Spring 1995

The Evolution of a Revolution: The Industrial Revolution and The Arts and Crafts Movement Then and Now

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The Evolution of a Revolution
The Industrial Revolution and The Arts and Crafts Movement
Then and Now

Submitted in Partial Fullfillment of the Requirements for
Graduation with Honors from
Carroll College, Helena, Montana

Michele Bazzanella
April 5, 1995
SIGNATURE PAGE

This thesis for honors recognition has been approved for the Department of Honors Scholars Program.

Director

Reader

Reader

Date 4-5-95
CALVIN AND HOBBES

We don't value craftsmanship anymore! All we value is ruthless efficiency, and I say we deny our own humanity that way.

Without an appreciation for grace and beauty, there's no pleasure in creating things and no pleasure in having them! Our lives are made drearier, rather than richer.

How can a person take pride in his work when skill and care are considered luxuries? We're not machines! We have a human need for craftsmanship!

You had two days to write that paper.

Two days? Two days is nothing!
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Chapter I

Introduction

The following thesis contains both historical and theoretical information. The historical portion deals with the emergence and effects of the Industrial Revolution in England and the movement that opposed it. The theoretical portion centers on four changes that are presently occurring in relation to changes that happened during the Industrial Revolution. These changes link with the original opposition to the Industrial Revolution known as the Arts and Crafts Movement. First, controversial ideas that were raised during the eighteenth and nineteenth centuries by those opposed to industrialization are currently showing their renewed validity through the movement away from the standards that were set during the Industrial Revolution. Some standards that were instilled during the time the Industrial Revolution took place were what we know today as the "blue-collar job", division of labor, standardized goods, and the impact of factories on the environment. Second, factories are adjusting their methods to meet demands for change. As we near the end of the twentieth century, employers are finding that what is known as the traditional "job" is losing its worth. They are discovering that they need to make changes in the way they view employees to keep up with society. In utilizing their talents to develop a career rather than secure a job, our contemporaries
are retracing the steps of the pre-Industrial Revolution craftsmen. The movement of employment from factory to service jobs has given employees more freedom to express individuality. Third, consumer demands have become more specialized and the demand for a higher quality in products has increased. The demand for mass-produced, standardized products lowers as individuals obtain more wealth. With increased spending power consumers demand diversified products with higher quality. Finally, a concern that has carried forward from the Industrial Revolution and Arts and Crafts period is the environmental effects of factories. Greater awareness has increased concerns about the atmosphere and the environment. These general shifts have strayed from the patterns that originated in the period of great development known as the Industrial Revolution that met with enlightened opposition from the Arts and Crafts Movement.

My original interest in this topic was sparked by the changes that I have perceived developing in methods of production, management, and consumer demands. Studying business administration at Carroll College, I was exposed to the trends of the business world. For example I found that some companies have begun using what would appear to be less efficient processes to produce a higher quality product. They have found that their original inhibitions about leaving the status quo were unnecessary because they have been successful in transforming the operations of their business. Companies
are also making adjustments to the typical work-week and the traditional "job" by providing greater flexibility to employees and granting employees greater responsibility. Some have also realized that assembly-line production may not be the most effective method to achieve optimal productivity, so they have begun building new strategies for production.

I encountered several of these changes in my business classes at Carroll College. Others I simply observed around me. Overall I found the changes interesting and refreshing. I questioned why they were occurring. I was curious about the methods that were developed in the past and why methods such as mass production and assembly line production were losing their appeal. Looking toward the period known as the Industrial Revolution, I searched for some answers. Most of the works I came across that were about the Industrial Revolution revolved around England because that is where it started. From England, the Industrial Revolution spread to nearby countries in Western Europe and to the United States.

As I related my interest in the changes I observed to several professors, they turned my attention toward one of several movements that were contrary to what was happening during the Industrial Revolution. The one that I looked to is known as the Arts and Crafts Movement. This movement was carried out by many people who opposed the factories and machines that were appearing in England because of the Industrial Revolution. The movement was centered in England.
Several prominent individuals voiced their opinions in England during this controversial period. The attitudes and ideas of some of these individuals interest me, and I hope to demonstrate how these ideas can be related to the changes happening in companies today.

The period of the Industrial Revolution and Arts and Crafts Movement brought many changes to what was then the traditional manner of working. The Industrial Revolution introduced new methods of production with its machines and factories. Many people began travelling to a factory to monitor and operate the machines rather than working in their homes. Procedures for creating products changed and labor did not allow the independence nor allow the creativity found in craft production. What was necessary from workers was the ability to operate the machinery. Cities grew rapidly as they became centers for the working classes. The assembly line became a common production method allowing tasks to be completed in an orderly fashion by having certain laborers do specified duties on every product coming down the line. Assembly line work is the method of production still used in many automobile factories today. Assembly lines are also found in other industries, such as canneries, lumber mills, and wood shops. This method was extremely useful to factories that emerged during the Industrial Revolution and was a very different system of work than that known to pre-Industrial Revolution workers.
Another interesting outcome of the Industrial Revolution was the standardization of goods. With the introduction of machinery and interchangeable parts, factories were capable of generating many products. The belief was that the more they could produce in a given period of time at a lower cost, the more they could sell. Therefore products lost their unique, hand-made appeal. They began to look the same and lost the quality workmanship that was achieved by earlier craftsmen. The Industrial Revolution, however, also allowed the average citizen the ability to afford goods that they could not have purchased or that may not even have existed before machine production. By looking back at the beginning of the industrial life we know, I hope to shed some light on how the past relates to today. I intend to first provide background on the Industrial Revolution. I will discuss how it began and how it shifted labor away from the cottage industries and craft guilds into factories. I will then move into the Arts and Crafts Movement and provide insight on some prominent individuals involved in the movement. I will elaborate on what ideas these individuals had concerning what was going on around them and how they expressed these ideas. Finally, I will conclude with the relationship I have discovered between what happened in the Industrial Revolution and concerns of those involved in the Arts and Crafts Movement with the changes going on today in production, quality control, consumer demands, and environmental concerns.
Chapter II

The Industrial Revolution

The phrase "Industrial Revolution" is credited to a man named Blanqui who wrote during the transformations that were happening during the nineteenth century. The time period in which the revolution occurred is the close of the eighteenth century through the nineteenth century. It began in England and spread through Europe and as far as the United States. The Industrial Revolution is described as "... contributing to a break with the past so complete that it is difficult for us to reconstruct the social life of the old regime."\(^1\) This "old regime" refers to the pre-industrial era.

Craft Guilds

Before factories became the dominant workplace, there existed guilds. Several kinds of guilds existed but the most important to this discussion of the Industrial Revolution are the craft guilds. The craft guilds were organizations of men who engaged in a certain trade. Within the guild there levels of ability characterized by master craftsmen, journeymen, and apprentices. They masters taught the men who were learning the trade to strive for quality. Most apprentices yearned to be a guild master, and therefore they would work to improve in order to reach the master’s ability level. The guild was autonomous, as it was neither tied to a religion nor to the

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king. For a person to belong to a craft guild meant that he had both the talent and knowledge of a chosen trade. This also was learned through apprenticeships of young people to the masters of a craft.

Statute of Apprentices

Craft guilds played a significant role in the growth of towns and trade. Merchants and craftsmen were set off from the agricultural production and from the nobility. They essentially became the middle class. With time the craftsmen would lose their middle class position and would be the mass of laborers toiling in factories rather than craftsmen. In 1562 there were signs emerging that industrialism was beginning to grow. Efforts were taken to control it. The Statute of Apprentices, issued in this year, essentially ruled industrial life. It set up requirements intended to assure that craft people would be trained well, that there would be plenty of labor for agriculture, and that wage adjustments would be made according to the law. The Statute of Apprentices dictated that,

Every person was ordered to adopt a definite profession or calling. Excepting persons owning property, persons of gentle birth, and scholars, every one must needs choose between the sea, the crafts, and agriculture. Any person failing to make a decision could be required to work at agriculture.²

The skilled craft guilds had existed and operated in a way that found common ground between masters, workers, consumers,

² Usher, p.193.
and the State since the Medieval Period. Industrialism threatened this ground. G.H. Perris states,

That a living wage should be secured to the workers was as essential to this idea as that the masters should get profit, or the consumers quality and a reasonable price. That every one might hope to become a master was as essential as that every one must first be a servant. All round, a standard of life had to be maintained.³

The Statute of Apprentices recognized the importance of quality in products produced by the craftsmen who’s descendants would suffer during the Industrial Revolution. The lawmakers saw the changes that were starting to affect the methods of production that had been successful for many years. There were concerns that the standard of living would be reduced for wage earners. There were also concerns that factories would not maintain the level of quality found in the work of craftsmen. These concerns proved valid during the eighteenth and nineteenth centuries. The craft guild gradually faded away as factories became reality. First the guilds transformed into cottage manufactures which drew craftsmen together to work in a common area for a common purpose. Later the cottage industries would be absorbed by factories.

Several factors which included a surplus of capital, labor, and new markets, combined to allow the Industrial Revolution to take place. The combination of these three

factors plus the inventions that were emerging resulted in a recipe for industry. With changes occurring so quickly, there were no restrictions on many raw materials because these materials had not been used in production before. There were no labor laws relating to factories, nor were there any trade restrictions in foreign markets. Perris states,

From the first, therefore, the Industrial Revolution was mainly concerned with relatively low-grade goods, portable and durable, of which the raw material is abundant, which ask little training or special skill in the laborers, are sure of a large and steady demand, and, in an unregulated market, require no consideration except cheapness.  

The factories were manufacturing goods that did not achieve the unique quality that the craftsmen did. They were striving to produce a cheap product to make a high profit. This goal was achievable because their methods were fast, new, and found little if any restriction. Factories could produce a huge amount of a product and almost guarantee it would be purchased. They could do this because the population was growing at an accelerating rate. Statistics on the chief industrial cities during the eighteen and nineteen hundreds shows a charting of population growth.

<table>
<thead>
<tr>
<th>Year:</th>
<th>1801</th>
<th>1821</th>
<th>1841</th>
<th>1861</th>
<th>1881</th>
<th>1901</th>
<th>1911</th>
</tr>
</thead>
<tbody>
<tr>
<td>City:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London(County)</td>
<td>959</td>
<td>1,379</td>
<td>1,949</td>
<td>2,808</td>
<td>3,830</td>
<td>4,536</td>
<td>4,522</td>
</tr>
<tr>
<td>Lancashire</td>
<td>684</td>
<td>1,069</td>
<td>1,701</td>
<td>2,467</td>
<td>3,488</td>
<td>4,437</td>
<td>4,825</td>
</tr>
<tr>
<td>Yorkshire</td>
<td>574</td>
<td>813</td>
<td>1,173</td>
<td>1,522</td>
<td>2,188</td>
<td>2,766</td>
<td>3,044</td>
</tr>
</tbody>
</table>

4 G.H. Perris, p.15.

5 G.H. Perris, p.553.
In addition to increased population contributing to demand, many people did not own the products that factories were producing. Factory-made goods were quicker to replenish and were cheaper than if a craftsman had designed it.

Two important trades that were greatly transformed during the early Industrial Revolution were the textile and the coal mining industry. These trades provide an idea of how the changes of the Industrial Revolution occurred. They also illustrate the importance of inventions which were either improvements of existing tools or the introduction of new ones. Non-human power such as water, then steam, were applied to these inventions to make machines faster than human hands.

The Textile Industry

In the textile industry, cotton became a more popular than wool. Wool had led the textile market for many years, but could not be replenished quickly. Cotton could be had more cheaply and took less time to acquire. The manual work necessary to create cloth became a machine process. The Fly-Shuttle loom was patented by Kay in 1733 and it was followed by the Roller Spinner by John Wyatt in 1738. The Roller Spinner was operated by water. Neither or these saw much use until they were later perfected. In 1764 the Spinning Jenny was patented by James Hargreave. It was capable of spinning yarn ten times faster than the hand wheel. Finally in 1785, the first steam-engine for a cotton mill was made by James Watt and Boulton. These inventions made cloth production much
faster. Prior to these inventions, the hand-loom weaver would buy yarn from the spinner, and would then sell woven cloth to a clothier. The merchant acted as a middleman to these independent workers by purchasing their goods for resale. This independence was washed away when the cloth dealers began to build factories in 1794. With time domestic weavers could not compete. One way to see this is through the wage index presented below. Before factories were as prominent as they later became, the hand-loom weaver’s wage was indexed higher than that of the factory worker. Eventually the wage index of the weaver dropped to nothing. This shows that the craftsmen were unable to earn an ample wage using their domestic methods. They turned to factory work to support their income.⁶

<table>
<thead>
<tr>
<th>Year:</th>
<th>Factory Operatives</th>
<th>Hand-loom Weavers</th>
<th>All Work People</th>
</tr>
</thead>
<tbody>
<tr>
<td>1806-1809</td>
<td>122</td>
<td>193</td>
<td>170</td>
</tr>
<tr>
<td>1810-1819</td>
<td>126</td>
<td>148</td>
<td>140</td>
</tr>
<tr>
<td>1820-1829</td>
<td>119</td>
<td>95</td>
<td>105</td>
</tr>
<tr>
<td>1830-1839</td>
<td>115</td>
<td>75</td>
<td>96</td>
</tr>
<tr>
<td>1840-1849</td>
<td>114</td>
<td>75</td>
<td>106</td>
</tr>
<tr>
<td>1850-1859</td>
<td>121</td>
<td>75</td>
<td>118</td>
</tr>
<tr>
<td>1860-1869</td>
<td>147</td>
<td>...</td>
<td>147</td>
</tr>
<tr>
<td>1870-1879</td>
<td>180</td>
<td>...</td>
<td>180</td>
</tr>
</tbody>
</table>

The work they could do at home was shifted into a steamy factory where a time clock determined what hours a person would work.

⁶G.H. Perris, p.581.
The Coal Industry

Coal mines found their value during the late eighteenth century. The steam pump by Newcomen and the steam engine by Watt were put to use to make the extraction and transportation of coal more efficient. In 1735 Abraham Darby first made iron, in 1740 Benjamin Huntsman cast steel, and by the end of the century coal was the major fuel source for producing their materials. With iron and coal in use, machine techniques could accelerate production to a speed that simply could not be achieved by cottage industries consisting of craftsmen.

The introduction of the factory divided the classes into the wealthy factory owners and the laborers. The craftsmen watched as the work their hands once did became the work of a machine. Perris states, "The growth of cottage manufactures shook the guild system; the herding of workers into public mills as mere machine-tenders destroyed it." ⁷ By 1813 the Statute of Apprentices was repealed, no longer protecting the pride of craftsmen's work. Perris continues:

Free competition was now the ideal of everyone above "the lower classes," an ideal preached fanatically, and practised with a cold determination. It was very quickly found that, for many mechanical processes, women and children were as good as men; and the imprisonment and torture of children in factories--the most characteristic form of criminality in the next generation--had become common before the end of the eighteenth century. ⁸

⁷ Perris, p.30.
⁸ Perris, p.33.
This vivid, perhaps even overstated description provided by Perris sheds light on how far factory life deviated from moral conditions and how determined factory some employers were to make their products as cheap as possible. An unalterable change had come over the average worker's life. No longer did he/she possess privileges and independence of working in the home. Craftsmen were normally not wealthy enough to continue their old methods of work. Typically they joined other craftsmen to become industrial laborers. They realized that there existed no possibility of competing with the speed of a machine. The laborers saw no hope of ever becoming an employer and found no help from the law to improve wages and conditions. Out of anger and helplessness people would occasionally strike out by burning factories or breaking machines. Some groups developed such as the "Levelers", "Diggers", and the "Luddites". Their occasional attacks did not improve their situation and with time many found themselves in poverty working as machine-tenders.

Thus the Industrial Revolution proceeded. Changes occurred quickly but left time for much pain to be endured as industrialism gradually marched ahead. The Revolution had a great impact on the lives of the people involved and made products more available and affordable to the average citizen. However, it failed to make the lower quality of products seem desirable. No longer was a person observing the work before his or her hands to determine its attractiveness, beauty, and
uniqueness. The pride the master of a craft took in the production of products and the training of young workers to reproduce this quality disappeared in factories. A person does not take personal pride in a product that emits from a machine and reflects nothing about the person who constructed it like a hand-designed product does. It took time for people to realize what the influx of coal-fueled factories in England would do to the land, the air, and the quality of life of its people. Capitalists saw pound signs, and laborers saw a monotonous, continuous process. It is possible to reflect now and make judgements, but at the time the Industrial Revolution was happening people were engulfed in it. Some found the products of the Industrial Revolution advanced and appealing, others found them cheap and unattractive, and others were not analyzing whether the changes occurring were positive or negative. They were simply struggling to live and acknowledging how the changes affected their daily lives.

The Inspectors

However, after some years passed people began to realize how the factories had negatively affected many aspects of their lives. Working conditions worsened as mills became more and more prominent and no regulations were enforced in them. Many workers were seriously injured or killed in accidents from machines that lacked safety guards. The once exciting new inventions were now at work polluting the land, water, and air. Town populations were increasing and men, women, and
children worked for hours in health-damaging conditions. It was not until the middle of the nineteenth century that factory inspectors entered the industrial scene. Laissez-faire, meaning "leave it alone," was the desire of factory owners, so inspections were not welcome and met with resistance from the owners. Employers and owners resented government interference in their factory and therefore resented the inspectors. With time the inspectors, teamed with good employers and workers, were able to break through the barriers presented by the employers who engaged in unethical practices. The inspectors' reports raised interest and support to improve factory conditions. Laws were passed to improve conditions and lessen work hours, but unfortunately the laws were often evaded. Some incidents of law-breaking included over-working of employees, forging age certificates, turning back the clock, and making it impossible for inspectors to keep track of the hours worked per individual. The fines for breaking the law did not deter employers because the profits gained were so great. Also, the Acts that passed were not explicit and left loopholes for employers to continue harmful practices. These loopholes made laws essentially powerless. Factory life was neither clean nor healthy. Sanitation and air quality problems were prevalent and the heat in the factories was excessive. With all of these ugly practices going on, it is easy but unfair to overlook to overlook the good that came out of this period.
Amidst the filth the industrial world that we know today was shaping itself. The successes that have been achieved by industries were in their beginning stages. Looking back now one can see that the people involved in the Industrial Revolution had some unfortunate trials to endure. With time and persistence however, factory conditions improved. A more humanistic approach to running a factory has slowly been adopted by employers. No longer are children working at age ten. They are being educated instead. Safety of machinery is now an extremely serious issue; therefore, accidents have become less severe and less common. However, many activities initiated during the Industrial Revolution remain. One of these is the idea of fast, efficient production. Assembly lines put one person to work on a single job necessary to complete one part of a product, with another person engaged in another job. This system dates back to the nineteenth century, along with mass production. Factories today pump out huge quantities of similar goods for consumers to purchase. The energy that drives modern countries today was introduced in the Industrial Revolution.

This background on the period known as the Industrial Revolution explains its evolution, but not its opposition. There were people in England who stepped back from what was happening around them and looked at the changes critically. Some found them new and exciting, while others were disgusted. Within the company of disgusted individuals there were some
who made efforts to change the destiny of their country. They expressed their thoughts and tried to stir other people by writing works about the ugliness they perceived surrounding them. Others were determined to hold on to the valuable past and continue the tradition of craftsmanship. While different individuals used different methods to reject industrial life, they had a common interest. Their opposition and conflict they felt and exhibited against the Industrial Revolution became known as the Arts and Crafts Movement.
Chapter III

Arts and Crafts Movement

Several prominent individuals emerged during the late eighteenth and early nineteenth centuries. Some were involved in what is known as the Arts and Crafts Movement. Others not involved in the movement shared similar feelings about the Industrial Revolution. These individuals were opposed to factories, machines, and capitalists. They respected the systems from the past such as craft guilds, apprenticeships, and masters of crafts. This respect, in some cases, can be traced back to an admiration for the Middle Ages. The existence of feudalism in the country and craft guilds in the towns during the Middle Ages drew the attention of several of these individuals who opposed the Industrial Revolution. They were attracted to the independence of the craftsmen and the abilities they possessed allowing them to construct with their hands. Their attitudes were expressed in various ways. Some expressed their disapproval by writing. Among those who used writing as their tool are Karl Marx, Friedrich Engels, and John Ruskin. Teamed with Friedrich Engels, Marx produced a work that directly opposes the capitalist system and the loss of the individual craftsman to a factory. John Ruskin takes a different route by accusing the factories of turning out poor products. He uses a more romantic style than Marx and Engels to stir the reader and express his distaste for machine manufacturing. Ruskin also points out the environmental
effects of factory production.

Other figures who were opposed to the Industrial Revolution actually became talented craftsmen. They believed that everyone possessed a talent capable of creating, designing, or even harvesting goods, and they thought that this talent should be put to use. Despising the idea of tending a machine that replaced the craftsman, they engaged in such enterprises as poetry, drawing, painting, and doing craft work. Through these activities they made their living and expressed their personalities in their work. Two men who dedicated their lives to learning craft methods were William Morris and his friend, Sir Edward Burne-Jones.

Karl Marx

Among the figures who wrote about their problems with the Industrial Revolution was Karl Marx. He was born in Prussia in 1818 and died in Britain in 1883. He analyzed and criticized the industrial capitalism that was growing around him. With the aid of Friedrich Engels, Marx wrote two works titled Capital and The Communist Manifesto. Marx argued that in the Middle Ages capitalism was hindered. He said feudalism and guilds maintained the methods for production. But, when the feudal system broke down and farmers were forced off the land, manufacturers absorbed their labor in factories that were appearing near the water and in land that previously had been farmed. The breakdown of these preexisting systems allowed capitalism to blossom. Marx was convinced that
laborers were slaves to the factory owners, and in order to obtain freedom they must fight this growing system of capitalism. He saw that the average worker was becoming lost in the mindless factory work. He equated engaging in factory work to becoming a function of a machine. He expresses this in *Capital*:

"Within the capitalist system all methods for raising the social productiveness of labor are brought about at the cost of an individual labourer; all means for the development of production transform themselves into means of domination over, and exploitation of, the producers; they mutilate the labourer into a fragment of a man, degrade him to the level of an appendage of a machine, destroy every remnant of charm in his work and turn it into a hated toil; they estrange him from the intellectual potentialities incorporated in it as an independent power; they distort the conditions under which he works, subject him during the labor process to a despotism the more hateful for its meanness; they transform his life-time into working-time and drag his wife and child beneath the wheels of the Juggernaut of Capital."

Marx passionately relates his feelings about the capitalist system that arose during the Industrial Revolution. He sympathized with the laborer and portrayed the employers as merciless, greedy beings. Marx’s writing raised controversy against and attacked the powerful capitalists for their methods of reducing human beings to machine parts. Another point Marx addresses is the "charm" of goods which disappears under machine production. He views hand-crafted products as outgrowths of craftsmen’s pride. The non-human unit processing goods is not capable of taking pride in its work,

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nor is it self-sufficient. The machines required human labor, but revealed no human quality in their output.

Another point that Marx addresses about machinery is the cruelty that is a consequence of its use. Prior to factory production the masters of craft guilds would take apprentices under them to teach them a trade. In the Industrial Revolution the master was no longer a teacher. Marx believed the master became a slave driver. Marx states:

In many of the manufacturing districts, but particularly, I am afraid, in the guilty county to which I belong (Lancashire), cruelties the most heartrending were practised upon the unoffending and friendless creatures who were thus consigned to the charge of master manufacturers; they were harassed to the brink of death by excess of labor, . . . were flogged, fettered, and tortured in the most exquisite refinement of cruelty; . . . they were in many cases starved to the bone while flogged to their work and . . . even in some instances . . . were driven to commit suicide. . . .

Marx’s ideas are presented in a manner that is convincing and intriguing. He tries to incite workers with phrases like his well-noted statement, "Workers of the world unite, you’ve got nothing to lose but your chains!" He examines capitalism and finds negative outcomes. His writing provides insight to how the lives of people were drastically changing during this period. It also gives a reader in the twentieth century appreciation for changes that have happened since this period and those that are occurring now.

Friedrich Engels

Friedrich Engels is a name that is usually associated with Karl Marx. Engels was born in Germany in 1820 and died in 1895. He did some writing regarding the Industrial Revolution and is considered a realist of the period. He addressed the changes with less hostility than Marx. Yet he still finds that the origin of the proletariat worker coincides with the invention of the steam engine and machinery used for cotton products. Before these advancements existed, Engels states:

... the workers vegetated throughout a passably comfortable existence, leading a righteous and peaceful life in all piety and probity; and their material condition was far better than that of their successors. They did not need to overwork; they did no more than they chose to do, and yet earned what they needed.

He continues that:

The consequences of improvement in machinery under our present social conditions are, for the working-man, solely injurious, and often in the highest degree oppressive. Every new advance brings with it loss of employment, want and suffering.\(^{11}\)

Engels compares the old to what in his life was new and he finds fault. He counters the argument that the factories produced a better material existence for a greater number of people than craft production could. He says that the people lose the freedom to work at their will, their material condition worsens, and they are subject to the risk of losing

their job to a machine. Engels' writing does not express the desire for revolution that is found in Marx, but he thinks revolution in England is inevitable. He describes what he observes; a society that is being oppressed and is struggling beneath the capitalist manufacturing system.

John Ruskin

Another notable figure who lived during the Industrial Revolution was John Ruskin. Ruskin is a noted poet, writer, and social theorist who expressed his distaste for the factories of industrial England. He was born in London in 1819 to a wealthy wine merchant, John James Ruskin. He was an only child and found entertainment in drawing and writing. In his early years he gained the reputation of art critic and author. He was interested in social reform but his father kept him from getting too involved in the activities of reform advocates. After his father’s death, though, Ruskin began expressing his views more openly to the public. He felt that it was important for men to create with their hands and that products should reflect this craftsmanship. He resented machines for taking that work away. He also resented the impact factories had on the environment. To express his views he published letters to workers called "Fors Clavigera" from 1871 to 1884. In one letter he describes three material things that all humans need to live. These are pure air, water, and earth. He then goes on to point out that these elements are Heaven-sent, but can be destroyed at man’s will.
Ruskin relates what damage manufacturing was doing to pure air:

But everywhere, and all day long, you are vitiating it with foul chemical exhalations; and the horrible nests, which you call towns, are little more than laboratories for the distillation into heaven of venomous smokes and smells, mixed with effluvia from decaying animal matter, and infectious miasmata from purulent disease.

On the other hand, your power of purifying the air, by dealing properly and swiftly with all substances in corruption; by absolutely forbidding noxious manufactures; and by planting in all soils the trees which cleanse and invigorate earth and atmosphere—is literally infinite.\(^{12}\)

Ruskin encourages people to demand change. He wants them to stop watching the pollution and deterioration of the environment and do something about it. Humanity is blessed with an earth to live on, water to drink, and air to breathe. According to Ruskin, allowing factories to continue to operate was the equivalent of allowing them selfishly to steal the air intended for all people.

The arguments made by Marx, Engels, and Ruskin are harsh blows at the industrial leaders of the time. While they are opinions, they hold significant value. Mechanization of human work met with resentment, and these men express that resentment. They strove to make their readers aware, and strove to gain support from the public to resist industrialism.

Sir Edward Burne-Jones

Burne-Jones is the next person to be looked at in regards to the Arts and Crafts Movement. He was a close friend to William Morris and his name often appears in works describing Morris. Burne-Jones pursued a career in painting. Burne-Jones shared with Morris the desire to make his work his life. He was very dedicated to his profession, and would not sell his paintings to the general public. In a biography on Burne-Jones the author states:

With Burne-Jones, painting was not a career but an integral part of the process of living; his paintings are always intimate autobiographical reflections and, logically, he was embarrassed by the institutional aspects of established art. It was inevitable that he demanded a personal contact with those people who wished to own his paintings.13

Burne-Jones dedicated his life to using his talent for painting. He chose not to pursue religious orders when he was a young man and instead devoted his life to craftsmanship. Instead, he trusted he and Morris' belief that men possessed talents that could be refined. By refining these talents men could turn them into careers. Because of his desire to reflect part of himself in his work, Burne-Jones serves as an example of the people who lived in opposition to the Industrial Revolution.

William Morris

The last and perhaps most notable figure involved in the Arts and Crafts Movement was William Morris. He serves as a symbol of what men such as Marx and Ruskin respected. Morris is a craftsman who becomes skilled at several trades. He does not use machine-driven techniques to create his goods. He engages in activities at which he is good. All of the previously discussed individuals were intrigued with the past and were longing to slow or stop the transformation they observed. The Industrial Revolution was too big to affect, and that is probably a reason for them to resent it so much. Still, they devoted themselves to communicating their concerns to society. William Morris took another avenue of opposition. Not only did he express his admiration for the craftsmen with words, he became one. He did not just degrade factory products with words, he learned how to make his own goods with his own hands. He was in several ways the essence of the Arts and Crafts Movement.

Morris was born in England in 1834 during the height of the Industrial Revolution. As a boy, he was infatuated with the past. He loved nature, loved visiting old churches, he read about Medieval times, and even wore armor when he rode horses. His boyhood schooling was attained at Marlborough College, during which he wrote stories of woodsmen who became heroes. Eventually he attended Oxford University with his
close friend, Burne-Jones. Both originally had the intention of pursuing orders in religion; however, after they toured the country visiting old churches that were victims of attempted restoration and art displays, they changed their minds. Both were convinced that they should pursue a career that would require them to learn a trade and use their personal talents. They wanted to create beautiful products. A biography on Morris states:

There could have been no better moment for him to follow the advice he so frequently gave to others—to turn his back upon an ugly age, choose the epoch that suited him best, and identify himself with that.14

Morris made the decision to become an architect, and Burne-Jones pursued a painting career. With time, Morris took up a paint brush, but never had the patience to make his work magnificent. Morris did possess talents, though, and tried his hand at many crafts. He designed and created stained glass, carved in wood and stone, designed textiles, wall paper and furniture, and modelled clay sculptures. In addition to these manual talents, he also possessed a great talent for poetry writing.

Morris had a belief that he did not have to do something that he did not enjoy, so whenever a task seemed tedious he would quit it. He would build and design only items that he liked; even his stories were about subjects for which he had developed a liking.

In 1859 he married Jane Burden. She shared his taste for craftsmanship. Together they decorated a brick house called "The Red House" that was fashioned after historical English styles. Their construction of "The Red House" made an impact in England as it reflected tastes from the past. Following its construction, Morris founded a firm that engaged in decorative art using old techniques. It was called "Morris, Marshall, Faulkner and Company." Their work consisted of creating murals, carving, stained glass, metal work, and constructing and re-covering furniture.

Morris' life was that of a craft person. He surrounded himself with the past. He resented the art products of capitalism and criticized them openly. However, Morris did not express hostility to all of the people and machines involved in industry. His desire was for all people to use their natural talents to construct with their hands rather than machines. When one argued with him that not all beings possessed the ability and impulse to create,

Morris denied this with fury: he believed the creative impulse to be profoundly natural, suppressed in men and turned aside from its expression in the work of their hands, but by no means torn up out of their natures.15

Morris assumed that all human beings had the ability to work with their hands, and he thought that they must use this ability for their work to be rewarding. Removing the human from the production process was counter to his dream. This

dream of his was played out in his work called *News from Nowhere* about which G. D. H. Cole states:

He was letting himself dream of a society that would let him do without stint everything he thought worth doing, and would not upset his pleasure in what he did by the sense that others were lacking a like freedom. He wanted to be free to make beautiful things, not merely for ornament, but for everyday use, and not merely for a fortunate few who could afford to buy them, but for everyone who would get pleasure out of having and using them.\(^{16}\)

Morris portrayed the craftsman’s dream, which was his dream. He realized that there were forces against it, but continued his life fashioned around crafts.

\(^{16}\) G.D.H. Cole, xviii.
Chapter IV

Transition from Past to Present

The Arts and Crafts Movement in relation to the Industrial Revolution is a historical original that is being re-released in society today. The people who were involved in both the Arts and Crafts Movement and the Industrial Revolution believed in what they were doing. They were not, however, foreseeing the impact that their actions and beliefs would have on future generations. These effects have been revealing themselves slowly and are causing some significant changes in the way that the industrial community is operating.

Four major areas of change have appeared fairly recently that can be traced back to the Industrial Revolution and the Arts and Crafts Movement. One area in which these changes have been occurring is the methods of production that are being adopted by firms that in the past have utilized assembly lines and mass production. Mass production and machinery were introduced in full force during the Industrial Revolution. These methods of production were criticized by several prominent figures in the Arts and Crafts Movement. They accused employers of treating employees like slaves and reducing work to a monotonous task.

Today we are seeing the driving force of machine production being overwhelmed by the realization that change needs to occur. Perhaps this is a sign that the individuals speaking out approximately one hundred years ago were in
several ways correct in their assertions. Reducing a task to some mindless repetitive action requiring no thought or humanity is not the most efficient way to produce. In fact, as will be discussed at greater length later, the longer people are left on a boring and mindless job, the less efficient they become. Machine production is just one birthmark the Industrial Period has left on today's society and work force.

A second area of industry that is being affected which ties back to the Industrial Revolution and the Arts and Crafts Movement is the emphasis placed on quality control. Quality control and quality assurance have become common jargon of today's companies. In fact, many companies have developed departments that deal strictly with "Q-A". This stress on quality from laborers is a change from the stress on output that prevailed a century ago. Companies are realizing that simply building a product does not build demand. With growing competition and innovation, companies must be more concerned with the quality of their products. They also must meet these concerns with quality controls and build incentives for laborers to desire quality.

Another third to appear in this equation of relating the past to the present is consumer desires and how businesses struggle to meet their demands. Time, money, and a range of selections have combined to allow some consumers to be more selective about the products purchased and the quality
demanded. It appears that as consumers acquire greater purchasing power, they become less willing to settle for a standardized product. Desire for quality and service has grown and is affecting marketing and production methods utilized by companies.

The last factor to be examined that dates back to the Industrial Revolution is environmental problems. John Ruskin, an individual who wrote during the Arts and Crafts Movement, described the filth of the cities where factories were in operation. As industry has progressed, these problems grew and necessitated action. This action was the outcome of legislation and the establishment of the Environmental Protection Agency. Environmental concerns now create a major factor in the manner that factories operate. Pollution poses serious threats and raises controversy between society and factory owners. This problem can be seen back in the Industrial Revolution. It appears that similar problems are encountered in 1995 as were in the 1800’s, and they still demand attention. The following chapter’s purpose is to relate the past and the present by illustrating how some of the changes that occurred during the Industrial Revolution are affecting present companies, and how norms that developed are being replaced with new methods in today’s companies. The other purpose is to show how ideas that formed during the Arts and Crafts Movement are being restated in modern society.
Chapter V

Application of the Industrial Revolution and the Arts and Crafts Movement to Today

In this chapter I will present changes I perceive currently occurring in work places of the United States. I plan to show a relationship between these changes and what happened during the period of the Industrial Revolution and the Arts and Crafts Movement. This begins with a look at some changes in methods of production. These changes distinguish present factories from those of the past. Following the discussion on production changes, three other areas of change will be explored. These areas are quality, consumer demands, and environmental concerns.

It is difficult to imagine what kinds of lives people would be living if the Industrial Revolution never had occurred. As Perris commented, it was such a break with the past that even people who lived a century before us had difficulty remembering what life was like before the Industrial Revolution. Today an average modern household is complete with appliances such as a refrigerator, a television, a microwave, a stove and oven, and a shower and sink. These are examples of standardized products. Like products look virtually the same and serve essentially the same purpose. For example, refrigerators are easily identified in a home because one refrigerator looks basically the same as another. They are all used as storage units for perishable foods in
households. The availability of such standardized products relies heavily on the methods of manufacturing the Industrial Revolution introduced. If craft production had won out, it is unlikely that the average North American and European family would have so much material wealth. In the United States, standardized products have allowed the average family to own a vehicle.

The Industrial Revolution definitely made a major impact on the standard of living that European and North American people enjoy today. It also instituted the traditional factory "job" which meant a worker would go to work in the morning, engage in a repetitive task for eight to ten hours, and return home. In the factory decisions were made by a small elite party of men. Wages were set and conditions ranged from poor to bearable. These general attributes of the traditional "job" and factory are seeing change.

Production Changes

During the last five years there have been trends taking some unaltering steps away from the traditional "job". There are many causes for these changes going on in the work place. Undeniable are the technological advancements that have greatly affected the work place. Computers, automation, cybernetics, and other technologies have provided such a wealth of resources and information to society that advancements appear to be endless. Technological breakthroughs have required changes in the traditional "job".
Jobs that don't require much mental exertion are disappearing. Every day tasks are becoming more advanced and complex. For example a simple time clock may now require an employee to use a magnetic strip, codes, or some other computer-aided device. Employers are making greater demands on their employees to expand their responsibilities. Gone are the days that an employer hires one person to run a single machine all day and another worker to run another machine. This method that was prominent in the Industrial Revolution is being discarded because companies are realizing that there are better possible methods such as automation, job rotation, and temporary employment.

According to a recent article in *Fortune* magazine, the traditional job that emerged from the Industrial Revolution is disappearing. The article stresses the need for changes that will wean companies away from the definition of a job that was instilled in the past.

The job is an idea that emerged early in the 19th century to package the work that needed doing in the growing factories and bureaucracies of the industrializing nations. Before people had jobs, they worked just as hard but on shifting clusters of tasks, in a variety of locations, on a schedule set by the sun and the weather and the needs of the day. The modern job was a startling new idea--and to many, an unpleasant and perhaps socially dangerous one.\(^\text{17}\)

This passage provides insight about where the "job" that exercises so much control over our culture originated. The

\(^{17}\text{William Bridges, "The End of the Job," Fortune September 19, 1994: p.64.}\)
Industrial Revolution made massive changes in the lifestyle of the people who lived during that time. Society needs to begin examining this social norm and considering the implications of it like those individuals involved in the Arts and Crafts Movement did. Bridges provides a brief comment on the critics who lived during the Industrial Revolution:

Critics claimed it was an unnatural and even inhuman way to work. They believed most people wouldn’t be able to live with its demands. It is ironic that what started as a controversial concept ended up becoming the ultimate orthodoxy--and that we’re hooked on jobs.18

The workplace and society are undergoing changes. These changes are requiring managers and employers to evaluate their current positions and establish a plan for continuing production in a "de-jobbed" society. Bridges says:

Now the world of work is changing again: The conditions that created jobs 200 years ago--mass production and the large organizations--are disappearing. Technology enables us to automate the production line, where all those job holders used to do their repetitive tasks.... Big firms, where most of the good jobs used to be, are unbundling activities and farming them out to little firms, which have created or taken over profitable niches.19

Perhaps the critics involved in the Arts and Crafts Movement were ahead of their time. They were critical of large factories and of individuals becoming machine-minders. However, the mindless task is disappearing and is being replaced by automation. The Arts and Crafts individuals would have preferred to halt the emergence of machine-production and

18William Bridges p.64.
19William Bridges p.64.
factories. This was not reasonably possible because there were scales of efficiency in factory production that could not be competed with by craftsmen. Some of their desires are coming true, though, because fewer and fewer people are employed to run a machine.

Stephen P. Robbins, Ph.D., and author of a college textbook used in business classes provides some insight into changes happening in manufacturing. He describes the "classical" vs. the "contemporary" view of labor. The classical view promotes division of labor as the best means of achieving increased productivity. The contemporary view sees limitations to division of labor and looks at alternative means to achieving productivity. Robbins states:

Classical writers viewed division of labor [assembly lines] as an unending source of increased productivity. At the turn of the twentieth century and earlier, this generalization was undoubtedly accurate. Because specialization was not widely practiced, its introduction almost always generated higher productivity. But a good thing can be carried too far. There is a point at which the human diseconomies from division of labor--which surface as boredom, fatigue, stress, low productivity, poor quality, increased absenteeism, and high turnover--exceed the economic advantages.20

The advantages to assembly line production that were discovered through the Industrial Revolution have been questioned. Lowered motivation and boredom became apparent in employees. Companies realized that new methods needed to be instituted to increase employees' productivity. They have

recently given employees a greater variety of tasks and the idea of pulling them together into teams has become a trend. The idea of the "work team" is gaining popularity within as it gains success in improving the morale and productivity of employees.

There is also a great movement of jobs away from manufacturing. With advances in automation machines are capable of running without an employee monitoring or manually operating them. Also, large industrial companies are employing smaller firms to conduct certain tasks rather than doing everything in-house. This would probably please individuals like Morris and Marx because of their distaste in huge manufacturers. In Bridges' article on the disappearing "job" comments with all of the opposition to the "job" it is ironic that industrial nations embraced it. Isn't it also interesting that this has gone full circle and the "job" is disappearing? Companies have found alternative ways to make their plant workers productive, or have automated the plants thereby eliminating the need for "machine-minders". Perhaps the last two hundred years have been a major transition of work into something more humane.

With technological changes and automation of the factory and manufacturing plant, people are rapidly moving into the service industry. An article in Fortune states that eighty percent of jobs in the United States are now service jobs. The shrinking need for employees to operate machinery has
allowed companies to expand in their service area. With competition consistently increasing, it is necessary for companies to obtain a competitive advantage. Providing higher quality and enhanced service are a two solutions that companies have utilized. To better the quality of their products they must achieve this in production through their employees. This leads to additional changes in the work place that deal with desire for higher quality rather than the stress on speedy production that was prevalent during the Industrial Revolution.

Quality

Demands for quality rather than quantity have required changes in managers' roles and the way they value employees. The manager has moved from acting as a "slave driver" to a team leader. This transformation is occurring slowly but is necessary. Employees have become less disposable than they were in the period of the Industrial Revolution. Factories from that period could readily replace a line worker. Today there are restrictions on hiring procedures and there is more training involve with technological advances. Workers presently cost more to replace than in the past, and their voices can be heard through lawsuits and unions. There were virtually no regulations or restrictions on production facilities in the birth of the Industrial Revolution. It took time for unions to form and begin insisting on improvements in work conditions. Now companies spend large amounts of money
and time meeting Federal and State regulations. The employee was not feared in the Industrial Revolution. Now companies pay large insurance premiums to cover the threat of lawsuit. Pleasing employees is much more important than it was one-hundred years ago.

A major change described above needs elaboration. That change is the realization by companies that employees are valuable. In order to motivate them to be productive and help make a company profitable they must be given incentives to work hard, provide a quality product, and be loyal to their company. These were not concerns during the Industrial Revolution. Employees worked on products without knowing where the final destination was and employers were focused on speed and productivity, not quality. Workers' relationship to a product was minimal, and no personal care was taken to ensure its quality. There is a shift emerging that dates back to craft production when an apprentice was fully trained to be able to create a quality good that he cared about. This shift has been applied to companies that exist today in a fast-pace, high-tech environment. An example of this shift appeared in the October 17, 1994, issue of Business Week:

When Julia M. Garcia started work at the Frito-Lay Inc. plant in Lubbock, Tex., thirteen years ago, her days were filled with the mundane chore of loading bags of Lay's brand potato chips into cardboard cartons. Like most of her co-workers, she paid little attention to the plant's quality data posted on bulletin boards. And Garcia never thought to question what went on beyond the confines of the packaging department where she worked. Today, three years after the plant introduced work teams, 44-year-old Garcia seems more like one of its managers--
rejecting products that don’t meet quality standards and sending home excess workers if machines shut down.21

Empowerment is the term usually used to described this action that Frito-Lay has incorporated into its work place. It originated from the need to give employees more responsibility so they felt more tied to their work. Craft guilds succeeded in the past because craftsmen wanted to produce quality, they wanted to improve their workmanship, and they desired to become a master. By empowering employees in today’s work force these three wants can be reintroduced to workers. Quality control becomes important, improving current quality is a desire, and promotions are more imaginable. Empowering has found success. In the Lubbock plant where Garcia works:

the number of managers has dropped from 38 to 13 since 1990. The hourly workforce, meanwhile, has grown by over 20%, to about 220. And despite less supervision, the plant has logged double-digit cost cuts and seen its quality jump into the top six of Frito’s 48 U.S. factories, from the bottom 20.22

This is one current method that is being implemented in factories to place greater emphasis and assurance on quality. Companies have used empowerment to overcome a hurdle that was set during the Industrial Revolution.

Consumer Demands

Businesses are also finding that by maintaining a loyal staff of employees they have increased chances of holding on


22Wendy Zellner, p.95.
to customers. Slow to realize this connection, businesses such as banks are noted for high employee turnover. A Fortune article describes the importance of employee-customer connections.

Buyers deal mostly with regular employees rather than with top executives, so employee satisfaction powerfully drives customer loyalty. The link gets ignored by many companies, particularly banks, where teller turnover averages 50% to 100% annually.

The article explains that employees take knowledge of the customer with them when they leave a company. It continues by reasonably presenting the benefits to striving to keep employees.

The loop is logical and complete. Loyal customers keep coming back. Costs decline because marketers need not scrape for new prospects. Employee retention increases as the pride in serving customers swells.\(^{23}\)

Employers, employees, and customers gain when companies expend more energy to maintain valuable employees. Lowered turnover and increased loyalty are desirable outcomes for firms that recognize the importance of employee-customer relations.

While factories have made changes like those described above, they have also automated some tedious tasks that in the past were performed by laborers. Employment in our workforce has shifted from manufacturing to service. Service is a means by which producers can meet consumers' demand for quality and diversity. An article appeared in Fortune magazine which

stressed that service has become a major factor in the economy. It suggested that many people are still caught in the mind set of the Industrial Revolution that production is the most important aspect of business. The article also states that service jobs allow creativity and expressiveness of individuals. These were valued by individuals in the Arts and Crafts Movement who saw individuality being stifled through work that was conducted during the Industrial Revolution. Regarding the growth of the service industry, Fortune states:

They [service jobs] now generate 74% of gross domestic product, account for 79% of all jobs,...The demand for services will remain strong. The Bureau of Labor Statistics expects service occupations to be responsible for all net job growth through the year 2005....

These statistics shed light on the direction that the economy will be taking for several years. It is anticipated that service will continue to be an important revenue source. Therefore, companies will be putting more energy into improving their service to keep up with other firms.

Another direction that consumer demands have tended toward is the desire for diversity. It is argued that as incomes rise the quality and diversity demanded by those with greater purchasing power become greater. In a work titled The Second Industrial Divide its two authors explain how this trend occurs:

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The most sophisticated argument in favor of a long-term diversification of taste rests on the notion of a hierarchy of needs and wants. So long as incomes are low—this argument goes—consumers satisfy their fundamental needs for food, clothing, and shelter by purchasing the cheapest available goods, which are mass-produced. But as incomes rise, consumers can express in the market more refined wants, for more specialized goods, whose satisfaction was previously unaffordable. In this view, mass markets are a consequence of a low standard of living, and the rise of the latter contributed to the stagnation of the former.\(^2\)

The view that Piore and Sabel present provides an explanation for shifts in consumer demands. As wages increase and purchasing power rises, customers want higher quality and diversity. Glancing back at the ideals of individuals such as William Morris and Burne-Jones, this view supports their advocation of quality and diversity in products. These individuals thought that the factories turned out inferior products using the cheapest means of production. According to this explanation for the movement away from standardized products their ideas were true. According to this section of The Second Industrial Divide consumers will settle for mass-produced products but will typically choose higher quality, unique products if they are affordable.

This idea proposed in The Second Industrial Divide helps explain the increasing appearance of specialty goods such as gourmet coffee roasted locally, micro-brews and imported beers, hand-woven sweaters, pottery, and other crafts. Customers will consume what they can afford. If their ability

to purchase higher quality products is increased the higher quality products will be consumed. The increased purchases of specialized products allows a larger market for these products thereby to form. This helps explain the popularity of specialty shops, import markets, and craft shows.

In order to meet consumer demands, firms are gathering market research. The goal is to determine customer desires and meet them efficiently with exceptional service. Meeting this goal has forced companies to take some innovative steps to be more responsive to customers. Fortune magazine describes an approach used by firms to specialize their products to meet demands.

The one person/one product approach--mass customization--is a customer service trend that is gaining speed everywhere. Jennifer Brotman, a senior vice president at the Boston consulting firm Forum Corp., says, "The trend is that customers want it the way they want it, and the companies that figure out how to do that will take the lead in the next century."

Mass customization will include far more products than the ones you'd expect to be tailored for use, such as cars, bicycles, computers, and financial services.

The article continues with John Myser's description of his experience as a vice president at 3M:

"We've been shipping out truckloads of 100-sheet Post-it note pads to Wal-Mart for years, even though their customers may only need 42 or 67 sheets. Now," Myser acknowledges, "Citizen Customer says, I don't want it the way you give it to me. I want to be free to choose." 26

To respond to this dilemma, 3M has decided to meet the customer's wants by customizing products to their desires.

The idea of mass-customization shifts away from the way factories of the Industrial Revolution made production decisions. Firms of the past produced with the expectation that their product would be consumed. Customers did not have numerous substitutes available like they do today. Now if a customer wants something bad enough, the chances are the customer can find a way to get it.

Not only have employees become more valuable in recent years, so have customers. With competition in virtually all areas of production and service, companies are left to solve their production problems and determine how they can keep their customers. The solutions that firms have chosen are practices not found during the Industrial Revolution. These solutions put greater emphasis on employees, customers, quality, and reducing the monotony of factory work. All of these qualities were missing in the factories that individuals in the Arts and Crafts Movement criticized.

Pollution

Another criticism of factories found in the Arts and Crafts Movement is the lack of environmental concern that owners of plants expressed. Environmental problems have developed because there have been excessive emissions from factories. As these emissions have depleted the ozone, reduced air quality, and polluted the water, concern has risen. The institution of the Environmental Protection Agency and The Clean Air Act of 1990 are two outgrowths of this
concern. When John Ruskin discussed pollution in his letters to the public, he encouraged people to end factory production to save their natural resources. In 1995 there is no real way to turn back like Ruskin advocated. However, there are efforts being made to control and reduce pollution caused by manufacturing plants.

The Clean Air Act of 1990 allowed the Chicago Board of Trade to establish a market for pollution rights. The amount of pollution a geographical area can handle is determined, then divided into amounts that serve as rights for plants to emit. A plant may purchase its necessary pollution rights to continue production or must reduce its emissions. The method encourages plants to lower emission levels to reduce the cost of purchasing pollution rights. The pollution rights are available for any person/group desiring to invest in them. For example, an environmental group could buy up the rights, therefore reducing the overall pollution allowed.

While this method does not stop the emission of pollutants, it does offer incentive for companies to reduce their impact on the atmosphere. It also enables environmental groups to practice some degree of control over the emissions available for sale. John Ruskin would likely encourage this market because not only does give incentive to companies, it gives citizens power. They have the option to better the environment by purchasing pollution rights. In the 1800’s the public was encouraged to end factory production. While this
is not a reasonable consideration for our civilization, society must still determine the best ways to care for its natural resources. Improvements have occurred and will continue to occur as long as people recognize that these man-made pollutants that began deteriorating the air, land, and water during the Industrial Revolution are serious threats that can continually be reduced.
Chapter VI

Conclusion

Many changes have been made in our society and work place and are continuing to occur. If this thesis were examined five years from now there would be a wealth of new changes that have not yet been explored. However, in 1995 one can see methods of production shifting away from those instituted during the Industrial Revolution. Techniques have been developed to eliminate the monotony of assembly line production. Demands for quality and consumer tastes have affected the way companies operate. Greater value has been placed on employees in efforts to achieve quality and to create loyalty in the work place. The employees of the eighteenth and nineteenth centuries were not valued by many companies this way. There are also great efforts to meet consumer demands in society today. This was not an issue to factory owners during the Industrial Revolution. Finally, many attempts are being made to reduce the pollution that factories cause. These attempts have met with success and society is continuing to find ways to better the environment. Again, the regulations that companies must meet today were no concern to most of the polluting plants of the past.

The Industrial Revolution took huge strides that allowed many products to be available to more people. Although it had many achievements, the Industrial Revolution also had negative consequences that are being dealt with today. Individuals
expressed their concerns during the Arts and Crafts Movement opposed to the Industrial Revolution. Their criticisms of factories and concern for workers and the environment have evolved into today’s work place. Our society can not reject factory production because it has become a vital part of our existence. While today’s companies have incorporated some ideas that were important during the Arts and Crafts Movement, they cannot fully adopt the philosophies of individuals such as Marx, Ruskin, and Morris. In order to find common ground between these past movements, factories must accept the challenge of utilizing the benefits that each movement offered to improve consistently the work environment.
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