

The Rise and Fall of Management

A Brief History of Practice, Theory
and Context

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Industrialization and Management Responsibilities

Industrialization began in England but spread quickly through Europe and to America. The textile industries were at the forefront of the process and the first to establish factory units employing large numbers of people in the same plant. Other industries quickly followed. Metal working, brick making and coal getting were already beginning to expand by the mid-eighteenth century, establishing small factories and workshops which were rapidly to grow in scale following the precedent set in textiles. Industrialization quickly extended beyond the subsistence industries related to food, shelter and clothing.

Smith's pin factory bore little resemblance to these industrial factories. It made little use of capital equipment and none of power-driven machinery. There was no requirement for the essential discipline of factory working, only some recognition of the mind-deadening effects of the simple repetitive tasks defined by the division of labour.

Smith set out his theory of industry ahead of the practice being established, unaware of the unforeseen consequences of industrialization: its misery and despair. For him, the inevitable inequalities were largely theoretical and necessarily justified by theoretical argument. Succeeding generations of economic theorists saw the negative impacts of industrialization as well as the positive, and were in a position to develop a means of offsetting the one against the other. However, their general approach was less progressive than Smith's advocacy of redistributive taxation.

Those responsible for industrial management were in a position to implement the industrial process with fairness and justice even if many failed to do so, at least initially. By mid to late nineteenth century, when management became recognized as an autonomous category, their practice had improved

for the benefit of employees, customers, suppliers and the local community as well as shareholders.

The Industrial Factory System

The first industrial-scale textile factory, a silk mill, had been built by John Lombe in Derby, England, in 1717. A smaller mill had been built earlier by Thomas Cotchett of Mickleover, perhaps the first germ of the industrial revolution, but Cotchett's machinery could not achieve consistent quality of thread and his mill never developed into a major employer. Lombe, who had worked for Cotchett, had illicitly taken drawings of some successful Italian silk machinery for winding, twisting and doubling fine raw silk and he built twelve such machines in the Derby factory. He was the first of many textile machinery 'inventors' accused of stealing their ideas for which his brother, Thomas, later obtained patents. Lombe predated Arkwright by almost 50 years though literature accords Arkwright the accolade 'father of the factory system', possibly because of the greater importance of the cotton industry in the subsequent industrial revolution. During that fifty-year period the great infrastructural projects were forging ahead, devising new ways of raising capital and managing large-scale employment. Arkwright had the benefit of that prior experience, but it was Lombe who really pioneered the factory system.

The Derby mill employed around 300 people working at machines driven by a seven-metre diameter water wheel turned by the River Derwent. No such 'manufactory' had ever been built before. To be first required some innovative and courageous commitments. The power of water wheels to drive large numbers of machines was well understood. Such power could not be exploited driving domestic machinery sited in cottages spread around the area. Bringing them all together on one site would clearly enable water power to be used efficiently. Lombe had to confront various problems of management: he needed to estimate the costs involved in this new sort of building, in equipping it with the newly devised machinery, estimating how long it would take before it could be brought into production, raising the necessary funds to support the development, recruiting the necessary skilled workers, training the others, investigating the market opportunities in terms of volume and price and making some estimates of the eventual profitability of the enterprise and therefore the scale and probability of a return on the funds invested.

The project was revolutionary. If it had failed Lombe would have been finished. But he got it right, as Defoe later noted:

*'One hand will twist as much silk as before could be done by fifty and that in a finer and better manner.'*¹

The silk mill was a success and others followed in England as well as overseas in Europe and America. It is unclear why the son of a Norfolk weaver and merchant should have foreseen the potential for this new enterprise. Perhaps the basic economics were so overwhelmingly favourable that had Lombe not done it when he did, then someone else would very soon afterwards have done so on the basis of the most crude calculations.

If that were so, the case for building Arkwright's cotton mill in Cromford, some 25 miles north of Lombe's silk mill, was even more timely. The agricultural surplus was already achieved and development of the internal transport infrastructure, canals and turnpikes, was well underway by 1771 when Arkwright's first mill opened. Unlike silk, cotton was in practically limitless supply from America, already being shipped into Liverpool from where it could be brought to Cromford in Derbyshire initially by packhorse but planned shortly to utilize the new canal system.

Arkwright equipped his cotton-spinning mill with newly invented machinery, in his case the water-frame spinning machine, which in effect mass-produced cotton thread. The true provenance of the water frame is in doubt; Arkwright, Samuel Crompton and Thomas Highs probably all contributed but Arkwright gained the patent and made the effective modifications to bring the machine to production performance. Compared to domestic spinning wheels, the output of standard thread was revolutionary in terms of both quantity and consistent quality.

But Arkwright, like Lombe before him, had more to contend with than the simple matter of invention and innovation. To raise the finance to build the first large-scale cotton mill he had to estimate the capital cost of building and equipping the mill, forecast the amount of cotton thread he could sell at the price he estimated he could afford as well as how much he could produce at the cost for which he could produce it, under market conditions substantially influenced by his proposed new factory system. His estimations must have

1 Defoe, D., (1722), *A Tour Through England and Wales*, Vol. 2, J.M. Dent & Sons Ltd, Everyman edition published in 1928.

been that the cost reductions from mass-producing would create new mass markets for cotton textile justifying the cost of building and equipping the new mill. Similar issues were faced 150 years later by Henry Ford planning the mass-production of his Model T. Arkwright also faced problems of location – there were no people in the areas where climatic conditions were most suitable, so he had to build a company village to accommodate his workers.

Having no money himself, he had to borrow what he could and also persuade those with money to invest in his hair-raising scheme. Arkwright's problem was not merely the formulation of his plan, though given its ground-breaking nature that was problem enough. He also had to deal with what is now recognized as the much greater problem of implementation: developing new machines, getting them to work efficiently, building the mill, recruiting and housing the people, sourcing the raw materials and finding new markets for finished product.

Whether Arkwright was an inventor is in doubt, but certainly he was an innovator, bringing inventions to commercial fruition and innovating new ways of doing things. Water power made it feasible to use large-scale machinery rather than simple manually operated domestic equipment, and technological developments revolutionized the productivity and output of machines. The dealers, manufacturers, entrepreneurs and newly enriched land owners had progressively accumulated surplus profits to invest in these new capital projects. With water power it was as cheap to drive a bank of large-scale machines as to drive a single machine and so factories were built in which large numbers of people were employed. In a few short years the scale and nature of business organization had been changed forever.

Arkwright's forecasting and planning, no matter how informal or crude, are nevertheless apparent in his building the Cromford mill. Having had his initial projections confirmed or, more likely, far exceeded, he moved quickly to replicate that success. Within a few short years he and his partner, Strutt, had built more than a dozen much bigger mills employing many times the 300-strong original workforce, using hundreds of machines initially driven by waterpower and then by Watt's greatly improved rotary drive steam engine, and creating whole new communities and mill towns, as well as the infrastructure to move bulk materials. His success was quickly copied by many others across Britain, Europe and America.

Arkwright's main legacy, the factory system, gave the employer control over the product and the means and cost of production as well as the organization

and command of labour in one specialized workplace. Under the domestic system, though their hours were long and their pay extremely poor, workers had some control over when they worked and when they took breaks. With the factories came the necessity for rules and regulations. The machinery would necessarily all start and finish working at the same time, so times were set each day and workers began to be subservient to machines.

Moreover, there had to be rules which achieved consistency in the quality of work produced. There had to be at least some rudimentary rules related to the safety of working. And there had to be people responsible for seeing the rules were obeyed. Arkwright's organization and co-ordination in the first mill are apparent in the way the mill was designed not only as to its internal specialized departments but also the physical disposition of his own house from where he had a clear view overlooking the mill's main entrance and mill-yard and from where it was surmised he exercised a high degree of command and control.

In addition, with the creation of the factories the nature of the work itself changed. The new steam power-driven machinery resulted in new jobs being created. Traditional highly skilled work was replaced by semi-skilled jobs and an ever increasing number of unskilled jobs. Each generation of new machinery removed the requirement for some element of personal skill by the operator and progressively even craft work became de-skilled. Unskilled labour, often largely concerned with moving material from one work place to the next, involved large numbers of people.

Arkwright himself appears to have been a relatively enlightened employer, providing his workers with good quality housing, allotments and other facilities and in return his workforce showed some loyalty, standing by to defend the mill against the threat from Luddite machine breakers. But there were many employers who were less benign, whose workforces were more exploited and abused.

Arkwright has been adjudged by more recent commentators. Mantoux characterized him as:

*'neither an engineer, nor a merchant, but adding to the main characteristic of both, qualifications peculiar to himself: those of a founder of great concerns, an organiser of production and a leader of men.'*²

2 Mantoux, P., (1961), *The Industrial Revolution in the Eighteenth Century*, London: Jonathan Cape, p. 233.

And to a historian of management theory, his factory system innovated

'continuous production, plant site planning, co-ordination of machines, materials, men and capital, factory discipline, and division of labour'.³

The factory system saw the establishment of semi-autonomous manufacturing 'states' where the employer's power was more or less absolute. The rights and duties of employers and employees had been established in Tudor times but from the early nineteenth century until 1875, as employment relations became increasingly defined by contract, the main impact of the law was to allow for enforcement of employment contracts, with imprisonment for workers' breach of contract. Under such circumstances the industrialist, acting from pure self-interest, could abuse his position of power and mercilessly exploit those less powerful, the workers, who enjoyed no legal protection for acting in concert, in combinations, till the Trade Union Act of 1871. Exploitation of labour became the rule, including women and children. It was 1847 before the Ten Hours Act, for example, protected them from being forced to work all daylight hours.

Moreover, the employer had the personal right to hire and fire any of his employees at any time for any reason. And for the worker the worst of all situations was to be unemployed without income or relief of any kind. For them life was precarious with starvation a continuous and very real threat. The young Friedrich Engels, son of a German textiles magnate, who was sent to England for work experience, recorded that:

'During my residence in England at least twenty or thirty persons have died of simple starvation under the most revolting circumstances, and a jury has rarely been found possessed of the courage to speak the plain truth in the matter. Let the testimony of the witnesses be never so clear and unequivocal, the bourgeoisie from which the jury is selected, always find some back door through which to escape the frightful verdict, death from starvation. The bourgeoisie dare not speak the truth in these cases, for it would speak its own condemnation.'⁴

3 George, C.S., (1968), *The History of Management Thought*, Englewood Cliffs, New Jersey: Prentice Hall, p. 52.

4 Engels, F., (1844), *The Condition of the Working Class in England*, republished in 1969 by Panther Books with an introduction by Eric Hobsbawm, p. 59. Reference page numbers for this text refer to the Panther Books edition.

Acceptance of this extreme of inequality stabilized the industrial system and kept the wages of the employed sufficiently low that capital could be further accumulated by those who needed it least and could therefore afford to invest it in further development.

Outcomes from Industrialization

The speed with which industrialization took off was remarkable, rightly earning the label 'revolution'. The British cotton industry, for example, imported 4,760,000lb of raw cotton in 1771, a figure which had been roughly stable for decades. Over the next 30 years, imports multiplied more than 12 times to 60,500,000lb.

Such growth was not restricted to cotton. And it was clearly not just a blip, but the start of a fundamentally different way of life. It created concentrations of working people in the new industrial towns located adjacent to the main deposits of coal. Despite the rapid growth of population their standard of living, after several decades of ups and downs, progressively improved so that the lasting result was one of advance for all, apart perhaps from the unemployed underclass which was largely ignored till the later decades of the nineteenth century.

Whole industries were adopting the factory system, not just individual entrepreneurs. The woollen industry, silk, cotton, coal, iron and transportation, all experienced the same massive growth from adopting industrial-scale operations and the technological innovations that industrialization enabled. Also trade which had traditionally been localized round mainly small market towns, was opened up to whole regions and to export and import. And the capital accumulation which was required to finance this explosion gave rise to a revolution in banking which in effect enabled the creation of new money for further investment. Simultaneously the development of joint stock companies facilitated wider corporate ownership than was previously available.

The inequality between employer and employee was repeated throughout the economy. Inequity, sometimes imposed by exploitative and abusive employers, was endemic, if not absolutely essential, to the industrial system.

Rural populations, rendered landless and unemployed by the changes in agriculture, migrated to the new mill towns which provided the desperately

needed employment. But there were other consequences. As work became further specialized and deskilled the workers suffered, as Smith had suggested they would, from the dehumanized work and became, though he didn't use the word, alienated. It was the start of the process which much later was depicted in the Charlie Chaplin film 'Modern Times' showing the dehumanized work on the mass production line.

The factories became places of hardship and despair, exploiting women and children through the imposition of long hours, low wages, and often dangerous working conditions. Working hours were typically from dawn to dusk, six days per week. Wages were set at a level such that entire families, father, mother and children, had to work in order that the family might survive at a bare subsistence level. Even Arkwright's relatively enlightened partner, Strutt, employed children. In 1774 he told a committee of the House of Commons that he employed children from the age of seven but preferred them to be over ten. He criticized those employers who took children as soon as they were 'able to crawl'.

An empirical account of early English industrial working life in the first half of the nineteenth century was provided by Engels. He graphically recorded the appalling life experiences in the new industrial towns and the horrendous living and working conditions in the mills, foundries and factories. The following are extracted from his study of *The Condition of the Working Class in England*:

'On the occasion of an inquest held November 14th 1843, by Mr Carter, coroner for Surrey, upon the body of Ann Galway, aged 45 years, the newspapers related the following particulars concerning the deceased: She had lived ... with her husband and nineteen year old son in a little room, in which neither bedstead nor any other furniture was to be seen. She lay dead beside her son upon a heap of feathers which were scattered over her almost naked body, there being neither sheet nor coverlet. The feathers stuck so fast over the whole body that the physician could not examine the corpse till it was cleansed, and then found it starved and scarred from the bites of vermin. Part of the floor of the room was torn up, and the hole used by the family as a privy.' (p. 63)

'... the filth, debris, and offal heaps and the pools in the streets are common to both quarters, and in the district now under discussion, another feature most injurious to the cleanliness of the inhabitants, is the multitude of pigs walking about in all the alleys, rooting into the

offal heaps, or kept imprisoned in small pens. Here, as in most of the working-men's quarters of Manchester, the pork raisers rent the courts and build pig pens in them. In almost every court one or even several such pens may be found, into which the inhabitants of the court throw all refuse and offal, whence the swine grow fat; and the atmosphere, confined on all four sides, is utterly corrupted by putrefying animal and vegetable substances. ... on rereading my description, I am forced to admit that instead of being exaggerated, it is far from black enough to convey a true impression of the filth, ruin, and uninhabitableness, the defiance of all considerations of cleanliness, ventilation and health which characterise the construction of this single district, containing at least twenty to thirty thousand inhabitants.' (p. 86)

'On Monday, January 15th 1844, two boys were brought before the police magistrate because, being in a starving condition they had stolen and immediately devoured a half cooked calf's foot from a shop. The magistrate felt called upon to investigate the case further, and received the following details from the policeman: the mother of the two boys was the widow of an ex-soldier, afterwards policeman, who had had a very hard time since the death of her husband, to provide for her nine children. ... When the policeman came to her he found her with six of her children literally huddled together in a little back room, with no furniture but two old rush-bottom chairs with the seats gone, a small table with two legs broken, a broken cup and a small dish. ... The poor woman told him she had been forced to sell her bedstead the year before to buy food. Her bedding she had pawned with the victualler for food. In short everything had gone for food.' (p. 63/4)

Engels made early use of the official blue book statistics and reliable secondary sources as well as his own observations. But the outcomes he described were not permanent. His own preface to the 1892 English edition of his book included the following:

'... the repeated visitations of cholera, typhus, small-pox, and other epidemics have shown the British bourgeois the urgent necessity of sanitation in his towns and cities, if he wishes to save himself and family from falling victims to such diseases. Accordingly, the most crying abuses described in this book have either disappeared or have been made less conspicuous...'

Engels clearly implied that such improvements by the 'bourgeois' were not made from any concern for their fellow humans, but purely for their own preservation as would be the case if they were conforming to classical economic theory. Working conditions were also progressively improved, hours reduced and the very worst exploitations largely eliminated. The suggestion was frequently offered that such improvements were made in order to achieve the higher productivity that could be obtained from a healthy workforce. Such interpretations of motive are irrelevant to the economic case. In the early years of industrialization conditions were appalling and inhuman and later they were improved. Whether the original conditions resulted from a conspiracy of employers to exploit their workers or whether it was ignorance of how industrialization would develop without intervention must remain conjecture. Undoubtedly there were mercilessly exploitative employers and there were also some who were more benign and enlightened. There is no universal truth.

It is clear that the employers who were rapidly, like Arkwright, becoming themselves owners of capital, increasingly seen by government as the source of new national wealth, were gaining political power and influence. By contrast, the workers had no political power. When they tried to organize into the first labour unions, they were often outlawed by fearful governments actively supporting the ever increasing inequality. This aggravation was the seed bed of English socialism and the reform movement which later was to focus on the achievement of universal suffrage.

Accounting for Profit and Capital

The focus of much discontent has been on the concepts of profit and capital, both of which warrant some consideration. For some, profit is what has been sequestered from labour's rightful wage and set aside to be accumulated as capital. Profit and capital are sometimes dealt with by theoreticians as though the terms are unambiguous, clear and simple, but their meaning is not without complication. Both profit and capital are published in a company's accounting schedules, the balance sheet and the profit and loss account, and their calculation has long been required to be true and fair, with their truth and fairness audited by professionally qualified third parties. They nevertheless both involve matters of judgment in their valuation and are by no means as clinically precise as they might on the surface appear.

The purpose of the accounting schedules is to provide a public account of management's stewardship of the company over the previous year. The balance sheet provides a picture of the company's net worth – what it owns less what it owes – at the end of the year, while the profit and loss shows how much surplus the company made during the year and how that surplus has been deployed.

Profit is a term which appears several times on the profit and loss account schedule. There is a calculation of profit which is the surplus of the firm's sales revenue less the direct costs of making those items sold. By direct costs is meant the cost of materials and wages involved in production. That calculation is referred to as gross profit. There are other expenses which have to be paid, items which are not attributable directly to production, such things as the rent and rates of buildings, the wear and tear on machinery, and the costs of administration, sales staff, office staff and management. The remaining amount, the net profit, has to cover the interest to be paid on borrowings, the tax to be paid on any profits earned, and the dividends which are paid to shareholders. The remaining amount, if there is any, is the profit which is retained and reinvested in the company.

It is not easy to identify in the above what Ricardo identified as the profit which is the surplus sequestered from labour's wages. Out of the items referred to, dividends are the only items which are not bound to be paid and which do not explicitly and directly contribute to the company's financial strength and viability. Yet if dividends were to be reduced the value of the company's shares may well be affected and the future security of the company threatened and along with it the livelihood of workers. Similar considerations would apply if retained profit were reduced in order to increase wages.

Capital is the other concept which needs some consideration. For some, capital is regarded as simply the accumulation of whatever has been stolen over the years from labour. But the balance sheet has a more objective perspective, though not completely so. Capital appears on the balance sheet in two forms. Firstly, it is the amount of money originally put into the business and subsequently accumulated from its operations. Secondly, capital is also shown on the balance sheet as the assets which have been acquired by the business to make its operations more productive and efficient, such items as specialized machinery and equipment. These are the capital assets on which industrialization depends. They were traditionally separated into two categories: land and buildings, which tended not to lose their value and to

wear out only slowly, and plant and machinery, which tended to wear out more quickly. Latterly motor vehicles were added as a separate, even more rapidly wearing category, of 'fixed' capital.

There seems to be little ambiguity in such items and little to cause discontent. Such capital items are essential to industry and there is nothing inherent in them which denotes any particular form of ownership or the means by which ownership has been achieved.

The valuation of such capital items, particularly land and buildings, can be problematic. Far from wearing out, property, over the long term, has substantially appreciated in value, and for many companies its valuation has been critical to the overall value of the company. Moreover, it is perfectly possible within the law for the value of such assets to be understated, or overstated, inadvertently or deliberately, and this can be of critical importance, especially in situations of merger and acquisition.

The company owns the assets already referred to plus it may also own cash and other quickly realizable assets as well as raw materials and consumable items and it may be owed money by its customers. These are its current assets. And the firm will probably owe money to its suppliers, its current liabilities. Current assets less current liabilities are referred to as working capital.

The total net value of all these assets, fixed and working capital, is 'balanced' by the sources of its long-term funding. These sources include the money its shareholders contributed originally when the company was formed and the value they have since accumulated as a result of the company's operations, plus any money borrowed on a long-term basis. The providers of this debt are paid a fixed amount of interest each year irrespective of how well the company has performed, while the shareholders receive a dividend which may vary according to how profitable the company has been. Loan stock therefore carries the lesser risk, and is normally given preferential treatment in the event of the firm being wound up. Shareholders, on the other hand, accept a higher level of risk; if the firm performs badly they may receive no dividend and the value of their shares may fall substantially and if the firm is bankrupt they may lose the whole of their original investment.

This broadly is how industrialization was financed from the beginning and how the great enabling infrastructural projects, the turnpikes and canals, were also financed. There is nothing inherent to the system of capital ownership

which determines the nature or motivation of capital owners. They are many and various. Some may be idealists bent on supporting the purpose of the company, others may be other firms, they may be small investors who have put their meagre savings into a company they admire, or they may be super-rich individuals seeking to maximize their take. Today, among the biggest shareholders are the pension funds and other financial institutions which achieve their investing power from, and discharge their management responsibilities to, a wide spread of relatively small members and investors.

Even from this brief review it is clear that the treatment of profit and capital in economic theory is somewhat simplified. An economic theory, such as the labour theory of value, suggested that a proportion of profit earned by labour was not paid to them and must therefore be regarded as stolen from them. This wrong, if such it is, should surely be righted, but it is not at all clear how this can be done in practice. What proportion of profit could be identified as stolen wage? And is it part of the profit distributed to shareholders, or is it part of the profit retained within the company, i.e. its capital? If it is to be taken back from shareholders it would mean reducing or eliminating dividend payments, but this would immediately impact on the share price. And if that fell, would the company become vulnerable to take-over and would that be in the best interests of the employees? Or if it is to be taken from retained profit, how could that be realized without selling off some part of the company with similarly dubious impacts on employees? Decisions would then have to be taken as to how to reduce investment in the company's future development and would that be in the employee's best interests?

Economic theory appears to sidestep practical realities. But these investment and distribution decisions cannot be sidestepped by the management responsible.

Management, Labour and Capital

The remuneration of labour is one important aspect of the relationship between management and labour, but it is by no means the whole story. It is a personal relationship between parties with unequal power. Such conspicuous inequality invited correction by enlightened employers and considerable attention was paid to their efforts, which were exemplified by local acts of paternalism. David Dale was one such relatively enlightened employer. He set up textile mills at New Lanark outside Glasgow and

employed Glaswegian orphans who he accommodated in his mill village. No doubt their lot was improved but they still worked thirteen-hour days for six days a week till hours were somewhat reduced when the plant was taken over by Robert Owen.

Owen had seen the grim environment in fast industrializing Manchester: bad housing, bad factory conditions, labour exploitation, cyclical unemployment and gross poverty. His meteoric rise commenced at the age of 20 when he managed a mill employing 500. At 25 he became managing partner of Chorlton Twist Co which in 1799 took over the New Lanark Mills from Dale. There he established a benign, if paternalistic, company culture which was at the same time commercially profitable.

Owen himself put his success down to a unique understanding of working people:

*'(I) produced such effects over the workpeople in the factory in the first six months of my management, that I had the most complete influence over them, and their order and discipline exceeded that of any other in or near Manchester; and for regularity and sobriety they were an example which none could then imitate.'*⁵

Though allowance must be made for the different language of that era, this nevertheless sounds as though it might be dangerously self-deluding. Some put such statements down to Owen's undoubted intellectual insecurity. However, it was not mere talk. Owen took various practical initiatives in relation to the New Lanark workforce. For example, at that time it was common practice for employers to pay wages at least in part in the form of tokens exchangeable only at the company shop where prices were kept artificially high and quality low. But Owen's New Lanark shop sold high quality goods at little more than cost and he passed on the savings from bulk purchases to the workers, which idea later formed the basis of the co-operative movement. Under Owen the New Lanark village was much the same as under Dale except that there were some new public initiatives, such as the school and playground as well as the company shop. Alcohol was limited in supply with neighbouring sources progressively closed down, and higher standards of hygiene were generally enforced.

5 Owen, R., (1857), *Life of Robert Owen Written by Himself*, London edition to which page numbers refer, p. 42.

Owen's most notable innovation was in worker education, especially of the young, and he established the company school to provide free education for employees and their children.

In the preamble to his articles which comprised *A New View of Society* Owen wrote:

'To the superintendents of manufactories, and to those individuals generally, who, by giving employment to an aggregated population, may easily adopt the means to form the sentiments and manners of such a population.

Like you, I am a manufacturer for pecuniary profit, but having for many years acted on principles the reverse in many respects of those in which you have been instructed, and having found my procedure beneficial to others and to myself, even in a pecuniary point of view, I am anxious to explain such valuable principles, that you and those under your influence may equally partake of their advantages.'

Owen was motivated to make a profit by fair means. He was not driven by any religious conviction which he energetically rejected. The principles he referred to were based on the idea that a person's character is formed by the effects of environment. Education was therefore central to the formation of a rational and benign human being. The educator should therefore provide a benevolent environment, in which a child could develop; corporal punishment was prohibited and child labour limited.

Owen's management approach was shaped 150 years before McGregor's Theory Y assertion that:

*'the limits on human collaboration in the organizational setting are not limits of human nature but of management's ingenuity in discovering how to realize the potential represented by its human resources.'*⁶

He was successful at New Lanark. Clearly the mills had to be viable as businesses in a competitive world, but he demonstrated that management, which was enlightened from the point of view of workers, could also be successful from a business point of view. The way the company shop operated

6 McGregor, D., (1960), *The Human Side of Enterprise*, Tokyo: McGraw Hill Kogakusha, International Student Edition, p. 48.

helped to raise real wages. And the infant school enabled mothers to return to work when their children reached the age of one year. The operation created its own self-perpetuating momentum.

But he was not a life-time manager. His report to the County of Lanark, though informed by his experience at the industrial village, was focused on social development rather than management and industry.

His 'new view of society' was in effect an attempt to recreate the imagined old English rural society of supposedly contented interdependence, which he took some steps to recreate in the modern industrial society at New Lanark. His subsequent experiments, such as New Harmony, Indiana, were failures.

Many other enlightened employers in the nineteenth century were motivated by religious scruple stirred by the obvious and extreme inequality created by industrialization. Notable among these were many Quakers, successful in starting and developing various businesses, notably in chocolate manufacture, soap, metal industries and retailing. Their approach to management was similar, both in their underlying sympathy and in practical implementation, to Owen's New Lanark model. Many of these were highly successful businesses for many generations, some surviving through to the twenty-first century.

The wealth unleashed by industrialization was orders of magnitude greater than had ever been seen previously and in the main it came into the hands of the entrepreneurs and new industrialists. When Arkwright set up his first large-scale mill it was possible for him to do it without money of his own. For a generation, new factories were established and managed by people without prior wealth. Owen had no money of his own when he set out on his mill management career, yet he was able to make substantial investment in New Lanark and in due course become a relatively wealthy man before retiring as a practitioner.

By the mid-nineteenth century such entrepreneurial innovation and achievement were becoming more difficult. The scale of viable manufacturing operations had grown so that the required investment was beyond the scope of individuals with no funding of their own. By the end of the century, such enterprises were being run by professional managers reporting on their stewardship through an annual general meeting to their increasingly diffuse owners: the shareholders.

Financing industrialization was fundamental to its birth and survival. The land and buildings, tools and equipment and the raw materials and wages all had

to be paid for before the customer paid for the goods they had received. Raising finance as well as its investment and subsequent control were management responsibilities that had to be well understood by the early industrialists.

Responsibility for all these areas of decision were management's, neither as worker nor as owner, but mediated between the two, ensuring at least some minimum level of justice and equity without frustrating the process of economic growth. Perhaps it was inevitable when management's role became explicit, that it be seen by workers merely as the tools of owners, and by owners as individuals interested only in feathering their own nests at the owners' expense. Such suspicion, and denial even of the possibility of higher motives, spring naturally from the ingestion of classical economic theory.