than 150 per cent.<sup>14</sup>

This massive movement of manpower from the south to Detroit was often viewed with alarm.<sup>15</sup> The DETROIT NEWS sensationalized the 'great migration' in articles and editorials in which the message was clear: "Negroes Open Drive On City. Advance Contingents of 50,000 Southerners Expected by Summer, Arrive Daily."<sup>16</sup> In another report the NEWS declared, in an editorial, that the natural home of the Negro is in the South and the South should revise its racial policies and call "him" back.<sup>17</sup> Despite the admonition of the NEWS, for the time being, blacks did not in significant numbers return to the south, in fact the flood of migrants continued. Forester B. Washington, the first head of the Detroit branch of the Urban League,

reported that "1,000 Negroes a month were arriving in the city" in May, June, and July of 1917; by 1920 it was estimated that over 1,000 blacks were arriving each week.<sup>18</sup> During the month of May in 1920, Washington sent an Urban League worker to meet the three trains which daily brought the majority of the migrants, and the count at the train station revealed the totals in table 7.1:

Noting that, by the fall of 1916 a massive wave of black immigrants had begun to arrive in Detroit, Thomas has summarized the phenomenon. During the months of May, June and July of 1916 an estimated 1,000 black immigrants arrived each month; and an estimated 25,000 arrived in 1916-1917.<sup>19</sup> Remarkably then, the vast majority of the more than 40,000 blacks counted in 1920 had come to Detroit in one year! The second wave coming in 1924-1925 brought in over 40,000 new black immigrants, thus by 1926 85 percent of the black population had come to Detroit during the decade between 1916 and 1926. "Both waves were heavily influenced by the increase in the value of Detroit's manufacturing products, triggered by the rapid industrial expansion of 1914."<sup>20</sup>

Table 7.1

URBAN LEAGUE'S COUNT OF BLACK IMMIGRANTS: MAY 1920

Monday May 3, . . . . .	216
Tuesday May 4, . . . . .	245
Wednesday May 5, . . . .	215
Thursday May 6, . . . . .	274
Friday May 7, . . . . .	272
Saturday, May 8, . . . .	217
Sunday, May 9, . . . . .	371

Total	1,809
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Source: Forrester B. Washington, "The Negro in Detroit: A Survey of the Conditions of a Negro Group in a Northern Industrial Center during the War Prosperity Period," Detroit 1920.



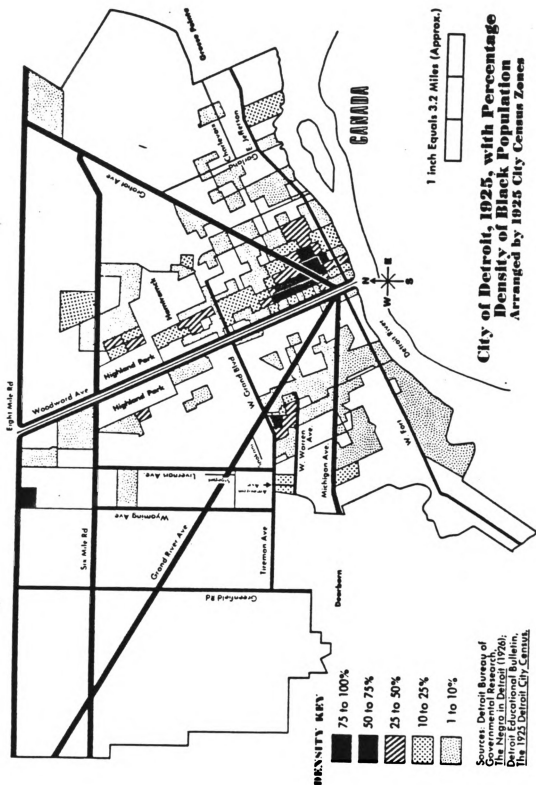
## Housing

For the vast majority of Black Detroit, without respect for occupation and social class, the housing situation was abominable! Consider, for example, a house on St. Antione Street, just off Adams, which was occupied by fifteen regular tenants and a varying number of transients; this place had six rooms, no toilet or bath, and rented for \$75 a month....The people were all black and were living in Detroit's black ghetto already filled to bursting.<sup>21</sup>

George Edmund Haynes, a trained sociologist and contemporary authority of the Model T era has offered an assessment which is based largely on a sample of 407 households. Haynes noted that housing was the most pressing problem of Detroit's Black new-comers. Haynes hastened to add that, "Houses for families involve not only the question of physical shelter but the problems of sanitary and moral environment."<sup>22</sup> The housing problem was characterized by shortages which resulted in overcrowding and excessive rents, moreover much of the available housing was unfit for human habitation, while restrictive covenants and racial discrimination prevented Blacks from moving into more suitable environments.

MAP 7.1

## LEVINE'S CITY OF DETROIT 1925



The housing problem in Detroit c.1900-1930 is a subject about which there has been much commentary. Citing Washington and several Urban League documents,<sup>23</sup> Levine reported that early contingents of the great migration immediately consumed all available housing, and there was not a vacant house or tenement in the black section of the city, where three or four families crowded into nearly every apartment.<sup>24</sup> In one exemplary case, "Fourteen people lived in the attic of a house on Napoleon Street." Crowded conditions were made worse because "Housing with no indoor bathroom facilities, no electric lights, and leaking water pipes was commonplace."<sup>25</sup>

Katzman reported that, even before the great migration, housing for Blacks left much to be desired.<sup>26</sup> In describing alley-dwelling, Katzman remarked that "Neither the alleys nor the dwellings in them were well suited for human habitation;" former sheds and stables were often converted into 'housing' for one, two, or three families, where in 1911, the alleys were still being used as a garbage dump and posed serious health hazards. The short supply of housing contributed to excessive rents paid by Black occupants: "In 1911 an alley house between Hastings and Rivard, occupied by two families and as many

boarders and lodgers as they could secure, rented for \$18 a month," and this arrangement was commonplace. A few blocks away, in another alley community (i.e., shanty town) homes "built of rough boards in the chicken coop style of architecture," rented for \$10 a month. A clearer meaning of the monthly rental rates paid by Blacks may be seen when those rates are contrasted with rates paid in the working-class neighborhoods of 1909, where "older six-room dwellings fully serviced by utilities rented for \$10 to \$12 monthly, and new dwellings rented for \$18 to \$22."<sup>27</sup>

Haynes was persistent in noting that the, so called, 'lodger evil' was among the greatest problems caused by the housing shortages. Haynes emphasized that many families living in 1 to 4 rooms were accommodating lodgers and that practically all families recorded as living in 5 or more rooms were taking in lodgers, while all families living in 7 or more rooms had at least two lodgers. "In fact," Haynes continued, "many homes of this size were run either as rooming houses for profit or because the necessity of paying the high rents" had turned them into rooming houses.<sup>28</sup> Continuing his discussion of the "pressing problem" of the lodger evil, Haynes noted that, "There were 7 families living in 1 room and keeping lodgers;

146 families were living in 2 or more rooms keeping lodgers; only 100 families were reported as having no lodgers and 98 were doubtful or unknown. Here we have a pressure against wholesome family life which is serious in the extreme."<sup>29</sup> The housing problems refused to go away! The housing situation for blacks was so bad in the summer of 1919, that some men, with money in their pockets, were forced to sleep in parks, and others slept in cars and on pool tables.<sup>30</sup> While a survey of 1,000 families showed that over half of these families took in lodgers (usually single men), the Mayor's Inter-Racial Committee reported that "sanitary dwellings at a reasonable rent" were still "the exception," and there were no reasonably priced workingmen's clubs or hotels for black workers in Detroit."<sup>31</sup>

"In the area of several blocks bounded by Beaubien and Hastings on the east and west and Napoleon and Brewster on the north and south lived the black "alley dwellers." The year was 1911. In the rear of a Beaubien Street lot stood an old shack, measuring some fifteen by thirty feet. It had two levels; the lower part was used as a shed and stable and the upper part was intended for storage of hay. The lower part remained a shed, but the hay loft had been converted

into a dwelling, partitioned off with rough lumber to make two rooms and two recesses. In this rookery were housed five persons--a man, a woman, a young girl, and two adult lodgers. The windows looked out onto an alley where refuse collected through the winter. At the entrance to the building was a large box of manure which had been thrown out of an adjoining stable.

A similar shack stood in an alley between Alfred and Brewster streets. Built of rough boards and resembling a chicken coop, it was divided into four rooms housing two black families. Each paid \$5 a month rent. The total value of the shack could not have been more than \$25. Another alley shed between Hastings and Rivard streets, occupied by two families and varying number of lodgers, paid its owner rental of \$18 a month. The families had long since given up trying to keep out filth.<sup>32</sup>

Haynes noted that "One observer said he had seen rooms occupied by two people where the most convenient way to dress was to stand in the middle of the bed."<sup>33</sup> Haynes qualified his statement by indicating that the observer was probably exaggerating, but asserted that, it is nevertheless "true that many buildings are very badly overcrowded and are nothing more than dilapidated shacks."

TABLE 7.2

NUMBER OF ROOMS OCCUPIED, FAMILY SIZE, AND RENTS PAID:  
A SAMPLE OF 407 DETROIT HEADS OF HOUSEHOLD 1918

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Rooms Occupied	Family Size	Rents Paid
71-5	169-2	57-\$15-\$19
63-1	108-3	45-\$35-\$39
50-nd	51-4	43-\$20-\$24
44-6	28-5	39-\$25-\$29
43-7	19-6	29-\$30-\$34
35-4	18-1	27-\$10-\$11*
34-3	10-7	21-\$40-\$44
24-2	3-8	13-\$45-\$54
16-12	1-9	4-\$60+
16-10		3-\$<10
14-9		
13-8		
Totals: 407	1,241	

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Source: Haynes, NEGRO NEWCOMERS IN DETROIT 1918: 21-24.  
nd=No data; \*= All one room households.

Reporting data provided by the Detroit Urban League, Haynes stated that the usual size of houses or apartments was 3, 4 or 5 rooms, and that many of them were in the midst of saloons, gambling places or "buffet flats." As described by Haynes, a "buffet flat" is a "sort of high-class combination of a gambling parlor, a 'blind tiger' and an apartment of prostitution," which generally operated under police

protection.<sup>34</sup> Haynes' assessment of the housing conditions for Blacks was confirmed by a number of public agencies.

On the basis of a 1916 study evaluating 96 working class homes, the Detroit Board of Health found 1,974 persons occupying homes which were judged to have a capacity for no more than 1,477 persons. Moreover, it was found that only 11 of the 96 homes were judged to have 'sanitary' bed conditions and less than 20 of the homes were in compliance with the plumbing codes.<sup>35</sup> Despite the fact that there was a frenzy of housing construction, the housing shortage persisted. A survey conducted in 1919 showed that there was a shortage of approximately 33,000 housing units and that 165,000 persons were living in sub-standard housing.<sup>36</sup>

Levine has noted that "Housing was constructed for 16,689 families in 1922; for 23,153 families in 1923; for 26,377 in 1924; for 26,679 in 1925; and for 27,287 in 1926,"<sup>37</sup> yet the demand, by far outstripped supply. Between 1923 and 1928, over 50,000 housing units were built in the Detroit area, but the shortage remained.<sup>38</sup> On the basis of its own investigation in 1921, the Americanization Committee of Detroit reported that many "Negroes" were living in shacks that



were not fit for human habitation, for which they were paying exorbitant rents.<sup>39</sup> The housing situation outlined here is precisely the environment encountered by Sweet, and which he sought to avoid by moving his family into the house at 2905 Garlund Avenue.

During the summer of 1925 whites in various parts of the city, as they had in years before, succeeded in preventing blacks from moving into "their" neighborhoods. Generally speaking, whites tried to keep the Blacks in place by loosely organized urban terrorism. As early as 1919, bombing and mob threats had succeeded in discouraging Blacks from moving out of the black ghetto and into white neighborhoods, and by 1925 when the Sweet family went on trial for murder, the Ku Klux Klan was well established in Detroit and had shown its strength by nearly electing their write-in candidate (Charles Bowles) as the new mayor.<sup>40</sup> The Sweets knew, as much of the world would know when they went to trial on a murder charge, what they were getting into.

Sweet knew that his family would not be welcomed to the neighborhood where he had paid a hard earned \$3,000 deposit on the \$18,500-house at 2905 Garlund Avenue (near Charlevoix). In fact, expecting trouble and doubting that 'police protection' would be

forthcoming,<sup>41</sup> the Sweets armed themselves "with seven revolvers and automatic pistols, two rifles, a shotgun, and about 400 rounds of ammunition."<sup>42</sup> Having informed the police department of his intentions, on Tuesday morning September 8, 1925 the Sweet household (note composition of household) moved into their home.

Except for the constant parade of people who passed the house (again, and again, and again, etc.), and the policemen who were on the scene all day to keep people moving, the first day in the new home was relatively uneventful. At midnight, 500 to 800 people still stood outside the house, but by three o'clock (a.m.) the crowd had begun to dissipate and by daybreak<sup>43</sup> everyone had scattered.

The morning of the second day was 'normal,' but by late afternoon large crowds of people had gathered near the house. Apparently startled at seeing the horde milling about outside, someone in the house cried out, "My God, look at the people!"<sup>44</sup> Some of the mob began to throw stones at the house, some shouted curses, while seventeen policemen stood within fifty feet of the house. . . and did nothing to dissuade the<sup>45</sup> mob. Meanwhile, Ossian Sweet turned out the lights, grabbed a gun and ran upstairs. Some of the members of the household had not yet returned to the house from

their normal daily routine, and as they drove up in a taxi and ran toward the front of the house, they were pelted with bricks, stones, rocks and coal, as their assailants screamed "Niggers! Niggers! They're niggers. Get them! Get The Niggers!"<sup>46</sup> Windows shattered! Soon, shots came from within the house."<sup>47</sup> Police reinforcement arrived and the Sweets were arrested.

"Downtown on lower Beaubien in the huge new police building of which official Detroit was so proud, the prisoners were told that a man named Leon Breimer had been killed and another, Erik Houberg severely wounded."<sup>48</sup> It was the police chief who asked the first question of Ossian Sweet: "Doctor, what business do you have moving into a white neighborhood where you are not wanted?"<sup>49</sup>

Ossian Sweet and the other 80,000 (approximately) black immigrants arriving in Detroit 1914-1925 enriched the city and multiplied (ad infinitum) the prospects for an improved quality of life for the immigrants themselves, as well as that of the elite-class of blacks who had come before them. Yet, that is in spite of the prospects for change, "since 1915," "the structure--economic, social, and political--that proscribes black life has remained (too much) the same."<sup>50</sup> Reiterating the anachronistic quality of

black Detroit, Katzman wrote that, in Detroit, as illustrated in his work and in Chicago and New York as shown in the work of Allen Spear and Gilbert Osofsky respectively,<sup>51</sup> "there is a tragic sameness in the lives of black people today and the past," and when compared with other groups, "no group had changed so little in more than half a century."<sup>52</sup> With specific reference to the ways in which backward development, and everything it implies, was reflected in residential segregation, Zunz recognized the anachronistic character of Black Detroit.

Zunz recalled that Louis Wirth, writing in the 1920s, led the way in developing the revolutionary analytic model of residential succession in which it was assumed that Blacks--the last large group to enter the city--needed only to wait their turn to receive the well-earned fruits of the toil;<sup>53</sup> Wirth's model offered an optimistic projection which was not confirmed by the realities of Detroit. In fact, as Zunz has put it, "Blacks lived history in reverse."<sup>54</sup> While most ethnic neighborhoods flourished as cross-class communities which provided a variety of opportunities for an improved quality of life for its members, Blacks were "atomized and dispersed." The cross-class ethnic communities were transformed by the

emergence of a large industrial working class. As ethnic bonds were being replaced by occupational bonds, and as upwardly mobile residents moved up in class, they deserted the communities which had nurtured them, while "Blacks were drawn into an ever growing ghetto, irrespective of their social status." The contradiction of the growth of the Black ghetto was an anachronism which contrasted sharply with the white ethnic groups that became more and more segmented along class lines in many sections of the metropolitan area.<sup>55</sup> Why?

Did the backward development of the black community result from a failure to acculturate? Was it because of a lack of education? Was it because of racial prejudice? Or was the source of the failure to capture the 'American dream', i.e., up and out, to be found elsewhere?

#### Politics

Although pleck is writing about black Boston,<sup>56</sup> she has identified an anachronistic pattern similar to that in Detroit described by Zunz and Katzman.<sup>57</sup> Commenting on work that she did with Thernstrom, she

remarked that, it was found that black Southerners were far more concentrated in menial jobs than Irish immigrants and that, far from diminishing with increased residence in the city, the racial gap in occupational status only widened in the second generation. Blacks born in the North were still largely working in menial jobs, unlike their Irish counterparts; most of the American born sons of Irish immigrants were employed in skilled trades, clerical jobs, or factory work. Pleck and Thernstrom concluded that black economic progress did not fit the model of even the most limited example of nineteenth century immigrant advance, that of Irish Bostonians.<sup>58</sup>

"The familiar immigrant story of acculturation, then, can be found here without the familiar element of economic advance, and it was this discrepancy between aspirations and incomes that so often shaped black personal relationships and family life."<sup>59</sup>

Here, it has been suggested that the backward development, i.e., the anachronism seen in the black community of Detroit was not unlike that observed in Boston. In each case, the paramount question is why? Why did black immigrants, first and second generation, not experience the same patterns of mobility as other groups had experienced. More precisely, why did the

Ossian Sweets, John Washingtons, et al. of Detroit not gain a share of the American dream? In the case of Boston (and by hypothetical extension, in Detroit), Thernstrom has eliminated four reasons for the concentration of blacks in menial jobs: First, he argued that rural background was not a fundamental source of black inequality. Next, he dismissed the suggestion that educational deficiencies contributed to the poor economic showing of Boston's blacks at the turn of the century. Third, he ruled out that confinement to ghettos was a serious economic handicap for black workers. Residential segregation, he found, bore little or no relationship to occupational standing for several groups of Boston workers.... Finally, Thernstrom doubted the idea that fatherless families were a significant deterrent to black occupational advance. He noted that female-headed households in a 1960 study were more often found among white and black poor, and if economic differences were held constant, the male-absent household was only slightly more common among blacks than whites. The elimination of these four alternative explanations compelled Thernstrom to conclude that the major barrier to black economic achievement was racial prejudice. Similarly, here it is suggested that it was racial prejudice which

prevented the ascendance of the Ossian Sweets, and thousands upon thousands of blacks in Detroit.<sup>60</sup>

While it may be widely agreed that racial prejudice goes a long way toward explaining the concentration of blacks in menial jobs, residential segregation and the black ghetto, a more fundamental question remains. That is, what were the political conditions which encouraged official noninvolvement in cases like the Sweet case; put another way, what was the source of political impotence in black Detroit?

Several experts have noted that political reforms of the early twentieth century operated to the detriment of the black electorate. Having discussed the various ways in which the black political elites had become accustomed to the patronage system, Katzman remarked that the change from the convention to a primary system of selecting candidates served to block Negroes from elective office.<sup>61</sup>

Katzman also noted that William M Tuttle Jr. and August Meier have suggested that bringing about the political impotence of the black community may have been an intended result of the change from the convention to the primary system.<sup>62</sup> "Although party leaders sometimes endorsed Negro candidates, black men met defeat in the primaries. Comprising less than 2 percent of the total



population, Detroit Negroes had little hope of nominating a black man themselves. The primaries made it possible for caste feelings to predominate in elections in Detroit." In short, "the introduction of the primaries in Detroit eliminated the black man from office."<sup>63</sup>

Forrester B. Washington has also noted the result of the change from the convention system: The change from the convention system of nominating candidates which occurred about 1895, acted as a blight on the Negro politically. Up until that year Negroes had held many important municipal, county and state appointive and elective positions. One Negro had been elected to the City Council. Four Negroes had been elected to the State Legislature. One Negro had been elected Circuit Court Commissioner. But since 1894, when William Ferguson was re-elected Estimator of the City of Detroit, no Negro had been elected to public office. Washington further explained that, with the convention system which was used until about 1895, political leaders got together and made up a ticket which was submitted to the people at the election. Under the convention system, "frequently a Negro was put on the ticket to capture the Negro vote. If the ticket was successful the Negro was elected. But since 1895, when

nominations were first made by popular vote, there has not been enough Negroes nor enough white citizens who would vote for a Negro to elect a Negro to office.<sup>64</sup>

The change from the convention system to the primary system effectively eliminated blacks from meaningfully and purposely influencing public policy in Detroit, and the charter adopted in 1918 added insult to impotence.

Levine remarked that, "The coincidence of events--the city government being restructured under a new charter just as the black migration was gathering force and Detroit was beginning to feel its effect--leads one to wonder what the course of local race relations might have been had the original primary system remained."<sup>65</sup>

The Detroit Citizens' League made a special effort to get ethnic minorities to support the proposed charter, and recognized as political leaders, the pastors of the Negro churches were of special interest to the League. Blacks were assured that "the at-large system would facilitate the election of 'white men' who would be more concerned about the condition of blacks than were the existing group of aldermen."<sup>66</sup>

One spokesman reminded the black electorate that, "Experience has taught us that the educated, cultured, 'big' white man has always been the

Negro's best friend and has always stood for equity and justice for his weaker brother."<sup>67</sup>

It may also be noted that the DETROIT LEADER, "a black newspaper, supported the new charter and advanced the theory that black votes scattered in many different wards could be united in city-wide elections." The DETROIT LEADER, and other supporters of the charter failed to note that such coalitions would be virtually impossible to build and of little practical consequence. In effect, supporters "ignored the greater likelihood that the concentrated black vote would be diluted in at-large elections."<sup>68</sup>

By 1917, the "good government group," consisting of the Detroit Citizens' League, and the Detroit Board of Commerce, had succeeded in placing a proposition for charter revision on the November ballot. In November, the proposition received the endorsement of the voters. The work of the commission elected to prepare the revision received voter approval in June 1918.<sup>69</sup> It was Mayor James Couzens, former vice president and major stockholder in the Ford Motor Company, and future United States Senator, who would implement the good government charter for Detroit.<sup>70</sup>

"By 1900 blacks were less in the mainstream of American life than they had been in the previous four

decades. With politics, their last important link with the white community cut off by reform, blacks were left even more isolated."<sup>71</sup> For Ossian Sweet and the black community whose aspirations he represented, the lack of political power meant that there was no protection; it meant that blacks, without regard for income and professional status, were forced to remain in the ghetto while other immigrants improved the quality of their lives by moving into different homes in different neighborhoods.

Even during the best of times, as one authority on the history of Black Detroit has noted, "The black community in Detroit has (always) struggled to increase and sustain its overall quality of life."<sup>72</sup>

Blacks huddled in Detroit's near eastside ghetto were plagued by "tough jobs, scarce housing and poor health."<sup>73</sup>

Citing the United States Department of Commerce, "Mortality Statistics: Thirty-First Annual Report: 1930," and Ulysses W. Boykin, A HANDBOOK ON THE DETROIT NEGRO, Thomas has drawn a picture of the relatively severe health hazards faced by blacks in Detroit.<sup>74</sup>

Given what is commonly known about the relationship of home and housing conditions, occupation, and the quality of health, the picture

drawn by Thomas, while not clearly discernable in the data found in the Ford Motor Company Archives, is not inconsistent with the fragments of evidence (see table 5.2) which describe the experiences of the comparatively small number of black workers employed in the Crystal Palace.

Thomas reported that during the peak years of black immigration to the Detroit area (1915-1920), while the death rate of whites remained constant at 12.8 per 1,000, the death rate among blacks increased from 14.7 per 1,000 to 24.0 per 1,000. In subsequent years, the death rate for both blacks and whites decreased, but death continued to visit blacks more frequently: c.1925 and 1930, the death rates were 19.4 and 15.6 for blacks, and 10.4 and 8.7 for whites.<sup>75</sup>

It is significant that from 1915 to 1941 tuberculosis, a disease often associated with unsanitary conditions found in over-crowded housing, and in the polluted air in the foundries and paint departments in the automotive industry,<sup>76</sup> was the leading cause of death among blacks in Detroit. In 1915 tuberculosis claimed proportionally more than twice as many blacks (207.7 per 1,000) than whites (96.5 per 1,000). The rate of death attributed to tuberculosis continued to rise among blacks, while

showing a significant decrease among whites. In 1920 and 1925 the rate for blacks was 237.0 and 300.2 per 1,000; and 76.5 and 59.5 per 1,000 respectively. Moreover, as Thomas observed, "There were only four years during this period (1915-1941) when tuberculosis was not a principal cause of death among blacks: 1935, 1939, 1940 and 1941. In those years, heart diseases and pneumonia competed with each other in claiming black lives."<sup>77</sup>

Married or single, the housing and working conditions experienced by Black workers employed in the Crystal Palace (1910-1927) were worse than the standards achieved by other groups. It is a widely held view that in regard to the employment of Black workers, the Ford Motor Company had a more progressive policy than other auto manufacturers. While it is a view which is generally supported by the evidence, especially evidence relevant to employment in the River Rouge plant, it is not a view which is appropriate to the reality of the Crystal Palace. Generally speaking, Black workers were found in jobs with the lowest pay scales, jobs which required the greatest physical exertion, had the highest accident rates and the greatest health hazards; throughout the industry, it was commonly

understood that the least desirable jobs were in and around the foundry. It was only in the Rouge plant that a significant percentage of Blacks were found in some of the more desirable jobs; in fact, at the Rouge plant, Blacks were employed in all phases of the manufacturing operation, including final assembly. The situation in the Crystal Palace was quite different.

According to one researcher, on February 9, 1914 William Perry became the first black employee of the Ford Motor Company. Jim Price, another black worker employed in the Crystal Palace, who had apparently come into contact with Sorensen who frequented a tailor shop where Price had been employed, was among the earliest Black workers in the Crystal Palace. Price was apparently attracted to the Crystal Palace by the profit-sharing plan, and persuaded Sorensen to support his efforts to gain employment in the plant. Price was given a job in the tool crib, and Sorensen said to him, "Jim, you're going to be the first colored man here to get a job that means something."<sup>78</sup>

It should be recalled that the vast majority of the Blacks who came to the Detroit area to work in the automotive industry came in two waves. The first

wave was part of the "great migration," and came during 1916-1917 to alleviate a labor shortage which resulted from the fact that WWI disrupted the flow of immigrants who might normally be expected to meet labor needs, and the fact that other members of the workforce had been drafted or volunteered to do military service. The second wave came during 1924-1925 to fill a void in the labor force created by legislation restricting immigration into the United States. Lewis noted that Ford's policy regarding the employment of Blacks was the same as the policy that characterized the Detroit area c.1914-1919. More precisely, it was noted that on January 12, 1916 the Ford Motor Company had 32,702 employees, 50 of whom were black.<sup>79</sup> One year later, (January, 12, 1917) the company counted 36,411 employees and 136 were Black, and by March the number of Blacks employed by Ford had only risen to 200. Nineteen-eighteen saw an important change in Ford's employment practices.

On the basis of personal contact with Sorensen, the Reverend R.L. Bradby, pastor of the Second Baptist Church in Detroit, established himself as an 'agent' of the Ford Motor Company, and apparently had the authority to issue 'passes' allowing selected individuals access to personnel interviewers in the



company.<sup>80</sup> Owing, in part, to passes from Bradby, the number of Black workers in Ford's employ, especially in the Rouge plant, increased significantly. In 1918 the company hired 1,059 Black men, and in 1919 a total of 1,597 were hired.<sup>81</sup> By 1920, with 1,675 Blacks remaining on the payroll, the Ford Motor Company had become the auto industry's number-one employer of Black workers.<sup>82</sup>

The recession of 1920-21 and the Great Depression (1929 and early 1930s) found many automotive workers out of work, and many never returned to the ranks of those employed in the automotive industry. For those who remained, the Rouge plant was a stronghold of Black workers. Of the 8,756 Black workers employed by the Ford Motor Company in 1940, all but 200 were employed in the Rouge plant. The Model T assembly line had been shut down in May of 1927, and by 1935 the total number of workers, in what was once the showcase of the automotive industry, had been reduced to 2,488, of whom 20 were Black. In 1940, 18 Black workers could be found in the Crystal Palace.<sup>83</sup>

## A Profile of Highland Park Residents and Ford Workers

For the purposes of developing a snapshot of workers in Highland Park, one each of the two distinctly different types of neighborhoods in Highland Park have been selected for analysis. The first type of neighborhood may be described as having a decidedly greater proportion (more than 90%) of households with "families," consisting of a married couple and one or more of their children and/or some other blood-related relatives than the second type of neighborhood. The second type of neighborhood is one in which the vast majority of households included three or more boarders who were not apparently blood-related to the head of the household. More specifically, the neighborhoods selected for consideration are districts number 3 and 7 as demarcated in the 1915 special census; for the present purposes, it is assumed that each of these neighborhoods approximates the six-sided block employed by Zunz (see Appendix A). Within the six-sided block, which this writer has respectfully designated a Zunz-square (i.e., Z-square), an exemplary household on Highland Avenue in Zunz-square number 3, and a few representative households on

Labelle and Pasadena streets in Zunz-square 7 have<sup>84</sup>  
been singled out for analysis.

When the Ford Motor Company began production of the Model T in Highland Park in 1910, only a very small percentage of those whose lives would later revolve around the production of the Model T had arrived in the Detroit area; this group of employees was~~e~~ comparatively insignificant in their numbers, but certain aspects of their lives were significantly different from the majority of workers. Among those who are known to have been living in the area before the opening of the Crystal Palace, Pioch, Brown and Siess are probably representative of early Ford employees who had settled in the Highland Park area before 1910.

It may be recalled that Charles August Siess was the blacksmith and wagon-maker in the village of Highland Park in 1882, and that in the panic (economic depression) of 1893, his business, along with thousands of others throughout the US, failed. Remnants of the Siess family were among those who, as they had in the nineteenth century, lived in type-one households. As early as 1910, Fred Siess, W. Siess, and Henry Siess, all of whose occupations were listed as "machinists" were boarding at 143 Highland

85  
 Avenue. Throughout the period during which the Model T was produced in the Crystal Palace, families like the Sless family, in neighborhoods like the one where they lived, continued to live in households wherein the composition remained (essentially) unchanged, while the demographic transition wrought by the labor needs of the Crystal Palace, created type-two neighborhoods wherein the vast majority of the residents were boarders.

In the comparatively brief period between 1900 and 1920 the population of Highland Park increased dramatically, and most, indeed, almost all of the growth in the population was the direct result of labor needs in the Crystal Palace. In 1900 there were a mere 427 inhabitants, but by 1910 that number had increased by 846.9 percent to 4,120. By 1914 village officials estimated the population to be 22,000, and the special census taken by the Bureau of the Census on November 15, 1915 counted 27,170 persons claiming residence in Highland Park; and according to the last decennial census (1920) taken before the Model T assembly lines in the Crystal Palace were silenced, 46,499 persons were living in the city.

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 Most of the residents of Highland Park were 'native white Americans' who, for at least part

of the period wherein the MODEL T was produced, lived in households much like those in enumeration district (Zunz-square) number seven.

The rapid rate at which the population of Highland Park increased, along with austerity policies resulting from World War I, and the economic depression of the early 1920s, all contributed to a perennial housing shortage in Highland Park. Despite admonitions from Ford Motor Company executives and managers, that Ford "Employees should not sacrifice their family rights, pleasures and comforts, by filling the house with roomers and boarders, nor endanger their children's morals or welfare by allowing them to associate with people about whom the know little or nothing,"<sup>87</sup> boarding continued to be a prominent response to the housing and income needs of the Crystal Palace workforce.

Selected at random (from within Z-square 7), and therefore assumed to be typical of households taking in boarders in 1910, was a home on La Belle Avenue where a 44 year old German male head of household gave his occupation as house decorator, lived with his 46 year old wife, a dressmaker who worked at home. This couple had three school-age children, an 8 year old boy and two daughters, aged 8 and 13.

Eight unmarried auto workers ranging in age from 17 to 36, including one who was the nephew of the head of the household, boarded in this home.<sup>88</sup>

Another typical household among those taking in boarders was found on Pasadena Avenue; in this particular home a 40 year old man employed as an electrician in "the automotive factory," lived with his 29 year old wife, whose occupation was listed as boarding housekeeper, and their five year old son and 3 year old daughter. Five boarders lived in this home: two were 18 years old, one of whom was an electrician and the other a machinist; also among the boarders, were a 21 year old clerk and two automotive assemblers aged 20 and 22.<sup>89</sup> In addition to living in private homes, boarders also lived in establishments that were operated especially for boarders. One such abode on Pasadena Avenue was operated by three sisters, Josephine, Carrie and Hattie, aged 63, 50 and 47 respectively; their boarding house served as home for 13 lodgers, all of whom worked at the "auto factory."<sup>90</sup>

Having established the locations (Zunz-squares) where two classes of Ford workers lived, having shown something of the quality of home and housing conditions in a number of particular

instances, it is possible to build, albeit incomplete, a generalized profile of the quality of life experienced in and around the Crystal Palace. Owing in part to the work of scholars such as Chen-Nan Li, and activist scholar-novelists such as Upton Sinclair, but primarily because of records kept by the Sociological Department of the Ford Motor Company, it is possible to construct a group-biography of the Model T cohort of Ford workers who lived in Highland Park.

Li spent the summer of 1925 working in the Crystal Palace; during his tenure in the plant, he recorded certain information and impressions about the lives of workers employed in the plant. According to Li's observations, the workers lived under all sorts of conditions; conditions which ranged from indecent to refined extravagance. In general, it appeared that the workers maintained a fairly high standard of living. While it may be argued that it is impossible to characterize the average employee in the Crystal Palace, Li's description of the "average Ford man" is instructive.

According to Li, in 1925 an average Ford-man and his family were well fed; consuming three balanced, substantially plentiful meals each day.

When dressed in street attire, the worker looked like the average American businessman. An average Fordman was between thirty-five and forty years of age,<sup>91</sup> he had a wife who was only slightly younger than he was and who had given birth to two or three children.<sup>92</sup> Apparently, the average wife worked hard at housekeeping and frequently acquired a "good income" by taking in roomers and boarders.<sup>93</sup> The Ford worker was likely to own his house, or to have been buying it on an installment contract; if he did not own his own house, he probably rented an entire flat consisting of several rooms. In either case, the worker was likely to have had "sufficient" space for his family, and one or two rooms which were rented; if the house or flat was in Highland Park, the room or rooms were quite probably rented to a fellow employee at the Crystal Palace.

The house, of course, was supplied with water, gas, electricity, and other modern conveniences. Among the workers' household furnishings, carpets, davenports, and comfortable chairs are likely to have been found along with a few books and a few pictures on the walls. And, the worker may have had a victrola or a piano, a telephone and perhaps a radio.



Moreover, he probably owned a car, most probably a Model T Ford, which he drove to work.<sup>94</sup>

Most of the workers were married (See table 5.1), but many were not. The average unmarried worker was most likely to be between twenty-three and twenty-eight years old. If he lived in Highland Park, he and at least one other unmarried Ford worker would most probably have shared a rented room in a house or apartment. The room would have cost each worker \$3.00-4.00 a week. The unmarried worker was likely to take his meals in a restaurant at a cost of \$1.00 to \$1.30 per day. Generally speaking, whether married or single in 1925, the worker who was employed in the Crystal Palace appeared to maintain a fairly high standard of living.<sup>95</sup>

It should be remembered that a prominent figure in the lives of many of these workers was the agent-representative of Ford's Sociology Department. Many workers resented the intrusion of the investigator, even while they appear to have benefited from his intervention. Clearly, improved status within the Crystal Palace through participation on the profit sharing plan, could not pay for the violation of privacy. A little song which some workers sang,

suggests that there was indeed a great deal of ambivalence toward the investigator:

Who is the guy  
That asks you why  
Your money is all spent,  
and quiz-----es you  
and wif-----ey too  
About e-nor-mous rent?

Who counts the kids  
and lifts the lids  
To see that things are clean,  
And sure he'll say  
Most an-y day  
Your bank book must be seen.

In--ves--ti--gator  
In--ves--ti--gator  
The greatest man you really  
ever knew.

In--ves--ti--gator  
In--ves--ti--gator  
He starts the rocks a-piling up  
for you.  
96

By 1929 the quality of life of Crystal Palace employees had deteriorated drastically. The description of the conditions experienced by one worker in 1929, was probably quite typical of Crystal Palace employees. The laid-off worker stated that, "After 14 years and 3 months of the best endeavor for

the Ford Motor Company, I with thousands of others have been sent home." The worker continued, "By economy I have a comfortable home nearly paid for. The rental of a few rooms supply most necessities. I don't think we shall need any help from the community fund, but unless the factories open up before long, there will surely be dire suffering in Detroit."<sup>97</sup>

This worker had not foreseen the depths of the Great Depression, wherein all but the most fortunate Ford workers would indeed suffer.

All of the workers were pioneers in a new industrial age, whether they be among the relatively few blacks, the large number of ethnics who would soon be 'Americanized', or the native white Americans (WASPS) whose social mobility, consciousness and differentiation was accelerated by the profit sharing plan. Their lives, therefore, enriched the lives of other workers who would follow them. Workers, who having heard the kind hearted, paternalistic pronouncements and homilies of the king (Henry Ford), and having seen the lights go out in the Crystal Palace, while hearing the voices of workers on the Model T assembly lines, understood more fully, and without any doubt, the need to organize.

## FOOTNOTES

## Chapter Seven

1. The 'statistically reconstructed skeleton' refers to the relatively heavy use of 'numbers' in describing Highland Park and Ford workers.

2. The definition of the QOL is critical. The reader may wish to refer to Appendix B of this dissertation.

3. DETROIT FREE PRESS, 15 December 1987:9c.

4. Levine, INTERNAL COMBUSTION:159.

5. Katzman, BEFORE THE GHETTO:13.

6. Haynes, NEGRO NEWCOMERS IN DETROIT:8.

7. Donald, "Negro Migration,"485; Haynes, NEGRO NEWCOMERS IN DETROIT:6.

8. Donald, "Negro Migration,"486-87.

9. Haynes, NEGRO NEWCOMERS IN DETROIT:7.

10. Carlson, "The Negro in the Industries of Detroit,"40; 74-76.

11. Donald, "Negro Migration," 486.

12. William S. Rossiter, INCREASE IN POPULATION IN THE UNITED STATES 1910-1920 (Washington D.C.: Government Printing Office, 1922),128.

13. It may be noted that Rossiter's observations are not consistent with Donald's; Rossiter stated that Michigan's increase was 352 percent, although the increase in number amounted to only 42,000 persons. The disparity between these two reported increases is not at issue. In either case, the increase was remarkable.

14. Rossiter, INCREASE IN POPULATION,128; Levine, INTERNAL COMBUSTION, 44; U.S. Department of Commerce, Bureau of The Census, NEGROES IN THE UNITED STATES 1920-32:55; Detroit Bureau of Governmental Research, THE NEGRO IN DETROIT, Section 2, "Population, 15. It should also be noted that the increase in Detroit's

population was caused primarily by migration to the city: of 528,000 people added to the population between 1910 and 1920, 412,000 were migrants. Natural increase accounted for 109,000 new inhabitants (with an average birth rate of 32 per 1,000 and a death rate of 15 per thousand), and annexation of new territory to the city brought only 7,000 new people into the expanded city limits. [See Detroit City Plan Commission, MASTER PLAN REPORTS: THE PEOPLE OF DETROIT (Detroit, 1946), 5, 11-12; Ticknor, "Motor City," 162; Zunz, 1982:287]; Donald, 1921:483; See also, W.E.B. DuBois, "The Migration of Negroes," THE CRISIS, 14 (June 1917), 63-66.

15. While the emphasis here is on black immigrants to the city of Detroit, it should not be forgotten that their entrance coincided with the influx of southern workers, generally, to Detroit, Pontiac, Lansing, Flint, Saginaw, Toledo, and South Bend--the centers of automobile production. Although the number of Blacks increased significantly, it still was a relatively small fraction of the total number of southern migrants who found employment in the industry. And the fact that from the beginning of the industry's major expansion Negroes were greatly outnumbered by southern whites was to exert an important bearing on the relation of Negro workers to the industry and to the automobile unions." (Bailer, 1943:415).

16. DETROIT NEWS, 2 April, 1918.

17. NEWS, 25 January, 1918.

18. Forrester B. Washington, "The Negro in Detroit: A Survey of the Conditions of a Negro Group in a Northern Industrial Center during the War Prosperity Period" (Detroit, 1920); Zunz, INEQUALITY, 288.

19. Thomas cites "Population," THE NEGRO IN DETROIT, Detroit Bureau of Governmental Research, 1926:6; Haynes, NEGRO NEWCOMERS, 77.

20. Thomas, "Black Urban Experience In Detroit," 57; Detroit Bureau of Governmental Research, "Population," 96.

21. Levine, INTERNAL COMBUSTION, 43, citing "Unsigned (John C. Dancy) memorandum on housing, August 1919, DUL Papers, Box 1, MHC.

22. Haynes, NEGRO NEWCOMERS, 21.

25. Washington, "The Housing of the Negro in Detroit," in THE NEGRO IN DETROIT (1920), DPL; Report to the Urban League Board, October 1922. Detroit Urban League Papers, Box 1. MHC; Report to the Urban League Board, November 1922.
25. Levine, INTERNAL COMBUSTION, 125.
25. Levine, INTERNAL COMBUSTION, 125.
25. Levine, INTERNAL COMBUSTION, 125.
27. Katzman, BEFORE THE GHETTO, 74-75.
28. Haynes, NEGRO NEWCOMERS, 22.
29. Haynes, NEGRO NEWCOMERS, 23.
30. Detroit Bureau of Government Research (DBGR), "Negro in Detroit," Vol. V:10.
31. DBGR, "Negro in Detroit," Vol. IV: 5.
32. Levine, INTERNAL COMBUSTION, 50-51; DETROIT NEWS TRIBUNE, 4 June 1911.
33. Haynes, NEGRO NEWCOMERS, 21.
34. Haynes, NEGRO NEWCOMERS, 21; Haynes, "Negroes Move North," SURVEY 41 (January 4, 1919):460.
35. The Detroit Board of Health, "Report to the Health Officer on Housing and Health in Detroit," (1911):9-10.
36. FMCA/Accession 940, Box 5, "Report on Mayor's Housing Conference."
37. Levine, INTERNAL COMBUSTION, 40.
38. PIPP'S WEEKLY, March, April, and August 1928.
39. Detroit Board of Commerce, The Americanization Committee of Detroit, ANNUAL REPORT, March 31, 1921:46, in DPL and MHC/Bently.
40. Levine, INTERNAL COMBUSTION, 3-4, 167-190; Dancy, SAND AGAINST THE WIND, 21-34; Kenneth T. Jackson, THE KU KLUX KLAN IN THE CITY 1915-1930 (New York: Oxford University Press, 1967), 27-143; Zunz, INEQUALITY, 324.

41. "On Tuesday morning, September 8, 1925, after telling the police of his intentions, Ossian Sweet moved into the house. There were seven people making the move with him. They were his wife; Henry Sweet, his twenty-one-year old brother, a fourth year student at Wilberforce University; Joseph Mack, Ossian Sweet's chauffeur; Dr. Otis Sweet, another brother who was a Detroit dentist; William E. Davis, a friend of Otis' who was both a pharmacist and a federal narcotics agent; John Latting, a friend of Henry's, also a student at Wilberforce; and Norris Murray, a chauffeur and handyman. Since school was scheduled to reopen on the fifteenth of September, both Henry Sweet and his friend, John Latting expected to leave within the week. Otis Sweet and William Davis planned to room with the Sweet family for the winter. With the baby Iva, who had been left with her grandparents, it was to be a household of five." (Levine, 1976: 161). Levine cites Haldeman-Julius, "The Defendants in the Sweet Murder Case," 27, 30-31; Dancy, SAND AGAINST THE WIND, 23-24; Recorder's Court File no. 60317-60318, Recorder's Court, Detroit, Michigan; DETROIT CITY DIRECTORY, 1925-26; Turner and Moses, COLORED DETROIT, 74.

42. Haldeman-Julius, CLARNECE DARROW'S TWO GREAT TRIALS, 32-36 Cited in Levine, 1976:162.

43. Levine, INTERNAL COMBUSTION, 162.

44. Levine, INTERNAL COMBUSTION, 163.

45. Levine, INTERNAL COMBUSTION, 163.

46. Levine, INTERNAL COMBUSTION, 164.

47 (Levine, 1976:164, DETROIT TIMES, 10 September, 1925; DETROIT NEWS, 10 September, 1925; DETROIT FREE PRESS, 19, November 1925.

48. Levine, INTERNAL COMBUSTION, 164.

49. The Sweet trials received international attention, both because of the issues involved, and because Clarence Darrow was the defense lawyer. In the first trial the jurors were unable to reach a verdict; seven of the jurors favored acquittal and five held out for the conviction of Ossian Sweet, Henry Sweet and Leonard Morse on a charge of manslaughter (See Levine, 1976: 183; DETROIT TIMES, 27, 28 November, 1925; DETROIT

FREE PRESS 27, 28 November, 1925. In the second trial, Henry Sweet was tried alone. Eloquently defended by Darrow, he was acquitted and all charges against the others were dropped by the prosecuting attorney, Robert M. Toms (See Levine, 1976: 185-190; DETROIT NEWS, 21 July, 1927; DETROIT FREE PRESS, 22 July, 1927.

50. Katzman, BEFORE THE GHETTO, 207-208.

51. Allen H. Spear, BLACK CHICAGO: THE MAKING OF A NEGRO GHETTO, 1890-1920 (Chicago, 1967; Gilbert Osofsky, "The Enduring Ghetto," JOURNAL OF AMERICAN HISTORY, LV (September, 1968), 243.

52. Katzman, BEFORE THE GHETTO, 208.

53. Zunz, INEQUALITY, 398; Louis Wirth, THE GHETTO (Chicago: University of Chicago Press, 1928): 283; also, I. Krystol, "The Negro Today Is Like the Immigrant Yesterday," NEW YORK TIMES: SUNDAY MAGAZINE, 11 September, 1966.

54. Zunz, INEQUALITY, 398.

55. Zunz, INEQUALITY, 398.

56. It has been argued that Pleck's book, BLACK MIGRATION AND POVERTY: BOSTON 1865-1900, while it is not about Detroit, it may offer something toward understanding the relationship of developments in the Crystal Palace to the quality of life in Highland Park and adjacent communities. Pleck wrote: This book is about the impact of the city and racial poverty on Boston's Black community and family life between the Civil War and the turn of the century. It examines three features of black urban life: racial barriers in employment, poverty, and aculturation. It seeks to understand how racism contributed to black poverty, and how poverty was perpetuated.... The study concludes that in the short run, the move from the South to the North strengthened traditional slave folkways, but that in the long run residence in the city gave blacks access to the American dream without the economic progress that was supposed to go with it.

57. Both Zunz and Katzman have used this term to describe the experience of blacks in Detroit.

58. Pleck, BLACK MIGRATION AND POVERTY, 7-8.



59. Pleck, BLACK MIGRATION AND POVERTY, 3.

60. Pleck, BLACK MIGRATION AND POVERTY, 122-123.

61. Katzman, BEFORE THE GHETTO, 203. A recently published book (Joe. T. Darden, Richard Child Hill, June Thomas and Richard Thomas, DETROIT: RACE AND UNEVEN DEVELOPMENT, 1987), which focuses on developments since World War II, has also argued that the political variable goes a long way toward explaining the "uneven development" of certain areas in the region, and by extension, the "uneven" treatment of certain racial and ethnic groups. According to Darden et al., "The political fragmentation of the region is the single variable that best explains why certain areas of the region suffer the most from the effects of the massive extremes in regional economic development." It was also asserted that, "the story of the growth and development of black political power .... actually begins with the black migration during and after World War I that paved the way for black political power in Detroit. By the mid-1930s blacks had begun to shift from the Republican party, the party of Abraham Lincoln and Henry Ford (bestowers of freedom and jobs, respectively), to the Democratic Party" (Darden, et al., 1987:201-202).

62. See Tuttle's insightful, "Racism in the Progressive Era: An Essay Review," WISCONSIN MAGAZINE OF HISTORY, LIII (Spring, 1970), 228.

63. Katzman, BEFORE THE GHETTO, 203.

64. Forrester B. Washington, THE NEGRO IN DETROIT: A SURVEY OF THE CONDITIONS OF A NEGRO GROUP IN A NORTHERN INDUSTRIAL CENTER DURING THE WAR PROSPERITY PERIOD, Research Bureau of Associated Charities of Detroit, 1920): no page number; see also Arthur C. Millspaugh, "Bi-Partisanship And Vote Manipulation In Detroit," NATIONAL MUNICIPAL REVIEW, vol. V, No. 1 October, 1916: 620-626. For discussions of electoral politics in Detroit of the 1930s, see David Grenstone, A REPORT OF THE POLITICS OF DETROIT (Cambridge: Joint Center For Urban Studies of Massachusetts Institute of Technology and Harvard University, 1961), and Donald S. Hecock, DETROIT VOTERS AND RECENT ELECTIONS (Detroit: Detroit Bureau of Government Research, Inc., 1938). See also, "Direct Legislation in Detroit, 1910-1925," in PUBLIC BUSINESS, III (June 12, 1925).

65. Levine, INTERNAL COMBUSTION, 7.
66. Raymond R. Fragnoli, THE TRANSFORMATION OF REFORM: PROGRESSIVISM IN DETROIT-AND AFTER 1922-1933 (New York: Garland Publishing, Inc., 1982), 159.
67. Fragnoli, THE TRANSFORMATION OF REFORM, 159.
68. Fragnoli, THE TRANSFORMATION OF REFORM, 159. In footnote 50, Fragnoli cites Marsh to R.J. Willes, June 13, 1918, Correspondence 4, DCL; and the DETROIT LEADER, (undated) Scrapbook 1, DCL.
69. John M.T. Chavez, "James Couzens: Mayor of Detroit, 1919-1922" (Ph.D. Dissertation, Michigan State University, 1970), 37.
70. See W.P. Lovett, "Detroit and It's New Charter" NATIONAL MUNICIPAL REVIEW, vol. X. No.3 (March, 1921).
71. Katzman, BEFORE THE GHETTO, 211.
72. Richard Thomas, "The Black Urban Experience in Detroit: 1916-1967," in Homer C. Howkins and Richard W. Thomas (ed) BLACKS AND CHICANOS IN URBAN MICHIGAN, 1979.
73. Thomas, "The Black Urban Experience in Detroit," 60-62.
74. US Department of Commerce, "Mortality Statistics: Thirty-First Annual Report, 1930;" and Ulysses W. Boykin, A HANDBOOK ON THE DETROIT NEGRO, 1943 as cited by Thomas.
75. Thomas, "The Black Urban Experience in Detroit," 62.
76. Not all blacks in the Detroit area lived in boarding houses: By 1929 there was a small neighborhood on the west side where about 15-20% of the black population lived in their own homes. Nevertheless, boarding was the most typical experience, and in 1925 it was found that more than half of 1,000 black families surveyed were taking in boarders (PIPP'S WEEKLY, November 23, 1929; and Washington, "The Negro in Detroit," Volume IV.
77. Thomas, "The Black Urban Experience," 62.

78. FMCA, Lewis' typescript essay, 1954:13.
79. FMCA/ Accession 62, Box 59.
80. FMCA/Accession 38, Box 118: "Bradby to Sorensen."
81. FMCA/Accession 23, Box 3.
82. FMCA/Accession 62, Box 5.
83. FMCA/Accession 38, Box 123: "Payroll Department Report on number of Negroes employed at the Rouge plant, February 21, 1940.
84. For a brief discussion regarding the rationale for selecting a six-sided block (Z-square), within a specified Bureau of Economic Analysis Region (BEA), see Appendix A.
85. Downriver Geneological Society Census Holdings (DGS) 1850-1910, Roll 678.
86. U.S. Department of Commerce. Bureau of the Census. ABSTRACT OF THE FOURTEENTH CENSUS OF THE UNITED STATES: 1920; also, SPECIAL CENSUS OF THE POPULATION OF HIGHLAND PARK, MICHIGAN, NOVEMBER 15, 1916.
87. Ford Motor Company, "Helpful Hints," 1915: 13.
88. DGS.
89. DGS.
90. DGS.
91. Table 4.6 suggests a considerably lower average-age of about 25-40.
92. In 1917 the American workers had an average of 1.27 children, while Poles (and presumably other ethnics) had about 2.3. (FMCA/Accession 940, Box 16.)
93. There is considerable evidence that the income earned by 'wives' by caring for boarders was nearly as important, and often more important, than the incomes earned in wages at places like the Crystal Palace. One study that does not focus on Detroit, is nevertheless suggestive: Elizabeth Pleck, "A Mothers Wages: Income Earning Among Married Italian and Black Women, 1896-

1911," in HERITAGE OF HER OWN (ed), Nancy F. Cott and Elizabeth Pleck (1979).

Another study ("Standards of Living of Employees of the Ford Motor Company in Detroit," MONTHLY LABOR REVIEW, 30, June 1930), although indirectly, yet very strongly, speaks to the significance of boarding.

94. The FORD TIMES, January 15, 1923 reported that 11,500 cars were driven to work in Ford plants (FMCA/Accession 940, Box 16).

95. This profile of the "average Ford-man" is based on Li's observations as reported in Chen Nan-Li, "A Summer in The Ford Works," PERSONNEL JOURNAL, 7 (June 1928) 118-32.

96. FMCA/Accession 1, Box 126. Fair Lane Papers: "Wages and Hours-Program of Anniversary Dinner, January 12, 1915. This tune was apparently sung to the tune "Mister Dooley".

97. FMCA/Accession 572, Box 14: "James Couzens to E.G. Liebold, November 12, 1929."

## CONCLUSION

The Crystal Palace was an incubator which fostered revolutions in machine-tool technology and served as a midwife at the inception of the manager-class; this is a study these two revolutionary changes, which within a remarkably short period of time transformed Ford workers and the city of Highland Park. This dissertation is easily classified as urban history, community studies, labor history, and even 'new social history.' It is important that this study has grown out of a body of scholarship that is calling for studies giving primary consideration to the underclass of the automotive empire.<sup>1</sup> The primary aim of this dissertation has been to understand the critical details of how Ford's production, employment and personnel policies in the Crystal Palace effected the quality of life the city of Highland Park and the 'average' worker in the Model T cohort.

In order to lend a degree of cohesiveness to this study, while obviating the rationale for the selection of particular data and units of analysis and testing prospects for subsequent QOL research, the definition of the 'quality of life' was selected with

great care. The definition is based on the assumption that QOL studies should focus on the relationship between the conditions of life and how those conditions are experienced by a particular population; in this study the definition is critically important and throughout has served as a guide.<sup>2</sup>

Owing to a widely recognized scarcity of accessible historical data and the attendant traps, studies taking the direction of this dissertation are relatively few in number. This particular study is plagued by several familiar data problems: (1) traditionally, the underclass has not written autobiographies, and their lives have not been especially inspirational to biographers; (2) critical census reports were destroyed by fire in the State of Michigan Archives; (3) the 1920 U.S. Census Bureau's "Manuscript" records are closed until 1990; (4) microfilmed copies of the HIGHLAND PARK TIMES have disappeared, and the remaining fragments of the original news print are so poorly preserved that they crumble at the touch; (5) and most debilitating of all, "The Sociological Department folded and its records were burned after the Reverend Dr. Samuel S. Marquis, its head, resigned on January 25, 1921."<sup>3</sup>

Each of these is a major problem, yet enough data is available to recommend a study such as this one.

Beginning with a narrative of the major events unfolding in Highland Park before the building of the Crystal palace, this study has noted that before Henry Ford, Captain William H. Stevens was the most influential individual in determining the direction of Highland Park's development.<sup>4</sup> Following the brief outline of Highland Park's history, an effort is made to outline the changes in machine-tool technology and organization that culminated in the creation of the world's first automated production and assembly system.

The demographic transition of Highland Park was among the immediate results of the employment, production and personnel policies incubated in the Crystal Palace. Focusing on the demographic transition of Highland Park, it was shown that in response to the labor needs of a rapidly growing industry, the increase in the population and the male to female ratio was greater in Detroit than in the nation as a whole, and proportionally, even greater in Highland Park. Moreover, it was observed that a few enumeration districts accounted for the most phenomenal aberration in the demographic

ansition of Highland Park.<sup>5</sup> It was suggested that a more thorough study of the enormous "surplus" of immigrant males and the practice of lodging and boarding are essential to the full understanding of the Model T cohort of Ford workers.

In the course of outlining major changes in the QOL as experienced in Highland Park before 1930, an number of important, challenging and controversial conclusions have been posited. For example, it has been argued that the *manager-class* was a new element in production in the Crystal Palace, and thus an important factor in labor and industrial relations, as well as in social relations in Highland Park and the Crystal Palace. Moreover, it has been argued that contrary to the standard interpretation which sees the skilled worker as being replaced by immigrants who were attracted to the Crystal Palace by superior wages and working conditions, the present analysis strongly suggests that skilled workers were supplanted by the *manager-class*, almost none of whom were of the  
<sup>6</sup>  
 'immigrant type.'

It may now be observed that patterns of deterioration in Highland Park, when compared with the "deindustrialization" described by Harrison and Bluestone, suggest that in 1927 Highland Park may



have been the earliest case of a city declining as a result of the decision of a major automotive company to relocate a primary facility.

Regarding the employment of black workers, Ford had at least two different policies in hiring, one for the Crystal Palace and another for the Rouge plant.<sup>7</sup> Only a few blacks were employed in the Crystal Palace. The realization that the Ford Motor Company's reputation for hiring black workers did not apply to its hiring practices in Highland Park, necessitated an important change in the research strategy. Specifically, in deciding to analyze the quality of life, it had been assumed that a sufficiently large black population would be found in Highland Park and the Crystal Palace to provide a backdrop against which to compare and contrast the majority of the workers in the Crystal Palace and residents in Highland Park. Since so few blacks lived in Highland Park and worked in the Crystal Palace, the larger community of black Detroit was used as a contrast for the QOL in Highland Park and the Crystal Palace. Generally speaking, it was found that the QOL experienced by blacks was worse than that experienced in Highland Park. Ford hiring practices worked directly against some of the goals which Ford

set for itself. Some of these conditions could have been avoided by hiring more women, and thereby achieving the balance which was thought to be essential to good home conditions and to creation and maintenance of an efficient work force.

There is no doubt that when contrasted with the QOL experienced by earlier settlers, the QOL experienced by the third and fourth cohort of Highland Park's residents was radically different; most of the difference can be attributed to the influence of the Ford Motor Company. For many residents of the Model T cohort, the QOL was decidedly inferior. Generally speaking, the evidence suggests that Ford's commitment to improve the QOL of its workers was honest and well intended, but the results of its various programs were mixed. Among the programs aimed at improving the QOL of Ford workers, (a) upgrading home and housing conditions, (b) Americanizing the workforce, (c) and minimizing the risk of injury in the workplace were prominent. In the sense that Ford's efforts were based on the assumption that an improved QOL was essential to the achievement of optimal efficiency in production, policies aimed at improving the QOL of its workers were self serving.<sup>8</sup> Whatever advantages accrued to Model T workers, they were often achieved

at the expense of privacy, autonomy, and perhaps dignity and self-esteem.

Throughout the study, a major concern has been to identify sources of data and to elaborate a strategy which will permit the longitudinal analysis of quality of life issues, and with a little luck, to encourage further study of the Crystal Palace and Highland Park. The findings of this dissertation suggest that future study of Highland Park and the Crystal Palace should consider the following: (1) Consider a comparison with some other city in the region. Hamtramck should be an especially good choice for comparison. (2) In 1990 the 1920-census will be open, and these will probably give a more complete picture. (3) With the present ground work completed, it is now possible to look meaningfully into a wider data base such as church records, birth, marriage, and death certificates, etc. It is hoped that this dissertation will help to bring personal records, including biographical and autobiographical information. A recently published interdisciplinary study by a team of experts has shown that, on a series of indicators selected to demonstrate the "uneven development" of regions (suburbs) in Detroit, that Highland Park stands out as one of the most

rapidly deteriorating suburbs in the region. This book, RACE AND UNEVEN DEVELOPMENT IN DETROIT, confirms the assertion of this dissertation, that Highland Park deserves more attention.<sup>9</sup>

## FOOTNOTES

## Conclusions

1. Faires, "Assembling The History of Detroit;" Katzman, BEFORE THE GHETTO; et al.
2. See "Appendix B" in this dissertaion.
3. Flink, THE CAR CULTURE.
4. Hathaway, HISTORY OF HIGHLAND PARK.
5. The U.S. Department of Commerce, SPECIAL CENSUS OF HIGHLAND PARK MICHIGAN, 1915, emphatically makes this point.
6. See chapter four of this dissertation: Table 4.1, and tables 4.2 through 4.7 all attest to the growing importance of the 'new manager-class.'
7. The Model T assembly line had been shut down in May 1927, and by 1935 the total number of workers had been reduced to 2,488, of whom 20 were black. In 1940, 18 black workers were employed in the Crystal Palace. Regarding the number of black workers in the Crystal Palace, see: FMCA/Accession 23, Box 3; Accession 62, Box 5; and Accession 38, Box 123 "Payroll Department Report on number of Negroes employed at the Rouge plant," February 21, 1940.
8. Ford officials often spoke about the significance of improving the quality of life of Ford workers. See, for example, FMCS/Accession 683: "Letter to Omaha, January 29, 1914.
9. See "Highland Park," in tables 3.3, 3.4 and 3.9 in Darden, Hill, Thomas and Thomas, RACE AND UNEVEN DEVELOPMENT.

## **APPENDICES**

## APPENDIX A

TABLE A.1

YEARS OF SERVICE IN THE CRYSTAL PALACE FOR  
45,351 WORKERS AS OF APRIL 25, 1925

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Years of Service	Number of Workers
Less than 1 yr.	5,412
1	5,523
2	9,492
3	5,773
4	1,379
5	3,880
6	3,842
7	2,121
8	1,349
9	2,603
10	1,878
11	822
12	898
13	389
14	162
15	123
16	56
17	28
18	19
19	6
20	5

---

Source: FMCA Accession 40 Box 16. Note: FMCA Accession 62-2, Box 37 records records that as of October 29, 1921 there were 636 women employed in the Crystal Palace; 554 of them worked in the factory, while 82 were designated as office employees.

TABLE A.2

WORKER PRODUCTIVITY FOR THE MODEL T:  
MONTHLY AVERAGE 1909-1913

Year	Cars Mfg.	Number of Workmen	Productivity	Index
1909	1,059	1,548	.70	100
1910	1,704	2,573	.66	94
1911	3,483	3,733	.93	133
1912	6,923	6,492	1.07	152
1913	15,284	13,667	1.12	160

Source: FMCA, Accession 922, "Model T Production Statistics." The monthly statistics for men on roll was averaged for each year. A similar table appears in Meyer's FIVE DOLLAR DAY.

TABLE A.3

DAY WAGES IN THE FORD MOTOR COMPANY C. 1910

Occupation	Number	Percent	\$Range	Mean Wage
Foremen	9	6	3.00-7.00	5.01
Mechanics:				
High Skilled	40	28	1.75-5.20	3.90
Skilled	37	26	2.50-4.00	3.15
Laboreres	49	34	1.25-3.00	2.48
Miscellaneous	8	6	2.00-3.00	2.59
Total	143	100		

Source: FMCA Accession 940 Box 18, "An eight page sample of occupations from about 1910." This table appears in Meyer, 1982:48.



TABLE A.4

NUMBER AND PERCENT OF FORD WORKERS BY OCCUPATION 1913

Occupation	Number	Percent
Operators	6,749	51
Skilled Operators	3,431	26
Unskilled: laborers; helpers; & youth	2,795	21
Mechanics and Subforemen	329	2
TOTAL	13,404	100

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Source: "Oliver J. Abelll, "Labor Classified on a Skill-Wage Basis," IRON AGE, 93 (January 1914), 48; and E.A. Rumley, "Ford's Plan to Share Profits," WORLD'S WORK, 27 (April 1914), 665-6. This is an adaptation of a table in Meyer, 1982:50.

TABLE A.5

AGES OF 44,519 EMPLOYEES IN THE CRYSTAL PALACE AS OF  
APRIL 25, 1925

Age	Number
Under 18	733
18-25	7036
25-30	8834
30-35	7527
35-40	7854
40-45	5393
45-50	3190
50-55	1909
55-60	1142
60-65	547
65-70	226
70-75	64
75-80	20
80-85	4

Source: FMCA/ Accession 40, Box 16. Note: Under 50 years of age, there were 40,407 employees, and there were 3,192 over 50 years of age. Employees under 18 years of age were Trade School boys and special students. A January 1916 report showed the average age to be 30.89, with a mode of 25 and a median of 30. This report also recorded that the youngest employee was 16, and the oldest 76. (FMCA/ Accession 62, Box 59).

TABLE A.6

VOTE ON NEW CHARTER BY WARDS  
JUNE 25, 1918

Ward	Yes	No	Percentage Yes	Percentage Ethnic
1	2439	102	95.6	53.5
2	1295	64	95.0	47.3
4	2242	117	95.0	48.1
8	1916	128	93.7	54.0
10	1855	186	90.9	55.9
6	1816	189	90.6	52.8
17	2748	350	90.2	61.0
21	1941	194	90.1	56.1
14	2548	281	90.1	63.0
19	1628	194	89.3	63.0
12	1557	217	87.8	64.0
15	1759	267	86.8	59.8
16	1963	313	86.2	74.7
3	1124	216	83.9	65.5
18	840	200	80.7	78.2
5	751	208	78.3	72.6
13	1180	350	77.0	76.9
7	415	133	75.7	68.2
11	913	313	74.4	81.0
9	896	337	72.6	81.9
20	582	228	71.8	75.2
<hr/>				
Detroit	32690	4587	87.7	64.0

Source: Fragnoli, 1982: Table III, p.403



## APPENDIX B

### THE ORIGINS, DEFINITIONS, AND INDICATORS: SOME BIBLIOGRAPHICAL REFERENCES AND COMMENTS ON THE STUDY OF THE QUALITY OF LIFE

There are four issues around which the following essay revolves. The first concerns the intellectual origins of Quality of Life (QOL) research, and the relationship of earlier developments to the study of the social history of Highland Park's first cohort of automotive workers. Second, there is the problem of defining (operationalizing) the QOL in a way which serves as a methodological guide, and which allows for the systematic and consistent comparison of the QOL across a wide variety of temporal and spatial domains. There are also questions arising out of the current debates in QOL and Social Indicators (SI) research about the measurement of the QOL, which have a bearing on this dissertation. Finally, there is the fundamental issue regarding the extent to which the selection of factors and indicators aimed at measuring the QOL is determined by current urban policy issues. The brief essay which follows is an attempt to respond to these four concerns.

The intellectual origins of Historical Demography, or what has more recently been termed Social Indicators (SI) or Quality of Life (QOL) research is deeply rooted in the past. Willigan and Lynch (1982) have shown that QOL scholarship may be traced back to three main sources that include scholars who may be characterized as (a) Methodologists, (b) Political Arithmeticians, (c) and/or Theorists.

Epitomized by the work of John Gruant (1620-1687), the Methodologists were often brilliant mathematicians who attempted to reveal patterns in changes in the composition, density and mortality of populations. Inspired mainly by the demand of governments for information upon which borrowing and taxation policies could be based, Methodologists concentrated on attempting to describe and predict the size of populations. The most immediate intellectual beneficiaries of Gruant's work, namely Huggins, Hudde and Dewit, were public administrators in Holland who developed the first life tables. One of the important dimensions of the work of Methodologists is that they showed how birth, baptismal, and burial records could be used to construct life tables (i.e., predictions of life expectancy); their work was, and in fact remains the

conceptual and methodological basis for much of the contemporary SI/QOL research.

The Political Arithmeticians, among whom William Petty is best known, took a quantum leap beyond the Methodologists. First, they expanded their data collection to regions outside their own localities. Secondly, and perhaps more importantly, not only were they interested in the size, density, male to female ratio, and the age-mix of populations, within given populations they began to research the relationship of variations to occupation, the number of hearths, location, etc. Moreover, what distinguished the Political Arithmeticians from their predecessors was their firm belief that their knowledge about "population variables" would allow governments to govern better. That is to say that knowledge of the population variables allowed for control over the population and its resources. In the same sense that Graunt et al. provided the foundations of the methodology for QOL research, Petty and Baron de Montyon established the notion that statistical data on populations could be used to "manipulate" and control the population; and they did so while re-enforcing and refining the methodological foundations. It is interesting to note that the "population variables" outlined by Petty and de

Montyon are similar to the variables reported in modern U.S. Census reports.

Theorists, most notably Malthus and Marx, were those who were apparently somewhat less interested in mathematics and methodology, and more interested in developing grand theories about the relationship of population to the use and distribution of resources. Malthus, of course, argued that while population increased geometrically, production increased arithmetically----hence, the inevitable result (famine) would be that population would grow beyond the capacity of resources essential to its support. It was from Malthus' work that the great "population controversey" arose, the gist of which was that the survival of humanity could be insured if "moral restraint" was ussed in an effort to reduce the birth rate. The importance of Malthus' work is that it spawned the widely held belief that the size of populations can (should be) controlled; indeed must be controlled.

Marx's work (Grundrisse 1857-58) is equally important in that it can be argued that Malthus' analysis was ahistorical and incorrect. Looking at the population problem from a historical perspective, Marx argued that the size of the population was related to the rate of capital accumulation; specifically, he



argued that the proletariat reproduced itself more rapidly than other classes because mortality was higher among the proletariat, because of the demand for child labor, and etc. The main point here is that capitalism, according to Marx, was the main source of class inequality, and that inherent in the institutions of capitalism were the seeds of social inequality, i.e., inequalities in the distributions of the means for supporting an optimum QOL.

Finally, what is important about Methodologists, Political Arithmeticians and Theorists who have been mentioned above (and many more who have not been mentioned), is that traces of their work are apparent in modern QOL research. As is characteristic of the contemporary Annales School (take Braudel for example), the intellectual ancestors of QOL research were freely interdisciplinary in their work, they were involved in applying their findings to the political and economic circumstances in their communities (Baron de Moya), and they attempted to universalize their thinking.

Contemporary QOL/SI research has regenerated some of the same questions raised by Graunt, Petty, Malthus, et al. Within a growing body of scholarly QOL/SI literature which has a bearing on the intellectual and methodological issues of this dissertation, the U.S.

Environmental Protection Agency's (EPA), STUDIES IN ENVIRONMENT-VOLUME II: QUALITY OF LIFE; Ben-Cheih Liu's work, especially, "Quality of Life: Concept, Measure and Results;" Larson and Wilford's, "The Physical Quality of Life: A Useful Social Indicator?" and Lester Milbrath, "A Conceptualization and Research Strategy for the Study of Ecological Aspects of the QOL," are particularly important. What follows is a brief discussion of these and a few related studies.

Commenting on the state of the art of QOL and SI research in 1972, the authors of the EPA sponsored study noted that the "anticipation of the need for a new kind of information (i.e., social indicators) could be traced to attempts to assess and react to the impact of Sputnik----the first orbiting satellite launched by the USSR in 1958." <sup>1 fH#3</sup> The orbiting of Sputnik was seen as evidence that the United States had fallen behind the USSR in an area of technological development which was vital to US interests. Faced with the task of 'catching up', and the apparent lack of a wide range of social statistics which could serve as a basis for the development of a national catch-up strategy, the federal government commissioned Margaret Mead to devise a "social indicators" index. The dual purposed of the SI index was to guage the impact of Sputnik on American

society, while providing a scale against which the success of catch-up programs could be evaluated.

Beginning with the pioneering work of Mead, tremendous strides were made in the development of a social indicators index. By 1966 Daniel Bell was calling for refinements:

What we need, in effect, is a system of Social Accounts which would broaden our concept of costs and benefits, and put economic accounting into a broader framework (to) move toward measurement of the utilization of human resources in our social information areas: (1) the measurement of social costs and net returns of innovations; (2) the measurement of social ills...; (3) the creation of 'performance budgets' in areas of defined social needs...; and (4) indicators of economic opportunity and social mobility.<sup>2</sup> 4

In addition to Bell's article, 1966 witnessed the publication of two studies sponsored by the National Aeronautics and Space Administration (NASA). The first was Bertram Gross' discussion of social system accounting in the US, followed by Raymond Bauer's study which attempted to judge the impact of the space program on US society.

The second wave of developments in SI research came in the wake of domestic violence in the 1960s. The seminal work was Elanor B. Sheldon and Wilbert E. Moore's INDICATORS OF SOCIAL CHANGE: CONCEPTS AND MEASUREMENTS, which served as a "textbook on the status

of economic and sociological research, and provided policy makers with a series of scholarly analytical and theoretical discussions of the demographic, structural, distributive and aggregative features of American society."<sup>3</sup>

Heralding the need for "better social reporting," (1969) the Department of Health, Education and Welfare's widely circulated publication, TOWARD A SOCIAL REPORT, argued that in the future there would be a need for more "data on the aged, on youth, and on women, as well as on ethnic minorities;"<sup>4</sup> data which would not only record objective conditions, "but also [on] how different groups of Americans perceive the conditions in which the find themselves."<sup>5</sup> Also in 1969, Otis Dudley Duncan published an article in which it was argued that progress toward the objectives outlined by HEW, must depend upon (a) cohorts as the basic unit of analysis, (b) a higher quality of replicative studies, (c) more rigorous procedural steps, (d) greater data exchange among researchers, (e) and more attention to calibration. Moreover, Duncan added that studies on occupational change, environmental pollution, victimization by criminal acts, educational opportunities, mental health, and value changes should be accorded top priority.

Taking up tasks suggested by HEW, Duncan et al., Campbell and Converse's, THE HUMAN MEANING OF SOCIAL CHANGE, developed the concept of "indicators for the social psychology of the nation." Whereas earlier studies (Sheldon and Moore's for example) had been principally concerned with hard data related to the socio-structural aspects of the nation, Campbell and Converse were more concerned with "softer data" of a more socio-psychological sort which are said to reveal the attitudes, expectations, aspirations, and values of the nation. Campbell and Converse took up some important issues which had not been effectively included in earlier studies; among these issues are questions about time use, measures of community, the meaning of work, alienation, etc. The work by Campbell and Converse opened the door for the eclectic EPA symposium.

Fortified by the work of Campbell and Converse, Sheldon and Moore, Duncan, and many others, the EPA sponsored symposium (1972) succeeded in producing the jointly authored landmark: STUDIES IN ENVIRONMENT-VOLUME II-QUALITY OF LIFE (1973), by Kenneth E. Hornback, Joel Guttman, Harold Himmerstein, Ann Rappaport and Roy Reyna. Among the important contributions of the study was the classification and assessment of the social indicator factors which had previously appeared in the

literature; thus while providing a statement on the history of QOL/SI research, the symposium outlined the framework within which future QOL/SI scholarship would develop. The operationalized definition of the QOL which came out of the symposium is of particular relevance to the present study of the social history of Highland Park, Michigan, and the Model T cohort of Ford workers.

Based upon the assumption that the definition "should focus on the relation between the conditions of life and how those conditions are experienced" by a particular population, "the QOL is defined as a function of the objective conditions and subjective attitudes involving a defined area of concern."<sup>6</sup> As defined here, there are six factors and subfactors whose statistical indicators may be used to measure the objective aspects of the QOL. For example, the "Economic Environment" is a major factor and its subfactors are income, income distribution, economic security, and work satisfaction; the indicators include wage levels, per capita disposable income, etc. More fully, the factors and subfactors lead to the consideration of the following parameters which take the form of questions:

I. The Social Factor includes demographic issues such as (a) immigration as a force in the shaping of the demographic profile? (b) household/family size and

composition? (c) patterns of birth, marriage and dying? (d) and length of residence?

II. The Economic/Market Factor suggests questions about employment and unemployment? (b) household disposable income? (c) income support measures? (d) per capita value added manufacture? (e) sources and allocation of public revenue? (f) tax payments? (g) and the relationship of economic status to social mobility?

III. Political Factor issues include questions about (a) the number and distribution of qualified voters? (b) the performance of elected officials on selected issues, (c) political coalitions and affiliations? (d) and patterns of electoral participation?

IV. The Health Factor concerns (a) the frequency and distribution of sickness and disease? (b) mortality and life expectancy? (c) medical expenses? (d) and the availability and use of medical care? [See coroner's reports and death certificates].

V. The Physical Environment Factor considers (a) percent deteriorated housing? (b) overcrowding/1.01 persons per room? (c) value of housing? (d) rental costs? (e) percent owner/renter occupied? (f) plumbing? (g) and location of housing?

Answers, even incomplete answers, to these questions will help to explain how residence in Highland Park and employment in the Crystal Palace are related to where "a particular people" fall on the Quality of Life Index (QOLI).

Regarding the problem of which sub-populations are to be analyzed, the work of the symposium is again instructive. Based upon a "brief review" of relevant literature, the symposium concluded that "geographic location, education, age, ethnicity, health, sex, political disposition, socio-economic status, and life

adjustment<sup>7</sup> were the optimum dimensions along which variations in perceptions and attitudes about environmental subfactors may be divided. Since the operationalized definition of the QOL posits both objective conditions and subjective attitudes, it is clear that the population will be subdivided the same way in both the measurement of the objective conditions and subjective attitudes. This point is reiterated because of the subtlety with which the authors of the EPA study moved from a consideration of the literature relevant to perceptions and attitudes about the environmental factor, to the construction of the list of "representative" analytical categories which are to be used in the assessment of the QOL as it is reflected by both the objective and subjective indicators. Thus, "Using (the) lists of QOL factors as one axis and the analytical dimensions as the other axis, it is possible to generate a series of QOL matrices, e.g., factors by income matrix, factors by age matrix, etc. Each matrix of data would show the relationship between the factors and one of the population parameters."<sup>8</sup> With the matrices serving as the summation of this essay thus far, the critical questions----those which must be answered by actual research----remain: That is, is



historical research on the quality of life possible: If so, along what lines is it possible?

Within the boundaries of established QOL/SI scholarship, the historical analysis of the QOL can take either of two paths. Given a QOL factor, and a particular time and place with a specific sub-set of the population (e.g. Economic Factor/income from wages, Highland Park c.1900-1927, and adult females), one path would be to use normative historical documentation and whatever randomly generated statistics one may find. Given the same set of objective circumstances, another path would be to select indicators which are most uniformly reported over the longest period of time. In short, the choice is between evidence recorded in a diary or genealogical record, and statistics reported in census reports, city directories, etc. The task of the historian is to make the best use of all of the evidence; that is to move via the 'historical narrative' from one type of data to the other.

Summarily then, the first two decades of QOL and SI research may be characterized as having fostered (1) a growing interest in methodological rigor and the recognition of the need to compare and validate various research strategies; (2) an increased emphasis on the development of standardized time series data, and the

expansion of the variety of statistics collected by governmental agencies; (3) and the recognition of the need for, and the expanded collection of subjective data concerning occupational status, time budgets, mental health, political participation, etc. However, in spite of the impressive array of accomplishments outlined in a growing body of literature on both basic and applied social indicators research, at present there is no unified theory or methodological consensus which guides social indicators and quality of life research.<sup>9</sup> The failure to develop a theoretical and methodological consensus is testimony to the complexities which bedevil social indicators research----complexities which are inherent in both the human subject and the nature of the evidence, and which are compounded by the countless, often unclear motives of QOL scholars. But, contrary to H.J. Dyos, who argues that "there can be no reliable historical chart to the quality of urban life without a new discipline for connecting the historical and literary traditions of scholarship,"<sup>10</sup> here it is argued that an innovative application of the centuries old disciplines of Public and Applied History are more than adequate.

## FOOTNOTES

## Appendix B

1. Margaret Mead, et al., "Man in Space: A Tool and Program For the Study of Social Change," ANNALS OF NEW YORK ACADEMY OF SCIENCE, volume 72, no.4 (April 10, 1958), 165-214.

2. Daniel Bell, "The Adequacy of Our Concepts," in A GREAT SOCIETY, edited by Bertram M. Gross (New York: Basic Books 1966) 152.

3. Eleanor B. Sheldon and Wilber E. Moore, INDICATORS OF SOCIAL CHANGE: CONCEPTS AND MEASUREMENTS (New York: Russell Sage Foundation 1968).

4. U.S. Department of Health, Education, and Welfare, TOWARD A SOCIAL REPORT, (Washington D.C. Government Printing Office 1969).

5. HEW, SOCIAL REPORT.

6. Kenneth E. Hornback, Joel Guttman, Harold L. Himmelstein, Ann Rappaport and Roy Reyna, STUDIES IN ENVIRONMENT-VOLUME II: QUALITY OF LIFE (Environmental Protection Agency: Government Printing Office, 1973) 15.

7. Hornback, et al., QUALITY OF LIFE, 71.

8. Hornback, et al., QUALITY OF LIFE, 75.

9. Although there is a lack of consensus in many areas, Lui's review of several empirical studies (i.e., LIFETIME MAGAZINE, 1972; Wilson, 1967; and THE GEOGRAPHY OF SOCIAL WELL-BEING IN THE US, by Smith, 1973), found that while the studies were based on different definitions of the QOL, employed different criteria for variable selection, and used different years, there was (nevertheless) a very high correlation in state rankings on the QOL barometer. (See: Ben-Chieh Lui, "Quality of Life: Concept and Measure, and Results," in THE AMERICAN JOURNAL OF ECONOMICS AND SOCIOLOGY volume 34, number 1, January 1975).

Further evidence of convergence of a sort, may be inferred from Larson and Wilford's assessment of the PQLI. The Overseas Development Council (ODC) provides a measurement called the Physical Quality of Life Index

(PQLI) which combines infant mortality, life expectancy, and literacy into a single index. The results of statistical tests showed that any one of the three PQLI variables would serve as well alone as the composite index does in ranking life quality; that is to say that the PQLI is not a major new indicator of inter-country human welfare. (See: David A. Larson and Walton T. Wilford, "The Physical Quality of Life Index: A Useful Social Indicator?" in WORLD DEVELOPMENT, volume 7, 1979.

10. H.J. Dyos, "Some Historical Reflections on The Quality of Life," THE QUALITY OF URBAN LIFE, edited by Henry J. Schmandt and Warner Bloomberg, Jr.:38.

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