British Industrialisation and Design 1830-1851

Sample cloths attached to The Repository of Arts, Literature, Commerce, Manufactures, Fashion, and Politics (1810). The magazine is one of the earliest of its kind, containing the latest fashion news from high society in London and Paris.

BRITISH INDUSTRIALISATION AND DESIGN 1830-1851: WITH SPECIAL REFERENCE TO PRINTING AND FIGURE-WEAVING IN THE LANCASHIRE AND WEST RIDING TEXTILE INDUSTRIES

BY

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25	art liberal - art libéral
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54	f.n. Journal of - <u>Journal of</u>
55	f.n.35 add ,p.92.
72	John Graham of Stalybridge - Thomas Bull of Manchester
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T. Kusamitsu, 'British Industrialisation and Design 1830-1851: with special Reference to Printing and Figure-Weaving in the Lancashire and West Riding Textile Industries'.

ABSTRACT

The thesis discusses the causes of the failure of the early Victorian textile industries to produce fine designs, and analyses the responses of manufacturers, artisans and critics to the issues raised by the problem. In Part 1 the historical changes of 'key words' such as art, craft, artisan and artist are surveyed. It is suggested that changes in technology and work organisation and the formation of new social classes were mainly responsible for changes in the use of language. Part 2 looks at the labour process: technological changes and their results in the production of design are traced back and aesthetic aspects of the machinery question are analysed. The division of labour, its consequences in the designing process, and the nature of work (child labour in particular) are examined. The workers' defence of their skills and their desire to regain lost skills are also emphasised in the first two Parts: Part 3 then analyses economic, social and cultural aspects of the artistic education that was provided as a remedy for declining artistic standards and workmanship. Industrial exhibitions are discussed in the context of the education of the public in 'taste', as well as of the commercial interests of the manufacturing sectors. Part 4 discusses the market, where the design had become a relatively important part of the value of commodities. Manufacturers' concern with piracy and the protection of design copyright are examined; the interests of pro- and anti-copyright campaigners are discussed in relation to the free trade movement. Finally, the responses of

manufacturers and merchants towards 'fashion' in the market are analysed: it is argued that the arbiters of 'taste' were more likely to be manufacturers and merchants than designers, and that the former did indeed damage the reputation of British design and created a problem which became apparent when other industrial nations caught up with Britain in technological achievement.

For my parents

Gihei and Kimiko Kusamitsu

...I mean that side of art which is, or ought to be, done by the ordinary workman while he is about his ordinary work, and which has got to be called, very properly, Popular Art. This art...no longer exists now, having been killed by commercialism. But from the beginning of man's contest with Nature till the rise of the present capitalistic system, it was alive, and generally flourished. While it lasted, everything made by nature is adorned by man, just as everything made by Nature is adorned by her. The craftsman, as he fashioned the thing he had under his hand, ornamented it so naturally and so entirely without conscious effort, that it is often difficult to distinguish where the mere utilitarian part of his work ended and the ornamental began. Now the origin of this art was the necessity that the workman felt for variety in his work, and though the beauty produced by this desire was a great gift to the world, yet the obtaining variety and pleasure in the work by the workman was a matter of more importance still, for it stamped all labour with the impress of pleasure. All this has now quite disappeared from the work of civilisation. If you wish to have ornament, you may pay specially for it, and the workman is compelled to produce ornament, as he is to produce other wares. He is compelled to pretend happiness in his work, so that the beauty produced by man's hand, which was once a solace in his labour, had now become an extra burden to him, and ornament is now but one of the follies of useless toil, and perhaps not the least irksome of its fetters.

William Morris, Useful Work versus Useless Toil (1885; reprinted in William Morris on Art and Socialism ed. by Holbrook Jackson, 1947), p.188.

C O N T E N T S

PREFACE

This study developed out of my original intention to research into William Blake and his trade, engraving and printing, in the late eighteenth and early nineteenth centuries. My preliminary work revealed materials of great potential interest concerning engravers who worked in industry and the pursuit of this body of craftsmen led naturally to questions concerning industrial design. These in turn led to new questions and to the investigation of fresh material. Nevertheless, the resulting thesis by no means exhausts its subject, many important areas of which remain untouched. Given limited time and resources, however, I shall have to be content with having at least added, I hope, some interesting points to the scholarship of my predecessors.

It would have been impossible for me to complete my research without the efficiency of professional librarians and archivists throughout the country, who helped me to spend such an enjoyable time immersing myself in original source materials and numerous scarce books. I should like to record my deep gratitude to all at the following libraries and archives. In London: the British Library, the British Library of Political and Economic Science, the Public Record Office, the Victoria and Albert Museum, the Science Museum, the National Register of Archives, the Guildhall Library, the Goldsmiths' Library and Senate House Library (University of London), St Bride Printing Library, the Working Men's College Library, the Royal Society of Arts Library, and the London Library. In Manchester: the Manchester Central Library, the John Rylands Library (University of Manchester), the Manchester Polytechnic Library, and the Working Class

Movement Library. In Bolton: the Bolton Metropolitan Borough Archive. In Halifax: the Central Library (Archive Department). In Leeds: the Leeds City Library (Archive Department and Local History Department), and the Brotherton Library (University of Leeds). In Derby: the Derby Central Library (Local History Department). And finally, in Sheffield: the Sheffield City Library (Archive and Local History Department) and the University Library.

It is almost impossible to list the names of all those individuals who have helped me during the last seven years of researching and writing, and the number of friends whose names might appear in this place is ten times the number of those to whom there is space to express my special gratitude. I should like to thank my supervisor, Dr. David Martin, who once my final topic was eventually settled has been sympathetic and encouraging. My warmest and most sincere gratitude also goes to Raphael Samuel, who not only persuaded me to move into an almost terra incognita of social history, but also has given me every possible encouragement. The delightful time I had as a lodger for two and a half years at his charming silk-weavers' house in Spitalfields will be remembered for the rest of my life as one of the most fascinating periods of my stay in this country. I bound myself to him as an apprentice, and the master was exemplary. John Halstead is another friend to whom I cannot fail to express my warmest thanks. He was the first friend I made here, and he has been always enthusiastic about my study. He has read and criticised my thesis at every stage, and without his constructive criticism, it would have been impossible to shape the present form of this study. I should like also to express my thanks to Gervase Rosser for his tremendous help in improving my English. He has shown a great sympathy with and understanding of the subject of my study. Professors Royden Harrison

and Eric Hobsbawm gave me exciting opportunities to present papers to their lively seminars, from which I gained both pleasure and profit. I am grateful to Professor Takao Matsumura who originally suggested that I should come to England to write a Ph D thesis, and who showed me a wonderful example of scholarship and friendship. I am also grateful to the following people who, at the various stages of my research, have given me invaluable help: Maxine Berg, Zoë Munby, Pat Hudson and Professor J.R. Harris. Jason Shenai kindly reproduced all the illustrations for this thesis. I should like to record my debts to the late Professors Kyuzo Asobe and Kinnosuke Otsuka who were both my supervisors at Keio University in Japan. I deeply regret that they are no longer alive to read my work. It is needless for me to say, however, that no one can bear any responsibility for the error or the arguments put forward in this study except myself.

Lastly, but not least, I should like to thank my parents to whom this study is dedicated. Without their understanding, encouragement and generosity, the work could never have been completed, nay, it could not have begun: thank you very much for everything you have given to me.

Highgate,

September, 1982.

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INTRODUCTION

During the second quarter of the nineteenth century, British industrialisation had reached a new phase. The cotton industry which had been a prime mover of the industrial revolution, had undergone a series of mechanical changes in all its processes. The wool textile industry, still representing an important sector of the British economy, also successfully mechanised, with some regional variations, most parts of production processes. Engineering and machine industries, in the meantime, were about to take over from the textile industries the central place in the British economy, and the impact of the railways began to be felt in British social and economic life. The markets of these industries, both domestically and overseas, had widened, an expansion which had in turn stimulated further investment to increase productivity. By the middle of the century a striking expansion of both old and new industries was observed, the results of which were viewed with self-confidence and self-congratulation at the Crystal Palace in 1851. During this period, however, many people began to realise that these changes had brought new problems to their social, economic and cultural lives, which had not hitherto, unless incidentally, been noticed by contemporaries. This awareness of dramatic changes brought by industrialisation was discussed as the "machinery question", a peculiarly nineteenth-century phenomenon. Political economists, trade unionists, capitalists, social reformers and many others participated in the debate on the consequence of this rapid industrialisation.[1]

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1. There is a recent discussion of this theme in Maxine Berg, The Machinery Question and the Making of Political Economy 1815-1848 (Cambridge, 1980).

This period of change had repercussions on both the fine and industrial arts. These arts might be regarded as reflecting the changing images of society, but it was a process that also posed problems for the early nineteenth century artists and craftsmen. This study is an attempt to explore some of the borderlines between the artistic, cultural and economic history of the period by looking at the issues arising from the relationship between art and industry. The changes that took place in this period were decisive in creating the basis for the theory and practice of "industrial arts". The importance of the arts in industry was, for the first time, realised by a wide range of people who took an active part in the discussion of such issues as artistic education, industrial exhibitions and design copyright.

The attempt is, however, not an easy one. The difficulty arising from the kind of study which this thesis tries to undertake is at once clear: there is no comprehensive work on the subject of art and industry from which to start. Although F.D.Klingender published a pioneering book on the subject over thirty years ago, there has been virtually no significant contribution to develop his thought provoking but rather sketchy work.[2] In the last ten years or so a new breed of art historians whose concern is design has emerged. It is, however, lamentably rare to find the looked-for unity in their works. Few design historians try to integrate design in the much wider context of economy and society, and when they havetried the results have not been satisfactory.[3] Unlike the older generation of

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2. F.D.Klingender, Art and the Industrial Revolution (1947; reprinted in 1972, ed. and revised by Arthur Elton). See also a brief but useful discussion on the relationship between art and industry, Herbert Read, Art and Industry: the Principles of Industrial Design (1934).

3. See, for an instance of this failure, The Design Council, Design and Industry: the Effects of Industrialisation and Technical Change on Design (1980).

art historians, such as Sir N. Pevsner, F. Antal and Herbert Read, whose broad perspective and ability to integrate their subjects with neighbouring ones are still stimulating, this younger generation of design historians has not yet offered a methodology with which to approach the social history of industrial design. It is, therefore, necessary for the present writer to gather together and attempt to integrate what seems relevant to the theme of this research from studies in many different disciplines.

It was not only the practice of arts and crafts which was affected by social and economic changes; the associated words were transformed in significant ways in the eighteenth and nineteenth centuries.[4] What artists and craftsmen experienced in those days is in fact indicated by the changing usage and meaning of the words used to define their occupational characters, their skills and their status in society. Thus the word "artists" in the nineteenth century represented a body of people very different from those understood by the term in the eighteenth century. Throughout this study, the term "skill" occupies an important place. Men have developed countless skills according to the materials they have dealt with. Such skills are fundamental to human existence, not just economic but also social and cultural. Skill is, therefore, a crucial component of the labour process, and a material basis of men's social outlook. The word "art", formerly used in the broadest sense, came, during the course of industrialisation, increasingly to represent only a part of the whole. The linguistic changes refer contemporary technological developments and

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4. See Raymond Williams, Culture and Society (Pelican ed., 1963) and Keywords: a Vocabulary of Culture and Society (1976), for discussion of the changing usages of certain words.

the division of labour in the production of goods. These changes broke up the traditional notions of skills. In the artistic departments of industries, which were themselves the creation of these changes, the break up of skills could be observed in a more explicit way. The discussion of language is therefore followed by an analysis of the labour process in the textile industries during the period of advancing technological and organisational changes.

Although this study focuses on the textile industries, especially on figure-weaving in the West Riding and calico-printing in Lancashire, the response to the machinery question by critics of industrial designs had universal characteristics. Such trade as those in metal, jewellery, ceramics and wood-carving, all presented the same problems, when faced with industrialisation, as did the textile industries. The partial realisation of the effects of industrialisation on design came from the comparison which was repeatedly drawn between British and foreign designs, the former constantly being criticised as inferior to the latter. Because British industrialisation came first, and was so extensive, the relation between industrial design on the one hand, and the development of machines and the organisation of labour on the other, was first seriously considered by the British. (The loss of unity in arts and crafts had, however, been observed by philosophers on the Continent in the eighteenth century.) Many critics directly blamed mechanisation and the division of labour for the degradation of the standard of British design. At the same time the majority of manufacturers were concerned to vindicate their enthusiasm for mechanisation and the concomitant expansion of markets. Industrialisation, however, did indeed bring about serious problems in the production

of design, and the debate on the machinery question, with regard to industrial design, provides rich examples. The division and sub-division of labour, which were created partly by organisational changes and partly by mechanisation, produced numerous workers hitherto unseen in the workshop. Those who produced designs in industry, like other workers, were subjected to the pressure of increasingly labour intensive production. Designers, for instance, though higher wage earners than many, had to submit to the guidance of their employers, having lost control over their erstwhile raison d'etre, their ability to create new patterns. Children who were, as one calico-printer explained, an indispensable part of the machinery, were also victims of the system.

Ever expanding markets and the pressure of competition deterred most manufacturers from advancing high quality designs. The growth of the British economy, especially of its consumer goods, depended on the production of low to medium range goods which the mass market at home and abroad was mainly constituted. Mechanisation developed along lines perfectly suited to the production of goods directed towards these markets. Manufacturers were satisfied by the achievements of mechanical excellence and the consequent cheapness of their products, and ignored the care necessary for the creation of the beautiful. Most of them were content to obtain patterns from more artistically advanced countries, such as France and Germany. Designers, as a result, became mere imitators and copyists; the craftsmen who worked in artistic departments in production now had no knowledge of the mystery of designing.

Art education in Britain emerged against this background. By the 1830s, in parallel with the completion of basic mechanisation in the finishing processes of many industries, some contemporaries became aware

of the poverty of British designs and of the workers who produced them. They argued that, while the separation of designing and making was necessary for higher productivity, this brought down the quality of patterns and of their execution. Design education was introduced to remedy this recognised shortcoming of industrialisation. Workers themselves consciously wished to regain their lost skills, and manufacturers desired to obtain cheaper, but equally good designs from British, rather than foreign designers. They also wanted to train British artisans to prevent original designs being spoiled by inferior workmanship. The industrial exhibitions which culminated in 1851 had their origin, in Britain at least, in artistic and technical education. Exhibitions were originally conceived as a means to diffuse taste to the public and to the workers by the display of exemplary specimen products and machines.

The history of art and industry in the context of the machinery question reveals another characteristic of industrialisation, to wit, piracy. This practice was widespread and played a considerable part in the manufacture of consumer goods in the British economy. When the market expanded from exclusive to mass consumption, the common trend was for new manufacturers to copy the successful designs of existing establishments; so that they might save the expense of designing and avoid the risk of unsaleable products. It was the larger-scale and more mechanised manufacturers who were the most involved in the practice of piracy. The effects of piracy were very widespread and serious, although in justification defenders of the practice invoked the logic of free trade.

The response of manufacturers and merchants to fashion occupies an important place in this study. As well as satisfying changing taste, they made attempts to create new fashions and to put them before the

public. In this connection, changes in the process of marketing were crucial. The analysis of these changes would show who were the real arbiters of taste controlling the mass market.

The various aspects of the social and economic history of art and industry may be handled in a number of ways. Economic historians may be interested to know, for instance, to what extent designing contributed to the cost of production, and what was the balance of successful and unsuccessful designs in the total output. Social historians may want to know about the working of fashion in the retail market. How, for example, did the retailers in mass markets try to manipulate their consumers? This thesis deals with diverse subjects, each of which might be developed into a much longer and more substantial investigation, and some of these questions are only partly answered, while some are left unresolved. In particular, an account of the retail trade and of consumption, although these are very important subjects, needs more time and space, and is left for future research. What follows is concerned with the production of goods and their supply. The leitmotif of this study is the effects of industrialisation and of the expansion of markets on the production of design.

PART ONE

ARTIST AND ARTISAN: THE LANGUAGE OF SKILL

My mistress with a monster is in love,
Near to her close and consecrated bower,
While she was in her dull and sleeping hour,
A crew of patches, rude mechanicals,
That work for bread upon Athenian stalls,
Were met together to rehearse a play
Intended for great Theseus' nuptial-day.
The shallowest thick-skin of that barren sort,
who Pyramus presented, in their sport
Forsook his scene and ent'red in a brake;

William Shakespeare, A Midsummer-Night's Dream. III.ii 6-15

CHAPTER ONE

THE LANGUAGE OF "SKILL" IN EIGHTEENTH AND NINETEENTH-CENTURY BRITAIN

> In the last decades of the eighteenth century, and in the first half of the nineteenth century, a number of words, which are now of capital importance, came for the first time into common English use, or, where they had already been generally used in the language, acquired new and important meanings. There is in fact a general pattern of change in these words, and this can be used as a special kind of map by which it is possible to look again at those wider changes in life and thought to which the changes in language evidently refer.
>
> Raymond Williams, Culture and Society.[1]

Recently, historians have investigated the subject of the skills of artisans. Economic historians, intervening in the history of science, stress the importance of the artisan's skills in the context of technological development and of the diffusion of technical knowledge.[2] Labour historians are defining the skill not only in terms of their labour but also in social, cultural and political terms.[3] Historians

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1. Raymond Williams, Culture and Society (1958; reprinted in Pelican, 1961), p. 13.

2. See for instance, Peter Mathias, The Transformation of England (1979), chapters 1-3; J.R.Harris, "Skills, Coal and British Industry in the Eighteenth Century", History, Vol.61, No. 202, June, 1976.; D.S. Landes, The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present (Cambridge, 1969).

of education, again encroaching on the history of science, show how scientific institutions combined with adult educational facilities played an important role of spreading scientific and technological information among artisans.[4] Historians of economic thought claim that political economists saw skill and technology as a crucial issue in the political and economic life of the British people.[5] And, finally, historians of technology have produced studies of technical development during the industrial revolution and the period following it in the areas of industrial archaeology, etc.[6]

The aim of this chapter is to look at the concept of "skill" and at those who employed it. As much as twenty years ago, Raymond Williams suggested that there were many "keywords" which referred to the wider changes in life and thought during the industrial revolution, such as "industry", "democracy", "class", "art", "culture", etc. Williams himself later on compiled a sort of dictionary of keywords, but although it is very concise and interesting with regard to the changes in those words,

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3. Sidney Pollard, "Labour in Great Britain", in Peter Mathias and M.M.Postan (eds.), The Cambridge Economic History of Europe, Vol. VII part 1 (Cambridge, 1978); Charles More, Skill and the English Working Class, 1870-1914.(1980); John Rule, The Experience of Labour in Eighteenth-Century Industry (1981); C. R. Dobson, Masters and Journeymen; A prehistory of Industrial Relations 1717-1800 (1980).

4. Ian Inkster, "Science and the mechanics' institutes, 1820-1850: the case of Sheffield", Annals of Science, Vol. 32 (September,1975).

5. Maxine Berg, The Machinery Question and the Making of Political Economy, 1815-1848 (Cambridge, 1980).

6. The works in this field are too numerous to list but for example see various articles in the Journal of Industrial Archaeology.

it is not always historically satisfying.[7] At least one historian responded immediately to some of the very important questions raised by Williams: namely Asa Briggs, in "The Language of 'Class' in Early Nineteenth-Century England"[8], and much later Briggs returned to the discussion in "The Language of 'Mass' and 'Masses' in Nineteenth-Century England".[9] Unfortunately there has been little work since these supplements. It is not, however, the purpose of this chapter to discuss all the keywords suggested by Raymond Williams. In English there were numerous words which imbued the term "skill" with various nuances, according to their context. Economic documents are one mine of information used in the present enquiry. Although it is extremely difficult to establish exactly when and where the changes in the meanings of words took place, some sort of generalisation is by no means impossible. This study does not claim to go beyond some discussion of etymology. More than a hundred economic documents in the Goldsmiths' Library in the University of London, however, have been examined.

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7. Raymond Williams, Keywords: a Vocabulary of Culture and Society. (1976).

8. Asa Briggs, "The Language of 'Class' in Early Nineteenth-Century England", in Asa Briggs and John Saville (eds.), Essays in Labour History. (1960).

9. Asa Briggs, "The Language of 'Mass' and 'Masses' in Nineteenth-Century England", in David E. Martin and David Rubinstein (eds.), Ideology and the Labour Movement, (1979).

Art, mystery, science and craft

> ...That after the first dayes of Maye next commyng yt shall not be lawfull to any person or persons other than suche as nowe do Lawfully use or exercyse any arte mystery or manuall Occupacion to sett up occupye use or exercyse any crafte...nowe used or occupyed within the Realme of England or Wales except he shall have bene brought yppe therin Seven yeres at the least as Apprentyce...
>
> Statute of Artificers, 1563.[10]

The term "skill" is difficult to define. The definition will vary according to the nature of the enquiry. According to Professor Sidney Pollard:

> Skill in the context of a fundamentally changing technology is not easy to define. Traditionally it involved manual dexterity, acquired after many years of practice, but it also included knowledge and judgement of processes and materials. Additionally, in the new conditions of machine technology, it might embrace a sense of responsibility, some reliability in timing of attendance and speed of work, a degree of literacy and other abstract (e.g. mathematical) knowledge.[11]

He goes on to discuss skilled labour, which he summarises thus: "Skill and its protection thus depended on an amalgam of economic, social, technological, and political factors".[12] R. J. Morris, in his recent conference paper, also points out the many-sidedness of the notion of skill:

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10. R. H. Tawney and Eileen Power, Tudor Economic Documents, Vol.1 (1924), p.347.

11. Sidney Pollard, loc. cit., p.118.

12. ibid, p.119.

> Equally important during the nineteenth century was the long defence of the claims of skill. Skill included not only the bourgeois notions of technical difficulty, knowledge or manual dexterity. Skill was also the ability to control the pace of work, the organisation of work and the entry in to a trade or occupation. Above all, skill was the ability to claim a skilled wage, or 'the rate for the job'. [13]

Throughout the sixteenth, seventeenth and eighteenth centuries, artisans in towns were protected by various acts and municipal regulations, what Adam Smith called "the policy of Europe", from the intrusion of unskilled workers and foreigners. The guilds or corporations of their trades played a significant role in these matters. They regulated the hours and wages, the training of apprentices, and other customs. The privilege of membership of one of these guilds was only given to those who possessed a certain skill in their own trade.[14]

The skill, as well as the trade, of guild members was then described in such various ways as "art", "mystery", "science", "craft" and so on. These words referred not only to the workers' manual dexterity, but to their knowledge of the trade and, above all, their pride in their occupations. Thus "An Acte for the Advoyding of Dyvers Forreyne Ware made by Handye Craftsmen beyond the Seas" of 1563 tried to protect the status of this group of workers from the threat of foreign workers:

> Whereas heretofore the Artificers of this Realm of Englande, ...that ys to wyt, Gyrdlers Cutlers Sadlers Gloovers Poyntmakers and suche lyke Handye craftsmen have bene in their said Faculties gretely set on woorcke, as well for the sustentacion

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13. R.J.Morris, "Whatever happened to the British Working Class, 1750-1950?", Bulletin of Society for the Study of Labour History, no. 41, Autumn, 1980, p.14.

14. See, for instance, Stella Kramer, The English Craft Gilds: Studies in their Progress and Decline (New York, 1927).

> of themselfes their Wyefes and Families as for a good Educacion of a greate part of Youthe of this Realm in good Arte and laudable Exercise: besydes the manyfolde Benefites that by meanes or by reason of their Knowledges Inventions and continuall Traveile daylye and universally came to the whole Estate of the Common Welthe of this said Realm...[15]

In 1621, when Black Country metal workers complained of the threat of non-guild labour to their iron industry monopoly, a Bill to regulate the industry was proposed which insisted on the importance of these Black Country workers in the national economy, in that they provided a large amount of skilled labour and produced necessary daily wares. By means of

> the manual occupation, crafts, and mysteries of framing, fashioning, and making of iron into nails, locks, spurs, bridlebits, buckles stirrupts, arrowheads...the said artificers and handicraftsmen have by such their labour and industry gained their own livelihood and sustenance for their families and set on work great number of men, which otherwise must have been destitute of any honest vocation or course of life.[16]

Manual skill based on lengthy learning and experience was called "cunning", "sleight", or "craft of the hand". In the preface of Mechanick Exercises: or, the Doctrine of Handy-Works, one of the earliest technical treatises, Joseph Moxon wrote:

> I thought to have given these Exercises, the title of The Doctrine of Handy-Crafts: but when I better considered the true meaning of the Word Handy-Crafts, I found the Doctrine would not bear it; because Hand-Craft signifies Cunning, or Sleight, or Craft of the Hand, which cannot be taught by Words, but is only gained by Practice and Exercise; therefore I shall not undertake, that with the bare reading of these Exercises, any shall be able to perform these Handy-Works...[17]

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15. Tawney and Power, op.cit., p.126.

16. J. Thirsk and J. P. Cooper (eds.), Seventeenth Century Economic Documents (Oxford, 1973), p.209.

17. Joseph Moxon, Mechanick Exercises: or, The Doctorine of Handy-works (1693), preface.

"Art", "science", "mystery", "handicraft", etc. were, when they were used in the context of manual dexterity and experience, always above the ordinary. They implied that superior skill required a length of training and learning. In 1655 when the framework knitters appealed for incorporation, they claimed that their skill was not worth less than the other privileged trades and they had a good reason to say this:

> And for the skill requisite to the use and manage thereof, it well deserveth (without usurpation, as some others impertinently have) the titles of mystery and art, by reason of the great difficulty of learning, and length of time necessary to attain a dextrous habit of right, true, and exquisite workmanship therein...[18]

The maintenance of these craftsmen's "art", "mystery", etc., was possible only when their work was guaranteed against any outside threat: i.e. from foreign craftsmen and unskilled workers. A body of London craftsmen therefore petitioned against outsiders in 1654, on the grounds, among many other things, that if they should lose their monopoly, "they were forced to fall to very dishonourable employments and into miserable inconveniences, viz. some to turn porters, labourers, chimney sweepers, and small coalmen, others to beg their bread for themselves and families..."[19] So far as their employment was secured and their skills were maintained, they could keep their respected status among other workers. This sense of respectability was based on their confidence in their ability and skill at their trades so long as they could secure their employment.

Skilled craftsmen were considered, as the above-mentioned framework knitters called themselves, "the promoters, contrivers, and inventors of the art, mystery, or trade" of the manufacturing industry, which

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18. Thirsk and Cooper, op. cit., pp. 260-61.

19. ibid., p.728.

involved not only producing goods but also designing and inventing tools and machines (in the framework knitters' case, they were frames or engines). Of course, the actual construction of machines and tools was done by other specialised skilled craftsmen such as smiths, turners and joiners, but the former's knowledge of the mechanism of the machines must have been indispensable for their erection. Incidentally, it is important to remember that there was a strong tie between the producers of goods and those who made tools for them. The relationship between framework knitters and frame-smiths, for instance, was crucial in the construction of machines.

Framework knitting remained peculiar to British industry for a long time, despite there being many attempts to export frames and craftsmen abroad. The failure of these attempts was mainly due to the lack of skilled workers abroad who would understand the machines and would be capable of repairing them when they broke down. Even when highly skilled craftsmen went over to foreign countries, their death terminated their particular industry there. Many machines were subsequently brought back to England and sold in London.[20] This isolation did not always prevail, however. In 1732 Sir Thomas Lombe imported a silk throwing machine and built it at Derby. Previously, Italian organzine (or thrown) silk had been manufactured entirely in Italy, and the trade had been enjoying the strong protection of "the Mystery among themselves". But Sir Thomas, obviously having acquired a thorough knowledge of this "mystery", brought the machine and native craftsmen back with him and constructed the machine not only in Derby but later on in London and elsewhere. He

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20. ibid., pp.262-63.

subsequently obtained a patent and state encouragement.[21] These two examples clearly show the importance of skilled craftsmen who possessed not only manual dexterity but a concrete knowledge of their tools and machinery. Many contemporaries were well aware of this. Without such craftsmen the machines, however excellent they might be, were useless. Professor J.R.Harris stresses the point by describing the craft necessary to furnace workers in the eighteenth century. Perfect understanding of the various crafts and experience in them made British workers far superior to their European counterparts in the same trades. These crafts were not easily transmitted to others because they did not depend upon the kind of knowledge which could be written down in technical books. Workers retained their skill by experience alone.[22]

Almost interchangeable with one another, "art", "science", "mystery", and so on were thus, despite their subtle difference in meaning, widely accepted as terms to describe the use of skill (both manual and theoretical), and also the pride of those who practised it. These words were, however, to undergo changes in their meaning and they came to imply separate things during the eighteenth century. These changes were in a sense the reflection of what had happened to craftsmen. As John Rule writes, "the truly independent craftsmen, in the sense of owning the materials on which they worked, and marketing the produce of their own labour were...much in a minority by the mid-eighteenth century".[23] The signs of these changes can be seen here and there prior to the eighteenth century, but they became obvious during that period. Of course, words did not disappear immediately; it was a slow and gradual process.

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21. A Brief State of the Case relating to the Machine erected at Derby for Making Italian Organzine Silk, (1732); A Bill for Presenting and Encouraging a New Invention in England by Sir Thomas Lombe, (1732). It is also worth noting that many foreign machines were registered at the British patent as an invention or discovery by those who brought them to England.

22. J.R.Harris, loc. cit., passim.

23. John Rule, op. cit., p. 201.

Differentiation in the meaning of each of these words, and a widening of the range of meaning within the same words, took place in a similar way. The fundamental change was the separation of the respective notions of physical and mental work. Thus, the distinction of liberal arts from mechanical arts, or liberal science from mechanical science, implied a greater emphasis on mental qualities in the liberal arts and sciences, and on manual aspects in mechanical skill. This distinction had existed for several centuries before the eighteenth century and the words "liberal" and "mechanical" implied the social distinctions of people who were themselves conversant with arts and sciences. This subject will be discussed later.

Adam Smith made many interesting observations on "skill" which we need to take into account in our own discussion. By the time he wrote The Wealth of Nations, things had changed so recognizably that his observations, together with his own belief in the open, competitive society, presented many new criteria. What distinguished him from the writers on political economy in pre-industrial Britain was the place which he always gave to the question of skill in his theory of productivity or economic growth, based on the division of labour, the expansion of the market and technological development.[24] His labour theory of value in his system of political economy is no exception. But what is of concern here is his use of the term, "labour". It is a highly theoretical category in his work and quite different from its conventional usage. He almost, as it were, conceptionalized this term into the analytical and, for that matter,

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24. See for instance Maxine Berg, "Proto-industry, Political Economy and the Division of Labour 1700 to 1800", paper read at the SSRC conference on "Manufacture in Town and Country", Balliol College, Oxford, September, 1980.

critical vocabulary of political economy. By doing so he was able to induce one of his fundamental principles, i.e. the theory of division of labour. The traditional notions of skill, embraced by the terms "arts", "sciences", "mysteries", "crafts", etc., were all included in this newly developed category; the terms themselves being swept away, or dismissed as archaic. As will be seen, this was an advanced theory, especially as expounded in his Chapter X of The Wealth of Nations where he discussed wages in conjunction with profit in the different employment of labour and stock.

In Part One of Chapter X, Smith discussed five causes of wage differentiation in employments: 1) the agreeableness or disagreeableness of the employment; 2) the ease and cheapness or the difficulty and expense of learning a trade; 3) the constancy or inconstancy of occupation; 4) the degree of trust which must be placed in workers in various occupations; and 5) the probability or improbability of success. Of these five factors, the second is the most relevant in the present context. Smith himself thought this an important issue, and he enlarged on it in the second part of the same chapter, which will be examined later on.

Characteristically, Smith compared an expensive machine to "a man educated at the expense of much labour and time to any of those employments which require extraordinary dexterity and skill".[25] Expensive learning of skill must be recompensed: the difference between the wages of skilled labour and those of common labour was founded on this principle. Now, as has been seen, pre-industrial Europe had institutionalized the

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25. Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations, (1776; Edwin Cannan ed., 1904), p. 103.

acquisition of skilled labour, to the point at which the system of apprenticeship had become an educational institution. According to Smith,

> The policy of Europe considers the labour of all mechanics, artificers, and manufacturers, as skilled labour: and that of all country labourers as common labour...The laws and customs of Europe, therefore, in order to qualify any person for exercising the one species of labour, impose the necessity of an apprenticeship, though with different degrees of rigour in different places.[26]

This ancient training system for skilled labour required a large expenditure on the part of parents, and it also imposed on their children a lengthy period of learning and service. "It is reasonable, therefore", Smith admitted, "that in Europe the wages of mechanics, artificers, and manufacturers, should be somewhat higher than those of common labourers". He proceeded to explain that this was why "their superior gains make them in most places...considered as a superior rank of people".[27]

Smith regarded this "policy of Europe" as extremely harmful, and he explained it fully in Part Two of the chapter. He noted three main defects: 1) the policy of Europe artificially restricted competition in some occupations; 2) it increased competition in others beyond what it naturally would have been; and 3) it obstructed the free circulation of labour and stock, both from employment to employment and from place to place.[28] All three created, he argued, a very important inequality in society. His main target was the system of apprenticeship, since the restriction of liberty by means of exclusive privileges was based on this system. Without going through apprenticeship none could become masters and hence free men in the incorporated towns, or market towns.

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26. ibid., p.103.

27. ibid., p.104.

28. ibid., p.120.

Smith condemned this as a breach of human nature:

> The property which every man has in his own labour, as it is the original foundation of all other property, so it is the most sacred and inviolable. The patrimony of a poor man lies in the strength and dexterity of his hands; and to hinder him from employing this strength and dexterity in what manner he thinks proper without injury to his neighbour is a plain violation of this most sacred property.[29]

At the same time, certainly backed by this moral judgment, Smith dismantled the unity of mental and manual skills embodied in the notions of "art", "science", "mystery", and "craft". He dismissed the idea of lengthy learning: "Long apprenticeships are altogether unnecessary". And, he continued:

> The arts, which are much superior to common trades, such as those of making clocks and watches, contain no such mystery as to require a long course of instruction...But when both /machines and instruments/ have been fairly invented and are well understood, to explain to any young man, in the completest manner, how to apply the instruments and how to construct the machines, cannot well require more than the lessons of a few weeks; perhaps those of a few days might be sufficient. In the common mechanic trades, those of a few days might certainly be sufficient.[30]

Of course, he did not deny the fact that manual skills could not be learned in such a short time. He wrote immediately after the above quotations: "The dexterity of hand, indeed, even in common trades, cannot be acquired without much practice and experience".[31] This does not mean, however, that he thought that the traditional length of apprenticeship was acceptable. Instead, he felt that there were alternative ways to encourage young workmen to learn trades:

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29. ibid., p. 123.

30. ibid., p. 124.

31. ibid., p. 125.

> But a young man would practise with much more diligence and attention, if from the beginning he wrought as a journeyman, being paid in proportion to the little work which he could execute, and paying in his turn for the materials which he might sometimes spoil through awkwardness and inexperience. His education would generally in this way be more effectual, and always less tedious and expensive.[32]

It can be seen that Smith's notion of "skill" differed completely from the views that had been entertained in the seventeenth century and earlier. He believed that by the disorganisation of the apprenticeship system the public would gain, and that both masters and apprentices would lose. He wrote: "The trades, the crafts, the mysteries, would all be losers".[33] This notion is quite important in the present argument. Edwin Cannan, the editor of the famous twentieth century edition of The Wealth of Nations, makes a very interesting comment in his footnote on this section:

> The last two terms seem to be used rather contemptuously. Probably Smith had fresh in his recollection the passage in which Madox ridicules as a "piece of puerility" the use of the English word "mysterie", derived from "the Gallick word mestera, mistera and misteria," as if it "signified something μυστηριώδες mysterious".[34]

As Maxine Berg rightly points out, "Skill, once identified with an 'art' or craft, became in Smith's hands a 'peculiar dexterity' which resulted from the breakdown of a craft".[35] What are the background factors contributing to these changes of meaning or emphasis in the word of skill? Let us look at this question briefly.

One obvious factor was the division of labour as the "material basis for a separation between mental and manual labour".[36] The other

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32. ibid.

33. ibid.

34. ibid.

35. Maxine Berg, The Machinery Question and the Making of Political Economy, p. 33.

36. ibid.

important factor would be the diffusion of technical and scientific knowledge. The patent system, publication of technical treatises, and, to a lesser extent, books of trades, all brought about a wider availability of knowledge.[37] Indeed, it might be said that basic mechanical knowledge of ordinary trades was easy enough to convey to people of different skills: as Smith observed

> There is scarce any common mechanic trade...of which all the operations may not be as completely and distinctly explained in a pamphlet of a very few pages, as it is possible for words illustrated by figures to explain them.[38]

However, this assertion has been recently challenged by some economic historians. Professor J. R. Harris, as mentioned earlier in this chapter, shows that there were many important skills which could not be easily transcribed into textbooks or more specialised treatises. Moreover, Smith's knowledge of the actual technology practised by contemporary craftsmen has also been assessed as rather limited. Professor D.C. Coleman, for example, argues that Smith's ignorance of the technology of the textile industries meant that he did not appreciate the rate of textile growth in eighteenth-century Britain.[39] Despite these criticisms, Smith still deserves serious consideration of his observations on the economy of his age, and above all in the importance of his contribution to the understanding of the division of labour and his perception of the "breakdown" of old crafts.

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37. For more detailed discussion, see for example, Peter Mathias, op. cit., pp.27-30.

38. Smith, op. cit., p. 128.

39. J. R. Harris, loc. cit., and D. C. Coleman "Textile Growth", in Harte and Ponting (eds.), Textile History and Economic History (Manchester, 1973).

Liberal art and mechanical art

The division of arts into two branches, i.e. "liberal" and "mechanical", had been practised long before the eighteenth century; both words defined not only the nature of the skills involved but also the class of people who practised them. Thus when in 1747 Robert Campbell wrote The London Tradesman he classified occupations into liberal sciences, liberal arts and mechanical arts. Liberal sciences included divinity and physics, and liberal arts now included surgery, "chymistry", apothecary, law, music, painting, etc.[40] A similar terminology was employed by Adam Smith when he discussed wages:

> Education in the ingenious arts, and in the liberal professions is still more tedious and expensive. The pecuniary recompense, therefore, of painters and sculptors, of lawyers and physicians, ought to be much more liberal; and it is so accordingly.[41]

In France, too, by the middle of eighteenth century, the division between "art liberale" and "art mechaniques" was so great that Denis Diderot, the founding editor of Encyclopedie ou Dictionnaire raisonne des Science, des Arts et des Metiers, wrote an article to rescue the position of "artisan" or "arts mechaniques" from the scorn of artists in the liberal arts. His article on "Art" is indeed a remarkable piece of work, which locates mechanical skills in the development of technology, science and manufacture. He proposed that it was the responsibility of the liberal arts to emancipate the mechanical arts from the degraded and disdained status that they occupied. Diderot's standpoint was

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40. R. Campbell, The London Tradesman (1747). passim.

41. Smith, op.cit., p. 104.

based on his and his fellow encyclopedists' belief in the enlightenment; as Professor J. R. Harris points out: "the wish of the men of the Enlightenment to demystify craft secrets...worked to produce publications in which craft processes were examined and illustrated..."[42] In Britain this sort of effort was rarely made, at least in the eighteenth century; but there were some exceptions, like Thomas Bailey who, in 1780, emphasised that

> ...the progress of society from its lowest, and worst, to its highest and most perfect state, has been uniformly accompanied, and chiefly promoted, by the happy exertions of man in the character of a mechanic or engineer.[43]

Another Briton, the author of The Laboratory, or School of Arts (1740), also expressed the same awareness as Diderot of the subordination of mechanical arts to liberal arts which he indignantly reproved:

> ...such are the People who trampled on Arts and Sciences, who despise those who apply themselves to Mechanick Arts, and those that endeavour to be useful in that Respect to their Fellow creatures.[44]

J. Ralph, the author of A Critical Review of the Publick Buildings, published in 1734, also saw the difference between science and art - here he understood art as mechanical - and declared science to be the superior pursuit. He wrote:

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42. J. R. Harris, loc.cit., p. 167.
Incidentally, in the context of the previous section, it is interesting to note that Diderot had asserted the importance of the "grammar of arts". He knew very well that there were hundreds of different technical terms, both for skill and tools, and wished to see more general terms employed in different trades. The want of correct definitions and the numerous varieties of things make it impossible to describe "arts" clearly, although it was not the principles of arts themselves which made it impossible, since the latter are scientifically very simply explained. (Smith is very much the faithful follower of Diderot). Workers' experiences, traditional languages, knack etc. ought to be universal: this was his argument. Cf. Joseph Moxon's words in the previous section.

43. Thomas Bailey, Letters on the Utility and Policy of Employing Machines to Shorten Labour (1780), p. 3.

44. The Laboratory, or School of Arts (1740), preface.

> By this division of architecture into beauty and use, it will be demonstrable to every reader, that 'tis partly an art, and partly a science; that the first is mechanical, and the last the result of genius and superior understanding: one calls in all the aid of fancy and imagination, grows poetical in design, and picturesque in decoration...[45]

By science we should here understand what is generally called liberal art, and the same distinction and critical view as that expressed in The Laboratory appeared in Reflection on Various Subjects Relating to Arts and Commerce (1747), attributed to R. Parrott:

> In England the stream of public Favour and Liberality has turned wholly to the Advance of Science; we have few or no Institutions in Favour of Arts, no Place of Residence but for Speculation...Without some such public Institution, they never yet were carried to an Height in any Country; no private Fortune can stand out to extend the Arts into Trade...[46]

This separation of "science" from "arts" or the enforcement of a distinction between "liberal arts" and "mechanical arts" appeared more or less contemporaneously with the discovery of identities by those who practised them. This can partly be seen in the establishment of societies and academies. In this study the history of scientific institutions will not be dealt with, but instead some of the problems relating to the fine arts will be discussed. Although it is not intended to examine in detail the question of the rise of artists (painters, sculptors, architects, etc.), it is relevant to note their struggle to gain an independent status in society, and their self-conscious effort to separate themselves from other artists employed in manual skills.

In Italy, this promotion of fine artists began to be felt towards the

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45. J. Ralph, A Critical Review of the Publick Buildings (1734), p. 112.

46. R. Parrott, Reflection on Various Subjects Relating to Arts and Commerce (1752), pp. 18-19.

end of the fourteenth century. Artists' attempts to increase their prestige had some effect, though "they were still very far from being officially [i.e. by the Church] accepted among the artes liberales".[47] By the early fifteenth century, artists were more consciously trying to separate themselves from common artisans by practising their skills in scientific innovation and theoretical knowledge.[48] It is generally thought that Leonardo da Vinci was one of the earliest painters who tried to raise painting from what was regarded as a manual skill to a science, but his effort had been anticipated by his predecessors. Nevertheless he was an artist who felt the importance of this issue with acute awareness, as Nicolaus Pevsner writes in his Academies of Art: "Claiming for the art of painting a place amongst artes liberales means separating it from craftsmanship and the well-defined social system by which it had flourished in the Middle Ages. Leonardo knew that this was so and rejoiced in it".[49] His scorn for sculpture in stone is well known; he called it an artes meccanicissma, and he is believed to have said with disdain, "it produces sweat and physical fatigue in the workman".[50] Leonardo's effort to raise the painter's status was supported by contemporary Humanists who, according to Pevsner, "began to praise individual works of art and individual artists to an extent incompatible with the medieval tradition of painting and sculpture as crafts in no way above others".[51]

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47. Frederick Antal, Florentine Painting and its Social Background (1948), p. 277.

48. ibid., p. 31.

49. Nikolaus Pevsner, Academies of Art: Past and Present, (Cambridge, 1940), p. 30.

50. ibid., p. 31.

51. ibid.

The method of learning skills was the same for the "fine" artist as with other craftsmen:

> At about twelve a boy could enter a painter's shop as an apprentice and would in two to six years' time learn everything necessary from colour-grinding and preparing grounds to drawing and painting. At the same time he was expected to do all kinds of service in his master's house. After the end of his apprenticeship he could go out as a journeyman and then, when some more years had passed, obtain his mastership certificate from the local company of painters or the company to which the painters happened to belong, and could settle down as an independent painter.[52]

Before the Renaissance period, painters sometimes belonged to such guilds or companies as apothecaries. The guild remained the most dominant form of painters' organization throughout the seventeenth and early eighteenth centuries in Italy, Flanders, England and Germany, although there were some academicians of Paris who were servants to the court, while the Dutch painter "enjoyed complete freedom, and worked in his studio for nobody in particular".[53]

In England the situation was almost the same as in Italy. In Kingston-upon-Hull, for instance, painters were just one of many bodies of craftsmen, such as goldsmiths, smiths, pewterers, glaziers, cutlers, musicians, bookbinders, and so forth, who formed "one intire company" in 1598.[54] In 1601, when the London painters feared a serious invasion by the "Plaisterers alias Morter-Makers", who tried to use colours for their work of decoration, the "Company of the Mystery or Trade of Painters" made complaint against the "Company of Plaisterers", and sought the protection of their trade by means of "an Act for redress of certain

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52. ibid., p. 34.

53. ibid., P. 139.

54. Tawney and Power, op. cit., p. 132.

abuses used in Painting". Heyward Townsend, a supporter of the Bill, explained the painters' historical position and proceeded to an explanation of the special art demanded in painting:

> Workmanship and Skill is the gift of God, and not one in ten proveth a Workman; yet it is requisite, that all such as have been brought up all the dayes of their life in Trade, and cannot attain to the Excellency of Skill that is required, should live by the baser part of their Science, when they cannot attain the better, which is working in Oyl and Size those Flats, Posts and Windows, etc...It is a curious Art and Requireth a good Eye, and a stedfast Hand, which the infirmity of Age decayeth quickly...[55]

In England the aspirations of painters to become a part of a liberal profession is usually described as part of the efforts to form the Royal Academy of Art. It was a very slow progress and until 1768 Britain had no state-patronized academy. There had been many attempts to form private academies, but none of these managed to gain royal patronage. In 1734 a new school of art was opened in St Martin's Lane, the prime mover in which was William Hogarth. The Dilettanti Society was formed around the same period: its purpose was to create "a public academy for the improvement of painting, sculpture, and architecture". In the 1750s growing demands for the establishment of a Royal Academy were heard, and many pamphlets and essays were published in connection with these. The Society for the Encouragement of Arts, Manufactures, and Commerce, established in 1754, received support from aspiring painters in the absence of an official academy, and it made available its premises for exhibitions. In 1761 the Society of Artists and the Free Society of Artists were formed to hold exhibitions of paintings, and the former was eventually reconstructed and absorbed into the newly formed Royal Academy of Art in 1768.[56]

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55. ibid., p. 138.

56. J. E. Hodgson and F. A. Eaton, The Royal Academy and its Members; 1768-1830 (1905), chapter 1.

These conscious efforts to form an exclusive body of painters and sculptors proceeded pari passum with the isolation of "fine" artists from the other workmen who had shared the same interests and who with the former had been recognised as forming a single "whole". Thus the interstice between artists in fine arts and artists in mechanical arts broadened widely. Indeed, it became too wide for the gap between them to be closed. The gulf between them was caused not only by the new difference in their social status but also by their respective attitudes towards the traditional notion of "skill".

In William Blake a very interesting example of the relationship between traditional skills and artistic merit can be found. He was, as is well known, trained as an engraver. This was a trade that had retained a strong traditional apprenticeship system; and Blake admired his master Basire throughout his life. In his master's workshop he claimed to have every technique and art necessary to his trade. Basically, as with any other trade, the apprenticeship consisted of copying or imitating the master's work. Blake valued this method as one of fundamental importance for his trade. Therefore, when he read that Sir Joshua Reynolds ignored this principle, Blake could not help writing that "If he means That Copying Correctly is a hindrance, he is a Liar, for that is the only School to the Language of Art".[57] Although he was very proud of his skills, Blake regarded himself as somewhat above the craftsman-engraver: He regarded himself as an artist. Socially, he clearly belonged to the

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57. William Blake, "Annotation to Sir Joshua Reynolds' Discourses", in Blake Complete Writings (edited by Sir Geoffrey Keynes, Oxford, 1972), p. 448.

artisan class, yet spiritually he felt he belonged to the artistic elite, "whose element is vision". "Inspiration & Vision was then, & now is, & I hope will always Remain, my Element, my Eternal Dwelling Place", wrote Blake.[58] When he talked of art he did not have any sympathy at all for his fellow workmen when they showed bad workmanship guided by a wrong idea:

> The Labour'd Works of Journeymen employ'd by Correggio, Titian, Veronese & all the Venetians, ought not to be shewn to the Young Artists as the Work of original Conception any more than the Engravings of Strange, Bartollozi, or Wollett. They are Works of Manual Labour.[59]

He must have known very well from experience what a manual worker was, yet he believed that he could transform this labour into higher art. He never thought of his art as being mechanical. This is not the place to discuss the greatness of Blake's work, but in his writings one thing becomes clear: by the late eighteenth century the traditional type of skills practised by craftsmen was no longer regarded as an essential necessity for the majority of artists who aimed at "higher" art. Blake, though himself an artist in the modern sense, persisted in maintaining the old notion of "art". His own status was thus ambivalent. The relationship between "artist" and "artisan" in the eighteenth and early nineteenth centuries was therefore problematic. It was not merely a question of whether an engraver was acceptable to the Royal Academy as an artist.[60] In fact, far more profound conceptual changes were taking place.

It is generally supposed that the reunion of "art" and "craft" was first

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58. ibid., p. 477.

59. ibid., p. 455.

60. See for instance, John Pye, Patronage of Art (1845), and Robert Strange, The Conduct of the Royal Academicians (1771). Pye and Strange were "angry" engravers.

campaigned for by William Morris and his followers. But already in the first half of the nineteenth century there was a strong awareness of the sharp division existing between "art" and "craft" and of the necessity to abolish this division. It was particularly strong in fields where the art of design was crucial and where designers and artworkmen were treated as second-rate workers. For example, James Thomson, calico-printer, lamented this lowly status of designers: "In France designing is treated as a liberal art, and its professors as gentlemen; here, with some exceptions, it is degraded to a mechanical employment, and rated at weekly wages".[61] The same criticism was heard from another industry. Clinton G Gilroy, in his book Art of Weaving observed:

> The most prominent cause, however, seems to be, that nothing is reckoned a work of art unless it be a picture. No matter how superior an ornamental design may be, or how much study or knowledge may have been required to produce it, still the production of such, altogether it may increase the wealth of the individual, cannot raise him one step in the scale of society; he is only a mechanic in the eyes of the public. On the other hand, no sooner does the youth lay aside his useful implements, and dash off upon canvas something like a landscape, often with no eye to nature, but in servile imitation to some popular painter, then he seems to be by common consent raised to the dignity of artist.[62]

When the word "art" was used in a "neutral" sense, the adjectives qualifying the word played a significant role. There were, indeed, numerous adjectives attached to the word "art": "fine", "higher", "poetical", and "liberal" for painting, sculpture, and architecture, on the one hand; "ornamental", "decorative", "useful", "lower", and "mechanical" for manufactures, on the other. The arguments over the

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61. James Thomson, A Letter to the Right Honourable Sir Robert Peel, Bart, on Copyright in Original Designs and Patterns for Printing (Clitheroe, 1840), p. 15.

62. Clinton G Gilroy, The Art of Weaving by Hand and by Power (1845), p. 15.

problem were by no means uniform. There were writers who, perceiving the gulf which had appeared, urged those artists of the "higher" kind to recognise their affinity with the rest. As the Journal of Design observed:

> A larger and more social view is gradually being taken of art, and the time is not far distant when the followers of the higher branches of it will themselves lend a willing assistance in removing the arbitrary barriers that have been drawn between their own special departments and those of ornament...It is the practical peculiarities of modern times that have devided so much the different sections of art. Many as artists, a few years ago, would have been loth to be considered an ornamentist at all. He would have thought it derogatory, not recognising that art is one, though it has many phases and mansions.[63]

G. Jackson, former teacher at the Manchester School of Design, replied to the select committee on the management of schools of design, when the latter asked him to explain the distinction between "what might be called fine art and ornamental art":

> I do not think that there ought to be a distinction. I think it requires mind to develop a beautiful form for any purpose. I think it is a false notion on the part of the public mind that there is such a distinction, and that is a great barrier to the progress of industrial art; we find the result continually that professors of high art, where they have a knowledge of the processes of manufacture, produce results very different from those which a mere workman produces. If there was not that distinction between high and ornamental art it would be much better; we should get another class of mind to pursue the industrial arts, and we should get a better standard of things around us.[64]

Jackson and the author of the article in the Journal of Design, probably Henry Cole, were allies: their aim was to improve the standard of British design. Although they were keenly aware of the unhappy distinction

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63. The Journal of Design and Manufacture, IV, no. 24 (February, 1851) pp. 161-162.

64. Minutes of Evidence taken before the Select Committee on the School of Design, Parliamentary Papers (1849), XVIII, Q. 2484.

between "high art" and "ornamental art", it is difficult to see what alternative they intended to put forward. Jackson merely blamed "the public" for the separation of "artists" from "mere workmen", or rather for its false notion which discouraged the artist from coming down from his "high" position to the common ground. Their hope was that more and more artists could be encouraged to work in industry by the removal of the existing connotations of degradation attached to such work. Jackson observed in 1849 that the distinction was "diminishing rapidly; there is not the odium, if I may so say, attached to ornamental art that there used to be".[65] But this observation was too optimistic. Although several "fine" artists agreed to design industrial goods, the gap between artists and workmen continued to widen. Henry Cole's group which introduced the notion of "art-manufacture", (which will be discussed in a later chapter), did encourage artists to produce industrial designs.[66] And their efforts to provide an artistic education for designers and artisans were an important contribution to the dissemination of awareness of this problem. Yet, their reasoning was seen to be very shallow by more acute observers whose criticisms will be noted in later chapters.

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65. ibid., Q.2487

66. Henry Cole also gave evidence to a 1849 select committee, when referring to the artists working in industry, he boasted, "I have only to enumerate the names of Mr. Dyce, Mr. Maclise, Mr. Redgrave, Mr. Townsend, Mr. Bell, and Mr. Horsley, and others; and even before this last movement we ought not to forget the names of Flaxman and Stothard". (ibid., Q.1956)

Emergence of "artisans"

For those who are accustomed to the word "artisan" as meaning "a skilled worker in urban industry", it might be something of a surprise to find, when they read economic documents or tracts and pamphlets of the eighteenth century and before, that the word "artisan" appears very rarely. The word itself can be traced back as far as the early sixteenth century, and, apart from a few exceptions, it was used with the same meaning as we understand it to have now: i.e. a handicraftsman, artificer or mechanic. Yet in this period those workmen who practised an "art", "science", "craft", or "mystery" were most often called by their contemporaries "artificers", "handicraftsmen", and "artists".[67] Despite some sporadic usage of "artisans" or "artizans" the overall impression given by a reading of documents of the period is that the word was very rare indeed. The word is, to my mind, very much a nineteenth century one. Why the word was so rarely used before the nineteenth century, and why it gained the place it now has in common parlance, are the main subjects of enquiry in this section. The conclusions remain, however, extremely speculative.

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67. Daniel Defoe, in The Complete English Tradesman, observed that words peculiar to an occupation or trade were differently used, and different words were used for the same occupations in different places:

> ...in the North of Britain, and in Ireland, a tradesman is taken to be a mechanick, as a smith, carpenter, shoemaker, and the like, whom we call here handicraftsmen...But in England, and especially in London, all sorts of warehouse-keepers, shop-keepers, whether wholesale dealers or retailers of goods they sell, though they keep shops, are called handicrafts; such as smiths, shoemakers, founders, joiners, carpenters, carvers, turners, and the like: those, who only make goods for others to sell, are called manufacturers, artists, etc. (5th ed., 1745, pp.1-2)

The questions arising from this enquiry are too numerous and too complicated for all of them to be answered here. How, for instance, can the word "artisan" be located in the history of "the language of 'class'", and so, more broadly, in the history of the emergence of the working class?

Alongside the break-up of the accepted categories of "art", "science" etc., the words "artist", "craftsman" and "artificer" changed their meanings; where the meaning was preserved the word was often less widely used or had become redundant. "Artificer", for example, acquired an archaic tone and was always used with some reference to the Elizabethan Statute. "Craftsman" nearly suffered the same fate, but it re-emerged in the 1870s in conjunction with the Arts and Crafts Movement. By that time, however, it had lost its original meaning and came instead to represent those who practise "craft" as a branch of fine art. "Craftsmanship" also sprang from this. The development of the meaning of the word "artist" has been briefly discussed elsewhere in this chapter. The history of language can thus be seen to reflect social and cultural activities. (The term "reflect" is used here loosely. Language is not necessarily subsequent to social developments. It quite often precedes the latter.)

In 1858 F. D. Maurice, a Christian Socialist and the first president of the Working Men's College, delivered a very interesting lecture to his students there on "The Studies of the College". Aware of the nature of his audience - it consisted mostly of skilled artisans and clerks - he emphasised the importance of the study of art at the college in which John Ruskin and members of the Pre-Raphaelite Brotherhood then taught, and proceeded:

> Now the words Artisan, Artificer, Artist, may be very distinct indeed. But they must have some close connection with each other, and it must be very desirable to trace out that connection, even for the purpose of finding out the difference.[68]

Unfortunately, he did not continue to a satisfactory conclusion; he only vaguely suggested that "Men were makers and artists very early; the Nineveh Marbles will tell us that". However, what is interesting here is that already by the middle of the nineteenth century these words were felt to be distinct from one another. And, above all, the word "artisan" was by then firmly established.

The early nineteenth century saw the emergence of "artisans" and "mechanics". Although originally these two words had slightly different connotations, by the nineteenth century they were on the whole almost synonymous: the word "mechanic" had, apart from its normal meaning of a man in trade, also meant the lower order of person, as in Shakespeare's "rude mechanicals"; whereas the word "artisan" was more close to "artist" and "artificer" though Dr. Johnson gave the definition "low tradesman" for the word. The nineteenth century usage of these words characteristically gave them new connotations. The terms "artisan" and "mechanic" in this period denoted more than just "worker skilful in trades". They suggested that worker's political and cultural participation in society. The word "operative" which also emerged in the early nineteenth century (applicable to factory workers rather than to those who worked in the workshops - weavers were usually called operative-weavers), does not seem to have carried the same social sense. It was sometimes used in a way synonymous to the limited

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68. F. D. Maurice, "Introductory Lecture on the Study of the (London) Working Men's College", The Working Men's College Magazine, no. 1 (January, 1859), p.6

meaning of the words "artisan" or "mechanic" as "men in trade". The term, "operatives", would thus give a closer image of the labour process.

The new implication of the word "mechanics" seems to have taken root as a consequence of the educational movements represented by mechanics' institutions. Because of the wide spread of working class educational institutions in England, especially in the North and the Midlands, new meanings of words such as "mechanics" reached a large number of people and penetrated deeply into the "corporate mind": not just of working mechanics, but also of apprentice mechanics, reading mechanics, painting mechanics, etc.

Now let us look at the word "artisan" and its nineteenth century connotations. When did the word "artisan" begin to be widely used? To answer this question precisely one would have to comb a large number of documents of various kinds: newspapers, periodicals, handbills, pamphlets, and other official and private publications. A search through some widely circulated publications of the time, however, gives an approximate idea of the date.

In 1811 Parliament published the report of the select committee which had considered the petitions of "several thousand Manufacturers and Artizans in Manchester, etc.", regarding a minimum wage settlement. From 1824 to 1825, it also published a series of reports of the select committee "appointed to inquire into the State of the Law relating to Artizans leaving the Kingdom and residing Abroad; the Exportation of Tools and Machinery..." which is now well known as the report of the "Artisans and Machinery" committee. Also in 1824 and 1825 were publications of other sorts: <u>The Mechanic's Oracle, and Artisan's</u>

Complete Laboratory and Workshop (edited by Dr. Tilloch); The Artisan: or, Mechanic's Instructor (edited by George G. Carey); and the Journeyman, and Artizans' London and Provincial Chronicle (edited by Edward Edmonds). In 1833 The Advocate; or, Artizans' and Labourers' Friend (edited by John Ambrose Williams) came out; and in 1843 The Artizan: A Monthly Journal of the Operative Arts started its publication which lasted until 1872. P. Gaskell's Artisans and Machinery: the Moral and Physical Condition of the Manufacturing Population was published in 1836. The list of titles which bear the word "artisan" could be expanded further.[69]

So much for the titles of publications. As far as I am aware, the records of the apprenticeship campaign of the early nineteenth century provide the earliest evidence of the extensive use of the word "artisan". In 1814 clauses on apprenticeship were dropped from the Statute of Apprentices (or the Statute of Artificers). The repeal of these clauses was, according to T. K. Derry, "a landmark in the history of laissez-faire".[70] The campaign of protest led by the small masters was "an important element in the 'watershed' of 1811-13 and in it...were attitudes and practices that look back and forward".[71] By many journeymen and small masters,

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69. These periodicals are various in their characters. The Mechanic's Oracle and The Artisan are, like many other periodicals in this period, orientated to the diffusion of mechanical knowledge among skilled workmen. The Advocate, Journeyman, and The Artizan are more politically conscious. Although from a much later period, the British Library catalogue contains the Artisan's Golf Club of England, and there were certainly many artisans' flower shows, artisans' cricket clubs, etc., throughout the country.

70. T. K. Derry, "The Repeal of the Apprenticeship Clauses of the Statute of Apprentices", Economic History Review, III, (1931-32), p.67.

71. Iowerth Prothero, Artisans and Politics in Early Nineteenth-Century London (Folkestone, 1979), p. 54.

this campaign was regarded as a fight to protect their skills acquired by apprenticeship, and consequently to protect their lives from the threats of the introduction of an unskilled workforce and of the manufacture of goods of inferior quality. In order to maintain their privileges, however, they had to uphold the more than two-hundred years old Statute of Artificers. A letter from the clock-makers, in the Goldsmiths' Library, explains very clearly how the issue was seen at the time:

> By a short description of these proceedings relative to Apprenticeship may be denominated, "a struggle between the employers and the employed". The first desiring to obtain a more absolute command over the latter than is either Political or proper to be allowed, the latter seeking to retain the protection which Parliament has anciently and wisely afforded to the welfare of the Multitude of Workmen against the Machination of the more artful or powerful few.[72]

The campaign was one of the earliest combined actions of artisans beyond the barriers of their own trades and regions. In London the Artisans' General Committee (or United Artisans' Committee) was formed in 1812, and called for the organisation of the same type of committee throughout the country. Here the word "artisan" clearly included masters (especially small masters who were also the victims of capitalist development), as well as journeymen and servants (the latter not, of course, in the modern sense). Typical examples of phrases frequently repeated in this context are "the regular-bred artisans, as well masters as journeymen, and servants", "the regular-bred artisans, whether master or servant", "the apprenticed artisans, masters, journeymen, and servants", and "the Legal Artizan of his long-established and hard-purchased Profession", etc.[73]

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72. A letter from Messrs Rogers and Clarke to Joseph Gregson, (London, 3 May 1814), Records of the Clock Makers' Company, Goldsmiths' Library, MS 755/329-30.

73. Goldsmiths' Library, MS 755/177,179,189-90, 204 etc.

When the London Corresponding Society cried out that "Manufactures are ruined! Artizans are starving!"[74] their aim was to achieve a much greater goal, to wit, civil liberty and equality. But although these English Jacobins' ideas survived, and continued to be the most important spirit of the working class movement, their everyday struggles were more immediately concerned with the defence of their skills. The term "artisan" is thus seen to have re-emerged contemporaneously with the defence of privileged skills in the new era of industrialization, and with the awakening of political consciousness, (clearly demonstrated by the apprenticeship campaign) among skilled workers. Although the campaigners occasionally used words like "artificer" and "handycraftsman", these were, as has been suggested before, only used in the context of the Elizabethan Statute. Otherwise the word "artisan" was predominant throughout.

Almost twenty years after the apprenticeship campaign, a leading advocate of mechanisation wrote the following:

> The term artisan will shortly be a misnomer as applied to the operatives; he will no longer be a man proud of his skill and ingenuity, and conscious that he is a valuable member of society.[75]

The book, characteristically entitled Artisans and Machinery, treated

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74. London Corresponding Society, Address to the Nation, from the London Corresponding Society, on the Subject of a thorough Parliamentary Reform (1793), p. 5. Forty-five years later, the National Petition of the Chartists cried out that "our traders are trembling on the verge of bankruptcy; our workmen are starving; capital brings no profit and labour no remuneration; the home of the artificer is desolate, and the warehouse of the pawnbroker is full; the workhouse is crowded and the manufactory is deserted." The National Petition. Place MSS., 27, 820,f, 374. quoted in G.D.H.Cole and A.W.Filson (eds.), British Working Class Movements, Select Documents 1789-1875 (1951), p. 354.

75. Peter Gaskell, Artisans and Machinery (1836), p. 358.

the term "artisan" as a dying word, and the subject as a dying breed. The development of a factory system certainly destroyed the essence of the word "artisan", as the author of the book, Peter Gaskell, saw very clearly. And by this time the division between "artisans" and "operatives" or "factoryworkers" had become quite marked. The artisan represented those who worked other than in factories and perhaps the above quoted cultural and social values.

There are of course many questions yet to be answered. Why, for instance, did certain words retain their original meaning while others did not? Can one establish a more precise periodisation of the usage of these words? The word carries the meaning. And when the meaning changes or out-grows its boundary, the word changes its substance. This takes place socially, culturally, politically and economically. But as an introduction to the analysis of technology and design in the early Victorian period which follows, a framework at least has been supplied.

PART TWO

THE MACHINERY QUESTION

The immense increase of production in lower goods has not decreased the taste in the higher, in this country, though it may have caused it to make less apparent progress than when the larger part of the supply was of fine goods. We find specimens of good taste on the lowest material, printed at the lowest possible price for export, shewing a taste superior to that in use for our best work twenty years ago, employing greater talent in design, greater skill in engraving, the cost of production cheap, because repaid by the quantity produced. This diffusion of art, and of a better taste, cannot be otherwise than beneficial, even to the higher class of productions, as preparing a taste and demand for them in countries where high price would never have given prints any admission.

Edmund Potter, Calico Printing as an Art Manufacture (1852), p.50.

Nay, the workers must even lend a hand to the great industrial invention of the age - adulteration, and by its help produce for their own use shams and mockeries of the luxury of the rich; for the wage-earners must always live as the wage-payers bid them, and their very habits of life are forced on them by their masters.

William Morris, Useful Work versus Useless Toil, in On Art and Socialism (ed. by H. Jackson, 1947), p.180.

CHAPTER TWO

TECHNOLOGICAL CHANGE AND ITS EFFECT ON THE PRODUCTION OF DESIGN

Machinery and design

Ornamentation or decoration of articles has a long history, almost as old as the history of mankind. But it was after the industrial revolution that people in large numbers started wearing, showing and collecting decorated goods produced by large-scale industry. The application of machinery and the invention of new machines for ornamental industry made it possible to distribute a vast number of designed consumer goods through expanded markets. Indeed it is striking when one looks at the development of machinery just how important it was for manufacturers and thousands of anonymous mechanics to invent and improve technology in order to produce patterned goods. The wording of the patent applications appears to indicate that aesthetic considerations were important as a motive for these innovations, even if economic ones were ultimately decisive. William Felkin, in his history of the lace and machine-wrought hosiery industry, lists hundreds of patents submitted by mechanics and manufacturers for machines developed to enable the finished products to contain more complex ornamentation.[1] Sometimes the introduction of a machine capable of producing a pattern changed the character of industry in that community.

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1. William Felkin, A History of the Machine-wrought Hosiery and Lace Manufactures (Cambridge, 1867), passim.

According to Crump and Ghorbal, the new device called the witch marked the birth of design in the Huddersfield weaving trade. They quote the Leeds Mercury of 1829:

> One branch of the fancy trade has, however, been considerably revived by the introduction of a machine called a Witch, which enables the weaver to beautify the cloth with a great variety of flowers; and this species of goods being new is in considerable demand, and employs a proportional number of looms.[2]

An outstanding example of the invention of a new machine for the making of designed goods is that of the Jacquard loom for the weaving of silk, wool, cotton, etc. Its invention in France around the end of the eighteenth century, and its subsequent importation into England in the 1810s, revolutionized the industry of patterned woven fabrics.[3] In calico-printing too the new technological development changed the whole character of design production. The rotary cylinder printing machine increased the volume of production with respect to any particular design.[4] The wallpaper industry adopted the technique of rotary machine production, though it took more than three decades to solve completely the problems

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2. W.B. Crump and Gertrude Ghorbal, History of the Huddersfield Woollen Industry (Huddersfield, 1935; reprinted in 1967), p. 121.

3. Natalie Rothstein, "The Introduction of the Jacquard Loom to Great Britain", in Veronika Gervers (ed.), Studies in Textile History in Memory of Harold Barham (1977).

4. For the history of calico-printing, see for example Geoffrey Turnbull, A History of the Calico Printing Industry of Great Britain (Altrincham, 1951); Victoria and Albert Museum, English Printed Textiles (1960); George Dodd, Manufactures of Great Britain, vol. 1 (1844); Edward Baines, The History of Cotton Manufacture (1835).

involved in transferring the technology from cotton printing to paper printing.[5] In the metal trades, where small-scale workshop production was still dominant, the mechanization of production by means of dies and stamping replaced the skill of the artisan. The machine could stamp out hundreds of items of jewellery, cutlery, buttons, and buckles with the same design.[6] In the bookbinding trade, the introduction of the stamping machine multiplied embossed covers, mostly on cloth.[7] Engraved cylinders were also employed in this industry. Printing techniques were applied in the manufacture of pottery, too. Transfer printing was introduced in this industry in the middle of the eighteenth century, and the application of copper-plate engraving to printing on porcelain became very fashionable.[8] Women in the embroidery industry in the nineteeth century now received cloth with designs already printed by lithography, on which they plied their needles.[9] The new industrial engraver and lithographer acted as an intermediary in translating the traditional work of producers of artistic designs into the new language of machinery.

In this chapter I shall focus on the development of two important processes in the textile industry; the weaving of patterns and the printing of patterns. There follows a discussion of what might be called the "machinery question in design": the debate as to whether the introduction of machinery would lead to lower aesthetic standards. This will

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5. For the wallpaper industry, see George H. Morton, The History of Paperhangings (1875); A.V.Sugden and E.A.Entwisle, Potters of Darwen: 1839-1939. A Century of Wallpaper Printing by Machinery (1939).

6. G.P.Bevan, British Manufacturing Industries (1876).

7. Eleanore Jamieson, English Embossed Bindings, 1825-1850 (1972); Charles Ramsden, London Book Binders, 1780-1840 (1956).

8. William Turner, Transfer Printing on Enamels, Porcelain, and Pottery (1907)

9. J.E.Tennent, A Treatise on the Copyright of Designs (1841), pp.69,71.

supplement recent works on the machinery question and on political economy, as well as on the discussion of skill in the working classes.[10]

Figured weaving

Weaving figures or patterns is fundamentally the combination of different colours in threads by arranging the warp and weft.[11] The arrangement of colours in weft can be simple, since the movement of the shuttles is straightforward, and the weaver can use as many shuttles as he or she wants, though admittedly the handling of these imposes a physical limitation. The labour of throwing shuttles was lightened when Kay's flying shuttle was invented. Before the introduction of Kay's flying shuttle, patterned wool textiles were a rarity and were woven only by a small number of highly skilled weavers. Indeed, weaving patterns without the aid of such special devices was a laborious process, and weaving such complicated patterns as flowers, birds, etc., needed weavers of superior skill. Although it did not improve the movement of the weft, Kay's invention made it possible for the weaver to make each stroke with uniform power, so that the insertion of the weft became much smoother and more regular than before. Kenneth G. Ponting has shown that "from the general adoption of Kay's device, it became common to weave woollen cloths that showed a design, whereas previously they had usually been plain".[12]

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10. See, for instance, Maxine Berg, The Machinery Question and the Making of Political Economy (Cambridge, 1980).

11. The following descriptions of weaving technologies are based, unless otherwise stated, on James Bischoff, A Comprehensive History of the Woollen and Worsted Manufactures (1842); John James, History of Worsted Manufacture in England (1857); Clinton G. Gilroy, The Art of Weaving (1845).

12. K.G.Ponting, The Woollen Industry of South-west England (1971),p.61.

The difficulty lies in the operation of the warp threads, which should be controlled individually. A weaver used a variety of heddles, each of which contained a certain portion of the warp and was controlled by a treadle. When the treadle was depressed the heddle connected to it was lifted and the rest of the heddles were lowered so that the weft could be thrown in between them. The number of heddles corresponded to that of treadles, and the weaver worked by choosing his treadles to produce the pattern. This was naturally a very complicated operation, and James Bischoff remarked that "the only check to this is the want of force possessed by a single weaver to work a large number, and the inconvenient manner in which they would crowd the space of an ordinary loom".[13] To make this complicated process more effective, though still difficult to perform, before the Jacquard loom was introduced successfully, the draw loom had been used.

The draw loom was operated by two persons: the weaver who managed the treadles, shuttles and lay; and the draw-boy who pulled the lashes and simples, hence the cloth woven by this loom was sometimes called drawboy. This loom was widely employed: from the carpet industry of Kidderminster[14] to fancy cloths and damasks trades in the West Riding of Yorkshire, and to the Scottish damasks and shawl trades. In Yorkshire, in and around Halifax, Huddersfield and Keighley, a variety of figured

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13. J. Bischoff, op. cit., p. 415.

14. In the Kidderminster carpet industry which manufactured cheaper imitations of the traditional Brussels carpet known as Tapestry Brussels, the pattern was not created by the weaver. Instead the worsted yarn was already printed before it went to the loom, so that "when the yarns were arranged in their proper order ready for the weaver's beam, the pattern was already apparent". (J.N.Bartlett, "The Mechanisation of the Kidderminster Carpet Industry", Business History, LX (1967), pp.50-51.)

cloths was woven on the draw loom. There were many firms renowned for their high-class figured and fancy cloths and stuffs. James Haggas and Sons, and Nathaniel Walbank of Keighley, for instance, made drawboys in the eighteenth and the early nineteenth centuries, one of the latter's drawboy patterns being called the Swan, "from the figure of that bird being woven into the piece".[15] Drawboys were sold in the market at Halifax, which was "the sole market for drawboys" until the 1850s.[16]

The preparation and use of the draw loom were very time consuming and awkward, as Clinton Gilroy recorded in 1845:

> When the mounting of the draw loom is very extensive, it is found necessary to employ from two to ten, or more, boxes of pulleys, and as many draw-boys; for were the whole number of pulleys placed in one box or frame, it would be extended to a very inconvenient size.[17]

In order to solve this complication, a barrel (or cylinder) loom was invented by a Scot, Thomas Morton of Kilmarnock. This was an ingenious application of the barrel of the common organ or music box. On the surface of a barrel, the pattern was arranged in relief "by inserting wire staples or wood pins, and the barrel being placed upon the top of the loom, these staples actuate other suitable mechanism, and thus the pattern is formed upon the cloth".[18] There was another improvement on the draw loom by another Scot, James Cross of Paisley.[19]

John James wrote about an apparatus called a "dobby", which was also employed to make figured stuffs. This device was introduced by James Akroyd, Junior, of Old Lane, near Halifax, in about 1814 or 1815. A cloth was "woven by the aid of a wood machine with that appellation

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15. John Hodgson, Textile Manufacture and other Industries in Keighley (Keighley, 1879), p.82.

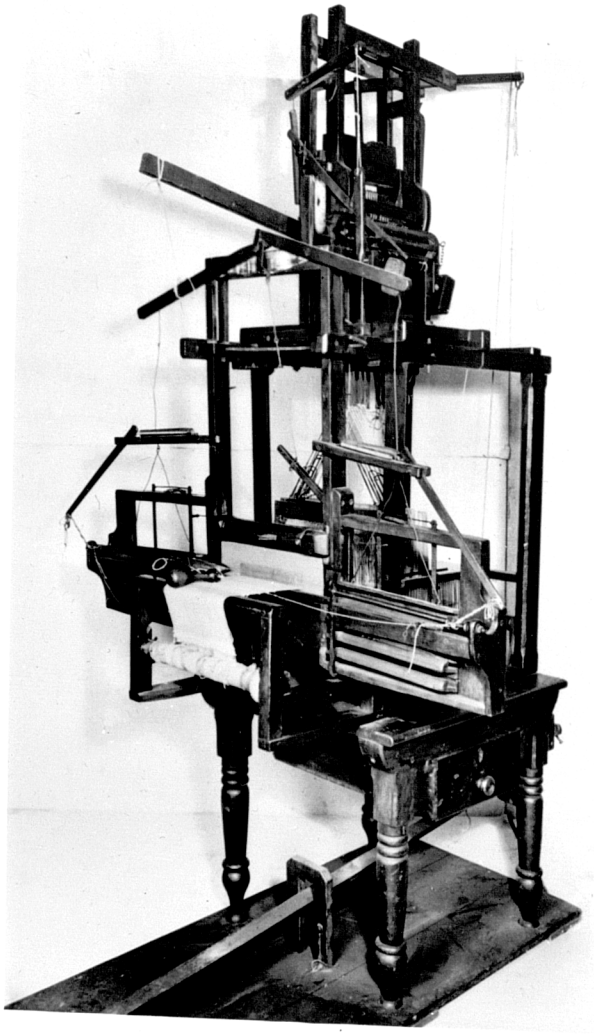
16. ibid.

17. Clinton Gilroy, op. cit., p.161.

18. ibid.

19. ibid.

Figure II-I: Witch-Engine Pattern Loom.



placed across the loom".[20] James reported that the machine was still being used when his book was written in 1857, "for weaving coat linings of cottonwarp and worsted weft".[21] Originally the figures woven by this machine were simple and small patterns such as diamonds or lozenges, but "there was a capability of great range of figure, being woven with from sixteen to nineteen healds, so that eventually, the figures consisted of flowers and other patterns and devices of a small kind..."[22]

At the beginning of the 1820s, manufacturing "dobbies" (stuffs made by the dobby loom) had a "very brisk demand", and "manufacturers were making a very handsome profit".[23] Hodgson listed John Smith, Thomas Waterhouse and John Rishworth as dobbies manufacturers. John Smith entered in trade as a dobbies manufacturer and sold his pieces at the Bradford market; John Rishworth was "his own designer for his dobbies ...sometimes having as many as six different figures across the dobby pieces", and took his goods to Halifax "carrying four or half a dozen pieces on his back".[24]

The witch engine, to which reference has been made earlier in this chapter, was another device invented for producing figured woven fabrics. Crump and Ghorbal quoted John Beaumont's recollection of the Huddersfield fancy trade in the early 1830s, when the two classes of machine were employed by weavers:

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20. James, op. cit., p.161.

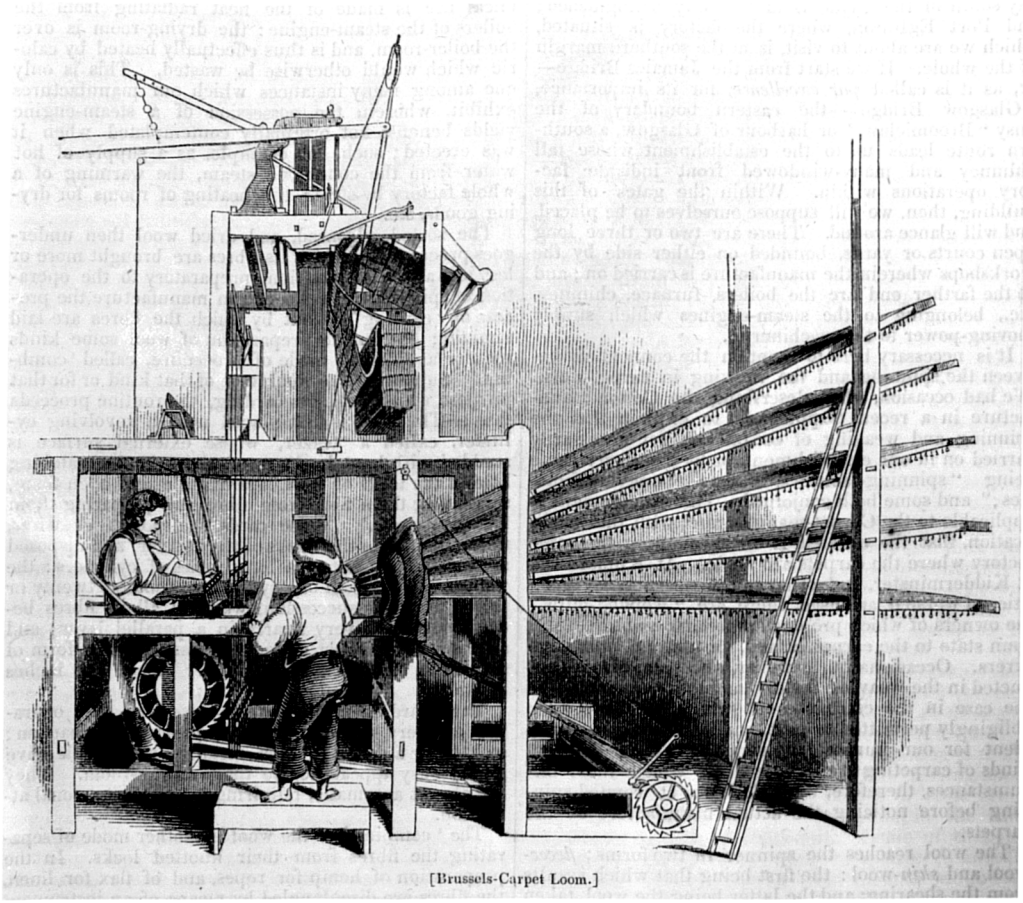
21. ibid.

22. ibid.

23. Hodgson, op. cit., p.98.

24. ibid., p.145.

Figure II-2: Jacquard Engine attached to Carpet Loom, c1840



[Brussels-Carpet Loom.]

> One was the Drum Witch and the other the Engine (or Dobbie). The largest machine constructed on the drum principle would have a capacity of about forty (heald) shafts, but this was at this time losing its hold in consequence of the clumsiness of its appearance; while the Engine, with a weaving capacity ranging from twenty-four to 160 shafts, was fast coming into favour.[25]

Beaumont suggested that the Engine (Dobbie) was invented by Joseph Senior and Thomas Brooke (designer) of George Senior & Sons, Dalton, but he did not give the date of its invention.[26] If his attribution were correct, the date should be before 1814, when James Akroyd was producing "dobby". Crump and Ghorbal doubted Beaumont's claim, but there is no evidence that his attribution was either right or wrong.[27] Beaumont wrote his memoir in the context of the introduction of the Jacquard to the Huddersfield trade, an event which will be further discussed later.

The Jacquard loom was invented by Louis Marie Jacquard of Lyons in 1800 and his machine was exhibited in the Paris Exhibition in 1801.[28] Although it was highly praised for its usefulness in making figured woven cloths, it was not until 1810 that the Jacquard began to be used commercially in France. By 1815, however, it had established itself as an indispensable apparatus. In England, it was first introduced to the silk industry of Spitalfields in about 1818, but the woollen textile industry was slow to take advantage of the Jacquard. The carpet manufacture of Scotland was the next to use the Jacquard loom, and Coventry ribbon manufacturers were to introduce it in about 1822. James Akroyd,

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25. Crump and Ghobal, op. cit., pp.122-23.

26. ibid.

27. ibid., p.123.

28. For a discussion of the Paris Exhibition, see chapter V below.

Junior, damask manufacturer of Halifax and a man of enterprise, first introduced it to the West Riding in 1827. Once having taken a deep root in textile manufacturing, the Jacquard recommended itself as a revolutionary device to open up a wide variety of new possibilities for the manufacturer. In the silk industry, for example, The Journal of Design described it as effecting "a magical change in the condition of this industrial art",[29] and in the manufacture of cotton quilting the same journal reported that the Jacquard gave products, instead of the old plain diamond quiltings, a more elegant and elaborate character.[30]

The slowness in diffusion of this excellent invention has been attributed to several causes; Clinton Gilroy counted two reasons

> the first of which was, the opposition of interested parties (weavers) who erroneously feared that they would be injured by its introduction among them; the second was, the imperfection of some of the movements of the machine itself, which its ingenious inventor appears to have been unable to obviate.[31]

The first point has little evidence to support it. Natalie Rothstein's dismissal of the suggestion on the ground that "it was power looms which were smashed by Luddites, not Jacquards; the latter were admired by both masters and men",[32] is convincing. The causes are more likely to have been technical difficulties and commercial considerations.

Technical problems, even after the initial commercial success in France, were undoubtedly a great obstacle. Gilroy could list, at the time his book was being written, in 1845, at least ten individuals who

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29. Journal of Design and Manufacture, II, no. 11 (January, 1850), p.170.

30. ibid., V, no. 30 (August, 1851), p.167.

31. C. Gilroy, op.cit., p.192.

32. N. Rothstein, loc.cit., p.289.

had worked on the Jacquard to improve its mechanism: Dioudonnant, Bosquillon (French); Stephen Wilson, John Dove (English); Claude Wilson, James Morrison, H. and J. Crawford, Thomas Morton (Scottish); and Ichabod Hook (American).[33] There were no doubt many more mechanics and manufacturers who tried to improve the Jacquard engine. John James drew special attention to Dracup of Horton:

> He commenced making these engines in 1833; they had been introduced into Horton in 1832, and were used at first with two treadles on plain ground, and could only be worked by hand. Soon afterwards the figures began to be woven by the engine upon twilled goods. It is stated that Mr. Thomas Ackroyd, of Hornton, set the first Jacquard engine to work by power in the neighbourhood of Bradford. It is worthy of note connected with this subject, that Mr. Dracup made the first card cutting machine in the year 1833, and in the succeeding year he produced his Repeater, a kind of stereotype for designs.[34]

As shall be seen in a later chapter, Dracup was also acting as an agent to supply designs to the Manufacturers.[35]

Although the first Jacquard is said to have been introduced in the West Riding in 1827, the success of the machine did not become certain until 1832. John James wrote that after James Akroyd purchased a Jacquard loom from Mr. Sago of Manchester in 1827, he "had some of these engines made at his own establishment, but they did not succeed, and the great cost of the machine when purchased from the French, checked its use".[36] This account of James accords with John Beaumont's recollection that manufacturers in Huddersfield were on the whole reluctant to employ the Jacquard when a Frenchman came to display the machine for inspection

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33. ibid. p.192

34. James, op. cit., p.440.

35. See chapter III

36. James, op. cit., p.440.

in 1830 or 1831. Charles Oldfield, a noted loom and witch maker, was asked to observe the Jacquard by John Wood, of Joshua Wood & Sons of Dalton, who was favourably impressed by it. But this experienced machine maker did not like it at all.[37] James's History makes the year 1832 the turning point in the history of the Jacquard and the "fancy trade" in Yorkshire:

> About the year 1832, however, they began to come into more extensive use, and some parties in the locality having succeeded in making good working engines, henceforward they progressively spread throughout the whole district, facilitating the production of the choicest figures in stuffs at a small cost, and giving that impulse to the fancy trade of Halifax and Bradford which is yet retained.[38]

The application of the Jacquard to the worsted industry was slower than to the woollen industry, due to the more delicate and fragile nature of worsted materials for the warp thread. But the introduction of new materials for the warp to mix with the traditional wool, mohair, and alpaca proved to be a great success, and this gave an enormous opportunity for the worsted manufacturer to make a wide range of products, all figured by the Jacquard.[39] In a report on the Free Trade Bazaar held at Covent Garden in 1845, the Art-Union praised the effort of manufacturers in the worsted industry, and pointed out the other factors contributing to success in this field:

> there were practical difficulties in the application of the Jacquard loom to pure worsted goods, and the adoption of a more stiff and cordlike material for warps was rendered difficult by the want of means of communication between the cotton and woollen districts. The opening of the Manchester and Leeds Railway led to a union between the two great branches

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37. Crump and Ghorbal, op. cit., p.122.

38. James, op. cit., p.440.

39. E.M.Sigsworth, Black Dyke Mills (Liverpool, 1958), p.30.

> of staple production in the north of England; Lancashire yarns of doubled cotton supplied warps with the strength of whipcord, and Yorkshire worsteds gave wefts with the fleecy softness of wool and the brilliancy of silk. In consequence of the impulse thus given, many new varieties of material and texture were brought into the market, which at once acquired popularity, not merely from their novelty, but from their beauty, their brilliancy, and their durability. The Jacquard engine began to be used extensively, and a taste for design spread so rapidly that we do not hesitate to say, that the productions of Lyons do not surpass, either in artistic composition or mechanical development of pattern, several pieces of the Bradford goods which were exhibited at the Bazaar.[40]

According to E. M. Sigsworth, these new developments were seen as heralding "a new era in the history of Bradford trade".[41] And for the first time "design and fashion began to play an increasingly important part in the worsted industry with the widening range of possibilities opened as a result of the introduction of cotton warp".[42] The manufacturer's awareness of the "new era" and his new approach to the market will be discussed in a later chapter.

It seems therefore quite likely that from the beginning of the 1830s manufacturers became sufficiently confident to employ the Jacquard, and tried to expand their share in the "fancy trade". The following table, compiled by Zoë Munby, suggests that James's account is borne out by the proliferation of Jacquard machine makers at this period.[43] Although the list of machine makers is confined to the Manchester area, it seems safe to assume that the trend was similar in the West Riding; and in any case the Manchester Jacquard machine makers also supplied the Yorkshire wool textile industry.

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40. Art-Union, May 1845, pp.212-13.

41. Sigsworth, op. cit., p.45, quoting the Bradford Observer of September 9, 1838.

42. Sigsworth, op. cit., p.55.

43. Zoë Munby, "Lancashire Cotton, 1800-1915: an Examination of the Role of the Designer in the Production Process"; (forthcoming PhD thesis submitted to the C.N.A.A.). I am very grateful to Ms Munby for allowing me to consult her MS prior to the submission of her thesis.

Table II-1. Manchester Jacquard Machine Makers 1800-1870

Name	Dates	Discription of work
James Jacquire	1834-43	Jacquard machine maker and pattern designer
Zepharim Devoge	1836-	Jacquard machine maker
William Smethurst	1836-45	Jacquard machine maker and reader card cutter, etc.
John Crossley	1836-	Jacquard machine maker and machinist and iron founder
Henry Dussett	1838-69	Jacquard machine maker
Bennett Woodcroft	1840-43	"
Frederick Goos	1841-48	"
William Sykes	1843-48	"
Henry Russet	1845-48	"
John Crowley	1848-79	" and machine maker
Barnet & Co.	1857	Jacquard machine makers
John Smith	1857-58	" and card cutter
Heport Bennett	1861	Jacquard machine maker
James McMuroo	1869-	"

Source: Zoë Munby, "Lancashire Cotton, 1800-1915: an Examination of the Role of the Designer in the Production Process". (See note 43).

Enterprising manufacturers and mechanics soon tried to apply the Jacquard to the power loom, and their earlier experiments were exhibited at the mechanics' institutes in the late 1830s and early 1840s when these institutions held exhibitions. The Jacquard loom was indeed

one of the most prominent and popular exhibits. In Manchester in 1838, for instance, a Jacquard loom for the application of steam power was displayed with "suitable cards and warpfor weaving",[44] and at the Leeds Exhibition of 1839 "a weaver from the works of Messrs. Joseph Norton & Co., of Clayton West, near Huddersfield, is at work, so as to show the action of the loom".[45] This Jacquard was said to be "superior to the Jacqard Loom mentioned in some recent publications, the weaver having the face of the pattern towards him, and seeing every change as it goes on, instead of, as described by Dr. Ure, inspecting it only 'occasionally', and by the aid of 'a bit of looking-glass'".[46] The other exhibit in the Leeds Exhibition was a Patent Power Loom which was sent by Benjamin S. Shaw, of D. Shaw, Son and Co. "This loom, with its Jacquard machine, is adapted for weaving fancy figured goods as well as twilled and plain cloth, whether made from wool, cotton, flax, or silk".[47] These examples indicate that by the end of 1830s much effort had been devoted to the production of a commercially successful, power loom Jacquard attachment.

Calico-printing

By the end of the eighteenth century, basic methods for the ornamentation of calico were already being practised by calico-printers: these were

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44. Manchester Guardian, 3 January 1838.

45. Leeds Mercury, 13 July 1839.

46. Leeds Mechanics' Institute, Catalogue of Exhibition (Leeds, 1839), p.56.

47. ibid.

Figure II-3: Block-printing. c1840

[Block-printing.]

wood-block printing, copper-plate printing and cylinder-machine printing, in which copper-rollers were employed. The last method was developed in the first half of the nineteenth century, and the hand-block method became significant only in superior prints, whereas copper-plate printing ceased to be used by the middle of the nineteenth century.[48]

The origin of calico-printing in this country has been examined by many historians, but owing to the shortage of evidence we have no definite conclusion about it. Geoffrey Turnbull indicated that the first record of such printing in England was a monopoly patent, granted in 1619 to George Wood, of all the printing and staining within England and Wales of linen cloth in colours.[49] In the same year, according to Turnbull, there was another patent for a "waie to print upon lynnen cloth". Then Thomas Togwood was granted a patent for "tingering" by way of impression, and in 1676 William Sherman got a patent for printing by press.[50] According to Peter Floud, on the other hand, the first English industry of this trade was founded by William Sherwin, an engraver, who took a patent in 1676: "A grant for fourteen years of the invention of new and speedy way for producing broad calico, which being the only true way of the East India printing and stayning such kind of goods".[51] This William Sherwin (misspelled perhaps by Turnbull) was a first-class mezzotinter, and A. M. Hind attributed to him "the honour of the earliest

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48. Technical aspects of calico-printing in the following section are based, in addition to the works mentioned in note 4 , on S.D. Chapman and S.Chassagne, European Textile Printers in the Eighteenth Century: A Study of Peel and Oberkampf (1981); Stuart Robinson, A History of Printed Textiles(1969).

49. Turnbull, op.cit., p.18.

50. ibid.

51. Victoria and Albert Museum, Catalogue of a Loan Exhibition of English Chintz (1960), p.7; the same, English Printed Textiles, p.1; Stuart Robinson, op.cit., p.15.

mezzotint dated by an Englishman".[52] It is worth noting here that engravers played a significant innovatory role in the new industries and new products such as calico-printing, wallpaper printing, transfer printing in ceramics, etc. It is not known whether Sherwin used the copper-plate or the wood-block printing method, but he must have applied his skill as a copper-plate engraver to the calico-printing industry, using his printing press.[53]

Before Scotland (and especially the Glasgow area), Ireland and Lancashire became prominent in calico-printing, it was London which played the central role in this industry. Peter Floud summarised its early development:

> By the end of the /seventeenth/ century it was well established along the lower reaches of the River Lea - in Poplar and West Ham - and spread during the next two decades to other areas around London where copious water supplies were available, such as the bank of River Wandle, and at Lambeth, Bermondsey and Wapping.[54]

The prominence of London, however, was gradually reduced in the second half of the eighteenth century, as S.D.Chapman and S. Chassagne show in the following table.[55]

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52. A.M.Hind, A History of Engraving and Etching (new ed., New York, 1963), p.267.

53. For the relationship between the publishing and textile printing trades in terms of the transfer of technology from the former to the latter, see, for example, Chapman and Chassagne, op.cit., pp.10-11.

54. Victoria and Albert Museum, English Printed Textiles, p.1.

55. Chapman and Chassagne, op.cit., p.8.

Table II-2. Distribution of calico printers in Great Britain.

Region	Number of firms	
	1760	1784-7
Manchester	1	45
Blackburn	1	12
London	20	13
Dublin	5	14
Glasgow	1	27
Total	28	111

Source: S.D.Chapman and S.Chassagne, European Textile Printers in the Eighteenth Century (1981), p.8.

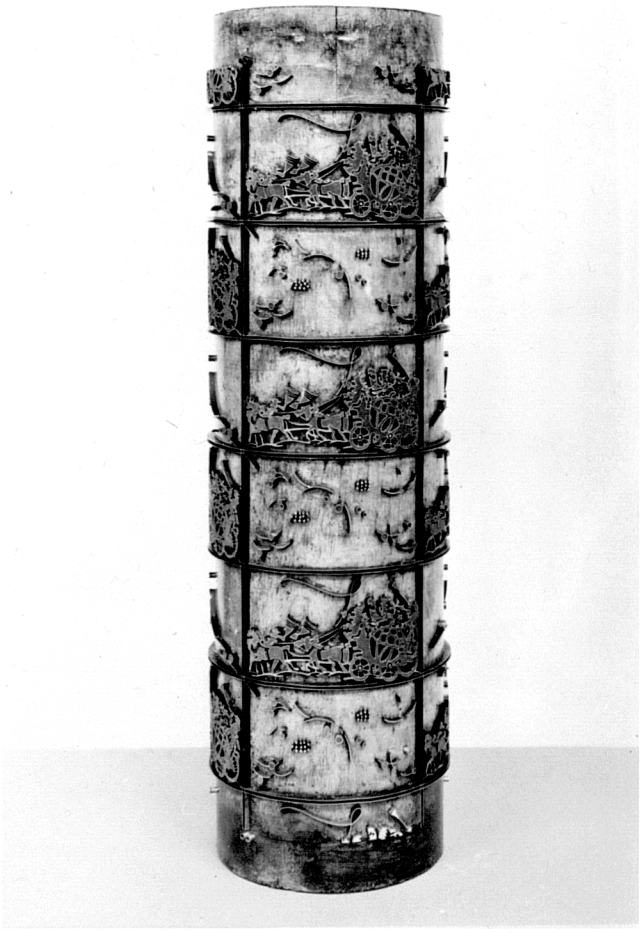
As the compilers of this table admit, the size of firms is not shown; but it is obvious from the table that a conspicuous migration from London to the other regions and the starting of the new businesses outside London were already under way in the middle of the second half of the eighteenth century. The growth of the industry itself will be discussed elsewhere; the subject of this section is technological changes in printing methods.[56] Incidentally, the other important factor for the development of calico-printing, namely the discovery of new chemicals for fast colours, is omitted from this thesis. Without the aid of chemistry, the industry would never have grown so great as it did. But the inclusion of this aspect would complicate the present study, and it has therefore regretfully been left out.[57]

Until the middle of the eighteenth century, only block-printed calico had been produced, as far as can be told from the evidence of

56. For the growth of the industry, see in the following section, and Chapters VI and VII.

57. For the development of chemical colour substances, see Edward Baines, op.cit., chapter XII.

Figure II-4: Wood-roller for "Stormount Ground" (1)



surviving textiles. This method was not very different from the wood-cut used for book printing. "The wood-blocks measure about twelve inches by seven".[58] The pattern was drawn on the block and a block cutter cut out the wood so as to leave drawn lines. One block could print one colour only; and therefore if more colours were required to print the original design, more wood-blocks had to be cut, each of which represented a different colour. Block-cutters sometimes executed a vast number of blocks for a single pattern which demanded many different colours. This work must have been entirely mechanical, though block cutters required skill to produce very complicated designs, as George Dodd described in his Novelties, Inventions and Curiosities in Arts and Manufactures:

> One of the exquisite barege shawls recently produced is said to have required more than five hundred carved blocks to produce it, every one of which represents a different part of the device (either in colour or in pattern) from any of the others.[59]

In about 1785, the new method called the "pin" or "stormount ground" was added to the block-printing technique: this was to remedy a shortcoming of the old method in which fine lines on the wood wore out with repeated use. In the new process, small slips of copper or brass were inserted into delicate grooves cut for them, and stood at an equal height to form the printing surface; then small pieces of felt were inserted to fill up the interstices between the copper, so as to imprint a broader patch of colour.[60] This method was known as "surface-printing" and was adapted to the printing of wallpaper, the wood-block being replaced by

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58. Dodd, op.cit., p.59.

59. George Dodd, Novelties, Inventions and Curiosities in Arts and Manufactures (1858), p.44.

60. George Dodd, Manufactures of Great Britain, p.59; Turnbull, op.cit., p.29; W.Crookes, Dyeing and Tissue Printing (1882), pp.384-85.

Figure II-5: Wood-roller for "Stormount Ground" (2), Detail.

a wood roller for continuous printing. It was revived towards the end of the nineteenth century.[61] (See Figure II-4 and 5).

In 1752 Francis Nixon, at the Drumcondra printworks outside Dublin, applied the technique of copper-plate engraving to calico-printing. This transformed the appearance and raised the status of English printed textiles and made it possible for the printer to employ much larger designs. It also enabled him to use much finer and more delicate draghtsmanship. Within a decade of the introduction of engraved copper-plates to calico-printing, the leading London printers mastered the technique and became some of the finest printers in Europe. Originally the letter press was used, the process being similar to that of printing an engraved picture. In this method only small articles such as handkerchiefs could be printed, as repeats were impossible to fit, and a long length of cloth was impractical to handle. But after some experiments these difficulties were overcome. In Lancashire, however, calico-printers undertook very little copper-plate printing; they concentrated on a full range of polychrome wood-block prints for upholstery and cloths.[62] It was the rotary printing machine that dramatically changed the nature of the trade in Lancashire.

The rotary printing machine was invented by a Scot, Thomas Bell, who introduced an engraved copper-cylinder which made continuous printing possible. Within a decade this method spread throughout Lancashire, particularly in the Preston area, and was successfully practised, Livesey Hargreaves being the first printer to use it. Although numerous attempts

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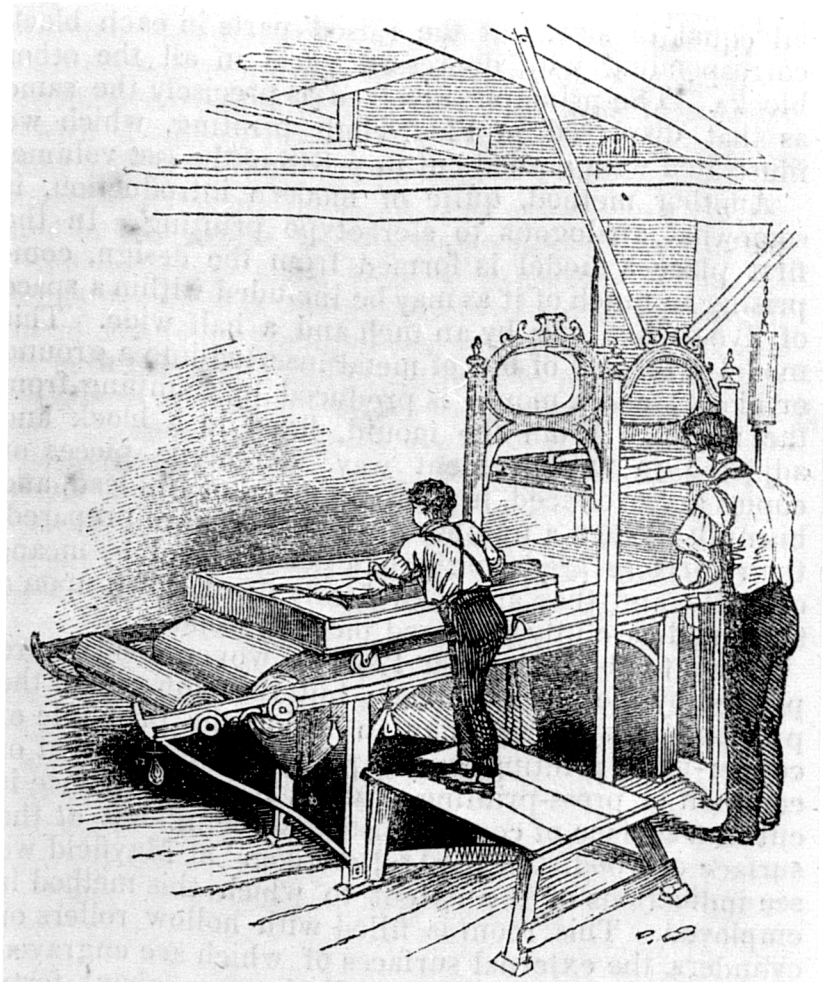
61. See books listed in note 5).

62. Victoria and Albert Museum, English Printed Textiles, pp.2,4.

Figure II-6: Press-printing. c1840.



[Press-printing.]

at mechanical improvements were made, machine printing was almost entirely limited to the production of cheap monochrome dress-prints with small patterns. It was not until about 1810 that the new technique had been sufficiently developed to produce the larger patterns required for furnishing fabrics.[63]

The cylinders were about thirty or forty inches long, and all were above five inches in diameter and half an inch thick. As in block-printing, each cylinder printed one colour only, but, from the 1830s onward, it was normal for four or five colours to be printed from the same number of cylinders. According to George Dodd, "a most scrupulous exactness of adjustment is requisite in making and engraving the different cylinders for one device, in order that each one may imprint a particular in the precise spot required".[64] The process of printing by machine was described by Edward Baines in 1835 as follows:

> A polished copper cylinder...is engraved with a pattern round its whole circumference, and from end to end. It is then placed horizontally in a press, and as it revolves, the lower part of the circumference passes through the colouring matter, which is again removed from the whole surface of the cylinder, except the engraved pattern, by an elastic steel blade, placed in contact with the cylinder, and reduced to so fine and straight an edge as to take off the colour without scratching the copper...The colour being thus left only in the engraved pattern, the piece of calico or muslin is drawn tightly over the cylinder, which revolves in the same direction, and prints the cloth. After the piece is printed, it passes over several metallic boxes, heated by steam, which dry it.[65]

Improvements and innovations were made in the printing machine, while the method of engraving also went through numerous technical and mechanical

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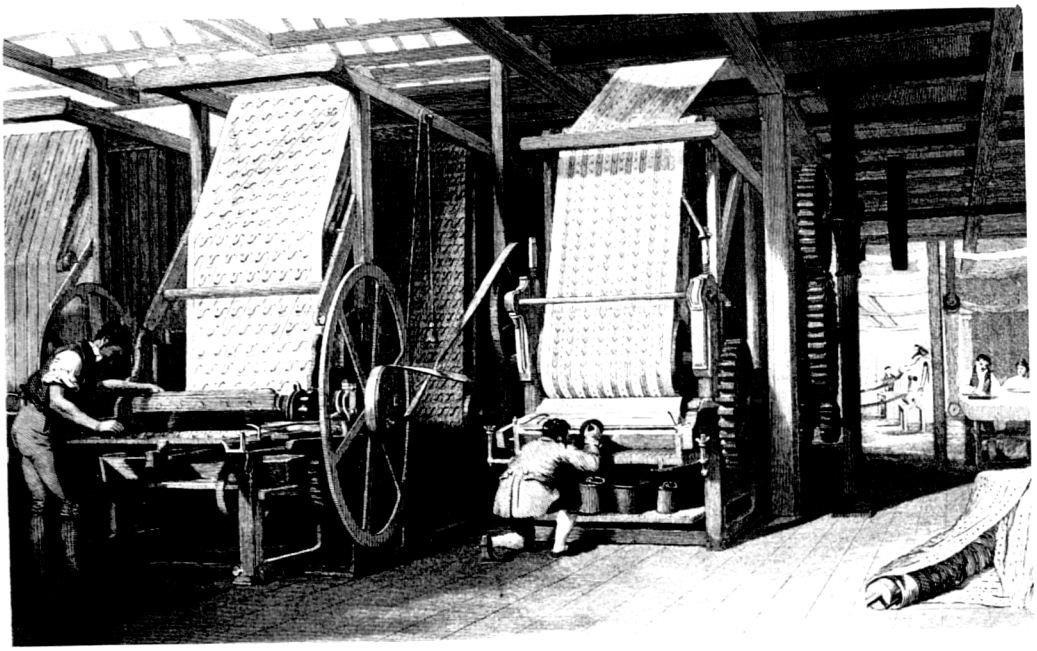
63. ibid., pp.5-6.

64. Dodd, Manufactures of Great Britain, pp.60-61.

65. Baines, op.cit., pp.265-66.

Figure II-7: Roller-printing. c1835.



improvements. In 1808 Jacob Perkins of America invented the mechanical method of engraving. He was the inventor of the method of printing bank notes, which was applied to calico printing. The process was called mill engraving, a steel cylinder (the mill) being employed to press the pattern on to the copper cylinder by mechanical aids. The pattern was first on to a small steel cylinder by a die-sinker; this cylinder was then hardened and pressed on to another soft steel cylinder which was hardened again. "The small original cylinder is called the die; the second is called the mill; and this mill is applied successively, by the aid of great pressure, to every part of the copper cylinder".[66] In England, Joseph Lockett of Manchester was the first to use this method. He was renowned for his ceaseless efforts to improve engraving techniques in calico-printing, creating "fancy machine-ground" or "eccentric patterns", which were in great demand in the 1830s.[67] The other innovation in the engraving process was the pentagraph method, invented by Deverill in 1834. The smaller repeat patterns could be engraved by the pentagraph machine, and finished off by hand. This machine, intended as a labour-saving device, produced "a great amount of fine stipple work" with various effects.[68] Both this machine and mill engraving were intended to serve the mass market rather than the luxury goods market.

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66. Dodd, Manufactures of Great Britain, pp.61-62.

67. See Lockett's own evidence at the Select Committee on the Copyright of Design, Minutes of Evidence taken before the Select Committee on the Copyright of Designs, Parliament Papers (1840) VI.

68. William Blackwood, Calico Engraving (1913), p.5.

The machinery question

What was the effect of mechanization on the production of design? Did it produce cheap and beautiful goods for the millions? In 1851, when the Crystal Palace was attracting hundreds of thousands of people to its "giant new ritual of self congratulation",[69] a handful of critics condemned the design of the exhibits and lamented the backwardness of British designers. Ralph Nicolson Warnum, for instance, wrote an Art-Journal prize essay, "The Exhibition as a Lesson in Taste", in which he asserted that "there is nothing new in the Exhibition in ornamental design;...the taste of the producers generally is uneducated, and in nearly all cases this is not so, the influence of France is paramount in the European productions..."[70] Henry Forbes, commenting on the worsted industry, observed that "it is, indeed, in the department of design that our English deficiencies are most apparent".[71] This assessment of the state of British design seems fair, and has been followed by many leading art critics and art historians, notably John Gloag and Nikolaus Pevsner,[72]

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69. E.J.Hobsbawm, The Age of Capital 1848-1875 (1975), p.32.

70. Art-Journal: The Crystal Palace Exhibition Illustrated Catalogue (1851, reprinted in New York, 1970), p.V***.

71. Henry Forbes, "The Rise, Progress, and Present State of the Worsted, Alpaca and Mohair Manufactures of England", Lectures on the Result of the Great Exhibition of 1851 (1853), p.326.

72. John Gloag, "Introduction to Dover edition of the Art Journal illustrated catalogue", as note 70; Nikolaus Pevsner, High Victorian Design (1951, reprinted in Studies in Arts, Architecture and Design (1968)).

Pevsner, for instance, wrote of the Great Exhibition that "The attendance as well as the size of the buildings and the quantity of products shown was colossal. The aesthetic quality of the products was abominable".[73]

The problem of British design had, however, been realised at least sixty years before the Great Exhibition. British design in textile printing in the eighteenth century was, as has been pointed out earlier in this chapter, renowned for its elegance and fine execution. London printers were particularly distinguished in this respect. By the end of the eighteenth century, however, the migration of trades from London to Lancashire brought a significant change in this industry: the degradation of designs in conjunction with the creation of mass markets.[74] Printers in London strongly criticised the introduction of machinery into the trade by their counterparts in Lancashire for causing the deterioration of their art. Block printers in Lancashire, many of them migrants from London, made the same complaint.[75] During the course of industrialisation in Britain, a gradual degradation of the quality of design was noticed by many, and it became a serious problem of British industry. On the other hand, there was a large number of people who praised the advancement of machinery and its superiority in the production of design. The machinery question thus included aesthetic considerations.

Edmund Potter, a successful calico-printer of Manchester and a reporter

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73. N. Pevsner, Pioneers of Modern Design, (Pelican ed. 1975), p.41.

74. Chapman and Chassagne, op.cit., pp.79,88.

75. ibid, pp.30-32.

to the jury of the Great Exhibition, strongly defended machinery and further praised its progressive and democratic role as a means of diffusing taste to the majority of population:

> The manufacturer thinks machinery the greatest possible blessing to society, and even to taste, as enabling him to multiply a thousandfold the genius and mind of the artist, cheapened so as to refine and civilise thousands, rather than selected classes.[76]

He compared hand-block printing with the machine: whereas the former produced six pieces a day, the latter, with the same number of hands, would

> produce in one or more colours from 200 to 500 pieces, with infinitely fewer defects of impression, and with all the accuracy and precision that well-arranged mechanical power is capable of...The finest possible patterns are engraved by machinery, with soundness and accuracy, on rollers which in many cases afford repetitions of impressions of the patterns to the extent of many thousands of yards.[77]

Spurred on by this strong confidence in machinery, Potter progressively replaced the old method of hand-block printing by machine printing. Potter's biographer tells us that "The increase in the number of printing machines and the decrease in block printing by almost one hundred meant that Potter's works were now taking shape in no uncertain manner".[78] In fact many other calico-printers did the same, as the following table shows.

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76. Edmund Potter, A Letter to a Member of the Commissioners for the Exhibition of 1851, quoted in J.G.Hurst, Edmund Potter and Dinting Vale (1948), p.26.

77. Edmund Potter, Calico Printing as an Art Manufacture: A Lecture read before the Society of Arts (1852), pp.13-14.

78. J.G.Hurst, op.cit., p.14.

Table II-3. The number of Printing Machines and Hand-block Printing Tables.

Printing machines

Firms	1840	1846	1851
Tho. Hoyle & Sons, Mayfield	9	20(+11)	25(+5)
Schwabe & Co., Rhodes	7	15(+8)	25(+10)
Hargreaves & Dugdale (1840), Hargreaves Bros. & Co. (1846)	12	12(0)	
James Thomson Bros. & Co.	7	8(+1)	
Ed. Potter & Co.	4	12(+8)	24(+12)

Hand-block printing tables

	1840	1846	1851
Tho. Hoyle & Sons	186	86(-100)	50(-36)
Schwabe & Co.	120	80(-40)	66(-14)
Hargreaves etc.	320	202(-118)	
James Thomson etc.	284	316(+32)	
Ed. Potter etc.	117	20(-97)	

Source: J.G.Hurst, Edmund Potter and Dinting Vale (1948) pp.14-15.

The only exception to this trend was James Thomson of Clitheroe to whom we shall come back later.[79] According to J.R.Hannay, the total number

79. On James Thomson, see chapters IV, V, and VI below.

of machines in Lancashire was 435 in 1840, and 604 in 1851; the number of tables for block-printing in 1840 was 8,234, but in 1851 it was only 3,939.[80] Table II-4 shows the output of printed calicos (pieces) between 1750 and 1851. The Table indicates clearly that the growth of the industry in the first half of the nineteenth century was tremendous; and it is undisputable that the mechanization of design was crucial in this development, and of vital importance to manufacturers and, indeed, to purchasers.

Table II-4. The production of calico in Great Britain. (Pieces)

1750	1796	1830	1840	1851
50,000	1,000,000	8,600,000	16,000,000	20,000,000

Source: Edmund Potter, Calico Printing as an Art Manufacture (1852), pp.15, 30-31.

Potter did not, of course, claim that machine printing would surpass the exquisite and luxurious effects produced by the hand-printing method. But he did claim that the roller-printing method could introduce a new taste to the public. "The art has kept pace with the other improvement in the trade, and though the taste displayed in the patterns produced by the engravers themselves is of a quiet, modest character, it has in it the elements of great beauty, and has a powerful influence on the success

80. J.R.Hannay, Lecture delivered to the Manchester Branch of the Guild of Calico Printers, Bleachers, Dyers and Finishers Foremen (1923), quoted by Turnbull, op.cit., pp.82-83.

of the English Printer".[81] He attributed this achievement to the remission of tax and to improvements in machinery during the period between 1820 and 1830, noting that "the changes in the trade during this period led to the encouragement of a taste, not so showy as the chintz-block production (for a long time the highest style in the trade) but of goods of a more elegant and quiet character".[82] He was well aware of the market he was aiming at. This was the mass market for the working and middle classes whose requirements were for goods that were "quiet, modest, and useful". And he believed that, in this class of products, the English excelled:

> The sober careful classes of society cling to an inoffensive taste, which will not look obsolete and extravagant after the lapse of such a time as would render a garment comparatively tasteless and unfashionable in a higher class. This trade is the printers' most extensive and valuable, and has its necessary and practical bearing on his taste, and hence it is in this branch of the business, the English printer is most decidedly superior to his French competitors.[83]

Potter's praise of "a quiet and modest" kind of beauty received an immediate response from a designer who declared that "The Designers owe Mr. Potter a lasting debt".[84] John Graham of Stalybridge, a calico designer, wrote in 1853 a short pamphlet called A Voice from the Bench. His frustration and disappointment, caused by the attacks upon and misunderstanding of British designers and their products, led him to write a defence of his fellow designers. He wanted to "remove a growing opinion that we are a set of untaught, ignorant men, without taste, without refinement, and consequently requiring Government interference, in order to raise a higher class of Designers".[85] He held the imputation

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81. Potter, Calico Printing, p.15.

82. ibid., p.21

83. ibid., p.57

84. John Graham, A Voice from the Bench (Manchester, 1853), p.13.

85. ibid., p.14

that British designers were inferior to French to be unfair. Here the designer's strong awareness of the mass market is remarkable. He was content to be a commercial man, catering for a large public, whereas the French designer, he emphasized, was producing goods for the highest class of customers. It was very clear to him that "we do the bulk, and they /the French/ may with all my heart wear the honour, so long as we reap the profit, and get through the quantity".[86] He found his identity in his relationship with a wide public, and he found in Potter's promotion of "taste for the mass" extremely encouraging support. Graham defined the merits of a designer as follows:

> The Designer, who watches closely the current of public want, and can feel his way some few months before the demand, he is the valuable Man of Taste, because he caters for the public, who are his censors, and his abilities are only valuable when he gives them up to the public.[87]

It is easy to perceive here a dilemma which the designer of the modern age had to face: the dual pull of his own taste and of the public's demand. But Graham seems to have been saying that the man who devoted his ingenuity to catering for the public was as important as he who found satisfaction in designing high quality products for an elite.

One of the characteristic criticisms of machine-produced designs in the Victorian period was that handicraftsmanship had been degraded by the division of labour and by its replacement by machinery. This criticism was directed not only at the textile industries, but also at many other manufacturing industries, such as those of metal, pottery, paper-staining, etc. Richard Redgrave, R.A., in his Supplementary Report on Design for

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86. ibid., p.10.

87. ibid., pp.6-7.

the Official Report of the Great Exhibition, wrote some typical criticisms of British design:

> The ornament of past ages was chiefly the offspring of handicraft labour, that of the present age is of the engine and the machine. This great difference in the mode of production causes a like difference in the results. In old times the artist was at once designer, ornamentist, and craftsman...He worked, not to produce a rigid sameness, but as Nature works...But this is not possible with the stamp, the mould, the press, and the die, the ornamental agents of our days: after the type or model is made all the products are rigidly the same, whence arises a sickening monotony, a tiresome sameness, unknown in the works of nature and peculiar to these artificial works of man: the varying mind has no share in their production, and man himself becomes only the servant of the machine...Wherever ornament is wholly effected by machinery, it is certainly the most degraded in style and execution.[88]

Redgrave was a member of a group gathered around Henry Cole, Owen Jones and Matthew Digby Wyatt.[89] They were the most powerful critics of the 1840s and 50s, and were to take a leading role in promoting the Great Exhibition, in reforming the Government School of Design and in creating the South Kensington Museum (the present Victoria and Albert Museum). They desired that the state should promote improvements in the standards of design and the cultivation of taste among the British manufacturers and the public alike. They tried to set a standard of taste by publishing their organ, The Journal of Design and Manufacture, and by encouraging the collaboration of artists and manufacturers under the umbrella of "Art Manufacture". They issued a set of principles of design, based on the works of Owen Jones, A.W.N.Pugin, and their like.[90]

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88. Richard Redgrave, "Supplementary Report on Design", in Great Exhibition of 1851: Juries' Report (1853), p.1594.

89. For the Cole circle, see, for example, Quentin Bell, The Schools of Design (1963).

90. See Q.Bell, ibid. Stuart MacDonald, The History and Philosophy of Art Education (1970).

Their attitude towards machinery, however, was ambiguous. They perceived the problems resulting from mechanisation, but they did not really understand their causes. Henry Cole, for example, could say in 1849 that "In the manufacturing towns, what they chiefly want is not original designs, but workmen who will not spoil designs".[91] But he does not seem to have gone further, to ask why the workers could not satisfy the requirement of manufacturers and designers. Redgrave's assertion, quoted above, was therefore rather exceptional in the Cole circle.

Redgrave must have read A.W.N.Pugin's The True Principles of Pointed Architecture, published in 1841. In this book Pugin elaborated many principles for ornamental designs. Cole and others also derived their theory of decorative art from this book and applied them to contemporary designs. This and other works of Pugin were based on his belief that modern design had deviated from the "true principles" of the fourteenth and fifteenth centuries. He attempted single-handedly to effect a return to the principles supposedly prevalent in the Christian, Gothic world of the late Middle Ages. His Roman Catholic belief enabled him to look at society critically, and his observations on modern society, and on its morals and aesthetics, made him not merely an influential designer and architect but also an important critic of society itself. His unconcealed disgust for machine-produced ornaments is what concerns us here. Before the publication of The True Principles, he had already expressed his detestation of the ugliness of modern architecture and of industrialized society in Contrasts, first published in 1836. In The True Principles, he established criteria by which good and bad designs

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91. Report from the Select Committee on the School of Design, Parliamentary Papers (1849), XVIII (hereafter pp.1849) Q.1950.

should be judged. He criticised the confusion and ignorance of artists. Their designs were so abominable to him that he wrote

> Cruet-stand, tea-pot, candlestick, butter-boat, tray, waiter, tea-urn, are all bordered with this in and out shell-and-leaf pattern, which being stuck in a die, does not even possess the merit of relief. Like every thing else, silver-work has sunk to a mere trade, and art is rigidly excluded from its arrangements.[92]

Redgrave's criticism of modern designs was based on Naturalism, of which John Ruskin had been a leading advocate, rather than on Pugin's Catholic faith and medievalism and hence his own designs for manufactured goods, especially for ceramics, were quite different from those designed by Pugin. There is, however, a striking resemblance in their joint accusation of "the ornamental agents of our days".

Pugin's admiration of medieval art was expressed with remarkable insight into the nature of art in that period. He declared that "Ironsmiths were artists formerly, and great artists too".[93] But the modern age had pulled down their status and skill to those of mere "mechanics". Craftsmen no longer possessed sufficient "knowledge in the mysteries of the smithy". His condemnation, however, was directed at the modern workmen instead of at the modern system itself. Here lies what seems to me to be a weakness in his observations. He did not care very much about the eagerness of workmen to regain their lost knowledge and skill. He was, in fact, hostile towards some of the aspiration of skilled workers, insisting his comments were

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92. A.W.N.Pugin, The True Principles of Pointed Architecture (1841), pp.36-37.

93. ibid., p.38.

> ...a true picture of the majority of our artizans in the nineteenth century, the enlightened age of mechanics' institutes and scientific societies. Mechanics' institutes are a mere device of the day to poison the minds of the operatives with infidel and radical doctorines; the Church is the true mechanics' institute, the oldest and the best.[94]

Contemporary critics who blamed the inadequacy of the working classes failed to see the real cause of artistic deficiency in their society. There seem to have been two main problems. First, the artist or designer had no knowledge of the new mechanism of production. Consequently he produced inapplicable and impractical designs. Secondly, the workmen who applied the design lacked the drawing skills and a sense of design, causing failures in execution. These problems were both results of the division of labour, which was carried out to such an extent that it became a gospel of manufacturers. Having once lost their artistic training and intimate contact with artists, or, more correctly speaking, having been deprived of their own artistic skill, workmen were no longer capable of a combination of skill with artistic taste. It is important to note that these were not only aesthetic but universal problems. When the development of engineering skills became central to the technological progress of the industrial revolution, pioneers in this field had to face these new problems. Professor Sidney Pollard summarises the situation as follows:

> There were here at least three distinct problems: the absolute shortage of men with likely skills, such as millwrights and instrument-makers; the need to transform their traditional skills into the new work of engineering; and the need to teach them the accuracy, the types of measurement and the method of work appropriate to the new engineering industry.[95]

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94. ibid.

95. Sidney Pollard, The Genesis of Modern Management (1965), p.175.

Matthew Boulton, a pioneering engineer, thought that these problems could be easily solved. The development of technology was, however, too fast for him and his workmen to catch up. Watt, his partner, hence had to complain to him that "Soho people have no accuracy...the people at Soho do not gett forward...I never go out but I am provoked by some gross inaccuracy or blundering".[96] Now it is possible to see that the problems encountered in the field of engineering were not confined to that one area, but was general to the whole sphere of manufacturing. In particular, some of the difficulties of the textile industries were of precisely the same nature as those of engineering.

The problems produced by the division of labour will be discussed more closely in the following chapter. It is appropriate here, however, to look at some of the questions arising from the division of labour, since they are closely knitted together with the machinery question. Pugin was right to say that craftsmen were formerly artists. Or, as has been seen in the previous chapter, it should be said more precisely that artists were formerly craftsmen. Design, which used to be part of the skill, or art, of craftsmen became separated from the crafts and from workmanship, and became a kind of commodity in its own right. This separation was caused not as simply by a loss of Christian faith, but by the process of industrialisation. J.C.Robertson, editor of the Mechanics' Magazine, saw this very clearly:

> I do not think it is from want of opportunities of acquiring a knowledge of drawing, or from any neglect of those opportunities, that the majority of mechanics are thus ignorant of drawing, but because they have had no occasion

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96. Quoted by Pollard, ibid.

> to practise that art...It seems to me to be but a necessary result of the great extent to which division of labour is carried in this country. Everyman of the working classes looks out for and studies that branch of art only by which he expects to get a living; he confines himself to that alone.[97]

Redgrave repeated the assertion made by Cole that "our greatest difficulty consists even less in the want of designers than of skilled art-workmen to carry out designs. A design for cotton printing may be spoiled by the 'putter-on', or for silk by him who prepares it for the loom". Art-workmen "enter little into the spirit of the artist's labour ...work without feeling as without fire".[98]

The problems were felt in many industries. Richard Solly, an iron master of Sheffield, for instance, complained that "we find even that when good designs are sent from London, which have been worked, we have not been able to execute them well, and I have seen several designs which have been spoiled entirely by workmen".[99] William Wyon, the chief engraver of the Royal Mint, pointed out that "there is no perceptible improvement within the last 20 years, and it frequently occurs that when good designs have been obtained, they have been injured by inferior execution".[100] Herbert Minton also attributed the immense loss of time to "want of having sufficient artistic knowledge". He went on to assert that "they labour at it, and go over and over again, working it up, and

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97. Report from Select Committee on Arts and Manufactures, Parliamentary Papers (1835) V. Qs.1589-90.

98. R. Redgrave, op.cit., p.1595.

99. PP 1849, Q.1212.

100. ibid., Q.1728.

there is a great deal of lost time, and frequently that labour tends to injure rather than to improve the subject".[101]

The working classes had for long been defending their claim to skill. The full implications of the notions of skill were discussed in the previous chapter, where a remark of R. J. Morris was quoted: "...skill was also the ability to control the pace of work, the organisation of work and the entry to a trade or occupation". Iowerth Prothero demonstrates in his Artisans and Politics just how important it was for London artisans to defend their skill, since it was the basis of their work and life, not only economically but also socially and culturally.[102] The aesthetic aspect of work, which had been a part of their skill had been taken from them, and they desired to recover it. One factory inspector, in 1836, reported that "There exists generally a strong desire on the part of the operatives for any means of instruction and information which they can possibly obtain".[103] R. T. Stothard, a draughtsman and artist, also noted a stronger feeling of the want of improvement in art among the labouring manufacturing population, than among the manufacturers.[104] I shall discuss artistic education later.[105] It is relevant here only to point out that working class education was for the workers not a matter of "social control" from above, but a crucial necessity to be realised by themselves, for their own pride and survival. There is evidence that workers did claim the right to retain and control their

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101. ibid., Q.2674.

102. I. Prothero, Artisans and Politics (Folkstone, 1979), passim.

103. Minutes of Evidence before Select Committee on Arts and Principles of Design, Parliamentary Papers (1836), IX. Q.71.

104. ibid., Qs. 276, 277.

105. See chapter IV.

own aesthetic judgment. The Webbs recorded a pamphlet written in 1815 by a master addressed to his journeymen calico-printers. The master complained that the workers demanded many "extravagant" and "intolerable" things. He expostulated, "you stop all Surface-Machines, and go the length even to destroy the rollers before our face. You restrict the Cylinder machine, and even dictate the kind of pattern it is to print...".[106] It is clear from this evidence that the protest and hostility towards machines did include the issue of control of aesthetic judgment. The threat to journeymen calico-printers by machinery and the division of labour created a long struggle for control over skill, in both narrow and broad senses. The loss of the right to artistic judgment was a further blow to the integrity of the artisan, who rightly included this issue also in his campaign of protest.

Criticism of machine-made products naturally continued to be an important theme of those who were opposed to industrialised society. In the middle of the second half of the nineteenth century, the echo of Pugin and Redgrave could still be heard, perhaps mediated by Ruskin. William Morris delivered a lecture in 1888 on "The Revival of Handicraft", in which he asserted that "production by machinery necessarily results in utilitarian ugliness in everything which the labour of man deals with, and this is a serious evil and a degradation of human life".[107] Morris's criticism of contemporary designs was, like that of Pugin, based on his dissatisfaction with modern industrialised society and on an image of an alternative society.[108] He, however, was the first person to combine

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106. The Webbs' Trade Union Collection, A-XL 230. [my italics]

107. William Morris, On Art and Socialism (1947), p.224.

108. See Raymond Williams, Culture and Society (Pelican ed., 1963), Chapter 7.

aesthetic criticism and socialism in a uniform system. His disgust with machinery was by no means simple blindness towards the usefulness of machines themselves:

> It is my firm belief that we shall in the end realize this society of equals, and also that when it is realized it will not endure a vicarious life by means of machinery, that it will in short be the master of its machinery and not the servant, as our age is.[109]

His advocacy of the revival of handicrafts was not merely backward-looking medievalism, as John Gloag suggests,[110] but envisaged the position reversal of the roles of machines and workers in his own society, in which the subordination of the latter had already become overwhelming. What he described as the "aristocracy of intellect", namely in fact the new bourgeoisie, had destroyed natural relationships between human beings, between men and their environment, and created only "hideousness" and "an ugly vulgarity". Morris is of course a later figure than the others named in this chapter; but to introduce his name here is to suggest that he should be seen in the light of his precursors of the 1830s and 1840s, when the foundations of social criticism through aesthetics were laid. The full range of this criticism in the early Victorian period will be discussed in later chapters on education, exhibitions etc. But before this, it is necessary to observe the labour process itself and the work of those who were actually concerned with the production of designs.

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109. W. Morris, op.cit., p.228

110. John Gloag, Victorian Comfort (1961), pp.22,71; the same, Industrial Art Explained (1946), pp.68,82.

CHAPTER THREE

THE DIVISION OF LABOUR: DESIGNERS AND ARTISANS

In the early stage of the industrial revolution, the new production system seems to have successfully achieved excellent in industrial design. But in his pioneering work, Art and the Industrial Revolution, F.D.Klingender wrote that a "revolution in taste" was brought about by the industrial pioneers in conjunction with the "revolution in organization and technique of production". He went on to say:

> What happened in all these spheres is an excellent illustration of Adam Smith's principle of the division of labour. Goods which had previously been made from start to finish by a single craftsman were now produced by specialists in stages which 'improved dexeterity and saved time'. Perhaps the most fundamental division was that between designing and making. Once design became the specialised task of the 'artist', who did not himself actually work at the wheel or bench or lathe, the spontaneous taste of the craftsman was inevitably undermined. Instead, his inventiveness showed itself in the solution of technical problems of execution. Hence the division of labour resulted, not only in marked changes in the level of design, but also in changes in the level of manufacturing technique.[1]

Although this rather bold statement should be closely and historically re-examined, it still offers a remarkable insight into the nature of industrial design. The key term here seems to me to be "the division of labour".

It may be agreed that the division of labour became widespread in

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1. F.D.Klingender, Art and the Industrial Revolution (Paladin edition, 1972), p.38.

the factory system. The invention and introduction of new technology and machinery and the division of labour were intimately related. Of course, small-scale workshop production was, as Raphael Samuel argues in his article in the History Workshop Journal, by no means replaced by large-scale industry, but was still a very important sector of capitalist production.[2] The point here is, however, that the character of the workshop system had significantly changed with regard to the production of design. In relatively small-scale manufactures such as the metal trade in Birmingham and Sheffield, there developed a division of labour which prevented manufacturers and workmen from producing fine quality designs. Take, for example, the Sheffield trades: in stove-grate and fender manufacturing, designers, draftsmen, model makers, casters, and fitters worked on the same premises, but their activities were clearly separated. In the manufacture of silver and plated ware, there were designers, draftsmen, engravers, chasers, die-sinkers; and in the cutlery trades there were carvers in wood, ivory, horn, mother o'pearl, and engravers in steel, all working quite separately from each other.[3] In the textile industry too the division and subdivision of labour prevailed to such an extent that even a traditionally simpler process was divided among many specialised workers. (See Table III-1). In the engraving process of calico-printing, for instance, there was a strict separation of works, as Joseph Lockett of Manchester described:

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2. Raphael Samuel, "The Workshop of the World", History Workshop Journal, No. 3 (1977).

3. Report from the Select Committee on the School of Design, Parliamentary Papers (1849) XVIII (hereafter PP 1849), Q.1194.

Table III-1. The number of craftsmen in the production of designs.

Metal

		Designer	Modeller	Chaser	Engraver	Die-sinker	Others
A.	Sheffield	2		1	3	3	
B.	Coalbrook Dale	1	3	5			2
C.	London (Goldsmith)	4 (2 sculptors; 1 chaser)					
D.	Sheffield	5 (modellers)		3			
E.	Birmingham	8					9
F.	Birmingham	1	1	7			
G.	Birmingham	2		4			1
H.	Sheffield	1					
I.	Rotherham	3 (modellers)		6			

Paperhanging

		Designer	Others
A.	Manchester	2	
B.	Darwen	2	2 (putters-on)
C.	London	10*	3 (1 putter-on; 2 modellers)

* It was not usually the practice of paperhanging manufacturers in this country to employ a designer or a drawer of patterns in their establishments. In this instance, eight out of ten designers were independent.

Silk

		Designer	Putter-on
A.	London	2	
B.	London (Ribbon)	1	
C.	London	2	1
D.	Norwich (Shawl)	2	
E.	Manchester (Damask & Embroidery)	2	
F.	Nottingham (Lace)	2	
G.	Manchester	1	

Calico Printing

		Designer	Putter-on	Engraver	Block-cutter	Others
A.	London	4	6	4	35	
B.	Manchester	5	3			
C.	Manchester	9				
D.	Manchester	4				
E.	Manchester	8				
F.	Manchester	4				
G.	Manchester	6				
H.	Glasgow	9	11	1		4
I.	Glasgow	2	6			4
J.	Glasgow	2	12			
K.	Accrington	9	7	35		21
L.	Crayford	16 (3 apprentices)				
M.	Clitheroe	4	10 (4 apprentices)			
N.	London	3-4	2			

Source: Returns of Parliamentary Enquiry to 48 Manufacturers on the Number of Designers etc. and Their Previous Training etc., Report from the Select Committee on the School of Design, Parliamentary Papers (1849), XVIII pp.439-50.

> it is a common custom in our business to confine every man to his own room, he never goes beyond it; no man is allowed to move about from one part of the establishment to the other; each has his own particular part of the business to do, to produce a pattern; it goes through sometimes every one of them; there are great number of hands, but no one man has a general knowledge; the man who cuts the die in steel is not allowed to cut upon a roller; he never does; in fact the workmen's own rules prevent that.[4]

By the beginning of the second quarter of the nineteenth century this division of labour had created serious defects in the production of design. Klingender correctly pointed out that "the improvement of design and craftsmanship, which was the immediate effect of the division of labour, proved to be short-lived and was followed by the catastrophic debasement of both in the nineteenth century".[5]

It has been pointed out in the previous chapter that there were basically two main problems: the ignorance of designers and artists concerning the mechanism of production on the one hand, and the workmen's inability to appreciate designs and to execute them properly on the other. A suggestion has been also made that there was a close analogy between engineering and the production of design. As in the engineering industry, so in textiles the new occupations created by the introduction of new machinery and the division of labour had to be filled by new recruits who lacked the relevant skill. Furthermore, in accordance with the constant innovations and inventions of machines and the reorganisation of work, the traditional skill had to be transformed into new work patterns. Thus a great number of new occupations were created by industrial changes. These included pattern drawers (distinct from the designers of calico

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4. Minutes of Evidence taken before the Select Committee on the Copyright of Designs, Parliamentary Papers (1840) VI (hereafter PP 1840), Q. 7257.

5. Klingender, op.cit., p. 40.

prints) and putters-on who transferred designs to ruled paper or cardboard for mechanical production. Designs made by artists or designers without knowledge of the operation of the loom or the printing machine could not be produced. Pattern drawers and putters-on had to modify original designs so as to make them applicable to the Jacquard loom, or to copper rollers and dies. They therefore required an appreciation of the quality of design.

When the deterioration of British design became realised, however, it was against these artisans that criticism was chiefly directed. Uneducated designers were also a source of constant lamentation, but even when patterns were introduced from France their execution did not match expectations. Problems of artistic appreciation were most apparent in such areas as the ceramic and metal trades, where painting and modelling were important branches of the artisan's work. In the textile industry intermediary artisans, such as putters-on, were the target of less strong attacks, but their competence also presented a serious problem. Problems resulting from the division of labour were repeatedly complained of by manufacturers, but they seem to have seen no reason to abandon this same division. Political economists backed up the industrialists by stressing its economic advantages. Encouraged by this, manufacturers devoted their energies to reorganising the division of labour so as to produce more competitive and superior designs. The proper education and training of designers and artisans according to their respective callings would result, they thought, in a much more effective social division of labour. Indeed, faith in the maxims of political economy, derived from Adam Smith, was so strong that it seems to have become a kind of ideology which could not be easily displaced. In fact, it has gathered strength until the present day.

As has also been seen in the previous chapter, critics of the division of labour were divided into two camps: one group realised the failures brought about by the division of labour, but believed that its disadvantages would be overcome through education and other means; the other group was more concerned with the effect on the working classes and tried to protect them, asserting that it was the workers who suffered most from the division of labour, because it deprived them. Manufacturers who earlier had reaped most gains from the division of labour now realised the consequence of making their workers' skills redundant and began to complain of the failure of their workforces to produce higher standards of design. Workers and their intellectual representatives such as Thomas Hodgskin and J. C. Robertson, both editors of the Mechanics' Magazine, counter-attacked against the manufacturer. Robertson's opinion has been quoted before. Their opinions were by no means stubbornly anti-machinery or anti-division of labour. They accepted the benefits of the new system. But they were at the same time concerned with the question of who would control the system: the system so far had worked against workers. Hodgskin argued that the gains from the division of labour ought to belong to the workers. He asked "Why the labourers actively reap no benefit from division of labour, why their tasks seem rather to augment than lessen, with all those improvements which add to their skill and productive power?" He thought it "natural" that "the advantages from division of labour" should "centre in, and belong to the labourers". Therefore, if they did not receive its advantages, someone must have taken away the benefit: those "who never labour". He criticised the employer for unjustly conducting "appropriations; usurption and plunder".[6]

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6. Thomas Hodgskin, Popular Political Economy (1827), pp. 108-09.

Although Hodgskin never raised the aesthetic problems arising from the division of labour, his and Robertson's approach to the problem, in terms of the relationship between workers and employers, is important when one looks at the aesthetics of the machinery question. William Morris's attitude towards machinery has been discussed in the previous chapter; his approach also was to look at the problems in the context of class relationships.

In this chapter the practical organisation of the labour process, from the designing stage to the finishing, will be analysed. Wage structures and conditions of work will also be discussed. Finally, there follows a discussion of child labour in printing and figured weaving in the textile industries; for children were an indispensable part of the labour force, and their hardships became a deep concern of factory reformers and educationalists such as Lord Shaftesbury. The misery which has laid behind the fashion industry is hardly discussed by the so-called historians of design, and this aspect ought to take its rightful place in the social history of design.

Designers

Designers were artisans. Despite the fact that designing became a separate sector in production, and despite the fact that designers began to distinguish themselves from the other workmen, they remained workmen, and were employed by the manufacturers. They were a part of the organisation of production. It may be possible to classify the designer into two types:

a) the independent designer who had his own shop and sold designs to firms; and

b) those who were employed by the manufacturers. These may be further classified into two:

b-1) those who worked in the designing section only; and

b-2) those who worked in designing as well as making.

This last type of designer had the old character of the handicraft workers, and was confined to such small-scale and luxury trades as the precious metal and jewellery trades in London. William Chapman, goldsmith and jeweller, who worked for large houses such as Garard's, Hunt and Rochell's, Kitching and Abud's, told the 1849 Select Committee of the School of Design that he was a manufacturer and designer himself and with the exception of silver work there were few professional designers in London who designed gold objects, other than craftsmen themselves.[7] Those in category b) were generally wage earners but they earned by piece work rather than time work. Their wages are discussed below.

J. E. Tennent explained how designs for calico-printing were supplied: in his Treatise on the Copyright of Designs for Printed Fabrics (1841), he suggested that there were two sources. Designs were "being furnished either by designers in the constant employment of one house, and working for it exclusively; - who have contributed their talents in this branch and supply the trade generally with patterns of their own products".[8] He estimated that there were 500 designers of both classes in the Manchester area, but reported that due to lack of confidence in the originality of their productions, manufacturers were reluctant to purchase, and the

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7. PP 1849, Q. 1862.

8. J. E. Tennent, A Treatise on the Copyright of Designs for Printed Fabrics (1841), p. 23.

designers who ran their own shops were on the decline.[9] His statement was supported by the manufacturers who gave evidence on various occasions in the 1830s and '40s to the effect that there were very few independent designers who were capable of producing high quality designs for the printer. The decline of independent designers was such that in 1849 one silk manufacturer thought that it was

> a great loss that we have not in this country more public designers. What I term public designers, are those who are not attached to any particular houses. We have a great want of those men. We want men of energy and enterprise, who can sit down and design good patterns for certain trades. Unfortunately we have not got them in this country. I know scarcely three men whom we could go to with confidence, and say, 'Now design me some novelties'.[10]

This manufacturer, J. C. Wakefield, consulted fewer and fewer independent designers, because of their failure to satisfy manufacturers' needs for a succession of novelties, and he thought that the Government should make a special effort to "create them by granting premiums, and making it a more important branch". But surely this was beyond what the Government could be expected to undertake.

The number of independent designers listed in the trade directories is not large. The survey of Manchester directories (Pigot 1828-29; ditto 1841; and Slater 1851) numbers about fifty designers in total (if the same person was listed more than once, he was only counted as one). There is no doubt that far more than fifty workers must have worked as designers of some kind, but the total would still perhaps not exceed 500. Zoë Munby has identified about 150 names of independent designers in the Manchester area, many of them making designs for figure weaving by the Jacquard loom, but her "designers" might be classified more properly

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9. ibid.
10. PP 1849, Q. 1113.

as workers in the stationery trade.[11] These were engravers, card punchers, card makers, and their like, who, while supplying necessary equipment and materials to the manufacturers, also set themselves up as designers. Compared with Manchester, the West Riding contained even fewer designers, if the numbers recorded in the directories are any indication. It was often the case that calico engravers supplied their own designs, especially when they were large firms. Joseph Lockett testified to this in his evidence to the Select Committee.[12] In weaving, Jacquard machine makers sometimes supplied patterns to the manufacturers. E. M. Sigsworth writes, in Black Dyke Mills, that "in 1837-8, Samuel Dracup of Horton, the Jacquard machine maker, in addition to supplying Jacquard cards also received payment from John Forster for 'pattern drawings'".[13] Sigsworth suggests that these occasional suppliers of patterns were not employed as a regular source of inspiration from which new designs were obtained. He writes that "the payments to them for pattern drawing are very infrequent and the small sums of money which passed suggest that nothing very important was involved".[14] But these designers or suppliers of patterns must have been far fewer in number than designers per se. Jacquard machine makers, for instance, were still, in the 1830s and '40s, at an elementary stage compared to the other weaving trade, and there would not have been more than twenty or thirty of them altogether in Lancashire and the West Riding.[15] (There were, of course, more in the Nottingham and Derby areas, as well as in London, catering locally and nationally to manufacturers of woven

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11. Zoë Munby, "Lancashire Cotton, 1800-1915: An Examination of the Role of the Designer in the Production Process", forthcoming Ph D thesis submitted to the C.N.A.A.

12. PP 1840, passim.

13. E. M. Sigsworth, Black Dyke Mills (Liverpool, 1958), p. 325.

14. ibid.

15. See Chapter II, Table II-1.

fabrics.) The quality of designs produced by machine makers cannot be discussed, for no source materials are available. Their patterns are likely, as Sigsworth suggests, to have been of low quality.

It is not difficult to see why the supply of patterns to calico-printers and to the manufacturers of woollens and worsteds and other woven products was undertaken by intermediary trades and by the machine making industry. In the case of figure-weaving, particularly by the Jacquard machine, the shortage of those who translated original patterns into punched cardboard compelled manufacturers to rely on the machine makers and other skilled workers in the stationery trades who supplied the cards to undertake this process themselves. It was easiest for the manufacturer to order designs ready-made from the suppliers of the tools and materials. The process was described by C. Guillotte, a Jacquard machine maker, in his evidence to the 1835 Select Committee on Arts and Manufactures, as follows:

> First, the design or pattern to be made on the cloth is drawn on paper and produced for approbation; it exhibits on paper what it is intended to be on the cloth; as the threads are very minute, they are then as it were extended on another paper, the rule-paper, of a larger size, which shows the pattern as it were magnified, so as to place so many threads to the inch, perhaps 20, so that every square represents a thread. This is what the French call mise en carte, and in English put upon rule-paper. The next process the rule-paper undergoes is, to be read in, which transfers the pattern from the rule-paper, and prepares it fully for the stamping of the cards. The rest of the process is mechanical, consisting of punching holes in the cards, according to the number required, and applying the card to the machine.[16]

Guillotte considered that the process of putting a pattern on to rule-paper (mise en carte) employed in England was inferior to that used in

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16. Report from Select Committee on Arts and Manufactures, Parliamentary Papers (1835) V (hereafter PP 1835), Q. 819.

France, where the person who performed this process (metteur en carte) was himself an artist:

> The artist who draws the design at Lyons is the artist generally employed to transfer it to the lined paper. This person, whom I consider the metteur en carte, is only employed in that; he is inferior here. In Lyons, in a great number of instances, there is never a design drawn at all; but the first production of the design is on the lined-paper. The metteur en carte is himself an artist. It is in the connexion between the arts and the manufacture that we are inferior. In France a manufacturer employs from three to four artists, and in England one artist supplies eight to ten manufacturers.[17]

Many Jacquard machine makers were, like Guillotte, French immigrants and it is likely that they brought over not only their knowledge of machine construction but also many sample patterns on graph paper. Foreign designers will be discussed later on, and it is sufficient here to point out that designers and metteurs en carte came to England together with makers of machines. An enterprising machine maker with experienced putters-on, whose training in France enabled them to design, could easily set up a designing department in his firm. In the case of calico-printing, on the other hand, the interest of engravers in producing designs was instinctive: there had originally been no distinction between an engraver or block-cutter and a designer; they were the same person. In our period, in which designing was about to emerge as a distinct profession, it was still assumed that the engraving trade would supply original patterns as well as the engraved versions. As we have seen from Lockett's evidence, however, it may well be that the design in an engraver's house was entirely separate from the rest, thus illustrating the already typical division of labour.

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17. ibid., Q. 824.

Designers no longer possessed overall control of their work, especially with respect to aesthetic judgment. Art was subordinate to commerce, and the final judgment of the artistic merit of designers' products was made by the manufacturer and merchant. The principal master of the Manchester School of Design said in 1849 that the designer was "compelled to work according to the orders of his employer, rather than to carry out his own ideas".[18] R. Burchett, a master at the London School of Design, stated the case more explicitly:

> the manufacturer dictates the designs to the designer, and... he does not allow the designer himself to exercise his own judgment upon them; he controls the taste of the designer, but obtaining a number of patterns and cutting them up into pieces, he patches and sticks them together, and he then orders his designers to bring them out as a new design; a practice totally subversive of, and inconsistent with, the high development of the artistic powers of the designer.[19]

The limitations of manufacturers as the judges of design, arbitri elegantiarum, may be well illustrated by the evidence of J. C. Wakefield, a silk manufacturer of Glasgow:

> We have various systems of obtaining designs. In the first place, by our own production; that is, I have two designers in the house that I have under my own eye; and we have five or six at Glasgow, besides others at the works. If I see a pattern that I consider good I say to the designers, 'combine this with that, and send it to the works for them to draw half a dozen drawings of it'. But we generally get the foundation of the style from Paris. I go to Paris, and to the houses where the designers are; they are a much higher class of men than they are in this country; they are more respectable.[20]

Manufacturers instructed their designers in the practical "principles"

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18. PP 1849, Q. 3244.

19. ibid., Q. 3465.

20. ibid., Q. 1015.

of designing, as James Kershaw, a calico-printer, explained: "Violations of the law of copyright I endeavour studiously to avoid; and my invariable instructions to our pattern designers are, to copy no man's patterns, but to improve upon other men's ideas".[21] (My italics). The question of piracy and design copyright will be discussed in a later chapter, but it should be pointed out that designers were encouraged to imitate others' ideas (mostly those of the French), rather than to produce original designs; this latter undertaking was regarded by the manufacturer as impractical as long as commercial interest was given priority.

Quite apart from the designing trades which catered for local manufacturers, there were scores of designers in London whose patterns were nationally highly recognised and were in great demand. In 1849 Henry Cole gave an account of this:

> a great part of the designs for all the manufactures is connected with London; that is, the designer, whether copyist or original inventor, is probably resident in London...even as respects metal, London, in the number of its designers, stood nearly on an equality with Birmingham, and was a little above Sheffield. London had the majority in wood, glass, paperhangings (very great), and woven fabrics (not printed) over all other places. The general result is, that about a seventh of all designs may be said to originate in London, including designs of all classes, except the yarn class.[22]

His statement is corroborated by the numbers and origins of registered designs. Table III-2 is compiled from the materials submitted by Cole to the same Select Committee.

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21. PP 1840, Q. 3656.

22. PP 1849, Q. 2008.

Table III-2. The number of designs registered under Copyright Registration, 1939-1847. (Compiled from the evidence of Henry Cole given to the Select Committee on the Management of the School of Design, 1849).

Carpets, Floor-cloths, and Oil-cloths.

London	Kidderminster	Other places	Designs
228	1,096	573	1,897

Shawls (Pattern printed).

London	Crayford	Norwich	Paisley	Other places	Designs
18	434	109	99	121	781

Shawls (Pattern not printed).

London	Norwich	Paisley	Other places	Designs
12	261	66	185	524

Woven fabrics (Pattern printed).

London	Manchester	Glasgow	Paisley	Other places	Designs
2,074	15,697	10,390	684	7,957	36,802

Woven fabrics, Furniture (Pattern printed).

London	Manchester	Glasgow	Other places	Designs
53	336	39	23	451

Woven fabrics (Pattern not printed)

London	Manchester	Huddersfield	Glasgow	Other places	Designs
742	358	146	300	880	2,426

Miscellaneous (Lace, etc.).

London	Coventry	Nottingham	Other places	Designs
444	32	651	165	1,292

Henry Cole's evidence implies that the London designers acted as independent designers selling their designs throughout the country. A manufacturer in the North who wanted superior designs seems customarily to have kept London designers under contracts so that he could obtain patterns exclusively for his own production. James Thomson, for instance, paid £1,000 a year to a family of designers in London, compared with between £200 and £250 to his designers in Manchester.[23] The difference in the amounts paid indicates that the former designers were superior and worth much higher payments than the latter. It is impossible to tell how many London designers supplied patterns exclusively to one manufacturer. The majority of London designers most likely had several manufacturers as clients to whom "engaged" patterns were supplied: that is to say they did not sell the same patterns to their other customers.

The importance of London is obvious: it was the centre of fashion. Designers there could not only observe the dresses and other fabrics worn by fashionable ladies and gentlemen, but also see the shopwindows of rival manufacturers' agents and of retailers. There the designer would study the new trend from Paris and make sketches. John Brooks, a Manchester calico-printer, explained:

> I have a drawer in London...His business is to go from the City to the West-end to look through the windows and to imitate patterns; to take a little bit from one and from another, and make it into a pattern; and then I, as a calico printer, will say that is a new pattern.[24]

There were also agents called "pattern collectors" who sent

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23. Report of a Special Committee of the Council of the School of Design, Parliamentary Papers (1847) LXII (hereafter PP 1847) p. 109.
24. PP 1840, Q. 698

collections of designs to manufacturers. The Journal of Design condemned the evil of this trade as it encouraged piracy in patterns.[25] It was commonly observed that designers themselves travelled around the country with their patterns. T. J. Howell, a factory inspector, told the Select Committee in 1836 that Coventry manufacturers obtained their designs from professional designers "who travel about the country, and who supply not only Coventry, but Manchester and other places".[26] One lace-maker in Olney, Bucks., described travelling designers who "have sometimes 20 or 30 or 40 /miles to/ go in a day, with a little box in which they have collected the lace".[27] These "designers" might well be the "pattern collectors" accused of piracy by the Journal of Design.

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25. Journal of Design and Manufacture, III , No. 16 (June, 1850), p.110. One example of this kind of practice is found in the printed letter sent by a London print collector to a Bolton cotton manufacturer in 1820 which reads: "In consequence of a Special Licence, granted to me by the Honourable the Lords of Trade and the Royal Treasury of Great Britain, compowering me to import from Foreign Nations all sorts of PATTERNS, for the great advantage of the British Manufacturers, I find myself happy in giving you advice, that I am just returned from France, Switzerland, and Italy, (where I have devoted full five months to this extraordinary Service) with a most superb and elegant Assortment of the newest and richest PATTERNS which you have my permission to examine at my House..." He added to this, in his own hand, that "I have found in Lyons new styles of goods made in silk & if you had the patterns & make them on cotton & bleach them they would be the best things ever seen for the Bolton trade I am perfectly assured of it. I have both thick & thin ones & will send you down a few if you desire it the prices are 2/6 each & you may pay me at Manchester or my son when he comes down". Bolton Metropolitan Borough Archive, 2HE/16/33.

26. Minutes of Evidence before Select Committee on Arts and Principles Design, Parliamentary Papers (1836) IX (hereafter PP 1836), Q. 130.

27. ibid., Q. 169.

Exceptionally "fine" artists also supplied designs, but their work was often unsuitable for the production process, because they were unfamiliar with the mechanics involved. In Birmingham "the various drawing masters in the town were also pressed into the service as 'designers'".[28] But Aitken informs us that "the imperfect understanding which prevailed as to construction, or rather 'that ornament should be designed without reference to construction', does not appear to have been understood at the period, or if understood, was ignored".[29] It is well known that the Wedgwoods commissioned designs for their Etrurian vases from John Flaxman, Thomas Stothard and other artists. (William Blake even engraved a catalogue for that firm.) The celebrated goldsmiths R & S Garrard of London similarly employed the sculptor Edmond Cottrell, who had studied at the Royal Academy of Art.[30] James Thomson was reported to have called upon "the talent even of Royal Academicians".[31] But on the whole these cases were exceptional.

British manufacturers not only copied foreign designs but also employed a large number of foreigners as their leading designers. If a British manufacturer wished to use foreign patterns he had either the considerable expense and trouble of going to Paris or Lyons and back, or he employed persons to send samples and new patterns to England from abroad. (Many manufacturers and merchants did follow the practice of visiting the Continent, however.) If one considers the taste of the day and foreign designers' knowledge and skill in designing, it is apparent

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28. W. C. Aitkin, "Brass and Brass Manufacture", in S. Timmins, The Resources, Products, and Industrial History of Birmingham and the Midland District (1866), p. 333.

29. ibid.

30. PP 1836, Appendix No. 5.

31. Edmund Potter, Calico Printing as an Art Manufacture (1852), p. 17.

that it was often far more advantageous and useful to keep one French or German designer on the manufacturer's premises than to employ a dozen more English designers. Moreover, as has been seen, many foreign designers were thoroughly accustomed to the processes employed in industry, and their patterns could go into production straightaway without need of intermediary workers. (See Guillotte's evidence quoted above.) British designs in the nineteenth century, it must be emphasised, owed a great deal to French and German emigrés. One silk manufacturer in Spitalfields confessed that his firm had one French designer as well as several English designers and assistants, in addition to which they imported French designs.[32] J. C. Wakefield, who employed a French designer, told the Select Committee in 1849 that he had "the same confidence in his designs as we should have in designs produced in Paris", though he had even greater confidence in actually going to Paris, "because we see their style, and we know what the French are going to do".[33] The superiority and versatility of French designers may be well demonstrated by Emile Jeannest who worked not only for the ceramic industry but also for the plating industry as a modeller. He was the son of a bronze manufacturer of Paris and came to England in the middle of the 1840s. He was employed by Mintons, then worked in Elkingtons' fine art department.[34]

Of course, manufacturers kept designers abroad as well. According to James Thomson, "A new species of industry has of late years arisen there /Paris/, the productions of designs for exportations. The demand is considerable, and is rapidly increasing. Many of the principal houses in this country are regularly supplied with patterns from Paris, and some

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32. PP 1849, Q. 3056.

33. ibid., Q. 1032.

34. Patricia Wardle, Victorian Silver and Silver-plate (1963), p. 100.

have designers there, wholly employed in their service".[35] Edmund Potter, in a letter to Mark Phillips, M.P., reported that "I know one Print House...paid upwards of £1,500 in the year 1839, for French design alone..."[36] An alternative to retaining an expensive designer in Paris was to subscribe, for £20 a year, to the Livre de Choix, a journal which specialised in new patterns. J. C. Wakefield was of the opinion that the journal "gives us a piece of nearly every pattern that comes out in Paris produced by the various houses".[37]

The question of how designers were recruited is a difficult one. It may be assumed, however, that most designers had been artisans of some sort before they became full-time designers. The Fourth Report of the Council of the School of Design indicates that "in many instances, it is from workmen that designers for manufactures are formed: those in fact who are gifted with sufficient ability become designers".[38] In the case of the Nottingham lace trade, one inspector of the local school of design reported that designers were educated by other designers: "A man who is a designer in a manufactory picks up some person in the manufactory, and takes him as an apprentice".[39] Richard Solly of Sheffield described the state of design in the Sheffield trade: "The great majority of the manufacturers employ no regular designers, but either compose their designs themselves from books of engravings, or employ some of their

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35. James Thomson, On Copyright in Original Designs and Patterns for Printing (Clitheroe, 1840), p. 16.

36. Edmund Potter, A Letter to Mark Phillips, Esq., M.P....on the Designs Copyright Bill (Manchester, 1841), p. 11.

37. PP 1849, Q. 1029.

38. Fourth Report to the Council of the School of Design, Parliamentary Papers (1845) XXVII, p. 10.

39. PP 1849, Q. 193

intelligent workmen who may happen to be able to hold a pencil".[40] With the establishment of the schools of design, those who wanted to become designers could go there, if their employer financed them or if they could afford it themselves. But before then even the mechanics' institutes, which had had drawing classes, could not offer proper training in design making. (This criticism was also levelled at the schools of design in their early period. See chapter IV.) The majority of "designers", however, were unable, for financial or other reasons, to go to the schools of design. In one calico-printing firm, for instance, designers were selected from the apprentice or journeyman engravers, block-cutters, and other workmen:

> Many apprentices, the most part indeed, never attain that direction, but remain putters on; that is, they draw neatly and accurately, and, by mechanical means upon a block, the design or pattern to be executed by the block-cutter. Out of these boys are selected a few of the most promising for pattern-drawers or designers, rarely during their apprenticeship, but most frequently after a year or two's experience as a journeyman, or if you will, during their second apprenticeship.[41]

This system seems to have been quite common.

The method by which designers were paid has been briefly discussed earlier. Designers' wages varied from £60 a year to more than £200 a year according to their talent and the positions they occupied. E. P. Thompson suggests that pattern-drawers to calico-printers, together with overlookers, skilled tenters, and scores of other skilled subsidiary crafts in cotton manufactures might have earned "exceptional wages".[42]

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40. ibid., Q. 1236.

41. PP 1847, p. 109.

42. E. P. Thompson, The Making of the English Working Class (1963), p. 237.

The following table gives some indication of the wages of designers in the textile industries and metal industries, taken from the evidence of various witnesses given before the Parliamentary Committees.

Table III-3. Weekly wages of designers.

	Weekly wages	Year
Spitalfields silk designer	38-77s.	1835
Manchester designer for calico printing	35-50s.	1840
Paisley designer for calico-printing	23-46s.	1849
Glasgow designer for calico-printing	27-58s.	1849
Nottingham designer for lace	27-58s.	1849
Sheffield modeller (best paid man)	60-80s.	1835

The figures in the table suggest that although at the lowest end of the scale the wages of designers were fairly close to other artisans' wages, skilled designers earned, as Thompson noted, exceptionally high wages. A wage of 50 shillings or more a week was a comfortable income. David Chadwick's report to the Statistical Society shows the average wages in the printing and engraving trades in Lancashire, and is of use for comparison with designers.

Table III-4. Average weekly wages of workers in the Lancashire printing trade.

	1839	1849	1859
Colour mixer	35s.	30s.	32s.
Machine printer	40s.	35s.	38s.
Foreman	40s.	40s.	40s.
Block-cutter	35s.	25s.	25s.
Block-printer	40s.	28s.	28s.
Dyer	18s.	16s.	16s.
Warper	16s.	16s.	16s.
Labourer	15s.	15s.	15s.
Sketch-maker	35s.	32s.	35s.
Hand-engraver	42s.	40s.	35s.
Eccentric engraver	45s.	40s.	36s.

Source: David Chadwick, On the Rate of Wages in 200 Trades and Branches of Labour in Lancashire during 20 years from 1839 to 1859, quoted in Turnbull, A History of the Calico Printing Industry of Great Britain (Altrincham, 1951), p. 212.

Table III-5. The hours of work and weekly wages of work forces at Messrs Hargreaves' Calico-Print work, Broad Oak.

	Hours of work	Weekly wages
Designer, putter-on	10	30s.-60s.
Engraver, etcher	11	15s.-50s.
Ditto, apprentice		8s.
Block-cutter (piece work)		20s. (average)
		35s. (full work)
Bleacher (piece work)	12	17s.
Clour-maker	12	14s.
Block-printer		20s.-25s. (full)
Ditto, apprentice		10s. (average)
Machine-printer	12	35s.-40s.
Ditto, apprentice		12s.
Dyer	11	13s.
Steamer, packer	11	13s.
Mechanic		24s. (average)
Labourer		12s.
Young man, woman		6s.
Boy, girl (tierer)		3s.-4s.

Source: Journal of Design, III, No. 15 (May, 1850), p. 79.

It is not easy to make a direct comparison on the basis of these tables. It is clear, however, that first-rank designers earned much larger wages than ordinary skilled artisans and that the average wages of designers would have been about the same, and in many cases higher, than those of skilled artisans. In 1847 it was reported that in the skilled branches of calico-printing, i.e. designing, engraving, block-cutting, etc., an apprentice received 5s. or 6s. per week for the first four years, and 7s. for the last three. When the boy became twenty-one years old, he became a journeyman earning from 30s. to 40s. according to merit.[43]

It should be pointed out here that in normal circumstances the designing business fluctuated seasonally, especially in the printing trade. Block-printers were typical of workers in this trade. Although many large printers had their own designers who produced designs continually, a new season required the production of more patterns and, therefore, the employment of extra designers. The latter might be independent designers, or workers employed in other trades when their talent was not called for. J. C. Wakefield recorded:

> A great many designers who are employed by houses in general may not be always employed, for at certain seasons of the year we employ more designers than we employ at other seasons; those men could not afford to be engaged for months in designing, without getting some remuneration for it.[44]

These designers, however, were more likely to be "putters-on" or pattern drawers, capable of modifying new French designs and new patterns from London, rather than of making original designs.

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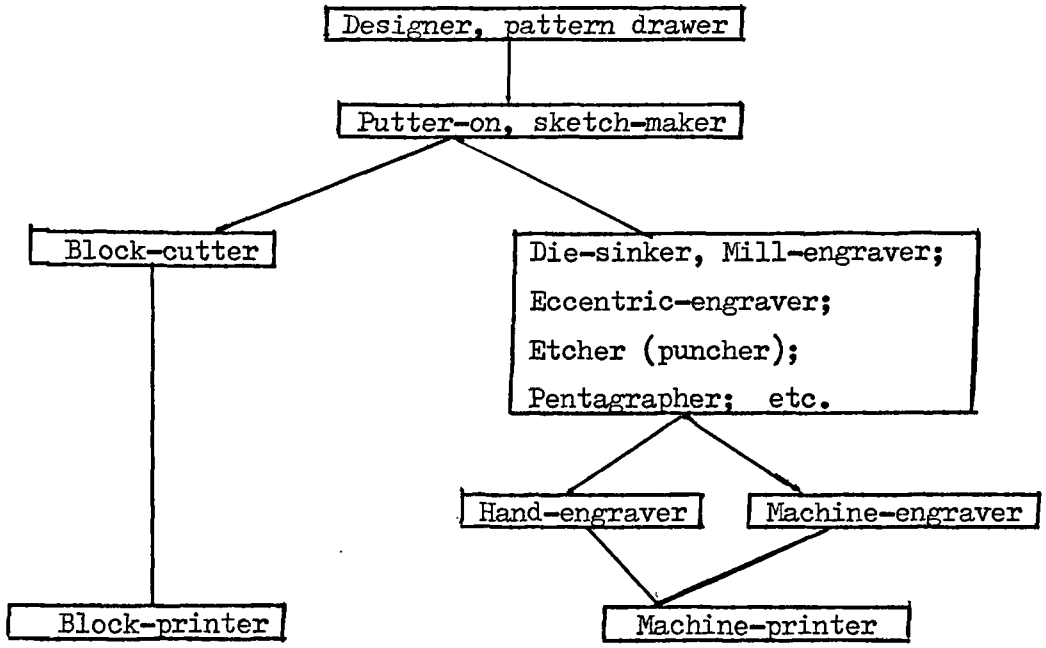
43. PP 1847, p. 109.

44. PP 1849, Q. 1103.

Artisans in the production of design

In calico-printing the division of labour created several distinct processes, from the design stage to final manufacture. The following chart may simplify the whole process.

Figure III-1. The processes of calico printing.



Among these groups of workmen, all except the printers were required to make some degree of artistic judgment on the quality of the original design. The skills necessary varied, however: mill-engravers, eccentric-engravers, and machine-engravers were engaged in a less artistic and more mechanical process, whereas block-cutters, hand-engravers, and die-sinkers were expected to have more artistic appreciation than the others. And putters-on and sketch-makers, who actually translated designs to the ruled-paper so as to make designs operational on the

machine, were faced with perhaps the most formidable task in the whole process of preparation for printing. If they failed to produce a proper pattern on the transferring sheet, the process of printing could not be satisfactorily performed. Joseph Lockett's description of the organisation of work in the engraving shop has been quoted earlier: the division of labour was such that no workman went beyond his own room and that no one workman had general knowledge of the whole process, except the employer who had the over-all control of production. Lockett also made an important remark on the system of work organisation in Britain in comparison to that in France:

> the French painter has always gone on that system of being a bit of everything; he is his own engraver; there is no concentration of the art as in England. Amongst the rest of the details, which he himself goes into, which is a distinct branch of business in England, is the engraving, which is also done on the works, and there is no one there with a knowledge of the business who can direct them; and the consequence is, that they have made no advancement, while in England we have excelled by the division of labour; and among the rest of the engravers have excelled from a concentration of the talent at one spot.[45]

These are the words of the most successful calico-engraver in Lancashire, and his faith in the merit of the division of labour is astonishing. He was content to separate the workers into narrow and specialised branches, and to encourage them to defend their isolated position by setting up barriers against their fellow workers, rather than against their employers. He also referred to the consequent narrow-mindedness of the worker himself: "the workmen's own rules prevent" intervention in others' jobs. This suggests a crucial point in understanding the division of labour. The division of labour was not only to create a horizontal separation of workers into different branches of work, but also to create a hierarchy which segregated workers according to their skill and wages. This new

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45. PP 1840, Q. 7010.

heirarchy was distinct from the traditional one within a trade, that is, the relationship between a master, journeymen and apprentices. A division was now established between crafts that had originally been united, and was created in the same workplace. Workers who were treated as superior to those in other departments naturally defended their status by refusing to admit "inferior" workers into their territory.

A researcher of the Webbs recorded, quoting from the Book of Trades of 1824, that calico-printing "employs three sorts of hands: the pattern drawer, the cutter of the types, who are also the operators in printing, and numbers of labourers to assist in washing".[46] This clearly indicates that in the 1820s it was still common for block-printers to cut and print. They were highly skilled workers and earned exceptionally high wages. The same source suggests that "The printer who is able also to cut with ability and taste, can in the summer months earn four or five guineas a week or more".[47] But this old craft of cutting and printing was soon challenged by the reorganisation of work in the workshops, by which printing and block-cutting became altogether distinct crafts.

As has been seen, Joseph Lockett's engraving shop was regarded as one of the most extensive and "advanced". The output of engraved copper-rollers here outnumbered that of all other houses, and a large quantity of rollers was exported. Lockett's house was rather exceptional, however, and workers elsewhere were not always so specialised. In Scotland, where the regulation of workers was more loose than in Lancashire, either die-sinkers or hand-engravers occasionally did both these tasks; but more usually these jobs were specialised. These two

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46. The Webbs Trade Union Collection, A-XL: 244.

47. ibid.

sorts of artisan were the highest paid workers, followed by machine-engravers, pentagraphers, zinc-cutters and sketch-makers.[48] According to a union rule, a Scottish journeyman copper-engraver who changed his occupation to die-sinking in steel was considered as an apprentice to the latter trade, and was expected to complete another two-and-a-half years' training. He also received less wages than in his previous work.[49] There were also cases of printers who worked in the wallpaper printing trade, and vice versa. But whereas paper printers migrating to calico-printing shops were permitted to retain their former status, the Block Printers Protection Society of Lancashire, Cheshire and Derbyshire imposed a fine on calico-printers making the reverse transition into paper shops.[50]

On the whole, it can be assumed that there was extensive division of labour, even though not always as thorough as in Lockett's engraving house. It was not until the formation of "new" unions, stimulated by the unionism of the late nineteenth century, that workmen in the various branches of the engraving process banded together. Before then, trade unions in the calico-printing industry were exclusive to block-printers and cutters, who were representative of older crafts, and to machine printers, who represented the more highly skilled of the new trades.

The calico printers' union was renowned for its militancy, especially on the question of apprenticeship. They fought vigorously against the dilution of their skill when employers attempted to introduce inexperienced and unskilled apprentices into the trade. Block-printers and their fellow craftsmen, such as pattern-drawers and block-cutters, also

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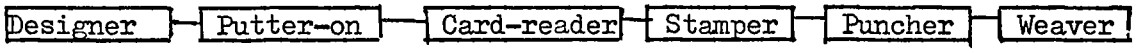
48. ibid., A-XL: 251.

49. ibid., A-XL: 255.

50. ibid., A-XL: 277.

engaged in collective action, in 1813, when they petitioned the House of Commons to introduce duty on machine-printed goods "to make them on a par with hand printed" goods.[51] In 1833, a huge strike took place to demand a uniform rate. This strike spread all over the country and lasted fifteen months.[52] Block-printers in Crayford, Kent, struck for four or five months in 1847.[53] There were many disputes in England and Scotland, but in most cases strikes ended in defeat for the printers, because the employers were able successfully to introduce blacklegs.[54]

In figure weaving by the Jacquard machine, the following processes were involved, from designing to weaving:



The work involved in these processes has been briefly described elsewhere in this chapter. Apart from the punchers, whose work was merely mechanical and frequently performed by children, the artisans involved in the production of design were, like those in intermediary positions in calico-printing, required to have a special knowledge and appreciation of the patterns produced by designers. Their skill in transferring the original into the language of the machine was crucial. In the earlier phase of this particular branch of figure weaving, Jacquard machine makers themselves sometimes undertook the work of reading, stamping, punching, and, as has been seen, even designing and putting on. These functions, however, became gradually separated and were performed by specialised workmen. Before the introduction of the Jacquard loom, patterns had

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51. ibid., A-XL: 241.

52. ibid., A-XL: 281.

53. ibid., A-XL: 236.

54. For example, ibid.,A-XL: 247; John Bury Papers (Manchester Central Library, Archive Department), L4/4/1/62-63, L4/4/2/23-24.

been produced by weavers. Of course, not every weaver was his or her own designer, but there were always ingenious weavers who experimented with new patterns on the loom, and woven samples were given to handloom weavers who copied them. Cynthia Harnett, in The Wool-Pack, accurately evokes a master weaver in Newbury in the fifteenth century: "He is the master weaver. He makes a piece of cloth for the other to copy, and he's always inventing new weaves".[55] This ancient method had no doubt survived well into the nineteenth century. J. H. Clapham, writing in 1907, stressed the importance of the hand-loom in creating new designs:

> /The hand loom/ survives not merely as a curiosity in out-of-the-way districts, or as a means of weaving a few elaborate and expensive fabrics, of which only small quantities are required, but also as the indispensable tool of the best textile designers and pattern weavers. New designs can be and are worked out on the power loom, and it may be that in time the hand loom will disappear altogether; but this seems improbable, for the older appliance is both economical and convenient for experimental purpose.[56]

When complicated patterns were woven by draw-boys, the weaver had absolute responsibility from designing to making. Even when patterns were brought from France, the whole task of operation was done by the weavers. These examples clearly show that there had been no intermediary workers between designing and making of figure weaving before the introduction of the Jacquard loom. The weavers' skill was made partially redundant and many artisans were brought into the trade. Very little is known about these intermediary workers in figure weaving in the period with which we are concerned. It is very likely that these jobs were done outside the weaving manufactures, on the manufacturer's commission, by

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55. Cynthia Harnett, The Wool-Pack (Puffin, 1961), p. 127.

56. J. H. Clapham, The Woollen and Worsted Industries (1907), pp.57-58.

the Jacquard machine makers and stationery and the other related tradesmen who had extended their trades to the newly created market. Pattern card makers in the West Riding of Yorkshire, at least those whose names appeared in the trade directories, were not specialised in one trade, but combined several related lines such as bookselling, binding, printing, and selling stationery. It does not appear that they formed their own trade union, and it is more likely that they belonged to the various unions of printers, binders, and the other related trades.

In the process of actual weaving, when the Jacquard loom was used, the weaver's task became more mechanical than that of the hand loom or draw loom weavers. Writing in 1845, Clinton Gilroy pointed out that

> In Great Britain, for example, the Manchester weaver is, in general, as ignorant of the mode of mounting a gauge spider net, as he of Paisley or Glasgow...The division of labour, however, is carried still further: the mounting of a loom in the figured department is frequently the business of several persons, and the working of it that of from one to six others. Some figured looms have as many as eight Jacquards, of 400, 600, 900, and even 1300 needles each; and from one to four pulley-boxes, each of which has a rail, simple, and drawboy to operate upon it.[57]

Weavers, who used to be artists and craftsmen, thus became mere mechanics or machine operators. The Webbs recorded much later the rules of the carpet-weavers, which stated that they were "driven to prohibit any person, other than a 'registered creeler' [an apprentice], to be at the front of the loom or otherwise doing the work of the weaver".[58] This practice resembled that of calico-printers using rotary machines, who "absolutely forbid their 'tenters', or labourers, ever to touch the 'doctor', the long knife which adjusts the precise amount of colouring

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57. Clinton Gilroy, The Art of Weaving by Hand and by Power (1845), p. 8.

58. Sidney and Beatrice Webb, Industrial Democracy (1902 ed.), p. 481.

matter, or even to come in front of the machine".[59] The defence of skills which had formerly entailed the exercise of artistic judgment by workers was no longer an important issue, for no such skill was necessary in a machine printer or a machine weaver. Mechanical knowledge apart, a sense of "position" within the system (apparent in the keen awareness of the physical location of workers) alone retained significance and gave a sense of identity. It would of course be wrong to criticise the workers for this, for they no longer had any more than a partial stake in the whole system. Even in the production of checked patterns, which was "merely combination of the two methods of striping", the element of "taste" was removed from the weavers to manufacturers and dyers, and the business of the weaver was "merely to make the cloth of a good quality, and insert his weft according to the pattern".[60]

Child labour

A mass of sweated labour maintained the fashionable clothing trade. Every season, the new dresses of the fashion-conscious were supplied from the back-yard workshops of East London and elsewhere. Design historians, whose main interest is in elaborate and beautiful designs, rarely discuss the misery behind their production. Both in printing and in figure weaving, the increasing complexity of patterns meant more sweated labour. The more complicated and elaborate patterns became, the more their production involved the exploitation of unskilled labour, and of children in particular. There seems to be a paradox here: the more

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59. ibid.

60. Gilroy, op.cit., p. 95.

luxurious patterns called for the more skilled workers, yet the latter's work depended upon the work of unskilled child labour. In these industries, two extreme examples of exploited child labour can be found: block-printing on the one hand, and draw-boy weaving on the other. Despite the development of printing machines and figure-weaving apparatus, notably of the Jacquard engine, the production of more complicated designs by the older methods was not instantly superseded by the newer inventions. On the contrary, block-printing and draw-boy weaving survived well into the second half of the nineteenth century, especially in the manufacture of higher quality products. The organisation of work on the other hand, had changed considerably: many workers were now concentrated under the same roof. For the children, however, the nature of the work was much as it had always been,(but in worse conditions). The conditions of those workers attracted the attention of the Children's Employment Commission which in 1843 made a detailed enquiry into these trades.

Despite the succession of Factory Reform Acts and the Ten Hour Movement, certain sectors of the textile industries at first escaped legislation. The lace industry and the calico-printing trade were notable examples. In the case of the printing industry, manufacturers began to sense the inevitability of the new legislation, whose prime target was the cotton industries. As early as 1837, James Thomson of Clitheroe confessed that "he was convinced that in due time similar restrictions would be imposed on those engaged in calico-printing".[61] He was well aware of the fact that conditions in the printing trade were among the worst in the textile industries but he argued that the seasonality of

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61. Maurice Walton Thomas, The Early Factory Legislation (Leigh-on-Sea, 1948), p. 266.

the trade made it undesirable that regulation should be extended to calico-printing. He thought that "time is an element in the calculations of a manufacturer dependent on season, taste, and fashion". And he went on to assert:

> A calico printer cannot work to a stock as a spinner or weaver, whose production being the same from year to year, is saleable sometime or other. The consequence is, that the printer is often idle for weeks, and often has double the work he can perform in the ordinary hours of labour...It is irremediable: and the law that imposed restriction on the hours of labour in calico-printing would destroy the trade, and involve masters and labourers in common ruin.[62]

According to one historian, he was "an acute and far-sighted man",[63] and as we shall see in the later chapters, he was vigorously active in many important issues concerning the calico-printing industry, such as design copyright and artistic education. He was an idealistic and "unusually enlightened" manufacturer. But even to him it seemed impossible to provide the level of education required by the Factory Acts for children in calico-printing, "where the child was part of the machine".[64] The nature of employment, particularly in the block printing process, absolutely required the presence of children: "A tier-boy absent stops his master".[65]

Thomson's forecast was realised in 1840, when Lord Ashley proposed that the House of Commons "direct an inquiry to be made into the employment of the children of the poorer classes in Mines and Collieries, and in the various branches of trade and manufacture in which numbers of

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62. Nassau W. Senior, Letters on the Factory Act (1837), p. 43.

63. Thomas, op.cit., p. 266.

64. Senior, op.cit., p. 43.

65. ibid.

children work together, not being included in the provisions of the [previous] Acts".[66] The Children's Employment Commission was formed in 1841, and its first report was published in 1842, the second in 1843. The former aroused national interest and caused a considerable sensation, for it dealt with the horrifying conditions of children in the mining industry. The second report, on trades and manufactures, drew less attention, but the enquiry was careful and detailed and the calico-printing trade was the first to receive legislation based on this report.

The range of industries covered by the investigation was wide: metal manufacture, earthenware, glass, brick, lace, hosiery, calico-printing, bleaching, dyeing, drawboy-weaving, printing, book-binding, and many others came under the inspectors' eyes. I shall, however, select calico-printing and drawboy-weaving for discussion, to show what deprivation was entailed in the production of these luxury goods. In its enquiry into calico-printing, the report discussed four main regions: London and Kent; Scotland; Lancashire, Derbyshire and Cheshire; and, incidentally, Ireland. In the case of drawboy-weaving, no mention was made of the West Riding, and the main investigation was carried out into the Kidderminster carpet weaving industry, and in Scotland. Since weaving carpets on the drawboy loom was identical to damask weaving, the nature of employment was similar, though wages and hours of work must have been different between the two.

Before a discussion of the conditions of work, the precise nature of the jobs performed by children in calico-printing may be briefly described.

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66. Thomas, op.cit., p. 267.

(The work of the drawboy has been briefly dealt with in the previous chapter). The main task for which children were employed in calico-printing was teering; hence those performing this work were called "teerers" or "tierers". Each block printer was assisted by a teerer, whose job was "to spread the liquid colour evenly on a floating sieve with a small hand-brush".[67] The work was repetitive. After teering, the printer placed the block in the sieve, served it with colour, and applied it to the cloth. While the printer was printing, the teerer repeated his process. There were, of course, many other tasks employing children. At the printing-machine they assisted the adult workmen "in laying the calico in folds, and sewing the ends of the pieces together".[68] These children were called "hookers and latchers". There were also "dryers", who passed the damp pieces through a dryer. The majority of children who worked in Lancashire and its neighbourhood were aged eight or nine years, and the youngest was between four and five.[69] In Scotland the situation was the same. One teerer boy was reported to have started his work when he was six years old, and "his master sometimes carried him on his back to work".[70] The print-fields in Kent were exceptional; there, children under thirteen were rare, while the majority were aged between thirteen and eighteen. (See Table III-6).

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67. Second Report of the Children's Employment Commission, Parliamentary Papers (1843) XIII, p. 48.

68. ibid.

69. ibid., p. 12.

70. ibid.

Table III-6. Children in Kent print-fields.

	Under thirteen		Over thirteen		Total
	Boys	Girls	Boys	Girls	
Swaisland's work	5	2	30	19	56
Applegath's work	6	-	84	53	143

Source: Children's Employment Commission, Second Report of the Commissioners. PP 1843 XIII, p. 13.

As in the southern print-fields, as in the Midlands and north, there was a large proportion of working girls; "the proportion in Lancashire being upward of one third of the whole number under thirteen, and nearly one-fifth of the number between thirteen and eighteen".[71]

Table III-7. The number of children and young persons in the Lancashire, Cheshire, and Derbyshire calico-printing trades.

Under 13	Between 13 and 18	Above 21	Total
5,646	5,142	9.104	19,892 (10,788)*

* Children in total

Source: Children's Employment Commission, PP 1843 XIII, p. 21.

Table III-8. The number of children employed in block-printing estimated from the number of tables.

Single block tables (One teerer)	Long tables (Two teerers)	Total
8,156	168	8,324 (8,492)*

*Children employed full-time as teerers.

Source: Children's Employment Commission, PP 1843 XIII, p.21.

71. ibid., p. 18.

The above two Tables show the number of children employed in the calico printing trades in Lancashire, Cheshire, and Derbyshire; the second Table giving a more accurate estimate of full-time employment in block printing. The investigator reported that when the first statistics were compiled, the trade was slack, and "half of the tables in the works have been standing idle".[72] On the other hand, the numbers in this Table include children working in the other branches of calico-printing. But in any case, it is clear from these Tables that a large number of children was employed, and especially of those under thirteen. In Scotland, it was said that about 5,000 children were employed as teerers, and many more in the other departments.[73]

The mode of employment of children reflected the various modes of production in the regions. In Lancashire, Cheshire, and Derbyshire, where large-scale production was common, "the Children are invariably hired by the employers, and not by the workmen".[74] In Scotland, Ireland and London, on the other hand, they were hired by the block-printers and the machine-men. In such case their job security was almost nil; it was observed that "no contract is entered into, so that they may be dismissed at an hour's notice".[75] The apprenticeship system appears to have been unobserved in Lancashire, Cheshire and Derbyshire, where

> The quasi-paternal relation of a master which is implied in the relation of master and apprentice, and which probably formerly existed, does not now exist, and is impossible to be created in a state of manufactures conducted in large numbers, and by extensive subdivision of labour...[76]

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72. ibid., p. 21.

73. ibid.

74. ibid., p. 25.

75. ibid.

76. ibid., p. 32.

The conditions of workplaces were usually appalling, and were "deplorably neglected".[77] There were some enlightened manufacturers who "spare neither trouble nor expense to secure proper ventilation, temperature, and drainage",[78] but these were exceptional. The most severe hardship children had to endure was the hours of work, which were irregular on account of the seasonality of the trade; over-time was frequently demanded. The regular hours were "rarely less than twelve, including time allowed for meals".[79] But it was commonly observed that even the youngest children worked for fourteen and sixteen hours continuously. All block-printers were "in the habit of working over-time", largely because of the piece-work system.[80] When the pressure of the market, of a sudden demand for a certain pattern, or of a rush for shipping, made the printer work exceptionally long hours, accidents easily happened. The following incident, although it did not lead to a serious accident, will show the extent of excessive work in the printing field, and the suffering of children. It was told by a block printer to a commissioner:

> We began to work between eight and nine o'clock on the Wednesday night; but the boy had been sweeping the shop from Wednesday morning. You will scarcely believe it, but it is true - I never left the shop till six o'clock on the Saturday morning; and I had never stopped working all the time, excepting for an hour or two, and that boy with me all the time. I was knocked up, and the boy was almost insensible; if I stopped a minute he was fast asleep in a moment. On the Friday I was printing a piece, and the block did not exactly fit the pattern, so I sent the boy to fasten the piece to a post at the other end of the room, that I might stretch it; he was so sleepy that he took the piece across where the other men were working, which he would never have done if he had been properly awake. However, he fell asleep in the act of doing this, and let go his hold of the end of the piece when I was leaning my weight upon it, and I fell down an open staircase which was at my back and hurt myself very much. I did not recover from it for some time.[81]

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77. ibid., p. 37.
78. ibid.
79. ibid., p. 59.
80. ibid.
81. ibid., p. 60.

There were some establishments where these long hours were not allowed by the owners, and children never worked more than ten hours per day.[82] But these places were again exceptional. In Scotland conditions were less severe, although an average of ten hours in summer and somewhat less in winter was "not uncommon at certain seasons".[83] Night work in the printing grounds was so universal that it was regarded "as part of the regular system of carrying on this branch of trade".[84] This was so in other branches, such as the roller-printing departments, where the working hours extended sometimes till midnight when trade was brisk.[85]

In figure-weaving by drawboy loom, children started work "as early as six years of age; many are so employed at seven and between seven and eight, and very generally at nine" (for example in Kidderminster).[86] In Scotland the youngest age was also six, with an exception in Kilmarnock where the age of commencement of work was twelve years old in drawing and ten years old on ordinary treading looms.[87] Employing girls was a common practice in England, but in Scotland drawboys were normally boys.[88]

There are no comprehensive data available on the number of children employed in drawboy looms. In Kidderminster, twenty-two manufacturers supplied information to the commissioner of the Children's Employment Commission; their evidence is tabulated in Table III-9.

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82. ibid., p. 61.

83. ibid.

84. ibid., p. 68.

85. ibid., pp. 68-69.

86. ibid., p. 14.

87. ibid.

88. ibid., p. 18.

Table III-9. The number of children and young persons in carpet manufacture in Kidderminster.

Above 18 years of age	Between 18 and 13	Under 13	Total
1099	461	261	1821

Source: The Second Report of the Children's Employment Commission, PP 1843, XIII, p. 22.

For Scotland information is more limited, but the number of children must have been very great. In Paisley alone there were "5000 harness-looms, which are almost all wrought with draw-boys of all ages from six to eighteen".[89] In Scotland the factory system did not prevail at the time of the enquiry, and weaving was done in "loom-shops", of which whole streets at Paisley are composed". It was reported that "These shops usually contain either four or six loom-steads; two shops being included under one roof, one on each side of an open entry between them".[90]

Hours of work in drawboy-weaving show that, as in calico-printing, children worked very irregularly, and it was not at all uncommon for children to work without respite for fourteen to eighteen hours. One boy told the commissioner:

> I go to work at five and six o'clock in the morning and leave at ten or half-past ten at night, winter and summer; I work sometimes at twelve or one again until twelve the next morning, that is, thirty-one hours out of thirty-six, with only two or three hours of sleep, and only one meal in all that time.[91]

89. ibid., p. 23

90. ibid.

91. ibid., p. 64.

Night work was also very common, and the term, "twelve to twelve", was frequently used.[92]

The consequence of the enquiry conducted by the Children's Employment Commission was the "Act to regulate the Labour of Children, Young Persons, and Women, in Print Works" (8 & 9 Vict., c.29).[93] Although the enquiry covered a wide range of trades and manufactures, it was thought impractical to regulate all the trades concerned, and in 1845 Lord Ashley introduced a "Bill to regulate the Labour of Children in Calico Print Works". His aim was to abolish night-work for all females and for boys under thirteen years old; to restrict the hours of work to eight a day, or twelve on alternate days; and to extend these regulations to dyeing, bleaching, and calendering. After debate and further investigation by factory inspectors, Sir James Graham, the Home Secretary, made amendments to Ashley's bill before it was passed. The Act forbade the employment of children under the age of thirteen in night-work, a modified version of Ashley's proposal; but hours of work were not restricted, nor was the legislation extended to related industries. The Act also regulated the education of children in print-works, and it was subsequently amended by an Act of 1847 (10 & 11 Vict., c.70). These measures brought about a remarkable improvement in the conditions of children in calico-printing, but they were still inadequate, especially so far as the protection of children over thirteen years of age was concerned. It was not, as Thomson had predicted a decade before, easy to ignore the interests of the manufacturers. Compromise was inevitable, as free traders gained ever wider influence.

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92. ibid., p. 74.

93. The following brief history of legislation is based on Thomas, op.cit., pp. 276-83.

PART THREE

ART EDUCATION AND INDUSTRY IN THE EARLY NINETEENTH CENTURY

"Let artisans teach their sons crafts"

Ezra Pound, "Cantos LIV", The Cantos (second revised edition, second impression, 1981), p.283.

CHAPTER FOUR

DESIGN EDUCATION: THE TRAINING OF DESIGNERS AND ARTISANS

In previous chapters, I have discussed the reasons for the inability of early nineteenth century British manufacturing industries to produce superior designs. Technological changes, and the division of labour in the production of designs in many industries, broke up the unity of workers' skill and enforced the separation of his artistic skill and labour that accompanied it. The problem was not only the lack of designers who could produce good designs for manufacturing, but also the want of skilled workers who could execute the original designs as the designers expected. There is, therefore, no wonder that improved artistic education was called for by many sections of society. Some aspect of the formation of schools of design in Britain have been described by several historians. Quentin Bell, the author of an excellent account of the formation of art education in this country, was a pioneer in this relatively undervalued field of art history, and his lead has been followed by other scholars who have been mainly interested in the history of education.[1] In this chapter, I intend to avoid detailed discussion of topics considered by my predecessors - i.e., the problems of curricula in the schools, politics of committees and teachers, and the social backgrounds of patrons of local schools - and

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1. Quentin Bell, The Schools of Design (1963); Stewart MacDonald, The History and Philosophy of Art Education (1970); E.D. Mackerness, "The Early History of the Sheffield School of Design", in S. Pollard and C. Holmes (eds.), Essays in the Economic and Social History of South Yorkshire (Sheffield, 1976); K. Dixon, "The Manchester School of Design and the Calico Printing", unpublished M.Ed. thesis (University of Manchester, 1967); P.J. Cunningham, "The Formation of the School of Design, 1830-1850, with Special Reference to Manchester, Birmingham and Leeds", unpublished Ph.D. thesis (University of Leeds, 1979).

shall concentrate instead, in keeping with a theme of previous chapters, on education in art and design as an aspect of the machinery question. Administrative problems will only be mentioned in passing where necessary for the present argument.

The traditional method of education or training in artistic design for workers and artisans, which still prevailed long after the establishment of schools of design and of art colleges throughout the country, was bound up with the system of apprenticeship. The learning of taste, judgement and appreciation of artistic standards was a part of a whole system of technical training which was based on a close personal relationship between master and apprentice. As we have seen in Chapter One, the artists were more workmen and the workmen were more artists. To acquire artistic judgement under the master's supervision was as important for apprentices as learning the knacks and necessary skills for the execution of work. By observing and copying the master's work, apprentices could learn in a natural manner the trade which they were following. At the same time apprentices were, no doubt, when they entered into the trade, required to have some sort of drawing skill where this was an essential for their vocation. Books of trades published for the guidance of parents and guardians of would-be apprentices indicate that certain trades would specifically call for a certain kind of talent, such as the ability to draw, if the boys were to gain entry into their new occupations.[2]

Books of engraving may have been used for instruction in drawing as well as a source of patterns. In some of the German states, the

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2. Probably one of the best known books of trades was Robert Campbell's The London Tradesman (1747). On the engraving trade, for example, he stated: "Their Education may be only to read and write English, and understand common Arithmetic; but the chief Care must be employed in learning to draw; without which it is impossible to make a good Workman." (p.110).

government provided books on arts with copper-plate engravings which "made known to the manufacturing artist the most beautiful modes of antiquity and the era of the Renaissance, as well as Oriental and Moresque designs".[3] In England, however, before the invention of steel engraving, the prints produced by copper-plate engraving would still have been expensive for most artisans, and wood-engraving was not as successfully applied to this sort of purpose until after the early nineteenth century, in the post-Bewick period. Lithography also came into much wider use in the early nineteenth century; its adaptability to printing in colour made it indispensable for the printing of pattern books and textbooks of the history of decorative design.[4] It is unlikely that artisans in pre-nineteenth century industries learnt from books of engravings, but it may be assumed that those in certain trades, such as jewellery and silver- and gold-smithery, would have had the opportunity to consult these books.[5] William Chapman, goldsmith and jeweller of London, obtained his designs from "old examples of engravings of ornament which are published".[6] Richard Solly of Sheffield stated in 1849 that, in the Sheffield trade, the majority of manufacturers composed "their designs themselves from books of engravings".[7] By this time, the middle of the nineteenth century, engravings were more widely

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3. Report from the Select Committee on Arts and Principles of Design, Parliamentary Papers 1836, IX (hereafter PP 1836), p.vi.

4. An outstanding example of this sort of publication is Owen Jones, The Grammar of Ornament (1856).

5. For this aspect, see a brief but useful work, Nikolaus Pevsner, "Design and Industry through the Age", in Pevsner, Victorian and After: Studies in Art, Architecture and Design (1968; reprinted 1982).

6. Minutes of Evidence Taken from the Select Committee on the School of Design, Parliamentary Papers 1849, XVIII (hereafter PP 1849), Q.1846.

7. ibid., Q.1236.

available, and textbooks dealing with ornamentation and the history of decoration had been published by well-known designers and artists. Popular magazines, which were cheaper and more widely diffused, were also an important source of instruction. For instance, the Report of the Select Committee on Arts and Manufactures pointed out in 1836 that

> Cheap publications upon art are studied with interest by our workmen. The "Mechanics' Magazine" has, in this point of view, as well as in its more scientific character, conferred lasting advantages on the manufactures of the country. The immensely extended publication of specimens of art by means of the steam-printing machine is justly commemorated in the Evidence of Mr. Cowper. The "Penny" and "Saturday" Magazines, the "Magasine-Pittoresque," the "Magasine-Universel," and other cheap works issued in France and Germany, are mainly indebted for their success to this great instrument of knowledge.[8]

As for the more elementary aspect of art training, the achievement of dexterity in drawing, this was left to the pupil to learn during the course of his apprenticeship.

Dr. G.F. Waagen, Director of the Berlin Museum, who gave evidence to the Select Committee on Arts and Manufactures in 1835, showed an interesting insight into the nature of traditional art education in Europe:

> When we consider the various methods by which the arts have been taught at different periods, we observe, from the 13th century downwards, at which time the fine arts awoke into new life, to the middle of the 16th century, and in many countries to the middle even of the 17th, the arts were taught after the manner of artizans, then very young, from the age of 10 to 12 years. The artist entered into the workshop of the master artist, and made himself, while quite young, master of the technical part of the art; and as he was permitted to behold works while under the hand of the master and his best scholars, he had a vivid conception of the art, and he had an opportunity, by seeing the practice, of turning it to the best account in the different branches, as, for example, drawing, painting, modelling and so forth.[9]

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8. PP 1836, p.vi.

9. Report from Select Committee on Arts and Manufactures, Parliamentary Papers 1835, V (hereafter PP 1835), Q.95.

Then he went on to argue that the break-up of the workshop-based relationship between the masters and apprentices had become a normal feature, and that learning of the arts had instead become possible through the facilities provided by the academies. A consequence of this change was, according to him, the lowering of artistic standards:

> Instead of following the "mode of feeling" of a distinguished master, to which the pupil attached himself as to something living, until he was confirmed in the development of his own sentiment of art, in academies the cold general rule is substituted, which the young man is strictly bound to follow, according to the infallible direction of the professors, as the only correct method. In this manner, in the eighteenth century, a great number of works of very limited merit were produced...[10]

Although he was then referring to the education of fine artists rather than artisans in general, his argument is worth hearing. Quite apart from his criticism of academies, (ordinary artisans did not have their academies in any case), workers before the industrial revolution had maintained a similar relationship with masters in terms of artistic and technical training.

It may be appropriate here to point out that design education in the nineteenth century was regarded at most as a part of technical education. The lack of good design was the result not merely of the shortage of good designers, but was also of deficiency of skill on the part of workers. And it is precisely for this reason that the history of artistic education has a significant place in economic and social history. As we shall see, the schools of design established by the Government had in many places models, if imperfect ones, in the mechanics' institutes, where artistic education was very much a synonym of technical education. Schools of design, then, became, in the second

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10. ibid.

half of the nineteenth century, virtually the art colleges and technical colleges of the provincial towns. (The development of the schools of design is shown in Table IV-1). In this sense, design education was a precursor of technical education in Britain. For example, in his book on education in nineteenth-century Nottingham, David Wardle points out that "In Nottingham it was in the field of design that the first efforts were made in technical education".[11] In this town the Mechanics' Institute took some of the initiative in these efforts, though its aim of establishing a school of design was not successful due to a lack of funds. Yet in 1843 with the support of a small number of enthusiastic manufacturers in the town, Nottingham opened the school. Although the majority of local manufacturers were not entirely supportive of this venture, the school grew steadily, and by the time of the Great Exhibition the town could impress the jurors with the quality of its designs. The school was then stated to have "materially assisted the enterprising manufacturer and artizan".[12]

When the British became aware of the necessity of artistic education for manufacturing workers, their attention was directed to the system which had for long been practised in Continental countries, particularly France and Germany. Both the French and German systems of artistic education for the manufacturing population were part of their mercantilist policy of protecting royal as well as local manufactures. The French system had its origin in Colbert's legislation. Colbert founded the

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11. David Wardle, Education and Society in Nineteenth Century Nottingham (Cambridge, 1971), p.124.

12. H.K. Briscoe, "The History of Technical Education in Nottinghamshire, 1851-1902", unpublished M.A. thesis (University of Sheffield, 1962), pp. 64-65, quoted in Wardle, op.cit., p.126.

Table IV-1. The Development of the Schools of Design 1837-52

1837	Somerset House, The Government School of Design.
1842	Manchester.
	Spitalfields.
	Female School (London).
	York.
1843	Birmingham.
	Sheffield.
	Newcastle-upon-Tyne.
1844	Glasgow.
	Nottingham.
	Coventry.
1845	Norwich.
1846	Leeds.
1847	Hanley. } (joint schools).
	Stoke. }
1848	Paisley.
	Bradford.
	Huddersfield.
1849	Cork.
	Dublin.
1850	Macclesfield.
	Belfast.
1851	Stourbridge.
	Worcester.
1852	St. Martin's. (London).
	Waterford.

Manufactures Royales to encourage the exports of France, and artistic training for the artisans was a part of his ambitious strategy. The development of similar mercantilist policies elsewhere in Europe in the eighteenth century followed more or less in imitation of Colbert's idea. In Berlin, for instance, the Gewerb-Institut provided instruction in manufactures connected with the arts. This institution was entirely financed by the Prussian government, and four other institutions of a similar kind, though smaller in scale, were in operation in Breslau, Königsberg, Danzig and Cologne. In Bavaria, it was reported, there were thirty-three schools of design, and "outline drawing, to a considerable extent, forms an element in the system of national education".[13]

Compared with this relatively highly developed state of artistic education in these rival countries, the situation in Britain was regarded as lamentable. The British Government made an enquiry, through the Foreign Office, into the "different schools and institutions connected with the Arts in foreign countries".[14] When the Government approved a plan to establish a school of design, the Board of Trade was put in charge of preparations, and in 1837 William Dyce, a young and talented Scottish artist, was sent to France, Prussia, and Bavaria to inspect the schools there. He found the German schools preferable to the French ones, though he clearly thought that the Lyons school had achieved a very high standard in creating designers and artisans of quality.[15] Dyce

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13. PP 1836, p.iv.

14. ibid.

15. "Dyce's Report to the Board of Trade, on Foreign Schools of Design for Manufactures", Art-Union (Sept., 1840), pp. 143-44. On Dyce's activities in artistic education, see Marcia Pointon, William Dyce 1806-1864, a Critical Biography (Oxford, 1979), Chapters 2 and 3.

already had some intimate knowledge of the German method of artistic education, when in Italy he had met a group of German artists, the Nazarenes, a sort of German Pre-Raphaelite Brotherhood. Their educational theory, according to Quentin Bell, "expounded a pedagogic doctrine which rejected the formalized impersonal teaching of the academies and demanded something much nearer to the practice of craftsmanship and the spirit of fellowship which had existed, or which was supposed to have existed, among the simple, warm-hearted, religiously-minded Christian painters of the era before Raphael".[16] Dyce's ideas on artistic education will be discussed later. Before going into the discussion of the schools of design, earlier efforts for the promotion of artistic education are examined.

Mechanics' Institutes

In Britain the mechanics' institutes certainly had an important place in the history of design education for people engaged in manufacturing.[17] Though it is generally accepted that they were not entirely successful in producing great designers or in their methods of teaching, their attempts to give artistic education a place in society should not be undervalued. They helped to instill the notion that a knowledge of artistic principles was an integral part of skill. Those who organised and attended the institutes were also mindful both of the desirability of regaining lost artistic skills and of applying them to the staple

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16. Bell, op.cit., p. 79.

17. On the role of the mechanics' institutes in artistic education, see, for instance, M. Tylecote, The Mechanics' Institutes of Lancashire and Yorkshire before 1851 (Manchester, 1957), passim.

manufacturing industries in their districts. The importance of the mechanics' institutes was not merely as the predecessors of the schools of design; for, even after the establishment of the latter, the former continued to teach elementary drawing skills. When the schools of design were being reassessed by the House of Commons in the late 1840s, the local inspectors of the schools stressed their usefulness in providing a basic training for artisans and designers, who could go on to the schools of design and could obtain advanced courses there. S.H. Northcote, for instance, argued that

> to take the case of Manchester, which is an epitome of the whole country; if we could get a footing by means of the Mechanics' Institutes in those hamlets round Manchester, and give good elementary instruction to the young students there, and make them sensible of what they would learn in the head school at Manchester, we should bring a great number of the students to the head school, who would be profiting by the instruction which would be there given to them; and we should incidentally derive a good deal of support from those who are interested in those Mechanics' Institutes.[18]

The members of the classes in drawing and related subjects at the mechanics' institutes varied a great deal between different towns. The Edinburgh School of Arts, for instance, attracted a large number of men in handicraft trades (see Table IV-2). But the overall range of occupations suggests that the need for education was universally felt by artisans, or by their masters. (See also a similar analysis in Tables IV-10 -15).

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18. PP 1849, Q.258.

Table IV-2. Occupations of Member of the Drawing and Modelling Classes in the Edinburgh School of Arts, 1830.

Brass-founder	34
No trade stated	17
Plaster	14
Joiner	14
Cabinet-maker	10
Carver and Gilder	17
Chaser	7
Painter	6
Smith	6
Mason	5
Shopman	5
Jeweller	4
Seal engraver	4
Die-cutter	4
Engineer	3
Philosophical instrument maker	3
Watchmaker	3
Agent	1
Lithographer	1
Engraver	1
Teacher	1
Millwright	1
Cook	1
Student	1
Machine-maker	1
Plumber	1
Engine-turner	1
Colourer	1
Architect	1
Wood-engraver	1
Wire-worker	1
Total	170

Source: The Society for the Diffusion of Useful Knowledge, A Manual of the Mechanic's Institutions (1830), p.15.

It was Benjamin Robert Haydon, the artist and pioneering promoter of state art education, who first appreciated the potential of mechanics' institutes. He travelled up and down the country and delivered lectures in the mechanics' institutes on the necessity of establishing

institutions where artists, designers, and artisans could study art.[19] In the mean time, Benjamin Heywood, the banker and educationalist, pointed out in 1832, at a general meeting of the members of the Manchester Mechanics' Institution, the importance of artistic education to artisans and mechanics. Prior to this proposal, the 1829 annual report contained a proposal to establish "a class for design...useful to those connected with Engraving, Printing and Manufacture".[20] In 1832 he was deeply impressed by the evidence given by Dr. Bowring who had been sent by the Government to enquire into the state of the silk trade in France. Bowring's report on the school of arts in Lyons emphasised the weavers' positive efforts to produce new patterns by "walking about gathering flowers, arranging them in their most attractive shapes...constantly suggesting to their masters improvements in their designs".[21] The schools were sufficiently supported by the municipality, the manufacturers and the Government. The teaching covered the wide range of subjects necessary for instructing workers in the production of patterns for their trades: the anatomy of the human body, botany, architecture, studies in machinery, etc. Heywood expressed his interest in this French example of artistic education, and told the above meeting that

> I think it of great importance that a similar school should be established in Manchester, where the silk manufacture is advancing so rapidly, and where calico-printing is so large a branch of the trade. There is one of the classes, namely, that for teaching the application of machinery to the transfer of patterns, which I should like to see at once established in this Institution.[22]

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19. On Haydon's art educational mission, see Bell, op.cit., chapter 3; Cunningham, op.cit., p.45.

20. Tylecote, op.cit., p.136, n.1.

21. Quoted by Benjamin Haywood, Address delivered at the Manchester Mechanics' Institution (Manchester, 1843), p.52.

22. ibid.

The Manchester Mechanics' Institution had already had classes for figure, landscape and flower drawing, but Heywood's proposal was more strongly aimed at the manufacturers of the town, although he did not modify his philanthropic and Whiggish attitude towards the working classes:

> the improvements it would introduce into the two branches of our trade, which I have mentioned, would be great; and greater still, the improvement to the working man; for besides placing more within his reach the means of comfortable support, the studies themselves would soften and liberate him.[23]

Fourteen months later, however, he had to admit the task was not so easy for the institute to undertake. In an address to a general meeting of its members he remarked that "We have found more difficulty than I had anticipated in carrying into effect the suggestion I ventured to make at our last meeting, of the desirableness of establishing a School of Design, and especially for teaching the application of machinery to the transfer of patterns".[24] When Haydon visited Manchester in 1837 he found "Manchester in a dreadful condition as to Art, No School of Design. The young men drawing without instruction".[25] Whether this remark was correct is disputable, since Haydon's self-professed mission was to create an alternative to the Royal Academy, an establishment that would educate artists, and the education of artisans was, despite his propaganda, secondary to the former purpose. The Manchester Mechanics' Institute did already have some effect on its members by the provision of classes in drawing. One of its members, Thomas Farnworth, an engraver to calico-printers, was reported to have said that:

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23. ibid., p.54.

24. ibid., p.68.

25. Tom Taylor (ed.), The Autobiography and Memoirs of Benjamin Robert Haydon (1926 ed.), p.624. (Hereafter, Haydon, Autobiography).

> He has attended the class between two and three years; he knew nothing of drawing when he entered it;...he was then a journey-man, now he works on his own account: his diligence in availing himself of the instruction he has received here has not merely, he says, been of great service to him as a designer, but has established him to effect some valuable improvements in the machinery used in his business, for which he has made his own drawings and superintended the construction of the machines.[26]

Indeed, the directors of the institute were optimistic and ambitious both in their plans for the classes and the resulting effects on the trade in Manchester. In 1836 they reported that

> Opportunity should be afforded the young artist, to draw and model from Antique casts; and it is very desirable that means be offered to the weavers of fancy cotton and silk goods, to acquire a knowledge of the arts of design, which united with their practical skill at the loom, would enable them to invent and execute patterns, characterized by grace and elegance of design, and by delicacy and precision of execution; our indigenous products would be thus enhanced in value, by the taste and labour of our industrious artizans.[27]

Heywood's desire to establish a school of design in Manchester became reality in 1838, when manufacturers co-operated, partly at the suggestion of Haydon and partly in the hope of a grant from the Government, and subscribed to found it. Haydon wrote in his diary in January 1838:

> Manchester...A meeting took place in the committee-room of the Mechanics', to consider the propriety of founding a School of Design. I read my proposition, which was received with cheers; Mr James Fraser in the chair. Mr.Heywood was present. Someone wished an elementary school to be added before beginning the figure, but I urged the necessity of uniting the artist and the mechanic, as in Greece and Italy, and I think I impressed the audience.

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26. Manchester Mechanics' Institute, Report of the Proceedings at the General Meeting (Manchester, 1834), p.11.

27. Manchester Mechanics' Institute, Report of the Directors of the Manchester Mechanics' Institution and Proceedings at the Annual Meeting (Manchester, 1836), p.13.

> Finally an active committee was formed to take the matter into consideration, preparatory to calling a public meeting.[28]

A few days later he recorded the meeting with Heywood and Fairbain, the engineer, over the question of the school.

> We talked of the School of Design. Heywood said, It was astonishing how it would get on if men had shares bearing interest; not but what,' he added, 'I prefer donations.' This was a regular hint for starting a School of Design Company, and after all, perhaps, this must be the way in England. We shall see. Bankers are shrewd ones.[29]

As we have seen, this remark by Haydon on Heywood is rather unfair. Whatever the attitude of Heywood to the working classes, his belief in philanthropy, of a Whiggish variety, was genuine, and his activities could not be dismissed simply as being guided by a shrewd banker's motivation. The Manchester Mechanics' Institute was constantly attracting mechanics and artisans, and Heywood as a long-standing president had gained respect and confidence from the members. Its drawing classes certainly had regular attendances, which was naturally regarded by Heywood as a good reason to venture into the establishment of a school of design in the town. In February 1838, when the Manchester School of Design as a separate organisation from the mechanics' institute was proposed, Heywood expressed the view that "The establishment of a School of Design in the town, (which I rejoice to see, and shall cordially join) will, I suspect, apply the screw to our drawing classes, and put us upon our mettle there".[30] He indeed joined the managing committee of the school and became its firm

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28. Haydon, Autobiography, p.630.

29. ibid., p.631.

30. Manchester Mechanics' Institute, Report on the Proceedings at the General Meeting (Manchester, 1838), pp.34-35.

supporter.

In the West Riding, mechanics' institutes were, in comparison with Manchester and other towns, relatively successful in persuading the Council of the Government School of Design to establish local branch schools within the walls of their own institutions. Leeds, Bradford and Huddersfield all secured the title of "branch school of Somerset House", although there was some variation in their activities and the extent to which they collaborated with the head school. Before the establishment of local schools of design, mechanics' institutes were the only places where artisans and youths could learn drawing and design. For example, the Keighley Mechanics' Institute was teaching these subjects to young people, though other institutes, such as that at Stalybridge, were not entirely successful. In Stalybridge, according to Mabel Tylecote, drawing and design were introduced to the class in 1845 but they soon gave way to mechanical drawing, which was itself short-lived.[31] Halifax also had a flourishing and satisfactory drawing class. When, in the case of the Leeds Mechanics' Institute, the Council of the School of Design made inquiry, it noted that "there is in the Institution a Drawing Class, which has existed from its commencement in 1824, in which mechanical, architectural, oramental, & perspective, drawing is taught".[32] The number of pupils in the class was between 52 and 63 in the few years before 1841, and they included mechanics, engravers, engineers, joiners, masons, bricklayers, wood-carvers, painters, and others.[33] The Leeds Mechanics' Institute confidently anticipated

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31. Tylecote, op.cit., p.245.

32. Leeds Mechanics' Institute, Minutes Book, (Leeds Archive), 24 August 1841.

33. ibid.

> that a Branch School of Design would be most legitimately engrafted on it, as a stock most proper to receive & best suited, for the healthful youth & fruitful bearing of such a scion.[34]

It took five years to finalize the foundation of the Leeds School of Design after the Council of the head school started looking into the possibility of establishing a school in the mechanics' institute. In 1847, at the annual meeting of the Leeds Mechanics' Institute, the Committee reported that they were of the opinion "that educational institutions of a character so purely industrial could never be more properly placed than in connection with an Institution like this", and announced that "the central Government School of Design has entered into their view in this respect, and that Leeds can now boast a school of that description in connection with this Mechanics' Institution".[35]

As in Manchester, the interests of manufacturing were the one strong argument put forward for promoting art education in Leeds. The Leeds Mechanics' Institute was particularly enthusiastic in this case, as the 1849 Annual Report of the Institute makes plain:

> /The Committee/ are anxious that familiarity with the beautiful in form, and the tasteful and appropriate in design, should shed its beneficial influence upon the trade and manufactures of the town; and upon the character and habits of its population. That beauty of pattern is essential to the success of a very great portion of the manufactures of the district, is generally acknowledged. Without it our merchants will neither be able to compete with the productions of other countries, in foreign markets, where much of our produce must seek for customers; nor to satisfy the demands of our home consumers, who, whatever may be their love of their own land, would, rather than be inferior to other nations in the beauty and elegance of the articles they use, become the customers of foreigners. It is only by cultivating

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34. ibid.

35. Leeds Mechanics' Institute, Annual Report (Leeds, 1847), p.12.

> the Arts of Design, that this great object can be attained; and it is by supporting the School of Design that our Fellow Townsmen can best contribute to its attainment.[36]

The commercial value of design, and the importance of promoting it by educating workers were clearly emphasised as prime reasons for the support of artistic education both at the mechanics' institutes and at the schools of design. We are now already familiar with this sort of argument, and it is surprising to see how quickly it had prevailed throughout the contry. The argument advanced more than ten years earlier was by the late 1840s gaining strength among influential sections of provincial society, including manufacturers and merchants.

In 1859, looking back on the past achievements of the Bradford Mechanics' Institute, J.V. Godwin, its president, boasted that "From the classes have risen some of the most effective teachers, and the drawing class has furnished its own present drawing master, and also the second master to Bradford School of Design".[37] The Bradford Mechanics' Institute had, like that of Leeds, applied to the Board of Trade for a school of design within its walls, and got it in 1848.[38] Bradford was a rapidly growing town, and its manufacture in the worsted trade was acquiring "more and more the character of a fancy trade".[39] It was for this commercial reason that the mechanics' institute felt that it was its duty to establish a school of design. The fifteenth

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36. Leeds Mechanics' Institute, Annual Report (Leeds, 1849), pp.9-10.

37. J.V. Godwin, The Bradford Mechanics' Institute (Bradford, 1859), p.4.

38. Bradford Mechanics' Institute, 17th Annual Report (Bradford, 1849), p.5.

39. Bradford Mechanics' Institute, 15th Annual Report (Bradford, 1847), p.3.

annual report of the institution proposed the establishment of such a school:

> Considering...the ample scope which the fabrics produced in this neighbourhood afford for the most elegant designs, it has been thought of great importance that the pupils in our Drawing Classes should have facilities provided them for thorough instruction in the elementary principles of art, and be familiarised early with the best models and examples. For the attainment of this end, the Committee were desirous to secure to the town the benefit, granted to other larger towns, of a School of Design in connexion with the Government School of Design at Somerset House.[40]

The merchants and manufacturers of the town immediately responded to this proposal and sent in donations. Contributors included R. Milligan, J.G. Horsfall and Co., Titus Salt, Rennie, Tetley and Co., George Rogers and Henry Forbes, each of whom donated five pounds. The Institute purchased, with these donations, a collection of casts and drawings selected by C.H. Wilson of the Central School.[41] The School of Design opened, within the Institute, in November 1848 under the tuition of Claude L. Nursey, then master of the Leeds School of Design. The Bradford school appears to have been a subdivision or a branch of the Leeds school, whose teacher commuted to Bradford once a week to instruct students. When Nursey left the Leeds school in 1850, another teacher came from Leeds to teach in Bradford. The Committee reported in the same year that "the number of pupils is still comparatively small", but the performance of students was on the whole satisfactory.[42]

Although by 1850 Bradford had become the most important centre for the manufacture and sale of worsted cloth, superseding Leeds, those who

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40. ibid., pp.3-4

41. ibid., p.4.

42. Bradford Mechanics' Institute, 18th Annual Report (Bradford, 1850), p.7.

made up the more cultivated part of its population were relatively few in number, despite the existence of many flourishing manufacturers and merchants. Leeds continued to be regarded as the more cultured town, a position that Bradford sought to challenge. A focal point of this rivalry was their respective contributions to the Great Exhibition of 1851. E.M. Sigsworth, in analysing the attitudes of manufacturers and merchants in Bradford and Leeds to the Exhibition, has pointed out the Bradford manufacturers and merchants, with a strong confidence in their past achievement, were more enterprising.[43] In 1851 the Leeds Mercury was quick to observe the difference between the two towns. Whereas the Leeds woollen department was "more like a woollen draper's shop...than a showy bazaar", Bradford "had taken prodigious pains...and with brilliant effect, to give their goods every advantage of handsome fitting and tasteful display."[44] Commercial interests in the exhibition will be discussed in the next chapter. The point here is that the commercial sectors of the newly developed towns, such as Bradford, were particularly eager to make gains from any opportunity to cultivate their residences in order to thrust their commercial position further ahead. Their relatively weak position in culture and taste, compared with more established towns such as Leeds, was to be improved by all possible means. Artistic education was certainly an important consideration, in addition to exhibitions, in which Bradford enthusiastically took part.

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43. E.M. Sigsworth, "The West Riding Wool Textile Industry and the Great Exhibition", Yorkshire Bulletin of Economic and Social Research, IV, no.1 (January, 1952), pp.27-29.

44. Leeds Mercury, 3 May 1851, quoted in Sigsworth, loc.cit., p.29.

The Schools of Design

Some schools of design were promoted by cultivated elites, and not necessarily by manufacturers and merchants. This, according to Cunningham, was the case in Birmingham.[45] The majority of schools, however, had a strong support from the leaders of commerce and industry. But here again, as in the debate on the extension of copyright design (see chapter VI), these interested parties were not entirely unanimous in their motives. The positions taken by manufacturers and merchants were sometimes sharply contrasted. Such was the case in Manchester, where calico-printers were divided into two camps. Quentin Bell gives an explanation of this:

> Some felt that the technical school would give them the help that they could not obtain for themselves, others, probably those who could afford to maintain their superiority by the purchase of foreign patterns, were anxious that the school should not become a means whereby their lesser rivals could improve their position at public expense.[46]

Bell paints a picture of the conflict as between "those larger manufacturers, men of considerable standing and some degree of culture" and those smaller manufacturers of perhaps less culture. He also considers that working designers must have had a significant influence on their employers, and that they might have felt the threat from a school that might "glut the labour market with young men qualified in every way to replace" them. Bell sums up his argument as follows:

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45. Cunningham, op.cit., p.262. See also Tylecote, op.cit., pp.207-10, where she discusses the Huddersfield manufacturers' reluctance to support artistic education. As in Birmingham, the school was supported by "a few influential men of the district, M.P.s, and leading men of affairs in the town".

46. Bell, op.cit., p.130.

> Thus two parties were formed, one consisting of sensible practical men who were in want of patterns and were not afraid of their workmen, the other of sensible practical men who could buy patterns and wanted to conciliate labour.[47]

His assertion bears directly upon the present discussion; let us examine to what extent his argument comes close to the facts. It is useful to bear in mind that behind this discussion there was a long debate among teachers, supporters, and students of the schools of design throughout the country: namely, whether the schools should become technical schools, which produced patterns for the industry in their districts, or art schools, which promoted and cultivated the public taste and educated workmen to be men of taste. I shall briefly look at this debate on the nature of art education and then discuss the response to it from manufacturers and workmen.

From the foundation of the School of Design at Somerset House, there was no consensus on how the school ought to be run. Two distinct theories emerged from both within and outside the school: one argued that the school should be a purely vocational training place for designers and workmen whose work was more or less connected with the production of designs; the other took a broader approach, and stressed the importance of treating the future designer the same as an artist. This debate took the form of a controversy over the curriculum, namely whether "figure drawing" should be introduced as a fundamental course. The Council of the School of Design, which was under the auspices of the Board of Trade, was in favour of vocational training. Its members, largely Royal Academicians, manufacturers and bureaucrats, felt it necessary to restrict the ambition of the young pupil who might fall into the trap of becoming an unsuccessful artist who vainly pursued a

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47. ibid.

higher art. It was better that he should become a successful designer of decorative art. The school should not, at public cost, provide the opportunity for youths to indulge themselves in wasteful aspirations. This restriction on instructing students in drawing the human body was, when William Dyce became the Superintendent of the School, slightly modified, and a figure-drawing class was introduced. However, the School's aim continued to be to improve the skills of artisans rather than to provide them with a chance of obtaining a more elevated occupation.

Dyce and Charles Heath Wilson, the former's successor as the Superintendent of the Head School, believed, in theory, that the Pre-Renaissance method of teaching and training at the workshop should be the model for a modern school. When they were requested to draw up the plan of organisation of the Trustee School at Edinburgh in 1837, they proposed that

> the masters should occupy the same position in their Academy that the ancient painters did formerly in schools; and they should possess the same superintending and directing power over the pupils; that they should be allowed to use the same discretion in directing the various talents of the young men into channels likely to prove advantageous to themselves, and the general interests of art; and thus, that the institution should be enabled not only to hold out the advantage of a complete education in art, but become a source from whence the manufacturing classes should have it at all times in their power to obtain pure and excellent designs for their various purposes, as well as designers thoroughly instructed in its true principles.[48]

On this principle, they then set out the intentions a) "to prevent the inclination to a rambling, desultory and unprofitable course of study",

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48. ibid., p.81, quoting William Dyce and C.H. Wilson, Letters to the Lord Meadowbank and the Committee of the Honourable Board of Trustees for the Encouragement of Arts and Manufactures, on the best Means of ameliorating the Arts and Manufactures of Scotland in Point of Taste (Edinburgh, 1837).

and b) "to guard against an ambition...of ranking among the students of fine art".[49] Dyce went further than his collaborator, conceiving that "the school should become an actual workshop for the production of patterns which would be supplied to manufacturers".[50] On the merit of this strong and clear argument the Board of Trustees in their report recommended that Dyce be made director at Somerset House in 1838. He succeeded J.B. Papworth, the architect who had been appointed for the sake of diversity, but without leaving any significant achievement behind. Dyce tried some important experiments while he was the Superintendent of the Head School, and I shall be discussing some of them later on.

The main opposition to those who tried to create a vocational centre for artisans by restricting their learning to narrow doctrinaire principles came, not surprisingly, from Benjamin Robert Haydon. His argument too, however, was based on a dogmatic thesis. His missionary zeal in campaigning for the establishment of schools of design, which would offer an alternative academic education and thus would benefit the national culture as a whole, was itself a remarkable witness to the state of the art world. By the beginning of the nineteenth century, a small elite of Royal Academicians had secured themselves within the Academy which monopolised the royal patronage. Having failed to gain admittance to this elite, Haydon became one of the fiercest critics of the institution. He was an extremely intelligent man and a great theorist, especially in art education. But theory was not matched by practice: he was an inferior painter. His contribution to the history of British art was in the area of theory, and he was a very effective and eloquent

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49. Bell, op.cit., p.82.

50. ibid., p.81.

campaigner for the reformation of art education in this country. In his view, the chief element of an academic education was the study of figure drawing (the importance of which was confirmed for him by the arrival of the Elgin Marbles in Britain). He asserted that only through training in the anatomy and drawing of the human figure was it possible to achieve such a high standard as that of the Greek and Renaissance artists. His stricture was extended to the education of designers and artisans. Following the introduction of figure drawing to workers in industries in which ornamental techniques were employed, he foresaw exactly opposite results from those expected by Dyce and others on the Council of the School of Design. Haydon maintained that "all decorative art not based on fine art is, and ever will be, unworthy [of] the name of art altogether".[51] In 1838, when delivering his lecture at the Mechanics' Institute in Manchester on the propriety of founding a School of Design, he "urged the necessity of uniting the artist and the mechanic, as in Greece and Italy".[52]

Whether Haydon had an intimate knowledge of the production of artistic objects, including paintings and sculptures, in artists' workshops is not clear. But he was undoubtedly impressed by the evidence of Dr. Waagen before the 1835 Select Committee on Arts and Manufactures, and he also had some detailed information regarding the history of academies in Europe from Mr. Gwilt, when he was preparing for the same inquiry in 1836.[53] It is safe to assume, however, that Haydon's primary object was not to recreate medieval workshops where artists and

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51. Haydon, Autobiography, p.787.

52. ibid., p.630.

53. ibid., p.603n.

workmen were identical. He intended to create an academy in which workmen could incidentally benefit from an artistic education. He was, in this sense, partially responsible for the future development of art schools in provincial towns. But in the conjunction of technical education with artistic training, it is to Dyce and his followers, and much later to William Morris and the Arts and Crafts Movement, that British craftsmen and artists owed a much more substantial debt.

The controversy over curricula was complicated and worsened by other interested parties: those who had a commercial interest in the schools. What did manufacturers expect from the schools of design? The answer to this question seems obvious: designers and workmen who could produce sufficiently good designs to match competition from Europe. But the situation was more complicated than that. A particular preoccupation of manufacturers was the widespread piracy of patterns. James Thomson, the calico-printer of Clitheroe, an ardent supporter of the school of design and a member of the Council of the Somerset House School, was of the opinion that unless manufacturers and designers were protected by a proper system of design copyright, no school of design would be able to produce high quality original patterns and to raise public taste. As we shall see in a later chapter, he was an indefatigable campaigner for the extension of the copyright period for the calico-printing trade. Despite his strong support for the school, it was his passionate mission to protect new patterns from piracy that complicated his attitude to the school, and for that matter, to the industrial exhibition. He made his position absolutely clear in a letter to Peel (subsequently published as a pamphlet for propaganda purposes). Unlike other critics of the quality of British design, he

saw the superior position of France as the result of the protection she gave to designers:

> The success of France is to be found in PROTECTION TO PROPERTY IN DESIGNS. Let me not be misunderstood. PROTECTION, without schools of design, will do much. SCHOOLS OF DESIGN, without protection, will accomplish nothing; both united will place us in due time on a level with the most distinguished nations.[54]

Thomson thus tried to combine two objectives. He pressed for schools of design with an energy which was widely recognised. For example, Edmund Potter, his fellow Manchester calico-printer and a supporter of both copyright extension and of the schools of design, remembered him as "the munificent supporter of Schools of Design: to him the Manchester School almost owed its existence". Potter also cited Thomson's donation "for the purpose of giving the prize medal, which bears his name, designed by Gibson, and executed by Wyon".[55] The Journal of Design was also, in its obituary of Thomson, of the opinion that

> The Manchester School of Design may be said to have been almost exclusively supported by his purse and influence; and this is quite certain, that had it not been for his indomitable perseverance and determination, it would have been long since abandoned. His influence and example carried it through the difficulties which beset it before it became connected with the Government School at Somerset House, and it was through his management that that arrangement was successfully affected in the first instance; for being a member of both Councils, he was looked to in each as the man who above all others understood the wants of such institutions...[56]

Thomson was a firm believer, as befitted one who regarded himself as a practical man, in the importance of practical training. But for all his support of the schools, he thought this practical training could be

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54. James Thomson, A Letter to the Right Honourable Sir Robert Peel, Bart, On Copyright in Original Designs and Patterns for Printing (Clitheroe, 1840), p.17.

55. Edmund Potter, Calico Printing as an Art Manufacture (1852), pp. 16-18.

56. Journal of Design and Manufacture, IV, no.21 (November, 1850), p.66.

acquired better in the workshop and manufactory than in the school. He wrote to Charles Heath Wilson that "In six months they [young men] will learn more technical detail relative to their own art in our workshops and manufactories than you could teach them in six years at Somerset House".[57] He wanted the schools, not to provide practical courses, but to produce British designers who would be "educated". He wanted the designers to be trained to have "the eye to an accurate perception of beauty, and form, and harmony of colour, and the hand to the correct delineation of it, and thus lay the most solid foundation for the application of design to that branch of industrial art on which the student decides afterwards".[58] His propositions were reasonable in view of the state of education in the schools. Each school had a single master and, if it could afford them, perhaps one or two assistants. Thus it was a virtually impossible dream that working men might be educated to produce the patterns required in their trades. Thomson warned Wilson to give the manufacturer a realistic picture of the likely results of the schools of design: "Beware how you excite the doubts and suspicions, and eventually lose the confidence of the manufacturers themselves, by failing, as you assuredly will do, in the attempt to do that which it is impossible you should ever succeed in".[59]

When discussing the manufacturers' response towards the schools of design, Quentin Bell suggests that some manufacturers' "prejudice against pattern drawing as a branch of instruction was connected with views of self-interest".[60] Then he supports his claim by citing Dyce:

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57. Report of a Special Committee of the Council of the Government School of Design, Parliamentary Papers 1847, LXII, p.110.

58. ibid., p.109.

59. ibid., p.110

60. Bell, op.cit., p.129.

"In a notable speech...he pointed out that manufacturers did not want original designers; they had no use for them, because they could obtain what they needed by piracy..."[61] This suggestion immediately follows Bell's quotation of Thomson's views on technical education, thus giving the impression that Thomson was himself one of pirates, whose interest he was expressing by criticising the schools. As I have shown, this is far from the truth. Bell does not seem to have been aware of the significance of the debate on copyright of designs which was raging simultaneously with the movement for design education. It is true that many manufacturers "did not want original designers...because they could obtain what they needed by piracy". But whether Dyce's criticism was aimed at Thomson is doubtful. When Dyce complained of manufacturers' reluctance to employ original designers, he probably had in mind the failure of his own remarkable experiment at Somerset House of introducing a loom and a Jacquard machine, with all the necessary apparatus, for teaching weaving. He had had high hopes for this unique system of instruction, and even introduced, as a teacher, a Frenchman trained in the Lyons school. But his expectations were disappointed, for, according to him, the students could not find any employment in the silk industry which had no use for new and original designs but was content to use stolen patterns. The number of students declined and the class was shortly abandoned.[62] To what extent the failure of Dyce's experiment could be attributed to the piracy of silk manufacturers and their reluctance to employ designers trained in Somerset House needs more careful examination. For instance, the Spitalfields School of Design

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61. ibid.

62. This experiment was again taken up when the Spitalfields School of Design was established in 1842. PP 1849, Q.3069.

had, in 1844, 62 students who had a direct connection with the silk industry. This represented no less than about 25% of all the students in the school.[63] From Dyce's assertion, it is not clear whether students intending to work in the silk industry would normally altogether leave the school: they might, as at Spitalfields, remain at the school to practise drawings and other skills. It is, at any rate, somewhat too speculative to attribute the unwillingness of silk manufacturers to employ students from the schools of design to those manufacturers' supposed preference for pirated patterns. In many cases those who customarily pirated designs looked for patterns produced by the schools; and they were on the whole in favour of technical training rather than purely artistic education. Dyce gave evidence to the 1849 Select Committee on the School of Design, which was different from his criticism of silk manufacturers. He explained how prejudice against the introduction of pattern designing prevented him from carrying out his plan to build a school of <u>design</u>:

> The prejudice that existed against the introduction of pattern designing as a branch of instruction is so strong and so much connected with views of self-interest on the part of those who, on the whole, are the best supporters of the school, that it seems to me useless to contend with it. A notion has possessed them, that it is proposed to convert the school into a sort of manufactory of patterns, and this they have set their faces against with such determination, that I was given to understand that the least hint of such a scheme would be followed by the withdrawal of every member of the committee connected with the printing trade.[64]

Dyce clearly intended to imply a criticism of Thomson and of his strong influence in the Council. It would be wrong, however, to assert, as Bell does, that Dyce's criticism of "self-interested" manufacturers

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63. See Table IV-11.

64. PP 1849, Q.769.

was directed against a pro-piracy campaign. We ought to read Dyce's assertion in the context of many problems faced by the schools of design in their earlier stages. The problem expressed here by Thomson was that a purely practical view of the design schools, which rejected all academism, practically prevented the transfer of the skills and knowledge acquired. But Thomson's objection to "turning Somerset House into a workshop" met increasingly formidable opposition, which became dominant in the second half of the nineteenth century. If education was to provide an opportunity for artisans to regain their lost skills, it would certainly work better as a technical training than as a kind of substitute academy relevant only to the few who aspired to a higher career as fine artists. This attitude finally prevailed, after a ten year period of trial and error in the schools of design. Nor, even at the time was Thomson's view representative of the majority of manufacturers, whether they were pro-copyright or not. There were many manufacturers who thought the schools of design could serve their immediate interests by producing high quality designs which they had before had to obtain from French designers at a considerable expense. In 1847 and 1849 two Select Committees were appointed to investigate whether the schools had met with the expectation of manufacturers. It was before these committees that the schools were criticised as "mere drawing schools", which did not produce designs for industry.

As has been suggested, James Thomson was an important figure both in art education for artisans and in the movement to protect the copyright of design. His ideas concerning artistic education were, however, in a minority among manufacturers in any industry. Although his generous support for the schools of design was highly respected by many

critics of artistic education, his proposals for the schools received very little support from fellow calico-printers or from other manufacturers or artisans. This assertion is supported by the evidence given by George Jackson, twice a member of the Council of the Manchester School of Design, to the Select Committee on the School of Design in 1849. He believed that the schools ought to put before the public a well devised programme showing that its intention was to educate designers. He was critical of Thomson's and Charles Heath Wilson's preference for the development of general artistic education by means of the introduction of figure drawing as an elementary part of the teaching of every student. When Heath Wilson, as a director of the head school, tried to force his system on the Manchester school, Jackson and Graham Wallis, the headmaster at Manchester, strongly resisted the attempt. In the meantime Jackson sought advice from several members of the council and received from them firm support for his and Wallis's system. He informed the Select Committee that he had shown the letter from Wilson "to several members of the council, to almost the whole of those who had taken any active part in the matter; they were unanimous in opinion against any change being made".[65] The school had been very successful in terms of the number of students and the support given by manufacturers. Before Wallis took over the mastership, the character of the school had been closer to that of a drawing school. Jackson remembered how Wallis, in his inaugural lecture in 1844, impressed manufacturers and workmen alike and "created a great sensation in the town, and almost immediately after we had a great increase in the number of applicants to the school".[66] After Wilson succeeded in the

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65. ibid., Q.2419.

66. ibid., Q.2406.

enforcement of his method, however, Jackson and Wallis resigned from the school, and many students were also reported to have left it. In his evidence, Jackson stated that

> The school has gone down very much; it fell off almost immediately afterwards. The whole of the superior students who had been working their way up in the designing class, and had been stimulated by the prize which we had given for the production of original designs, did not like going back to the old elementary system again, and they accordingly left. Before that time we had 220 students, and they fell down to something less than 100 immediately.[67]

The schools of design needed the help and co-operation of manufacturers as much as manufacturers wanted the help of the schools. The schools needed money in the form of subscriptions from manufacturers. Moreover, the schools wanted the active interest of the manufacturers who would willingly employ students and would send their workmen for instruction. And, so far as the schools were supposed to be producing designers, practical knowledge and the ability to spply artistic skill to manufacturing had to be introduced with some help from the manufacturers. Were the manufacturers then helping the schools of design? S.H. Northcote, an inspector of branch schools and a member of the Council of Somerset House, thought that in local schools of design "the manufacturers did not in all cases contribute enough to keep the schools up".[68] This view at first appears to differ from that of many other observers. Henry Cole, for instance, found manufacturers eager to co-operate with the schools. He was of the opinion that such was

> the utmost desire everywhere; there is not a manufacturing town where I have come into contact with the manufacturers, in which they have not expressed a most earnest wish that the school should be useful to them, and a desire for its

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67. ibid., Q.2429.

68. ibid., Q.102.

> success. In Birmingham, in Sheffield, in the Potteries, in Stourbridge, in Manchester, in fact wherever I have inquired upon the subject, I have met with proofs of a very strong desire on the part of manufacturers to get all possible good out of the school.[69]

Cole said that he had many enquiries from manufacturers of damasks, brass, iron, and carpet-printing about the possibility of obtaining designs from the schools, and he told the Select Committee that he "might go on for an hour with illustrations of the wish of parties to get, if they possibly can, original designs and help through the medium of the school".[70] How are such seemingly contradictory statements to be reconciled? Did manufacturers want designs from the schools but without supporting them financially? Or were the manufacturers described by Northcote of a different kind to those referred to by Cole? Northcote gave a clue to the answer to this question by quoting one manufacturer's explanation as to why there had been such small amount subscribed. This manufacturer gave two main reasons for the reluctance and unwillingness of many manufacturers to support the schools of design. First, the jealousy of the large manufacturers of the schools of design: those who could afford to pay a large amount of money to good designers (£200 to £300 per annum was normally paid), and who monopolised these designers, did not wish to see the schools of design raising the standard of all designers. Secondly, the manufacturer only looked for the commercial success of his designs: "he does not care very much about the beauty of the design, so long as he can produce that which will sell".[71] Lack of general public education in taste reduced the demand

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69. ibid., Q.1949.

70. ibid.

71. ibid., Q.111.

for good designs, and consequently "the manufacturer is less encouraged to produce them".[72] The picture of the manufacturer that emerges from this description is that of one concerned with production on a large-scale, who was able to employ and to monopolise the better designers and so did not want to see smaller manufacturers get the benefit of cheaper designs from the schools of design. This analysis follows that of Quentin Bell, whose opinion was mentioned earlier in this chapter. Both Northcote and Dyce stated that the manufacturers naturally acted according to self-interest. Those who were described by Dyce were initially strong supporters of the schools of design, yet they were prepared to withdraw their support if the schools became a kind of manufactories of patterns. Northcote similarly tells us that the large-scale manufacturers were reluctant to support the schools because they did not want to see the smaller-scale manufacturers benefiting from them. They could do without the schools of design. Were the manufacturers described by Dyce, therefore, not the large-scale ones? As far as the textile industry was concerned, this was not in fact the case. The following table convincingly suggests that the leading manufacturers in Manchester were indeed strong and active supporters of the schools of design.

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72. ibid.

Table IV-3. Members of the Managing Committee of the Manchester School of Design

Chairman	Mark Phillips, M.P.
Vice-Chairman	J.W. Fraser
	Edmund Potter, Calico-printer
Treasurer	Joshua Satterfield
Honorary Secretary	T.W. Winstanley
Committee	Alfred Binyon
	Edward Brooke, Calico-printer
	John Chippendale, Calico-printer
	Samuel Fletcher
	John Gregan
	James Heywood, Banker
	George Jackson
	Joseph Lockett, Calico-engraver
	Louis Schwabe, Calico-printer
	James Stephenson
	Charles Swain, Calico-printer
	Edward P. Thomson
	James Thomson, Calico-printer
	Henry Tootal
	E. Walters
	James Whitworth
	Henry Whitworth

Source: Objects, Laws and Regulations of the School of Design of Manchester (Manchester, 1844), p.2.

Apart from those actually on the committee of the Manchester School of Design, leading calico-printers were also among the best supporters of the school by subscriptions. For example, in 1843, such eminent printers as Hargreaves, Dugdale and Co., Fort Brothers, John Brooks and

Thomas Hoyle and Sons each paid £100 to the school.[73] I have already mentioned the response to the school of design from Bradford manufacturers such as Titus Salt, Henry Forbes and others, and their generous financial support.

Art education and artisans

We have so far looked at the attitudes of manufacturers towards art education. Manufacturers were on the whole unanimous in their opinion that it was absolutely necessary for working people to acquire sufficient knowledge and skill for British manufacturing to compete in taste with its Continental counterparts. The suggestion has also been made (in Part Two, above) that artisans themselves wanted to regain lost skills, of which they had been deprived by the division of labour and the introduction of new machinery. In this section I shall discuss the response of artisans to art education which, for the first time in British history, was provided by the state. An attempt will be made to answer the question of the extent to which the artisans benefited from the schools of design. There is too the important question of who went to these schools - what their occupations were - and, equally, who did not attend. These problems have never been seriously considered by historians of art education. There are, indeed, many difficulties in trying to answer questions like these. The opinions of the working classes were rarely expressed in the sort of material we have been using. It is necessary to consult instead the evidence of employers and teachers at the schools, and this must be done critically, for these

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73. Third Report of the Council of the School of Design, Parliamentary Papers 1844, XXXI, p.21. (hereafter PP 1844).

opinions were naturally conditioned by social circumstances. Having said this, it is not entirely impossible, by using the available sources with care, to paint a picture of the students who attended the schools of design.

The schools of design were, like other educational institutions of the period, typically Victorian and English. They were conceived "as of much national importance; useful alike in promoting commerce, education, and good morals".[74] Many local schools had young pupils whose moral improvement was thought to be as important as their artistic education. In the Coventry School, for example, it was reported that "Cleanliness, and neatness, are carefully observed; which is the more creditable, as 50 of the Students are young boys from the Bablake School, one of the many large charitable institutions for which Coventry is remarkable".[75] MPs sitting on various Select Committees on the schools of design were anxious to know whether, apart from the artistic and commercial achievement of the schools, students showed signs of improved morals. Questioned on this, Herbert Minton, the celebrated manufacturer of earthenware, replied that he had "not the last doubt of" moral improvement in those attending the school:

> I have never heard an instance of one pupil going from the school who has been taken before our stipendiary magistrate, who sits five days in each week...I have one room occupied by three who attend the School of Design, and I never saw the least irregularity; but, on the contrary, improved conduct; they are improved in every respect; in their conversation and their manner of conducting themselves, and their general demeanour...I find the greatest attention and punctuality as to attendance, and their conversation is generally directed as to their improvement in their business, and they draw with much greater accuracy than they used to do.[76]

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74. Proceedings of the Select Committee on the School of Design, PP 1849, p.xxxiii.

75. PP 1844, p.33.

76. PP 1849, Qs.2648, 2650.

It was estimated that after twelve years of existence the schools of design had had more than 15,000 students in London and many provincial towns.[77] Of course, not all of these 15,000 students had anything to do with designing in industries, many were schoolboys or youngsters of less than fifteen years old. (See Table IV-7) The fact, however, that such a great number of people had received some sort of elementary art education, despite confusions and controversies among teachers and the organising bodies, must have had a significant effect on the working classes.

The diverse motives of artisans who attended the schools of design were indicated by George Jackson. When asked whether he thought "the artisans generally would be anxious to attend the Schools of Design if they felt that they could make progress in acquiring the artistic knowledge which had reference to their own business, and which might be made applicable to their own business", he replied that he had "great doubts upon it". He continued:

> It would not be the immediate object of the artisans, it might be their ultimate object; but I think many of them would go there with the view of acquiring the art of drawing as an attainment, if they were not limited in that drawing;...there are a large number that go there for no other object than to be able to delineate botanical specimens.[78]

The Manchester artisans whom Jackson was talking about showed their eagerness and enthusiasm for the study of fine arts under the guidance of the first teacher of the school of design, Zaphaniah Bell. When he was sacked from his job, as the result of the introduction of more strictly vocational training, many students left the school and set up

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77. ibid., Q.1923.

78. ibid., Q.2480.

a separate drawing school under Bell, calling themselves the "Roman Bricks".[79] In this instance, these artisans did not necessarily aspire to become fine artists. Some no doubt had this ambition, but most merely wanted the pleasure of accomplishment in painting landscape or floral subjects. Mechanics' institutes appealed to artisans whose interest in learning artistic drawing was not strictly vocational. There is no doubt that some artisan students in the schools of design simply derived pleasure from learning drawing skills.

Artisans must also have thought, as Jackson pointed out, that learning elementary drawing and further training in figure, landscape, or flower drawing would eventually help them in their manufacturing occupations. Richard Solly, the Sheffield manufacturer, observed that many students in the Sheffield School of Design were recruited from the drawing class in the mechanics' institute.[80] The great majority of artisan students, however, took into consideration the utility of the training offered by the schools of design to their occupation. Not only designers, but a wide variety of artisans and craftsmen attended the schools. W. Sharp, a manufacturer of embroidered fancy muslin in Paisley, in answer to the question whether he had found "the workpeople... eager to avail themselves of the introduction afforded in the School of Design", replied that they were "Most anxious to do so". His workmen did go to the school "to acquire some knowledge that may be applicable to their own business". He was, like James Thomson, of the opinion "that the practical parts of designing can only be thoroughly learnt in the manufactory". But "if a student is carefully initiated into

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79. Cecil Stewart, A Short History of the College (Manchester, 1953), p.20.

80. PP 1849, Q.1264.

artistic knowledge of drawing, then he has it in his power to apply that knowledge to almost every branch of manufactures".[81] The Fourth Report of the Council of the School of Design classified the students into four groups:

> 1. Those who are actually employed by manufacturers as designers, and who constitute the smallest class.
> 2. Those who, as workmen, are practically acquainted with the arts and manufactures to which they have served apprenticeship, and who form the most numerous class.
> 3. Those whose object is to study ornamental art in general, with a view to become practical designers and decorators. This class, and the preceding two, constitute the more important portion of the Students, by whose exertions in their respective department of Art, improvement may be hoped to be effected in our ornamental manufactures.
> 4. Those who have no practical acquaintance with any art or manufacture. A great majority of this numerous class are mere boys, and form two sub-divisions, namely, those whose occupations are determined upon, and those by, or for, whom this is not yet decided.[82]

There were also sons of manufacturers, as in the Nottingham and Spitalfields schools. They attended morning rather than evening classes, and their aim in going to the schools was to attain some knowledge in design and general artistic skill for the future management in their own firms.[83]

Indeed, the eagerness of artisans to attend the schools of design can be seen in Tables IV-4, 5 and 6. The majority of students, in fact more than double the number of students in the morning class, were evening class students. W. Sharp described how one of his pattern-drawers made an effort to go to the school: "he is in our manufactory

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81. ibid., Qs. 2236, 2240.

82. Fourth Report of the Council of the School of Design, Parliamentary Papers 1845, XXVII, p. 7 (hereafter, PP 1845).

83. For example, J.C. Nickisson, an agent for woven goods and a student of the London School of Design in the late 1840s, stated that his object in attending the course of study was "to apply the artistic knowledge I can obtain there in directing manufactures eventually". PP 1849, Q.1138.

Table IV-4. Students at Somerset House

	Average Monthly Number on the Book			Average Monthly Attendance		
	1842-43	43-44	44-45	1842-43	43-44	44-45
Morning School	63	70	85	45	49	63
Evening School	164	207	201	103	130	137
Female School	29	47	56	16	33	45
Total	256	324	342	164	212	245

Sources: Third Report of the Council of the School of Design, PP 1844 XXXI, p.5; Fourth Report of the Council of the School of Design, PP1845 XXVII, p.6.

Table IV-5. Average Attendance of Students at the Spitalfields School

	Morning School	Evening School	Number on the Books
1843-44	11	160	238
1844-45	15	135	205

Sources: Third Report of the Council of the School of Design, PP 1844 XXXI, p.25; Fourth Report of the Council of The School of Design, PP 1845 XXVII, p. 17.

Table IV-6. Students at Provincial Schools, 1843-44.

	Average daily Morning Attendance	Average daily Evening Attendance	The number on the Book
Manchester	22	66	105
Birmingham	35	76	216
" , Female	35	0	48
Coventry	23	21	127
Sheffield	2	28	48
Nottingham	5	28	56
York	13	51	82
Newcastle-upon-Tyne	8	50	93

Source: Third Report of the Council of the School of Design, PP 1844 XXXI, p.29.

from seven in the morning till eight in the evening, and attends the school from eight to ten, most anxious to avail himself of the opportunity of instruction thus afforded".[84] H. Minton also said that the Potteries Schools "have an afternoon class, which is very thinly attended, at four o'clock, but the principal is the class from half-past six to half-past eight".[85] As was the case in the mechanics' institutes, artisans had the great handicap of having to work during the day, and after lengthy labour they needed an extra effort and determination to go to the schools of design. In some cases manufacturers paid the fees and encouraged their workmen to attend the schools. In some cases artisans were awarded exhibitions, but this was rather exceptional. Ambrose Poynter, the inspector of branch schools, pointed out that it was absolutely essential for the schools to give some means to talented students in order that they might continue their studies. He observed:

> It has to my knowledge happened that lads of great talent have been unable to remain in the school for want of funds ...with regard to retaining students in the school, it must be done by giving them means, for a great number of them are entirely dependent upon their labour for their bread, and they cannot give the time; that is one great difficulty we have to contend with.[86]

Richard Solly agreed with the same opinion as Poynter and thought that exhibitions would be of great advantage to students. He gave an example of two young students in the Sheffield school who "sacrificed half their weekly wages in order to be able to study in the school". He explained

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84. PP 1849, Q.2236.

85. ibid., Q.2741.

86. ibid., Qs. 586-87.

that

> their wages may be 20s. a week, and of that they sacrifice one-half, because they work only half the week, and the other half they spend in the School of Design in order to improve themselves.[87]

In the case of experienced artisans, like William Maddock, a decorator of porcelain who gave evidence to the 1849 Select Committee it might not have been very difficult to pay the fee, but as Table IV-7 shows, the majority of students were under twenty years old, most likely apprentices, and must have found it extremely hard to find any means of paying fees unless the manufacturers supported them, or they received grants.

Table IV-7. Ages of Students, 1844

	Under 12	12-15	15-20	Over 20
London		40	189	46
Spitalfields	64	103	49	21
Manchester		32	42	31
Birmingham		55	123	38
Coventry	31	77	14	5
Sheffield		18	13	17
Nottingham		39	12	5
York	17	37	17	11
Newcastle		30	45	20

Source: ibid., pp 5, 25, 29.

Despite the eagerness and enthusiasm of students, their attendance was not constant, reflecting the difficulties which they faced. It was reported in 1849 that "The attendance of students at the school appears

87. ibid., Q.1257

never to have been secured on any systematic plan".[88] Richard Redgrave observed that students were "a very fluctuating population; we have students in the school whom we lose sight of for months, and then they come again; their necessities drive them away for long periods".[89] He found that fluctuations occurred two or three times a year. (See Tables IV-8 and 9; Figure IV-1). Though he did not specify the causes of "a change of population" in the schools, it is likely that students in trades affected by seasonality were among those periodically leaving the schools. Northcote also found that "the numbers in the school have been very fluctuating", but he thought the reason for this coming and going of students lay in the handling of students by masters. He noted that "it is only where great skill has been shown on the part of the master that he can keep the students long enough in the school to carry them up to the point to which we wish to bring them".[90] The master's skill in keeping the students' interest is undoubtedly quite important. But as we have seen even a master's individual skill was not always sufficient to keep students in a school. Uncertainty and frequently changing teaching methods, due to a head's incapability in management and lack of clear principles, disappointed many students. The case of Manchester was typical of this. When teaching was radically changed, artisans responded, when it was unfavourable to them, by leaving the school. Even when they were sent by employers who paid their expenses, they would not carry on their study at a school if they found the system of instruction was too remote from their object. Joseph Lockett

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88. PP 1849, p.xxxi.

89. ibid., Q.1666.

90. ibid., Q.114.

Table IV-8. Monthly Attendance of the Students of the Government School of Design (Somerset House). (1)

		MORNING SCHOOL	EVENING SCHOOL	TOTAL
1837:	June	12	------	12
	July	16	------	16
	August	17	18	35
	September	12	29	41
	October	12	44	56
	November	12	45	60
	December	15	45	60
1838:	January	13	47	60
	February	13	48	61
	March	20	58	78
	April	20	57	77
	May	21	58	79
	June	25	38	63
	July	19	27	46
	August	8	24	32
	September	11	20	31
	October	12	25	37
	November	13	22	35
	December (two weeks)	8	27	35
1839:	January	12	27	39
	February	17	29	46
	March	21	41	62
	April	32	36	68
	May	27	30	57
	June	26	28	54
	July	28	24	52
	August	31	31	62
	September (vacation)			
	October (two weeks)	21	34	55
	November	29	42	71
	December	31	41	72
1840:	January	36	37	73
	February	42	41	83
	March	41	55	96
	April	37	54	91
	May	35	51	86
	June	39	53	92
	July	41	52	93
	August	35	63	98
	September (vacation)			
	October (two weeks)	36	65	101
	November	38	92	130
	December	37	86	123

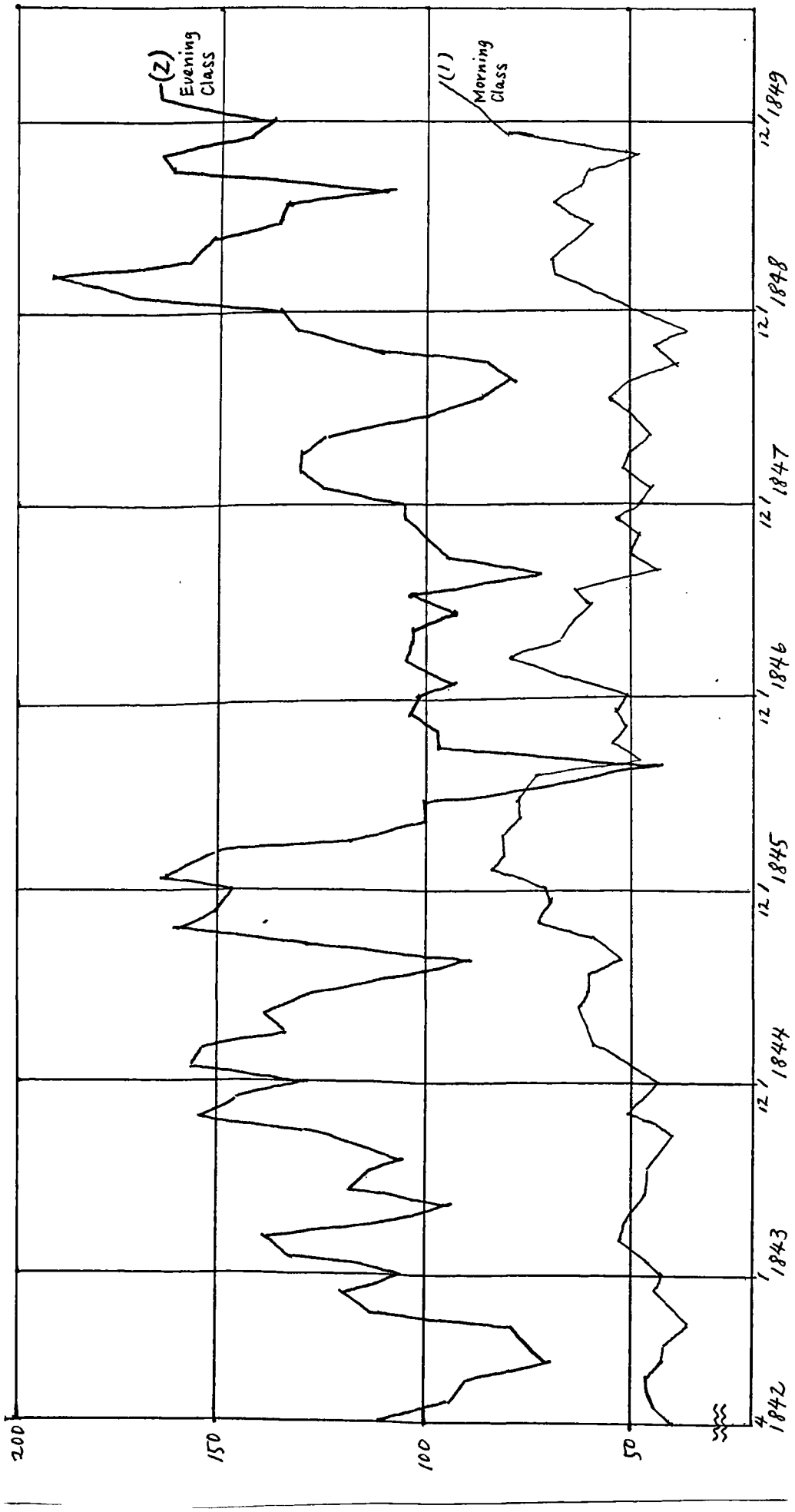
Source: Report from the Provincial Council of the School of Design, PP 1841, XIII, p.2.

Table IV-9. Monthly Attendance of the Students of the Government School of Design (Somerset House). (2)

Total Number of Students on the Books in each Month.	April.			May.			June.			July.			August			October.			November.			December.			—	January.			February.			March.		
	Morning.	Evening.	Female.	Morning.	Evening.	Female.	Morning.	Evening.	Female.	Morning.	Evening.	Female.	Morning.	Evening.	Female.	Morning.	Evening.	Female.	Morning.	Evening.	Female.	Morning.	Evening.	Female.		Morning.	Evening.	Female.	Morning.	Evening.	Female.	Morning.	Evening.	Female.
1842 -	65	175	–	69	165	–	68	147	–	54	113	–	58	132	–	47	113	–	62	184	14	62	170	18	1843 -	61	165	25	66	206	34	76	220	44
1843 -	74	191	40	70	174	42	68	204	44	71	187	44	76	168	37	62	221	41	70	259	51	66	234	51	1844 -	64	193	48	72	228	57	78	216	54
1844 -	79	196	54	81	209	54	77	209	58	81	186	53	60	125	43	82	206	53	89	218	56	86	211	53	1845 -	89	221	63	104	226	65	101	210	59
1845 -	113	189	57	97	144	58	104	134	48	86	114	51	64	66	43	70	134	52	65	142	54	71	141	54	1846 -	75	141	60	90	146	61	94	145	65
1846 -	90	141	67	87	150	71	79	140	64	83	152	58	54	103	55	75	140	59	71	154	60	71	149	59	1847 -	67	149	58	71	180	54	73	195	56
1847 -	69	198	58	64	179	58	70	155	58	74	137	57	55	129	53	53	141	54	63	199	61	54	213	52	1848 -	59	214	53	75	282	65	86	287	66
1848 -	85	258	62	87	252	61	80	225	61	95	213	58	85	163	49	76	260	–	62	245	58	97	202	53	1849 -	121	205	51	118	252	72	129	241	70
Average Daily Attendance.																																		
1842 -	41	116	–	46	95	–	47	89	–	42	71	–	42	74	-	36	79	–	41	116	9	45	121	8	1843 -	43	105	13	47	134	18	54	139	26
1843 -	52	118	22	49	95	26	47	119	28	47	115	29	43	105	26	39	125	30	51	157	32	47	148	38	1844 -	43	124	33	55	158	35	59	156	44
1844 -	61	134	44	62	139	44	61	131	44	61	114	40	51	89	37	59	139	40	73	162	48	70	150	46	1845 -	71	147	47	84	166	56	81	157	52
1845 -	81	114	49	78	101	51	78	102	43	72	82	39	47	42	34	56	98	48	52	98	44	54	103	43	1846 -	52	102	40	68	94	49	79	107	60
1846 -	67	104	53	64	103	59	59	91	47	63	103	46	39	72	44	52	97	29	48	102	45	54	106	47	1847 -	47	106	42	46	125	45	52	130	44
1847 -	50	129	48	46	123	47	51	101	47	56	88	47	48	79	45	39	87	40	46	116	50	36	132	46	1848 -	50	135	41	62	170	53	69	190	58
1848 -	69	158	53	65	152	51	61	135	46	70	130	44	62	107	41	58	161	–	48	163	48	80	143	46	1849 -	86	136	41	91	165	55	98	165	58

Source: Minutes of Evidence Taken Before the Select Committee on the School of Design, PP 1849, XVIII, p.14.

Figure IV-1. Average Daily Attendance of the Students of the Government School of Design, (Somerset House), 1842-1849



Source: See Table IV-9.

explained that

> they get weary of it, from some cause or other; they complain, in the first place, that they are kept too closely to severe elementary studies; that they do not get something which they fancy they can apply. Others have left the school because they have found at each change of the masters, which has been rather frequent, that they have had to go back again, and to repeat the same studies till their patience has been exhausted: and they have declined to go to the school, even though I have paid their expenses...they are anxious to attend the school; they express themselves so, but they do not find that they get the advantage from it which they anticipate.[91]

The cry for original designs, and consequently a considerable expectation on the part of manufacturers that the schools of design would produce original designs and designers, met with a bitter disappointment. The schools had some effect, however, on workmen in general. One Glasgow manufacturer of mousselin de laine and printed cotton, J.C. Wakefield, pointed out that "the effects produced by the schools of design on our patterns are very little, but we find an improvement in our under-drawers and our fillers-up". He also noted that four or five apprentices had also benefited from the school, and "their mode of drawing generally is improved by it".[92] Ambrose Poynter also expressed confidence in this point:

> Artisans have now an opportunity of learning to draw, which they never had before; they had never a proper idea of drawing before, and I need hardly say that the object of educating designers is one thing, but while you are doing that you are educating artisans also. A very large majority of the pupils will never become designers, and they never intend to become designers; but the best design possible will be ruined if it is put into the hands of a man who has no feeling for it, and no ability to execute it.[93]

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91. ibid., Qs.2324-25.

92. ibid., Q.1011.

93. ibid., Q.528.

He went on to say that "We have had 15,000 or 16,000 pupils in our schools; ...but I think that there is not one of the 15,000 who has not produced an effect upon designing by their becoming better artisans in executing the designs".[94]

One of the unique features of the schools of design was the female classes. Unlike the mechanics' institutes, which catered for few women, the schools of design welcomed them. In 1842 the Female School was established in Somerset House, and female classes in the Manchester and Spitalfields schools. These students were, however, not members of the working classes, but the daughters of professional men. Fanny M'Ian, the headmistress of the Female School at Somerset House, stressed that students were "highly respectable, the whole of them; we have had most distressing and painful cases of the daughters of professional men, whose fathers have died prematurely; the young women have been brought up in great comfort, but from their fathers leaving no provision for them they are entirely dependent upon their own exertions".[95] The London Female School was renowned for instructing women in wood engraving. The idea of teaching the art of wood engraving to women had been entertained by Henry Cole, who later proudly displayed his foresight by illustrating his autobiography with wood engravings cut by women students.[96] Women were employed, after leaving the school, in such industries as those of chintzes, ladies' dresses, paper, lace, and silversmithing as well as book-binding and title-page designing.[97] Though they were not working-class women, their object

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94. ibid., Q.580.

95. ibid., Q.1431.

96. Henry Cole, Fifty Years of Public Life (1884).

97. PP 1849, Q.1429.

was to earn their livelihood, and not merely to learn a lady's pastime, as Mrs M'Ian confirmed. (It may not be necessary to remember that drawing and water-colouring were of course the popular accomplishments of young ladies, in addition to embroidery and such like skills). The picture was somewhat different when local schools followed the example of the London school. In the provinces, female students tended to be recruited among the daughters of gentlemen, who found in the schools a cheaper and respectable alternative to private tutors in drawing and watercolouring.[98] There were exceptions, and some working-class women did attend the schools. In manufactures where women worked in decorative processes, such as the pottery trade, a certain number of women or girls went to the schools. The number of students however was not many. John Charles Robinson, a master of Hanley School of Design, attributed the small numbers of female pupils to the following reasons:

> In the first place, they are very poor and cannot afford to pay for it; in the next place, they do not see any immediate benefit which would accrue to them from drawing. The females in the Potteries are too much under the influence of the males. In respect to the incident referred to of using the rest to paint with, that is evidently an instance of a spirit on the part of the males to keep the females unduly employed in mechanical works; there is every scope for them to do the same things as those done by the male artist workmen, but there certainly is a spirit among the male portion of the workmen against it; I think that has some influence in keeping them from the schools.[99]

Female students had to endure a segregation enforced by male students in the schools and, for that matter, male workers in the work places. Even those from "respectable" middle-class background in the Female

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98. See PP 1845, p. 26 on the Female Class in Birmingham.

99. PP 1849, Q.3030.

School in London were not treated seriously by the Council and fellow students of opposite sex. They had a long way to go before gaining due recognition, but that story is beyond the scope of this study.[100]

The occupations of students, like those in the mechanics' institutes, show a wide range of trades in every school, and especially in the London school. Local schools tended to attract more artisans from the staple industries of the respective area: textile industries, particularly calico-printing, in Manchester; silk weaving in Spitalfields; japanning and die-sinking in Birmingham; ribbon manufacture in Coventry; lace manufacturing in Nottingham, and so on. (See Tables IV-10, 11, 12, 13, 14 and 15). Analysis of these tables reveals the interesting fact that a large number of students were in the building and furnishing trades. Take, for example, the London school, where students in these trades constituted about 40% of total students of the school. In Manchester the same occupational class of students represented about 30% of the whole, and in the Spitalfields School of Design about 25% of all students were from these industries. Among them a significant proportion of architects is noticeable. Some other occupations are puzzling in such establishments: organist, surveyor, minister of religion, and shoemaker. Perhaps these desired skill in drawing as an accomplishment, like the middle-class girls who dominated the female classes in the provincial schools of design. The schools of design had to satisfy this wide range of students, and it was indeed an extremely difficult task to raise their artistic standard beyond that of elementary drawing.

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100. See Anthea Callen, Angel in the Studio: Women in the Arts and Crafts Movement 1870-1914 (1979), pp.27-43, which assesses the problems women students faced at the schools of design, and discusses further the role of women in art industries and in the Arts and Crafts Movement.

Table IV-10. Occupations of male students at Somerset House, 1844

Architects	23
Carvers	19
Wood-carvers	10
Wood-turners	2
Upholsterers	9
House-decorators	8
Cabinet-makers	6
Builders	4
Carpenters and Joiners	3
Masons	6
Arabesque painters and decorators	13
Painters	2
Total in Building and Furniture	105
Coach-joiner	1
Clerks	6
Historical-engravers	2
Japan-painter	1
Modellers	14
School-master	1
Embroiderer	1
Shawl- and silk-manufacturer	1
Die-sinkers	2
Enamellers	2
Picture-cleaner	1
Wood-engravers	11
Ornamental-painters	26
Draughtsmen	17
Lithographic-engraver	1
Glass-painters	3
Organist	1
Lithographers	2
Seal-engraver	1
Moulder	1
Designers (ornamental, &c)	15
Piano-forte maker	1
Herald-chaser	1
Decorative-artists	2
Ditto-painters	5
Designer of paper	1
Surveyor	1
Silver-chasers	7
Clock- and watch-maker	1
Engravers	12
Engineer and smiths	4
Sign-painters	4
Grainers and writers	2
Silversmith	1
Brass-manufacturers	2
Miscellaneous Trades	154
Total	259

Source: Third Report of the Council of the School of Design, PP 1840 XXXI, p.58.

Table IV-11. Occupations of Students in the Spitalfields School of Design, 1844.

Sons of silk manufacturers	12
Weavers - of silk, satin, velvet, &c	50
Machinists, for looms &c	6
Silk-dyer	1
Total in Silk Trades	68
Carvers of wood for cabinet and upholstery	19
Cabinet-makers	19
House-carpenters	9
Stone-masons	5
House- and ornamental-painters	5
Iron-founders and workers in wrought iron	3
Turners of wood for furniture	3
Plaster figure maker	1
Total in Building and Furnishing	64
Engravers of dies	2
Japanners	2
Book-binders and gilders	5
Schoolmasters' sons	2
Religious ministers' sons	2
Various, chiefly sons of tradesmen	85
Miscellaneous Trades	98
Total	238

Source: Third Report of the Council of the School of Design, PP 1844, XXXI, p.25.

Table IV-12. Occupations of Students in the Nottingham School of Design, 1845

Lace-agents	2
Lace-makers	8
Designers	3
Total in Lace Trades	13
Architect	1
Engineers	2
Carpenters	3
Engraver	1
Modeller	1
Painters	3
Cabinet-maker	1
Shoemaker	1
Stationer	1
Warehousemen	6
Schoolboys	11
Miscellaneous Trades	31
Total	44

Source: Fourth Report of the Council of the School of Design, PP 1845, XXVII, p.29.

Table IV-13. Occupations of Students in the Manchester School of Design, 1845

Designers to calico-printers	23	
Youths intended for "	18	
Engravers to calico-printers	5	
Youths intended for "	2	
Sketch-makers to calico-printers	2	
Block-cutters to "	2	
Designers for silk manufactures	4	
Youths intended for "	2	
" for velvet "	1	
" for carpets "	1	
" for damasks "	1	
Warper	1	
Total engaged in Cotton, Woollen, and Silk Manufactures		61
Architects	7	
Decorative-painters	6	
Youths intended for "	4	
House painters	7	
Carvers in wood and stone	5	
Youths intended for "	8	
Carvers and gilders	3	
Upholsterers	5	
Youths intended for "	3	
Furniture painter	1	
Plasterer	1	
Wood turner	1	
Total engaged in Building and Furnishing Trades		51
Copper and steel plate engineers	8	
Youths intended for "	6	
Lithographic-draughtsmen	2	
Youths intended for "	3	
Coach-painters	2	
Surveyors	2	
Mechanic	1	
Clerks to Manufacturers	7	
Youths not specified, chiefly sons of Manufacturers	12	
Miscellaneous occupations	-	43
Total on the Books		155

Source: Fourth Report of the Council of the School of Design, PP 1845, XXVII, p.25.

Table IV-14. Occupations of Students in the Birmingham School of Design, 1845

Modellers and designers	8
Die-sinkers	18
Japanners	26
Chasers	4
Jewellers	2
Silversmith	1
Engravers	13
Pearl-inlayer	1
Lamp-manufacturers	4
Brass-founders	6
Carvers and gilders	2
Gilt toy manufacturers	2
Black ornament makers	1
Harness-maker	1
Iron-founders	2
Snuff-box maker	1
Button-turner	1
Snuffer-maker	1
Letter-cutters	2
Web-maker	1
Total in the Staple Trades	97
Decorative painters	4
Platers	5
Architects	14
Marble-mason	1
Printers	2
Glass-stainers	2
Clerks to manufacturers	11
Lithographer	1
Machinists	3
Upholsterers	3
Occupation undetermined	88
Total in Miscellaneous	134
Total	231

Source: Fourth Report of the Councilof the School of Design, PP 1845, XXVII, p.27.

Table IV-15. Occupations of Students in the Coventry School of Design, 1845.

Ribbon Manufacture - designers	2
" - draft-drawers	5
" - weavers	2
" - dyers	2
" - intending to be designers	11
Coachmaker	1
Carpenters	2
Watchmaker	1
Tinworker	1
Assistant Book-keepers	2
Boys from private schools	14
Boys from public free schools	64
Total	107

Source: Fourth Report of the Council of the School of Design, PP 1845, XXVII, p.28.

Postscript

From the beginning of the schools of design movement in Britain, there were confusions and different (sometimes contradictory) opinions on how to manage the schools and how most effectively to improve British designers and workmen. There were important differences between manufacturers, masters and workers. Disagreement among those concerned with these institutions sometimes caused serious disruption, and some schools became less valuable to those who really needed artistic instruction. Manufacturers and artists both tried to influence the management of the schools, and their self-interests seriously injured the interests of designers and artisans. It can be said that the whole venture of art education in this country was initiated by the commercial interest of the manufacturing population, and especially the needs of manufacturers. The party that suffered most from these disputes and controversies was those members of the working classes who urgently desired to improve their knowledge of and skill in the artistic aspects of their trades. Their voice was rarely heard, and they could only express their responses to the management of the schools by attending or leaving those establishments. It was their careers and reputations that were unfairly criticised by manufacturers and artists in the higher professions.

The behaviour of manufacturers, however, cannot be dismissed as merely commercially orientated. It was after all their subscriptions and donations which made it possible to establish branch schools throughout the country, although the government did give partial financial support to their enterprise. These experimental years which we have looked at were full of trials and errors, the necessary basis of the future development in this country of artistic and technical education on a much wider and more adventurous scale.

CHAPTER FIVE

THE INDUSTRIAL EXHIBITION

Many manufacturers and designers in the early Victorian period blamed the British failure to produce first-rate designs on inadequate education: education of designers and artisans; and education of the public. The remedies proposed were, on the one hand to establish schools for artistic education in relation to the manufacturing industries, and on the other, to hold exhibitions designed to educate the public taste. These Utilitarian hopes came to the fore in the free trade and social reform movements. The schools of design, and to a lesser extent the mechanics' institutes, and the Great Exhibition of 1851 were the achievements of those concerned to improve the standard of British designs. If artistic education among the working classes developed against the background of mechanisation, exhibitions also emerged in the context of industrialisation. Design education and industrial exhibitions grew hand in hand. As was shown in chapter four, technical, scientific and artistic training for those who had lost their former skills became connected in the second quarter of the nineteenth century with an idea of the moral and social improvement of the working classes. Exhibitions followed a similar course, but they attracted the attention of far greater number of people and played a substantial part in diffusing public knowledge, taste and above all confidence in British industrial achievement. Of course it is difficult to calculate the impact of the exhibitions on public taste. But there is no doubt that these events presented to the public a wide variety of exhibits. In this chapter I shall discuss the history of industrial exhibitions prior to the Great Exhibition; exhibitions and commerce; and exhibitions and

the working classes.

The industrial exhibition: its early history

In addition to its lead in artistic education, France was also ahead of Britain in holding industrial exhibitions. The French exhibitions were the prototype of those held in early nineteenth century Britain and, above all, of that of 1851. Before the Great Exhibition, the French had held eleven official industrial exhibitions, the first in 1798. It may be appropriate here briefly to describe the French exhibitions, the impact of which on their British counterparts was crucial.[1]

Table V-1. French expositions

		Number of Exhibitors	Duration
1797	St. Cloud	-	-
1798	Champ de Mars	110	3 days
1801	Louvre	220	6 days
1802	"	540	7 days
1806	Esplanade des Invalides	1422	24 days
1819	" (St Louis)	1662	35 days
1823	"	1648	50 days
1827	"	1695	62 days
1834	Place de la Concorde	2447	60 days
1839	Champs Elysées	3381	60 days
1844	"	3960	60 days
1849	"	4532	6 months

Source: K.W. Luckhurst, The Story of Exhibitions (1951), p.220

1. The following account of the French exhibitions is based on M.D. Wyatt, "A Report of the Eleventh French Exposition of the Products of Industry, Prepared by the Direction of, and submitted to the President and Council of, the Society of Arts" (1849), quoted in Peter Berlyn, A Popular Narative of the Origin, History, Progress, and Prospects of the Great Industrial Exhibition 1851 (1851); and K.W. Luckhurst, The Story of Exhibitions (1951).

In 1797 the Marquis d'Avèze, then manager of the French Academy of Music, took over the office of Commissioner to the Manufactures of the Gobelins (tapestries), of Sèvres (china), and of the Savonnerie (carpets), all of which had been Royal manufactures. There he found that "The workshops were deserted - for two years the artizans had remained in an almost starving condition - the warehouses were full of the results of their labours, and no commercial enterprise came to relieve the general embarrassment".[2] Thereupon he conceived "the idea of an exhibition of all the objects of industry of the national manufactures", which was subsequently submitted to the Minister of the Interior, Francois de Neufchâteau, who granted d'Avèze permission to carry out the plan. The exhibition which eventually opened in 1798 led the Government to support the idea of an exhibition to stimulate manufactures. In the same year, de Neufchâteau decided to exhibit specimens of Parisian industry in the Champ de Mars, when soldiers were celebrating the peace brought by Napoleon. This lasted but three days, but the format of subsequent exhibitions was established in this first official exhibition, including the jury system and the award of prizes. The second exhibition, held in 1801, became immortalised by its award to a Jacquard loom. The other important fact about this exhibition was that the exhibits were sent from all the regions under French rule: Paris, Rouen, Lyons, Milan, Brussels, Liege and Aix-la-Chapelle. The third exhibition, of 1802, showed "the extended application of mechanical and chemical science to facilitate production, and the consequent great reduction in price of all articles of popular demand".[3] It also

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2. Berlyn, op.cit., p.34.

3. ibid., p.40.

resulted in the establishment of the Societé d'Encouragement whose function was similar to the Society of Arts in England. Subsequent exhibitions reflect the development of industry, and especially of technological inventions and the refinement of patterns. The system of classification of exhibits, which became an important feature of exhibitions, was made more sophisticated in 1834, when the scheme of a lawyer, Charles Dupin, was adopted.

It is somewhat puzzling that these French exhibitions were alluded to in Britain as the "triennial" exhibitions. As can be seen in Table V-1, they were not held triennially. Members of the 1835-36 Select Committee on Arts and Manufactures must have heard of the French exhibitions, but the fact that they referred to them as triennial may indicate that their knowledge of the subject was limited.

Let us now turn to the British exhibitions. Small-scale exhibitions, which involved the display of specimens to the public in the galleries and rooms of scientific societies, had been established since the middle of the eighteenth century. One of the earliest exhibitions of industrial arts was held by the Royal Dublin Society, which was founded in 1728. The Society held exhibitions triennially. In England, the Society for the Encouragement of Arts, Manufacture, and Commerce, which was established in 1753 and later received a royal charter of incorporation, played a pioneering role, but its significance, until the late 1840s, was negligible. The literary and scientific societies organised small-scale displays in their buildings for their members only. A very interesting organisation, called the Society for Bettering the Condition of the Poor, which was established in 1799, and which was to become the Royal Institution, proposed "a public exhibition of all such

new and useful inventions and improvements as are applicable to the common purpose of life, and especially those which tend to increase the conveniences and comforts of mankind, and to promote domestic economy and useful industry".[4] The exhibits suggested included improved fire-places and kitchens, and "flues and louvres for supplying rooms either with tepid or fresh air".[5]

It was in the 1820s that small-scale exhibition galleries began to flourish, although they were still intended for "polite" society, and not for the working classes. The Society of Arts had a gallery called the Repository of Arts in the Adelphi,[6] and the Adelaide Gallery was opened by the Society for the Illustration and Encouragement of Practical Science, whose object was "to promote every production relatively superior or comparatively perfect in arts, science, or manufactures".[7] The latter exhibited models of machines and scientific instruments. Meanwhile the National Repository was formed, with George Birkbeck as its chairman, and in close connection with the London Mechanics' Institution, in King's Mews, Charing Cross. It invited manufacturers, artisans, patentees, modellers, mechanical draughtsmen, and other inventors to send specimens of their new inventions to the annual exhibition of the institution.[8] The Adelaide Gallery was rather short-

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4. Thomas Bernard, "Report of the Society for Bettering the Condition of Poor" (1799), quoted in E.B. Jones, The Royal Institution: its Founder and its first Professors (1871), p.139.

5. ibid.

6. The London Journal of Arts and Sciences (VI, no. 34 (1823)) published a letter concerning the display of this gallery. (See below, p. 190).

7. Society for the Illustration and Encouragement of Practical Science, Catalogue for 1835 (1835).

8. Catalogue of the National Repository Fourth Exhibition (1831).

Figure V-1: Royal Polytechnic Institution, (1)

lived, but the National Repository continued as the Museum of National Manufactures and of the Mechanical Arts in Leicester Square, with Charles Toplis (then vice-president of the London Mechanics' Institution) as director. In 1835 Percival's Annual Guide to the Principal Exhibitions of London described it as follows:

> The museum is open daily for an exhibition from ten till dusk, and presents a display of much that is highly instructive to youthful minds, and interesting to all who feel that the conveniences, the comforts and the enjoyments of civilised life have sprung, and have expanded with the cherished cultivation of productive industry.[9]

At the time a Gallery of Arts and Sciences was established in Cavendish Square; this subsequently, in 1838, became the Royal Polytechnic Institution, Regent Street.[10]

The reception of these small-scale exhibitions varied. For instance, in 1823 the Repository of the Society of Arts was severely criticised by a visitor who wrote to the London Journal of Arts and Sciences:

> You cannot picture the ridicule of my companions, and of my shame and vexation at a sight so widely different to what I had prepared them for, and myself anticipated. Models, triumphs of art, ostensible proofs of the utility of the Society, and of the genius of our country men, lay multilated, dirty, and piled one upon another in the utmost confusion. We wished to examine several, and did so, but not one of them that could by any means be disengaged, was in its proper order; all were clogged with dirt, or had met with a disaster of some kind.[11]

An improvement on the Repository exhibition was observed a few years later in its rival institution. The Adelaide Gallery showed perfect working models. In 1835 the catalogue referred to "A Jacquard Loom,

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9. Percival's Annual Guide to the Principal Exhibitions of London (1835), p.6.

10. Royal Polytechnic Institution, Catalogue for 1845 (1845), p.6.

11. London Journal of Arts and Sciences, VI, No. 34 (1823), p.197.

Figure V-2: Royal Polytechnic Institutuion, (2)

weaving figured silk of any pattern, in daily operation, conducted by J. Sholl, Silk Manufacturer. A twenty Shuttle Ribbon and Silk Cord Loom".[12] The Times praised the Gallery "for the degree in which it combines amusement with instruction"; the whole establishment formed "one of the most attractive places of resort in the metropolis".[13]

Other kinds of exhibition were held by itinerant societies such as the British Association, which held two small exhibitions in Newcastle and Birmingham in 1838 and 1849 respectively, though after these experiments its attempts were abandoned. Charles Babbage, the author of On the Economy of Machinery and Manufactures and a trustee of the British Association at Newcastle, wrote a letter to the members of that Association to stress the value of an exhibition to manufacturing people. He wrote:

> Look at the exhibitions of the productions of our factories, and say whether the humblest shopkeeper has not an interest in the existence of that body which gives publicity to the objects in which he deals, and which spreads them so largely before the eyes of those who can appreciate their merit, as well as of those who are likely to become consumers.[14]

He very much regretted that the Association did not continue its exhibition, and claimed that if it

> had been supported both from within and from without, in the manner which so important a project in the history of science deserved, the Exhibition of 1851 would have found itself led by the science of the country, prepared by long experience on a smaller scale, yet under very various circumstances, to guide with some reasonable prospect of success that gigantic undertaking, and to elicit from it the many invaluable services it might be expected to render to civilization.[15]

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12. Society for the Illustration and Encouragement of Practical Science, Catalogue for 1835 (1835),

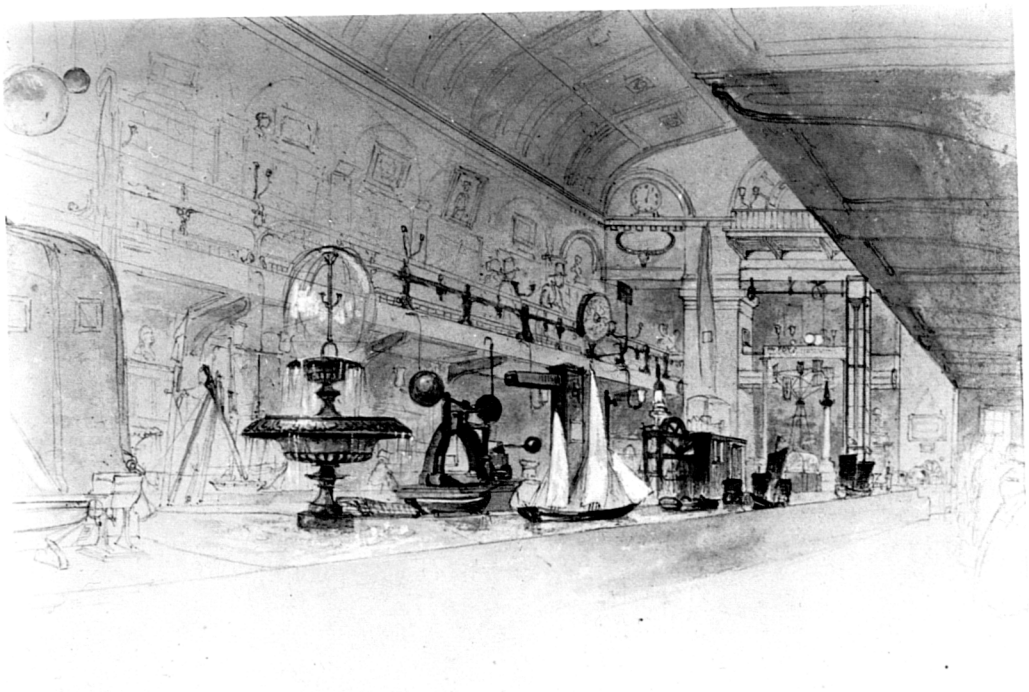
13. Times, 23 March 1835.

14. Charles Babbage, The Exposition of 1851 (1851), p120.

15. ibid., pp.20-21.

Figure V-3 The Exhibits of the Royal

Polytechnic Institution



It is clear that neither the exhibitions of the British Association, nor the many others put on by various select societies, were the direct predecessors of the Great Exhibition of 1851.

The Select Committee of 1835-36 on Arts and Manufactures occupies a unique position in the history of the industrial exhibition. Its enquiry into problems associated with arts and manufactures produced, among other things, the schools of design. It also stressed, in its report, the importance of exhibitions to manufacturers and workmen:

> An intelligent witness, Mr. Nasmyth, suggests the great advantage which manufacturers would derive from themselves encouraging a knowledge and a love of art among their workmen. The exhibition of work of proportion and of beauty in rooms connected with factories would have a beneficial effect on minds already familiar with geometrical proportions. Scientific improvements in machinery, and economy in the construction of it, are both intimately connected with perfection of form...Were the Arts more extensively diffused among our population, many articles, such as marble, terra cotta, wood, and ivory (a material to which art is much applied in France) would give additional employment to the people.[16]

Witnesses were unanimous in their opinion that exhibitions of the arts, from fine arts and sculptures to manufactures, would be extremely useful for improving taste and the standards of design. Dr. G.F. Waagen, whose opinion on artistic education has been quoted, was confident in his belief that the best "mode of distributing knowledge among the people would be by means of public exhibitions".[17] He thought the State should take an initiative in holding these exhibitions, not only in London but also in other important towns. He also suggested that the

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16. Minutes of Evidence before the Select Committee on Arts and Principles of Design, Parliamentary Papers (1836), IX, (hereafter PP 1836), pp.v-vi.

17. Report from Select Committee on Arts and Manufactures, Parliamentary Papers (1835), V, Q.96.

entrance fees ought to be lowered "from 1s. to 6d." in order to "make exhibitions more generally accessible". At the same time he thought that gratuitous admission would devalue these exhibitions, as "most persons bestow more attention on what they have paid for, than on what they see gratuitously".[18] Charles Harriot Smith, a sculptor of architectural ornaments, believed that a public exhibition would be "the best plan that could readily be put in practice for diffusing taste", and he found "often among workmen a desire of going to those exhibitions".[19] James Skene, secretary of the Board of Trustees for the Encouragement of Manufactures in Scotland, told the Committee that

> To the great facilities that occur abroad for the exhibition of works of art, I attribute very much the proficiency that exists in foreign countries in the knowledge of design, and in the higher scale of taste that exists among the middling classes of Society abroad, compared to what it is in this country.[20]

Skene had turned his attention to the merits of exhibitions long before 1835, and actually visited one of the French exhibitions in 1827. He subsequently, in 1829, wrote an account of his visit to the Board of Trustees, which was reproduced as an appendix to the report of the 1835 Select Committee. In his description Skene praised this "Exposition of National Industry" in the strongest terms, and urged the Board to follow its example. "I felt strongly impressed," he wrote,

> with the advantages which appeared to result from it; in exciting a general interest amongst all classes of society in that country, in the advancement of industry, and in the progress of improvement, as well as in ascertaining the actual state of the productions, and exercise of all

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18. ibid. On the admission fees, see also pp.221-22 below.

19. ibid., Q.643.

20. ibid., Q.1197.

> the multifarious branches of manufactures, and of mechanical ingenuity.[21]

One feature of the exhibition, Skene pointed out, was the comparison it allowed between products from many countries. The French drew great satisfaction from such comparison, as their goods invariably appeared to be far superior. All who attended, however, would benefit:

> During the continuance of the Exposition, the merits of the various productions become the subject of general discussion and interest, and the names of the most skilful competitors are enumerated with pride; while every one engaged in the prosecution of any branch of industry, or possessing aptitude for invention, here enjoys the advantage of inspecting freely whatever has been most successfully achieved in any branch; he also gains valuable information, or perhaps possesses himself of a hint which may be improved into important discoveries.[22]

Skene was firmly convinced that British manufacturers would gain if they could be induced to overcome a conservative reluctance to exhibit in a similar way to the French. "I feel satisfied", he went on to say,

> that even at the advanced stage of manufacturing skill to which this country has attained, and in spite of the habitual disposition of its industrious classes to perserve in the steadfast course of their practice, whatever it may chance to be, which is recommended by long experience; and in spite of the reluctance they generally show to bestow a thought on what bears the suspicious character of novelty, some useful hints towards the encouragement, improvement and the means of stimulating exertion by honorary rewards, might be borrowed from the French system.[23]

Although his farsighted report did not bear immediate fruit in either Scotland or England, it was significant in that it gave a clear picture to the British of the French type of exhibition. Skene also provided comprehensive details of actual exhibits, ranging from textiles

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21. PP 1836, Appendix, no.1.

22. ibid.

23. ibid.

to metal and wooden goods, machinery and jewellery. The French classification of exhibits was regarded by Skene as extremely useful, and was adopted when exhibitions began to be organised in this country. Skene was especially hopeful of the utility of such exhibitions to the British manufactures, noting, for instance, that the manufacturer of carpets and tapestries could learn much "in the elegance and variety of patterns, as well as in the structure of looms capable of executing richer and more varied patterns".[24]

The most significant contribution to the history of industrial exhibitions before 1851 was perhaps made by the exhibitions held in mechanics' institutes throughout the country. In December 1837, the directors of the Manchester Mechanics' Institution expressed their intention to hold an exhibition during the Christmas vacation. The advertisement columns of the Manchester Guardian bore this notice:

> The Directors beg to announce, that they intend...to Open the Institution for a POPULAR EXHIBITION of Models of Machinery, Philosophical Instruments, Works in Fine and Useful Arts, Objects in Natural History, and Specimens of British Manufactures, &c. &c. In the Exhibition the Directors are desirous of affording to the working classes a convenient opportunity of inspecting the present state of our arts and manufactures and to present them with a source of rational and agreeable relaxation...[25]

Thus, what might be called "the exhibition movement", led by mechanics' institutes, commenced its history.[26] It was indeed a great movement, the idea soon spread among mechanics' institutes and their sister

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24. ibid. Skene gave a classification of 40 different branches of industry used in the French exhibition. This method of classification was, however, replaced by Dupin's method which was briefly mentioned earlier in this chapter.

25. Manchester Guardian, 9 Dec. 1837.

26. For a more detailed history of mechanics' exhibitions, see T. Kusamitsu, "Great Exhibitions before 1851", History Workshop Journal, No.9 (1980).

institutions throughout the country, particularly in the North of England and the Midlands. In 1838, Manchester held a second exhibition, and the Potteries, Newcastle-upon-Tyne and Sunderland launched their first. In 1839 the number rose: Salford, Leeds, Sheffield, the Potteries, Derby, Birmingham, Preston, Macclesfield and Sowerby Bridge all held mechanics' exhibitions. 1840 showed still more activity, for example in Manchester, Wigan, Preston, Sheffield, Halifax, Huddersfield, Nottingham, Norwich, Stockport, Stroud, Leicester, Liverpool, Beccles, Ripon, Birmingham, Bradford, Newcastle-upon-Tyne, Oldham and Salford. Almost every town which possessed a mechanics' institute seems to have held exhibitions. (See Table V-2). In Manchester alone four exhibitions were held between 1837 and 1842, drawing altogether more than 300,000 visitors. The Leeds Exhibition attracted nearly 200,000 people in the single year of 1840. Sheffield, Derby and several other towns boasted similar attendances.

It is probable that in total several million people visited these exhibitions. Their popularity was overwhelming. The Birmingham Exhibition of 1840 was reported to have produced a "great boon on the habitants of the town and neighbourhood", and to have become a "favourite place of resort and recreation".[27] The Sheffield Iris wrote in 1839 that the exhibition had become the "fashionable lounge, as well as the place where the leisure hours of the mechanic are spent in the company of his wife and family".[28] The Derby Exhibition gave the town "more the appearance of a fair or a holiday time than its accustomed quiet".[29] It was this great popularity that made these exhibitions extremely

27. Midland Counties Herald, 13 Feb. 1840.

28. Sheffield Iris, 2 April 1839.

29. Derby Mercury, 3 July 1839.

Table V-2. The History of Exhibitions 1800-1851

1823	Repository of Arts (Society of Arts, &c.), Adelphi.
1828	National Repository, Kings Mews, Charing Cross.
1835	Adelaide Gallery (Society for the Illustration and Encouragement of Practical Science), Adelaide Street, Strand.
	Museum of National Manufactures and of the Mechanical Arts, Leicester Square.
1837	Mechanics' Institute, Manchester.
1838	British Association, Newcastle-upon-Tyne.
	Gallery of Arts and Sciences, Cavendish Square. (Later Royal Polytechnic Institution, Regent Street).
	Mechanics' Institutes, Manchester, the Potteries, Newcastle-upon-Tyne, Sunderland.
1839	Mechanics' Institutes, Salford, Leeds, Sheffield, the Potteries, Derby, Birmingham, Preston, Macclesfield, Sowerby Bridge.
1840	Mechanics' Institutes, Manchester, Wigan, Preston, Sheffield, Halifax, Huddersfield, Nottingham, Norwich, Stockport, Stroud, Leciester, Liverpool, Beccles, Ripon, Birmingham, Bradford, Newcastle-upon-Tyne, Oldham, Salford.
1842	Mechanics' Institute, Manchester.
1843	Mechanics' Institutes, Derby, Leeds, Liverpool.
1844	Mechanics' Institutes, Manchester, Huddersfield, Sheffield.
1845	Manchester School of Design.
	Leeds Polytechnic Exhibition in Aids of Public Walk and Baths.
1846	Mechanics' Institute, Sheffield.
1847	Society of Arts.
1848	Society of Arts.
	Manchester Royal Institution.
	Manchester School of Design.
1849	Society of Arts.
	British Association, Birmingham.
1851	Great Exhibition.

important, and distinguished them from the earlier ones described above. It is likely, however, that provincials who had visited London and seen the displays at the Adelaide Gallery and other institutions, at the beginning of the 1830s, had taken home the idea of holding similar exhibitions locally. The movement was much strengthened by the flourishing bourgeois culture of the provincial manufacturing towns. But it was not a mere smug cultural activity; it also expressed a general notion of the importance of educating the working classes; and probably, too, a specific idea that the capability of skilled workmen would be improved by exposure to scientific and artistic notions and to the products of new technology and design. John Davies of the Manchester Mechanics' Institution, for instance, appreciated its potential utility, and as early as 1831 announced to the public:

> Another object which the Directors have long and ardently cherished has been the establishment of an Exhibition Gallery. In this gallery it was proposed to place a collection of models illustrative of everything curious and valuable in Machinery. The skilful workmen might here have extended his knowledge and the enterprising inventor have met with schemes to sharpen and direct his sagacity. Not only in London, but in other places of smaller population, and of inferior wealth, this plan had been carried into execution with every prospect of ultimate advantage.[30]

Such early plans were to bear fruit in the numerous exhibitions of the late 1830s and early 1840s.

The appearance of the exhibition rooms in the mechanics' institutes combined that of the fine art gallery, the science museum, the natural history museum and perhaps the Egyptian rooms of the British Museum. Miniature canals and lakes built by mechanics from the institutes were seen in almost every exhibition, complete with model ships, fountains

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30. John Davies, An Appeal to the Public in Behalf of the Manchester Mechanics' Institution (Manchester, 1831), p.3.

Figure V-4: The Leaflet of the Newcastle-upon-Tyne Mechanics' Institute Exhibition

THE EXHIBITION,

For the Benefit of the North of England Society for the Promotion of the Fine Arts, and the Newcastle and Gateshead Mechanics' Institutes,

IS

NOW OPEN

IN A

SPACIOUS SUITE OF ROOMS,

IN

BLACKETT-STREET, GRAINGER-STREET, AND NELSON-STREET,

NEWCASTLE UPON TYNE.

The Entrance Door (which is in Blackett-street) leads into the Rooms of

THE ACADEMY OF ARTS,

WHERE CONTAIN

A SPLENDID COLLECTION OF PAINTINGS,

by the Ancient Masters and Local Artists.

MEDALS, struck for the occasion, are on sale in these Rooms, price 2s. and 1s. each.

A Door in the Second Room of the Academy of Arts communicates with

THE JOINERS' HALL,

WHERE

A powerful OXY-HYDROGEN MICROSCOPE, (capable of magnifying objects nine hundred thousand times their natural size,)

a MAGIC LANTERN, and other OPTICAL INSTRUMENTS, are daily exhibited.

A TEMPORARY ROOM, adjoining the Academy of Arts, is thrown across High Friar-street, and contains a beautiful MODEL of ST. PAUL'S CATHEDRAL,

Paintings, Engravings, Curiosities, &c.

A GALLERY, adorned with Statuary, Dresses of Foreign Nations, Implements of War, &c., leads from this part of the Exhibition to

THE VICTORIA ROOM,

IN WHICH ARE PLACED

THE GOLD AND SILVER CUPS, AND MAGNIFICENT SHIELD,

Won by the celebrated Racing Steed of

WILLIAM ORDE, ESQ., OF NUNNYKIRK.

Also, a LARGE MIRROR, from the Manufactory of Messrs. COSLAKE;

Portraits, Armour, and Accoutrements of HILTED WILL. HOWARD, Warden of the Marches;

an extensive and beautiful COLLECTION of SPECIMENS in NATURAL HISTORY;

an arranged SERIES of the different PRODUCTIONS of MANUFACTURES;

ENGRAVED BLOCKS by the celebrated BEWICK, with IMPRESSIONS of many of his WOODCUTS,

and SPECIMENS of his HANDWRITING;

also, Sculptures, Paintings, Globes, Grotesque Figures, &c. &c. &c.

MODELLING and GLASS BLOWING, a Series of PHRENOLOGICAL Bbusts, &c.,

are exhibited in Side Rooms,

and an adjoining Apartment is appropriated for REFRESHMENTS,

which are supplied by Mr. BELL at moderate charges.

A Door leads from the Victoria Room to

THE MUSIC HALL,

WHICH CONTAINS

MODELS of St. PETER'S at ROME, the ROYAL INSTITUTION in EDINBURGH, &c.

A JACQUARD LOOM and VELVET LOOM at Work.

WORKING MODELS of MACHINERY.—MODELS illustrative of MINING OPERATIONS, and of the MODE of SHIPPING COAL.—MODELS of SHIPPING and CRAFT.

A BEAUTIFUL STEAM-ENGINE,

OF FOUR-HORSE POWER,

(Built expressly for the Exhibition, by Messrs. Hawthorn, of Newcastle,)

Moving a POWER-LOOM for Weaving Mottos—a PATENT SIDE-RIVE LOOM—STEEL-CUTTING, PLANING, RIVETTING, and other MACHINES.

In the centre of the Room there is a

FOUNTAIN,

Throwing Water through a great variety of Jets.—Exterior to this is a

CIRCULAR CANAL,

on which STEAM BOATS occasionally ply.

A RAILWAY, with LOCOMOTIVE ENGINE and TRAIN, runs within the Canal.—Between the Railway and Canal are WORKING MODELS of STEAM-ENGINES,

Darker's Mill, Water Hare, Intermitting Spring,

TANTALUS' CUP, &c. &c. &c.

And here (as well as in an adjoining Room) are exhibited a variety of Electric, Galvanic, Magnetic, Electro-Magnetic, and other Philosophical Apparatus.

Copperplate, Letterpress, and Lithographic Printing,

are occasionally shewn.

An AUTOMATON JUGGLER displays his Magic skill from time to time,

and several OPTICAL ILLUSIONS are exhibited

In the Gallery of the Music Hall, there are a number of Models of RAILWAY GATES, &c.

In a Room on the Staircase there is a LACE-FRAME at Work;

and several of the

INMATES OF THE VICTORIA ASYLUM FOR THE BLIND

are here employed in making Baskets.

Season Tickets (not transferable), 2s. 6d. each: Single Admission Tickets, 6d.

Catalogues, 6d.

THOMAS BURNET,
HENRY BRADY,
Hon. Secretaries.

Academy of Arts, April, 1841.

Composed by Wm. Douglas, at the Observer Office, in Gateshead.

Printed at the Music Hall, in Newcastle upon Tyne, during the Exhibition.

and lighthouses. (See Figures V-1, 2, and 3). A large number of machines was worked by means of miniature steam-engines: Jacquard looms and card-setting machines, flax-spinning frames, embroidering machines, and so on. The Leeds Mercury reported in 1839: "The Saloon...resounds with the noise of engines, machines, and scientific process".[31] The Liverpool Chronicle in 1843 informed its readers of a "very noisy patent power-loom at work".[32] Such machines were very popular at the exhibitions. The directors would ask industrialists for the loan of machines and operators. Machines which had been very popular at one exhibition were often subsequently in such great demand that they could not be supplied. In one case, James Watson wrote to W.G. Hobson, the secretary of the Sheffield Exhibition:

> I was in hopes I should have been able to have made arrangement to send one of my card-setting machines to your exhibition. I fear I shall not be able to do so, as I have now one in Huddersfield and have promised one to the Halifax Committee...And one for Newcastle if I can make arrangements to spare a man to manage it, I have not men that I can spare capable of managing the machine or I would have sent one with pleasure.[33]

In another letter to the Sheffield Exhibition Committee, William Bancroft of Derby wrote:

> I shall feel great pleasure in furnishing you with every information I possibly can respecting the Jacquard Loom. We had one at work in the Derby Mechanics' Exhibition during the whole time that was open, and we have one at work at the Birmingham Exhibition now. The same man is working at Birmingham which worked in the Derby Institution.[34]

Some machines were made especially for display, since they were not

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31. Leeds Mercury, 13 July 1839.

32. Liverpool Chronicle, 1 July 1843.

33. Sheffield Central Library, MD 196 (a) 58.

34. ibid., MD 196 (a) 41.

usually of a size used in the ordinary manufacturing process. There was high praise for the sample machines and for those who made them. In 1839 the Leeds Times, then edited by the young Samuel Smiles, particularly expressed its admiration:

> The Exhibition, more specially the mechanical part of it, is calculated to illustrate how intimately the greatness and prosperity of our own country depends on its mechanics and artisans. Nothing here is the offspring of the exclusive gentry, or the fruit of long-counted pedigrees: but simply of working-men's labours. The machinery of wealth, here displayed, has been created by the men of hammers and papercaps; more honourable than all the sceptres and coronets in the world.[35]

Specimen products from these working-model machines were sold to visitors. Pieces of woven fabrics and calicos were in general demand, and the girls of the Lady's Jubilee Charity School of Manchester in 1838 were "highly delighted at being allowed to take home with them a piece of calico, which was printed in their presence, as a memento of this their first visit to any popular exhibition".[36]

Many pieces of scientific apparatus also aroused great interest. Various telescopes and microscropes were sent from London.[37] In all the exhibitions the fine art section formed another important part. In The Rise of English Provincial Art, Trevor Fawcett pioneered work on this important area of art history - the art world in English provincial towns between 1800 and 1830 - and discovered a great deal of new information about local artists, art markets and art exhibitions.[38]

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35. Leeds Times, 20 July 1839.

36. Manchester Guardian, 31 Jan. 1838.

37. The role of mechanics' institutes in scientific education is discussed by Ian Inkster, "Science and the Mechanics' Institutes, 1820-1850: the Case of Sheffield", Annals of Science, XXXII (September, 1975).

38. T. Fawcett, The Rise of English Provincial Art (Oxford, 1974).

According to him, before the exhibitions at the mechanics' institutes, there was a very active artistic interest among local artists and collectors, which the mechanics' exhibitions reflected. Aristocrats and gentry, merchants, manufacturers and various other collectors lent their paintings, sculptures and engravings, and the number of paintings sent to the exhibition committee was considerable.[39]

After some excitement raised by the mechanics' exhibitions up and down the country, the novelty faded away, and later such events were less successful.[40] Mechanics' exhibitions, although almost national events considered as a whole, still bore a provincial character. They could hardly be called exhibitions of national industry. The reputation of the French exhibitions, especially after that of 1844, had continued to grow: two English exhibitions held in 1845 were called "expositions" of national manufactures, boasting an implied French connection. One of these, organised by the Manchester School of Design, was not entirely successful. The other, held by the Anti-Corn Law League in conjunction with a bazaar at the Covent Garden Theatre, is worth a fuller examination. It was not, however, a perfect industrial exhibition: machinery was completely missing except for one potter's wheel. It was aptly called an "Exposition of the Products of British Industry", and many of the

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39. See, Kusamitsu, loc.cit., pp.81-82.

40. Some mechanics' institutes, after clearing their debts by exhibition profits, did not attempt to repeat the success. The Manchester Mechanics' Institute thought it absolutely necessary to give priority to classes and lectures, since the exhibition had occupied the classrooms for so long (normally an exhibition would last for two to three months). The West Riding Union of Mechanics' Institutions reported in its Annual Report for 1845 (p.35), "the novelty of this class of entertainments / has / passed away". Finally, some institutes noted in the early 1840s that the state of trade was not in their favour.

leading manufacturers who supported the cause of free trade sent their products to the exhibition, and sold them there to the public. The Art-Union printed a special enthusiastic issue for the occasion:

> With "the League" and its purposes we have nothing to do; whatever may be their character, they have in this instance effected a noble triumph for British skill, industry, and ingenuity, by affording to the public means of appreciating the superiority of manipulation, the increasing taste, and the rapid progress in high Art made by the British artisans.[41]

Leeds, Halifax, Bolton, Preston and other textile towns each had one stall, Bradford two, and Huddersfield three, while Manchester had six. Exhibits were not confined to textiles: Sheffield and Birmingham sent metal products, and the Potteries china. It did indeed represent British manufactures as a whole (with the possible exception of engineering and the building industries), and was described as comprehending "the treasures of the warehouse and the museum".[42] The bazaar and the exhibition attracted considerable attention, even from opponents of free trade. Notable among these was Stafford O'Brien, the agricultural protectionist, who mentioned the exhibition with high praise in the House of Commons.[43] The Art-Union urged the Government itself to undertake such an enterprise, and asserted that, if organised by people without political connections, it would be more successful. Readers were reminded of the absence of manufacturers whose anti-free trade opinions kept them away from the exhibition:

> Now, it must be remembered that many eminent manufacturers have abstained from connexion with the League, and that several of them are directly opposed it; no contributions were, of course, sent by this very extensive body of men;

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41. Art-Union (July, 1845), p.209.

42. Jerrold's Magazine (1845), quoted by ibid., p.211.

43. Art-Union (July, 1845), p.228.

> and we need not say that under this category might be classed the producers of varied articles, not inferior, to say the least, to any that were displayed at the Bazaar.[44]

The reporter of the Art-Union concluded his long review of the exhibition:

> Commerce must bind together the nations which were dissociated, and trade unite the races which blind and selfish jealousy dissevered. The soothing influences of Art, superadded to the usefulness of manufactured products, will give force and efficiency to those lessons of civilization which it is the proud destiny of Britain to preach to the whole human race.[45]

This lofty proposal became reality in 1851. But before then, a few more trials took place to persuade the Government to undertake such an enormous venture.

So far, I have been looking back to those exhibitions which had some influence on the Great Exhibition of 1851. They have been either neglected or undervalued by many historians of the industrial exhibition. The story hereafter is familiar to those who have read about the Crystal Palace and Prince Albert, and about the Society of Arts, whose founding purpose had at last come to fruition. Such key figures as Henry Cole and John Scott Russell have been the subject of many articles and books on the 1851 exhibition.[46] Therefore, I shall take only a brief look at the efforts made by these people before the event was actually proposed and preparation for it began.

In May, 1845, the Society of Arts, following the initiative of its

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44. ibid.

45. ibid.

46. For the history of the Great Exhibition, see, for instance, Asa Briggs, 1851 (1951); Berlyn, op.cit.; Luckhurst, op.cit.

secretary, Francis Whishaw, and a member of the Council of the Society, W.F. Cooke, adopted a resolution to follow the example of the French exhibitions of industry, and invited manufacturers to submit their products. The Society also approached its president, Prince Albert, with this proposal, and was given encouragement to go ahead with its plan. The National Exhibition Sub-Committee was immediately set up to raise funds. It received a warm response from a small number of people, such as Robert Stephenson, an engineer and the son of George, who offered a loan of £1,000, and from members of the Committee, who each subscribed £150. The Committee also decided on Hyde Park as the site of the exhibition. Then manufacturers in London and provincial towns were approached; but their response was very disappointing.
John Scott Russell, who became the Society's secretary, recorded later what had happened in 1845. He wrote:

> The attempt failed. The public were indifferent - manufacturers lukewarm - some of the most eminent even hostile to the proposition. The Committee neither met with sufficient promise of support in money, sufficient public sympathy, nor sufficient co-operation among manufacturers, to see their way to success. The attempt was abandoned.[47]

But Scott Russell himself did not give up hope, and in 1846 he met a strong supporter of the idea: Henry Cole. Cole was then assistant keeper of the Public Record Office, and a publisher of Felix Summerry's Home Treasury, an illustrated children's magazine. He was a keen amateur artist and music lover, and in 1846 submitted a design for a tea set to the annual competition of the Society of Arts, for which he won a bronze medal. This led to a meeting with Scott Russell, who immediately realised the other's qualities as an organiser and enthusiast.

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47. John Scott Russell, "Statement of Proceedings preliminary to the Exhibition of Industry of All Nations, 1851", quoted by Berlyn, op.cit., p.23.

Both men soon replanned the exhibition of national products, and in 1847 they organised a small but quite successful exhibition on the Society's premises. The reaction of manufacturers was still unenthusiastic, but Cole, having determined to convince them by the event, called at the retail houses in London just before the opening of the exhibition, and managed to collect sufficient exhibits to fill the rooms. Twenty thousand people visited this exhibition. Thus encouraged, the organisers held another in 1848. This time seventy thousand visited.[48]

In 1849, when another French Exposition was organised, the Society sent Matthew Digby Wyatt and Henry Cole as observers.[49] In the meantime, the Society considered that the time for a large-scale English exhibition had arrived, and sent a deputation to the President of the Board of Trade, Labouchere, to persuade the Government to take an initiative. The Society suggested that the Government should circulate the exhibits from the Society's 1847 exhibition to the schools of design, and should provide a building for a larger-scale exhibition to be organised by the Society. On their return from Paris, Cole and Scott Russell, with Francis Fuller and Thomas Cubitt[50] who had also visited the Paris exhibition, met the Prince Consort, and all agreed that an exhibition should be held in 1851, in Hyde Park, and that its character should be international. The second meeting, which included the President of the Board of Trade, decided that a Royal Commission

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48. G.B. Mabon, "John Scott Russell and Henry Cole", Journal of the Royal Society of Arts, CXV (1967), p.206.

49. On M.D. Wyatt, see Nikolaus Pevsner, Matthew Digby Wyatt (Cambridge 1949; reprinted in 1968 in Studies in Art, Architecture and Design).

50. Berlyn, op.cit., pp.32, 56-57. Fuller was one of the Council of the Society of Arts, and Cubitt was a successful builder and became chairman of the building committee of the Exhibition.

ought to be appointed under the presidency of Prince Albert. The real task, however, was to persuade manufacturers to participate. For this purpose Cole and Fuller began a tireless journey throughout the country.

Exhibitions and Commerce

The history of the industrial exhibition reveals that each exhibition claimed certain utilitarian values, most usually the encouragement of the arts and sciences; educational advancement; recreation; moral improvement; and commercial advantage. Sometimes these merits were combined: in the case of the mechanics' institute exhibitions, stress was laid upon the opportunity for the education and recreation of the working classes, with a view to their moral improvement. Indeed, all of these features are, with different degrees of emphasis, observable in most of the exhibitions held in this country, especially after the great success of the mechanics' exhibitions. In 1849, for instance, the Journal of Design assessed the Birmingham exhibition held by the British Association, concluding that such exhibitions possessed "a great national and popularly educational value, entirely independent of their particularly beneficial relation to the trade and commerce of the country".[51] But it was in the field of commerce that the industrial exhibition became more and more important. Many organisers of the exhibitions emphasised this aspect. As Britain was the world's leading manufacturing country, it was taken for granted by the exhibition committees that manufactured goods would flood in. Their expectations, however, proved to be wrong. It took a long time to convince British manufacturers that the display of their goods would benefit them

51. Journal of Design and Manufacture, II, No. 7 (September 1849), p.2.

commercially. Why were they so lukewarm?

A certain number of "enlightened" manufacturers did contribute to the exhibitions, some of them indeed leading figures in such staple industries as textiles and metal goods. At the Leeds Mechanics' Exhibition the staple manufacturing industries of Leeds and its vicinity exhibited their products. For instance, Messrs Bruce and Borrington sent specimens of woollen manufacture at every stage, from wool to finished cloth; in the section on dyeing, Charles Lee supplied wooden printing blocks at various stages of preparation; and various chemical compounds employed in dyeing were also exhibited. Specimens of indigo were also shown, along with examples of raw flax and other materials; Ackroyd and Son of Birkinshaw provided cotton in successive conditions from the raw state to the finest thread; and the mayor of Leeds contributed a display of every stage of silk manufacture.[52] These displays of various stages of the manufacturing process were, of course, more educational than commercial in their purpose.

It is true, however, that in the mechanics' exhibitions the manufacturers' contribution was on the whole relatively small. The newspapers deplored this cool response. The reporter of the Sheffield Iris commented on the Sheffield exhibition of 1839 that the lack of enthusiasm from local manufacturers, particularly those of steel and cutlery, was a matter of regret.[53] At the Potteries exhibition a less than co-operative response from the pottery manufacturers was likewise observed.[54] In Manchester, the contribution of cotton manufacturers

52. Leeds Mercury, 20 July 1839.

53. Sheffield Iris, 28 May 1839.

54. Staffordshire Gazette, 10 August 1839.

and calico-printers was meagre, and the director of the mechanics' institute expressed his desire to see the exhibition look "more into our commoner manufactures for some of its articles...why should we not exhibit samples of dyeing, of calico printing, of the cotton manufacture in general, or paper for house decorating, etc..."[55]

Exhibition organisers nevertheless continued to stress the potential commercial value of the exhibitions. The Council of the School of Design of Manchester declared in 1845:

> [that exhibitions] must be beneficial, in a commercial point of view, to the parties who forward their productions is evident by the number of strangers and foreigners who have attended it; many (particularly foreigners) resorting to it several times, and making repeated inquiries as to the names and addresses of the contributors.[56]

The Art-Union, commenting on the Free Trade Bazaar at Covent Garden, insisted that "commercially viewed, such an enterprise would more than repay the cost and time of its preparation". It pointed out that the exhibition could be used as an effective advertisement, and that the French Exposition in 1844 led to the sale of goods to foreigners which "more than doubled the whole expense of the building and attendants".[57]

The one occasion, prior to the Great Exhibition, on which manufacturers were enthusiastic in sending their products, was the display held in conjunction with the Anti-Corn Law League Bazaar. The most eminent manufacturers who supported free trade did participate in that event. The list of names of these manufacturers which appeared in the Art-Union is, indeed, very impressive. Manchester calico-printers who took part, though normally regarded as the most reluctant body of

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55. Manchester Mechanics' Institute, Annual Report (1839), p.68.

56. Manchester School of Design, Annual Report (1846), p.10.

57. Art-Union (1845), p.228.

manufacturers to exhibit their products, were Simpson, Langdon, and Young; Salis Schwabe; James Hertz; Callender and Rickman; James Thomson; Swanwick and Johnson; Hoyle and Sons; and Richard Cobden. From Bradford, Milligan and Forbes and Co.; Titus Salt; and Clark were, among others, especially highly praised. The Halifax stall consisted of goods produced by T. Gregory and Brothers; Crossley and Sons; and Ackroyd and Co. Most of these manufacturers are familiar from the foregoing chapters; they were active in promoting local art schools and the extension of design copyright, and were men of enterprise in introducing new technology and materials into their industries. It must be remembered, however, that this exhibition was a bazaar whose purpose was to raise funds for the cause of the free trade movement. There was no direct intention of education or recreation, or to encourage the arts and sciences. Moreover, the exhibition was too short to convince other manufacturers. This is clearly indicated by the disappointment expressed by the organisers of the Society of Arts Exhibition in the same year. John Scott Russell's verdict has been already quoted: "The public were indifferent - manufacturers lukewarm - some of the most eminent even hostile to the proposition". In 1847, even after Henry Cole had joined the Council of the Society, the intended exhibition received a poor response from the manufacturers, and Cole and Russell "spent three whole days travelling about London in four-wheel cabs calling on manufacturers and shop-keepers", to collect suitable displays themselves.[58] Scott Russell considered that this was because "The English people were then very imperfectly acquainted with the value of such Exhibitions - their influence on the character as well as the

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58. Henry Truman Wood, A History of the Royal Society of Arts (1913), pp. 406-7.

commerce of the nation". He thought that "They required to be educated for that object, and education had to be provided".[59] But his reasoning seems inadequate to explain the manufacturers' reluctance to take part. Besides, as we have seen, exhibitions of various characters and scales had by that time been organised up and down the country, and the influence of the French expositions had been widely felt. The explanation must include other reasons.

Insufficient periods of design copyright and patents have been given as explanations for the lack of sympathy shown by manufacturers towards the exhibitions. Peter Berlyn, writing in 1851, pointed out that the exhibitions prior to the Great Exhibition had "one special drawback to ...full success", to wit "the want of protection in the shape of a copyright of designs".[60] He argued that the success of French exhibitions was due largely to the French system of protecting designers, inventors and manufacturers from the theft of their designs and inventions by competitors. The fundamental copyright law on manufactured ornamental goods was passed in 1842, with further additions in 1850. (I shall discuss these Acts in detail in Chapter VI). The Protection of Inventions Act followed in 1851. This 1851 Act was the result of many complaints from people who wished to send their machines and tools to the Great Exhibition, but hesitated to do so. Peter Le Neve Foster, Attorney-General of the Patent Office during the Exhibition, made a report on the working of the Protection of Inventions Act, and explained that "At the various public meetings which were held all over the country it was a constant question by artizans and others how, under the existing

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59. Berlyn, op.cit., p.23.

60. ibid., p.12.

patent laws, they could exhibit their inventions without forfeiting protection to the fruit of their talent and skill".[61] The Act was passed, with "some difficulty and opposition", early in 1851, and on 11 April it received royal assent. Between that date and the opening day of the Exhibition (1 May), 300 applications were made, and during the Exhibition a further 391 applications. Of these 691 applications, 615 were successful and Le Neve Foster, with some self-congratulation, commented that

> It is, indeed, especially worthy of remark how large a number of persons availed themselves of the provisions of this Act of Parliament, far beyond anything that had been anticipated by its authors, and how mistaken in their views were those who, in their evidence before the House of Lords Committee on the Bill, ignored the necessity of such an Act, in the belief that scarcely a dozen persons would be found to make application under it.[62]

The facility of provisional registration offered a great advantage to the inventors and mechanics of engineering, machine construction, and philosophical instruments, but manufacturers of ornamental articles, except those of iron and other metals, did not make much use of the opportunity. (See Table V-3). The most noticeable absence was of applications from those in the textile industries, except for a few carpet, lace, tapestry and embroidery manufacturers. No calico-printers registered their designs under the provisional registration, nor did manufacturers in woollen and worsted clothes. The latter case is strange, since the Design Act of 1850 had been the result of a strongly worded petition from the Halifax damask manufacturers and designers. It may be that manufacturers of textiles made use of the Acts of 1842

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61. First Report of the Commissioners for the Exhibition of 1851 (1852) (hereafter, Commissioners' First Report), Appendix No. XXIII, p.109.

62. ibid.

Table V-3. Number of Applications for Registration Under the Desigh Act, 1850, and the Protection of Inventions Act, 1851.

	Classes	Design Act, 1850	Protection of Inventions Act, 1851
I	Mining.	-	1
II	Chemical, etc., Products.	-	2
III	Food.	-	3
IV	Vegetable & Animal Substances used in Manufacture.	-	3
V	Machines (Transport, etc).	18	55
VI	Manufacturing Machines.	6	19
VII	Civil Engineering, etc.	9	43
VIII	Naval Architecture & Marine Engineering, etc.	9	51
IX	Agricultural Machines, etc.	13	29
X	Philosophical Instruments.	26	85
XI	Cotton.	-	-
XII	Woollen & Worsted.	-	-
XIII	Silk & Velvet	-	1
XIV	Manufactures from Flax & Hemp.	-	1
XV	Mixed Fabrics (Shawls, etc).	-	-
XVI	Leather, Skins, Fur, etc.	26	18
XVII	Paper, Stationery, Printing & Binding.	3	10
XVIII	Woven Fabrics, Printed & Dyed.	-	-
XIX	Tapestry, Carpet, Lace, etc.	8	8
XX	Articles of Clothing.	9	9
XXI	Cutlery.	3	-
XXII	Iron & General Hardware	62	61
XXIII	Precious Metal, Jewellery.	9	2
XXIV	Glass	1	6
XXV	Ceramics.	2	-
XXVI	Furniture, Paperhangings, etc.	11	15
XXVII	Manufactures for Buildings.	-	5
XXVIII	Manufactures of Vegetable & Animal Substances other than Class IV.	2	8
XXIX	Miscellaneous	3	13
XXX	Sculpture, Models, etc.	2	2
	Total	222	450

Source: First Report of the Commissioners for the Exhibition of 1851 (1852), p.108.

and 1843, rather than the Provisional Acts, to register their patterns for the Great Exhibition. In fact, decreasing numbers of textiles was registered after the passing of the 1842 Act. Geoffrey Turnbull gives figures of the registration of printed fabrics, which almost halved, from the maximum of 8,360 in 1844 to 3,966 in 1852, though the registration of patterns for furnishings which had three years' copyright increased from 83 in 1843 to 144 in 1852.[63] In any case, it seems that the provisional registration was not an incentive to the textile manufacturer to send his products to the exhibitions. More satisfactory explanations are necessary. The sudden enthusiasm of manufacturers for the exhibition was not simply a consequence of improved copyright. I would further argue that it cannotbe explained solely by their sense of commercial interest, which has already been seen to have been insufficient to generate active patronage of exhibitions. Other possible factors must be scrutinised. By the second quarter of the nineteenth century, the pattern of marketing British manufactures, especially textiles, had been firmly established. (See Chapter VII). With a few exceptions (as in the case of calico-printing), the majority of manufacturers had become increasingly specialised in medium range products, and the sale of goods to foreign and home markets largely depended upon the activities of merchants. Manufacturers and merchants no longer used cloth halls, but instead had private networks of information and contacts with customers. Manufacturers and merchants in Manchester and Yorkshire who had become accustomed to this method saw little advantage in sending their products to exhibitions, which they regarded as similar to the trade fairs which they had lately abandoned.

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63. G. Turnbull, A History of the Calico Printing Industry of Great Britain (Altrincham, 1951), p.147.

The mechanism of marketing was by now far removed from the eighteenth-century cloth halls, or, for that matter, from the international trade fairs held in northern European towns in that century. And if exhibitions were to be a kind of show for luxury items, which is how the French exhibitions were regarded, they were clearly in any case unsuitable for the staple products of British manufacturers. This analysis is convincingly supported by Edmund Potter, a leading calico-printer whose opinions on such questions as technological development have been examined elsewhere. In 1856 he delivered a lecture on Lancashire trades to the Littlemoor and Howard Town Mechanics' Institute, to which he related his experiences of the exhibitions of 1851 (when he was a reporter to the jury), and 1855 (the twelfth Paris exhibition):

> Few have enjoyed the two Exhibitions more than myself. I have been anxious both should succeed, and have supported both, and after all, the conclusion I came to is this (and it was one expressed somewhat boldly, before the first Exhibition), that such exhibitions are no test of the real producing power of a country. They are tests, in fact, beneath the dignity of a manufacturer to submit to: beautiful and interesting exhibitions, conducive to good feeling, and as exhibitions of art, may do good, but meaning nothing as to the power of Trade, except perhaps in the one point first introduced into the French Exhibition - the contest of price, - and that contest was almost entirely shirked by our foreign competitors.[64]

"Beneath the dignity of a manufacturer" indeed! This statement of a typical leading manufacturer is eloquent of the cloudless belief in the power of the trade enjoyed by Potter and his contemporaries. British accumulation of wealth by aggressive marketing in foreign countries (especially in America), regardless of the artistic quality of the product, was particularly characteristic of British textile manufacturers;

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64. E. Potter, A Picture of Manufacturing District: A Lecture delivered in the Town Hall, Glossop, to the Littlemoor and Howard Town Mechanics' Institution (1856), p.9.

and it had not been seriously challenged by European manufacturers. On the contrary, British manufacturers wanted to teach the French and other Continental nations the lessons of free trade. As Potter pronounced:

> The first Exhibition sprang, I believe, from our great free trade movement. We wished to show what we could do - how little we needed protective duties, and how we wished to bind the rest of the world in bonds of amity and goodwill, by a mutual connexion, arising from the benefit of exchange of commodities. ...To my mind, the most beneficial result of Exhibitions, would be the adoption by all nations of perfectly free trade. We should save labour to all, if we each produced by sub-division what we had most knowledge to do, and exchanged it for that of others similarly situated.[65]

The success of the Great Exhibition from the British mercantile point of view was thus derived from the free traders' conquests, armed with Smith-Ricardian political economy, in world markets. It was also a reflection of the change in their political fortunes. Henry Cole, lecturing in 1852 on the result of the exhibition, told his audience that "It would have been a folly to have proposed an international exhibition before the great statesman, Sir Robert Peel, had loosened the fetters of our commercial tariff, so that it might be [to] the interest of foreigners to accept the invitation to show us the fruits of their industry".[66]

Now let us look more closely at the actual organisation of the Great Exhibition, since it will reveal the manufacturers' response. The method employed by the Royal Commission to persuade manufacturers to

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65. ibid., pp.9-10.

66. Blanchard Jerrold, The History of Industrial Exhibitions, from their Origin to the Close of the Great International Exhibition of 1862 (1862), p.4.

participate in the Great Exhibition was to form throughout the country local committees, which were to act autonomously. The local committees were also left to raise funds and subscriptions, so that they felt they were not under the control of the central government. Religious leaders, politicians, municipal leaders and influential manufacturers and merchants took the offices of the local committees. Educational organisations, such as mechanics' institutes and schools of design, also co-operated in the scheme. In Manchester, for example, John Potter, calico-printer and the mayor of the town, took the post of chairman of the committee, and the Bishop of Manchester became its president.[67] In November, 1849, the first meeting took place and warmly welcomed the idea of the Exhibition. A committee was appointed, consisting of 75 men, which subsequently increased in number to 109. The committee met thirty-one times, and also delegated a sub-committee for fund-raising and three sectional committees concerned with a) machinery, b) plain and fancy cottons, and c) silks, prints, and coloured fabrics, "each in its own province undertaking to use its best endeavours to ensure the exhibition of the best and most interesting speciments of the skill and ingenuity of the manufacturing industry of the distric".[68] The Manchester committee acted vigorously, and sent the largest subscription to the Royal Commission (See Table V-4); Glasgow and Leeds following second and third, respectively. The Manchester sectional committee on

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67. Borough of Manchester Corporation Manual (Manchester, 1851). The following officers were elected for the Manchester Local Committee. The Right Rev. The Lord Bishop of Manchester (President); the Worshipful the Mayor of Manchester, The Worshipful The Mayor of Salford, James Heywood, M.P., Alexander Henry, M.P. (Vice-presidents); Sir John Potter, (Chairman of Committee); William Entwistle, (Treasurer); H. Fleming, (Hon. Secretary); Thomas Worthington, (Acting Secretary).

68. Thomas Worthington, "Statement of the Operation of the Manchester Local Committee", in Commissioners' First Report, p.54.

fancy cottons, headed by Salis Schwabe, a leading calico-printer, passed a resolution urging the exhibitors not to send in imitations of French Designs:[69] a sign of British awareness that the national strength lay in medium range products, rather than the higher range goods in which the French excelled. In fact, the Manchester local committee was keen that the price of goods should be taken into account when the jury awarded the prizes.[70]

Table V-4. Local Committees of the Great Exhibition which raised funds more than £500. (Excluding London).

Local Committees	Number of Promoters	Number of Subscribers	Amount reported to the Royal Commissioners £ s d	Number of Applicants to exhibit
Belfast	13	-	581 0 0	33
Birmingham	34	-	896 14 0	292
Blackburn	-	500	820 1 5	8
Bolton	-	1006	725 11 8	19
Bristol	65	143	788 5 6	62
Bradford (Yorkshire)	92	-	1604 11 1	73
Edinburgh	-	-	909 3 4	157
Glasgow	29	238	2665 12 0	129
Halifax	26	-	729 16 6	30
Huddersfield	56	-	916 13 0	122
Leeds	90	-	2030 8 2	169
Liverpool	-	387	757 18 2	71
Manchester	121	-	4547 10 0	266
Newcastle-upon-Tyne	38	-	522 4 0	122
Sheffield	52	-	844 19 0	298

Source: First Report of the Commissioners for the Exhibition of 1851 (1852), pp.180-95.

69. Royal Manchester Institution Minute Book, (Manchester Central Library, Archive Department) RMI (16) 31 Dec. 1850.

70. The Commissioners of the Exhibition reported in 1852 that they had been "fully aware of the importance of taking the element of price into consideration in judging of the relative merits of different articles, and they gave instructions to the several Juries to regard cheapness of production as a proper object of distinction", Commissioners' First Report, p.xliii.

In the West Riding, the system by which local committees were organised was similar to that in Manchester. Clergy, politicians, merchants and manufacturers represented the local committees of Halifax, Huddersfield, Bradford, Leeds and other major industrial towns in the region. In the case of Leeds, woollen merchants and manufacturers played a major role. They had a strong interest in the Great Exhibition. In their view the Exhibition provided a great incentive for the recovery of the local worsted trade from its decline in the face of competition from Bradford and, more important, the more general economic depression before 1850.[71] The second point was also expressed by the other local committees, such as that of Huddersfield. In Leeds, John Gott, son of Benjamin Gott, informed a meeting in 1850 that "he hoped that, by and by, Leeds would assume a different position, more like its original one. [The Exhibition] was just one of those moves ...which was very likely to produce so desirable a result".[72] The response from the textile manufacturers of Leeds was enthusiastic, but the town's other important industry, engineering and machine making, was not fully represented in the Exhibition. (See Table V-5). R.J. Morris suggests that Peter Fairbain, a powerful and influential engineer, resented the dominance of textile men in the local committee, and led a boycott of the Exhibition.[73] I should add to this explanation that engineers and machine makers were particularly anxious about their inventions being exhibited without proper copyright protection, and,

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71. E.M. Sigsworth, "The West Riding Wool Textile Industry and the Great Exhibition", Yorkshire Bulletin of Economic and Social Research, IV, no. 1 (January, 1952), p.24.

72. Leeds Mercury, 9 Feb. 1950, quoted in Sigsworth, ibid., p.24.

73. R.J. Morris, "Leeds and the Crystal Palace", Victorian Studies, XIII, no. 3 (March, 1970), pp.288-89.

quite apart from Fairbain's personal feeling, the majority of smaller-scale manufacturers might have thought that the time had not yet ripened.

Table V-5. Participation of Leeds Manufacturers and Merchants in the Great Exhibition

	Number of Firms	Subscribers	Exhibitors
Wool Merchants and Manufacturers	144	25%	35%
Flax Manufacturers	12	50%	58%
Engineers and Machine Makers	97	10%	10%

Source: R.J. Morris, "Leeds and the Crystal Palace", Victorian Studies, Vol. XIII, no. 3 (March, 1970), p. 289.

I have briefly mentioned an interesting contrast between the respective displays at the Exhibition of Leeds and Bradford. (See above Chapter IV, p.146). As has been implied, Bradford was culturally second to Leeds, but its economic successes made the manufacturers and merchants of Bradford confident in approaching the Exhibition. The Bradford Observer wrote just before the Exhibition that it was to be hoped that the Bradford exhibits

> will be of such a character as fully to sustain our increasing reputation as an enterprising and enlightened manufacturing community, perfectly alive to the advantage derivable from this opportunity of an exposition of our produce to the world's inspection. 74

74. Bradford Observer, 4 April 1851, quoted in Sigsworth, loc.cit., pp. 28-29.

The financial contribution from Bradford to the Royal Commission was the fourth in degree among manufacturing towns (Table V-4), but it subscribed more per head than any other town in the country. It was a town of vigour and youthfulness that showed a vital interest in the grand show of trade and industry. Bradford was not apprehensive about its position in the world market, for its products, cotton-worsted mixtures, were in the medium and lower quality range. The threat felt by other West Riding towns, from French and Belgian high quality woollen cloth, was not a problem in Bradford. This specialisation in its products, combined with aggressive marketing, made manufacturers and merchants in this growing town optimistic about their participation in the Great Exhibition.

One of the important results of the Great Exhibition, as far as commercial life in the West Riding was concerned, was the establishment of a Chamber of Commerce in Leeds.[75] The leading industrialists of Leeds had no Chamber of Commerce before 1851; an attempt to form one in 1834 had failed due to want of support. But the success of the Exhibition and the experience of organising it, despite the relative absence of the engineering sector, led to the founding of a Chamber of Commerce similar to those in other industrial towns, notably Manchester and Bradford. The Leeds Chamber of Commerce literally grew out of the Local Exhibition Committee, the architect of the latter making a decisive contribution to its establishment.

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75. Morris, loc. cit., pp.299-300.

Exhibitions and the Working Classes

Before mechanics' exhibitions became such popular events in provincial towns, the presence of the working classes in the exhibition galleries was hardly noticeable. Indeed, most learned societies' libraries and museums had excluded the working classes, and even if they were opened to "the public", relatively high admission fees were a virtually insurmountable barrier to artisans and mechanics, who otherwise might have stood to benefit from the collections of model machines and mechanical instruments. The exhibition of paintings and other fine arts was designed to attract middle-class visitors rather than the working classes; although, as has been stressed in an earlier chapter, the detachment of the latter from "artists"and their works had serious disadvantages, especially to those working in industries which assumed artistic values. The part played by the mechanics' institutes in this respect was therefore extremely valuable, and the practice of encouraging the working classes to attend exhibitions was successfully repeated when the Crystal Palace was opened in 1851.

The mechanics' exhibitions tried hard to attract the working classes in a number of ways. Whereas the London exhibition rooms normally set high admission fees (mostly a shilling, and sometimes more), the mechanics' institutes charged half as much. (Dr. Waagen's evidence on this matter should be remembered. See above p. 193). Local newspapers all agreed that the success of exhibitions depended upon low admission fees. The Sheffield Independent, for instance, declared that "one of the most satisfactory things connected with the Exhibition is that the terms of admission have been fixed at so low a rate that no class of persons has been debarred on that account".[76] Admission fees

76. Sheffield Independent, 1 June 1839.

for the mechanics' exhibitions were mostly sixpence for one day, and half-a-crown or three shillings for a season-ticket. When admission fees were set high, the directors of the institutions concerned were criticised. The Liverpool Chronicle, for example, regretted that the College Institution in 1843 set "the terms of admission...so high as virtually to exclude the working classes and their families from participation in the treat thus provided for their more favoured fellow-townsmen", and suggested opening every Saturday evening at a lower rate, and "reducing the terms altogether for the last week".[77]

Opening hours were also designed to suit working people. Most exhibitions opened their rooms from nine o'clock in the morning to ten o'clock in the evening. After working in workshops and factories, artisans and apprentices could still visit the exhibition. At the meeting for the proposed exhibition at Preston in 1839 the Rev. J. Clay suggested, among other things, that

> the exhibition should be open until rather a late hour in the evening, in order that those who had been tied to their business during the day should be able to appear there in the evening with comfort and credit to themselves, - to appear, in fact, as English artisans ought to appear at such a place.[78]

Indeed, the exhibition rooms in the evenings were crowded with artisans and their families. In the Leeds exhibition of 1839,

> From about the middle of each day the scene is very animated, but in the evening - between the hours of seven and ten, the rooms...are so crowded that they would be almost unbearable, but that every body seems too much intent on the objects which solicit their notice to regard the personal inconvenience arising from the heat.[79]

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77. Liverpool Chronicle, 17 June 1843.

78. Preston Chronicle, 9 Nov. 1839.

79. Leeds Mercury, 20 July 1839.

The Manchester Guardian reported in 1839 that each evening from 800 to 1,000 people passed through the exhibition rooms, and that the visitors were almost wholly of the working classes.[80]

The idea of "moral improvement" was a keynote of these exhibitions. Organisers were anxious to demonstrate "respectable" mechanics to the public. Exhibitions were often regarded as a means of keeping the working classes away from indolence or sensual pleasure. The reporter of the Art-Union wrote from Leeds in 1840 that it was of "general complaint amongst the publicans, during the time the exhibition was open, that their customers, instead of spending their time in drink, as they were wont to do, spent their time in the Society's rooms, and kept their money in their pockets".[81] Working men were expected to appear in respectable dress. The Newcastle Chronicle advised them that they should take the trouble to change their clothes before they came, and added, "we are quite sure they would find it contributes much to their own comfort as well as to that of the persons with whom they have to mix".[82] The directors of one exhibition committee requested the operatives not to come in their working clothes. The Leeds Mercury reported this notice with the comment, "The reasonableness of this request will be acknowledged by all". It was pointed out that about ten persons in undesirable dress had been asked by the committee to "postpone their pleasure till another day".[83]

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80. Manchester Guardian, 23 Jan. 1839.

81. Art-Union (1840), p.27.

82. Newcastle Chronicle, 18 April 1840.

83. Leeds Mercury, 20 July 1839.

Like the mechanics' exhibitions, the Great Exhibition was made more attractive to the working classes by the reduction of the fees on certain days, from five shillings or two shillings and sixpence to one shilling. Table V-6 shows the total number of visitors on the several days of the week, and it is clear that the Commissioners' intention was well rewarded. On the days (from Monday to Thursday) when the entrance fee was one shilling, the number of visitors each day exceeded one million in total, whereas Friday and Saturday attracted less than half a million each. The preference of season ticket holders to go to the exhibition on Friday and Saturday is also apparent from the table. There was a suggestion from Joseph Paxton that the exhibition should be opened

Table V-6. The Number of Visitors on the Same Days of Each Successive Week

	Mondays 1s.	Tuesdays 1s.	Wednesdays 1s.	Thursdays 1s.	Fridays 5s.*	Saturdays 5s.**
Paying at Doors	1,150,236	1,208,080	1,075,526	1,117,431	456,170	256,986
With Season Tickets***	110,165	107,629	98,670	121,700	159,950	175,652
Total	1,260,401	1,315,709	1,174,196	1,239,131	616,120	433,638

Note: * The fee was reduced to two shillings and sixpence from May 30.
** Ditto, from August 9.
*** Season tickets were three pounds three shillings for a gentleman and two pounds two shillings for a lady; they were reduced after July 31 to one pound ten shillings and one pound respectively; but few were sold.

Source: Reports of the Commissioners of the Exhibition of 1851 (1852), Appendix XVII. pp.89-91

gratuitously, but this idea was rejected by the other members of the Royal Commission, notably Richard Cobden, who asserted, not surprisingly in view of current economic philosophy, that "the necessary pecuniary resources should be provided by a voluntary subscription of all classes of Englishmen".[84]

When the Royal Commission made it clear that the working classes should be encouraged to visit the exhibition, Alexander Redgrave was appointed to deal with the matter. He and his colleague, Sir William Reid, communicated with the police and other authorities in London, the railway companies, and the local committees, on such matters as "the number of persons likely to arrive in London", and "the extent of suitable accommodation".[85] Local committees, especially those in towns with experience of mechanics' exhibitions, had no hesitation in considering working class involvement to be a great opportunity. The Leeds Committee, for instance, appointed R.S.H. Church, a committee member of the Leeds Mechanics' Institution, to undertake a lecturing tour in the West Riding to publicise the merits of the Great Exhibition.[86] The Leeds Committee also created a special sub-committee to promote the participation of the working classes. Although the response from workers was slow, partly because of the cost of travelling to London, and partly because of their just suspicion of middle-class motives, enthusiasm was gradually built up.[87] Relatively affluent artisans and mechanics could save money through friendly socieites and mechanics' institutes, which formed saving and visiting clubs. The Leeds Committee

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84. Berlyn, op.cit., p.173.

85. Commissioners' First Report, Appendix No. XXIV, p.111. On the working classes at the Great Exhibition, see Audrey Short, "Workers under Glass in 1851", Victorian Studies, X, no. 2 (1966-67), which discusses the topic differently from this study.

86. Morris, loc.cit., p.292.

87. ibid., p.293.

acted as "an agency through which these clubs could make arrangements with the railway companies and find accommodation in London".[88] Public houses and inns also acted as saving clubs, as the Journal of Design reported in 1850, with reference to such activities in Bradford:

> The public are respectfully informed that a money club will be established...at the Hope and Anchor Inn, Market Street, for the purpose of accumulating the funds to enable the members to visit the Exhibition of the Works of Industry of all Nations, in 51. shares, to be paid by monthly subscriptions...Similar clubs will be commenced at various inns in the town and neighbourhood...The promoters of these clubs earnestly entreat all artisans and others who can make it convenient to become members...[89]

The Journal also reported that "a similar movement in Carlisle, Glasgow, the Potteries, &c." was under way.[90]

During the period of the Great Exhibition, railway companies provided various schemes, from "day excursions" to special Exhibition fares. By this time the practice of railway excursions had been long established. The example of the temperance societies which organised railway trips for their members' recreation is well known. Brian Harrison claims, in his Drink and the Victorians, that the Leeds Temperance Society was among the earliest groups to organise a railway excursion, in September, 1840.[91] But the honour of the first venture should probably go to the York Institute of Popular Science and Literature, a close relative of the mechanics' institutes, which took 400 people to the Leeds Mechanics' Exhibition in July, 1839.[92] Excursions were a very common feature of

88. ibid.

89. Journal of Design and Manufacture, III, No. 14 (April, 1850), pp.61-62.

90. ibid., p.62.

91. B. Harrison, Drink and Victorians (1971), p.330.

92. Leeds Times, 3 Aug. 1839.

Figure V-5: Poster for a Special Train

to visit Derby Mechanics' Institute Exhibition

Special Train to Derby.

THE

MUSEUM EXHIBITION,

AND THE ARBORETUM.

A SPECIAL TRAIN

WILL LEAVE

BIRMINGHAM

FOR DERBY,

On MONDAY, AUGUST 14th, 1843,

TO AFFORD THE PUBLIC AN OPPORTUNITY OF VISITING THE MAGNIFICENT

EXHIBITION,

AT THE ATHENÆUM ROOMS,

AND THE FAR-FAMED ARBORETUM.

The Exhibition contains nearly 400 PAINTINGS, most of them by CelebratedMasters; Exquisite Specimens of Sculpture; Splended Works of Art; Valuable Curiosities; and one of the Finest Collections of Objects in Natural History, Entomology, Geology, and Mineralogy, ever offered to the Public view.

ADMISSION to the Exhibition, 6d. each,

ADMISSION TO THE ARBORETUM, 3d. EACH,

Tickets for which may be had at the Railway Stations.

The Train will leave Birmingham at 7 o'clock in the Morning, and Derby at 7 o'clock in the Evening.

FARES FROM BIRMINGHAM TO DERBY AND BACK;

First Class Carriages, - - -	11s.
Second Class Ditto, - - -	8s.
Third Class Ditto, - - -	6s.

Tickets may be obtained at the Railway Station, Birmingham.

M8 1964 /21

(CHADFIELD, PRINTER, DERBY.)

mechanics' exhibitions. Many arrangements were made between institutions as well as between the institutes and the railway companies. Exchange excursions between the Leicester and Nottingham exhibitions, for instance, seem to have been characterised by excitement and enthusiasm. In 1840 the Leicester Mechanics' Institute and the Nottingham Mechanics' Institute held their exhibitions simultaneously. First, Nottingham visited Leicester, 400 visitors travelling on the special train and another 100 overflowing on to a later one. When about 1,000 Leicester people returned the visit it was reported that many thousands assembled in the Meadows, the Park and on elevated places near the railway station, to obtain a view of the passing multitudes being whirled along the railway.[93] The second excursion by the Nottingham Institute was on a more ambitious scale. The Leicester Journal reported the event:

> The enormous train, consisting of 65 carriages, and measuring upwards of a quarter of a mile in length, proceeded along the Trent meadows, amidst the admiration and acclamations of thousands who had come out to witness this prodigy of steam, and exult in, although they could not join, this new movement which railways have given to social intercourse.[94]

Of course not all who travelled by the train belonged to the working classes. And those who did were, of necessity, relatively well off. The Birmingham and Derby special train of 1843, for example, cost 11 shillings for the first, 8 shillings for the second- and 6 shillings for the third-class carriages, all prices prohibitive to apprentices and even to most journeymen. (See Figure V-5). But it must be stressed that there were working people who could and did pay out so much

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93. Nottingham Journal, 14 Aug. 1840.

94. Leicester Journal, 28 Aug. 1840.

to enjoy their leisure time, and who showed pride in their ability to do so.

It is important to remember that the idea of opening industrial exhibitions to a wide public only became possible through the technical education movement; design education being a fundamental component of technical education. The exhibitions held by mechanics' institutes, and those held by the Society of Arts after 1847 were directly inspired by the cry for improved and more original patterns in British manufactures. As I have argued, mechanics' exhibitions were an important landmark in the history of the industrial exhibition in Britain. There are perhaps three reasons for this. First, their popularity with a wide public. Their efforts to draw a large number of visitors, especially from the working classes, was a significant departure from the exclusiveness of the earlier galleries, and their experience in this respect greatly assisted the preparation of the Great Exhibition. Secondly, these exhibitions raised the possibility of permanent exhibitions, i.e. of museums in provincial towns. Many of those who went to exhibition rooms, most of them members of the working classes, strongly expressed hopes of seeing exhibits permanently displayed in museums which they could frequently visit. When the Manchester Mechanics' Institute held its first exhibition, a letter appeared in the Manchester Guardian, appealing to the directors of the institution to open the exhibition permanently.[95] A few weeks later, the same correspondent, signed "J", wrote again, this time to "the working men of Manchester". He rather patronisingly congratulated them on having a splendid exhibition

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95. Manchester Guardian, 3 Jan. 1838.

and told them that he was convinced that

> you are anxious for some such means of spending your spare time; or at all events, if the opportunity were given you, you would value it. Why not call a public meeting, and request the director of this place to adopt some means of keeping open the present rooms as a permanent resort for you?[96]

This social reformer concluded his letter with the injunction, "Universal suffrage of the mind should be the motto of every man".

Thirdly, there is the contribution which the mechanics' exhibitions made to the very idea of what an exhibition could comprise. The Oxford English Dictionary entry reads:

> Exhibition...A public display (of works of art, manufactured articles, natural productions, etc.); also, the place where the display is made. In early quotation often specifically the exhibition of pictures of the Royal Academy, now applied especially to those exhibitions on a large scale of which the "Great Exhibition" held in London in 1851 was the first and typical example.

But the mechanics' exhibitions already presented all these features. Works of art and manufactures were already to be found there on a large scale, if not as big as that of the Great Exhibition itself. Among their visitors, at least, new ideas must have grown of the potential functions of an exhibition. The application of such terms as "polytechnic", or the French word "exposition", stressed the commercial and manufacturing utility of the exhibits. When the Manchester School of Design called its 1845 exhibition "the Exposition of Arts and Manufacture", the Manchester Guardian commented:

> It is not, as some may imagine, an exhibition of curiosities of nature and art; but an exhibition of the products of the British loom, British machinery, and of the first and most perfect of all machines, the human hand, educated by the intelligence, and guided by the idea of England's skilled

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96. ibid., 17 Jan. 1838

artisans and artists.[97]

But this kind of exhibition was already familiar to visitors to the exhibitions held in the mechanics' institutes. (One may remember the remark made by Samuel Smiles quoted above.) The Great Exhibition was undoubtedly on a much larger scale than the mechanics' exhibitions; the exhibits shown there were more heterogeneous and international; the magnificent Crystal Palace was an attraction in itself. But the earlier experience of several millions of people who visited the mechanics' exhibitions should not be underestimated. To cite two examples of memories that lasted for many years, J.T. Slugg wrote in 1881 that "the very interesting and popular exhibitions which used to be held for many weeks at Christmas, every year, are worthy of being remembered".[98] Louis M. Hayes, another Mancunian, writing in 1905, recalled visiting as a child the Manchester Mechanics' Exhibitions for which his father had a season-ticket.[99] These views echoed an earlier comment of Samuel Sidney, who wrote in 1851 that "The Manchester Mechanics' Institution was one of the pioneers in the movement which led to the Great Exhibition".[100]

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97. ibid., 20 Dec., 1845.

98. J.T. Slugg, Reminiscences of Manchester Fifty Years Ago (1881) p. 230.

99. L.M. Hayes, Reminiscences of Manchester, and Some of its Local Surroundings from the Year 1840 (1905), p.25.

100. Samuel Sidney, Rides on Railway (1851), p.173.

PART FOUR

DESIGN AND COMMERCE

"Novelty - give us novelty!" seems to be the cry; and, good or bad, if that is obtained, the public seems satisfied: perhaps we should say that the bad, being generally the most extravagant, is the most satisfactory to the ignorant public; and the nothing is too outre to be purchased - ay, and worn - by those who would be indignant were their taste called in question.

> Journal of Design and Manufacture, I, no. 3 (May, 1849), p.74.

...French Silks, in the Opinion of most of our Nation, having a Preference to our own (tho' better than theirs) the Fashions are, or are likely, to be taken from France: So that our English cannot make Provision for a Spring Trade, for fear a New Fashion should come from France, and render ours Despicable: And in Case we should imitate them, we must come at the latter End of the Market, and by that Time another Fashion comes in from France; whereby France will always have the First of the Market, and the English the Fag-end, which is above 15l. per Cent. difference in the Sale of those Goods.

> The State of the Silk and Woollen Manufacture, considered: in realtion to a French Trade. Also the Case of the Silk-Weavers, humbly offered to the Considerations of Both Houses of Parliament (1713).

CHAPTER SIX

DESIGN AND THE MARKET: (1) COPYRIGHT OF DESIGN

It was argued in Chapter One that copying and imitation were the traditional methods whereby artists and craftsmen acquired the skills and techniques of their masters. Disciples learned to reproduce the characteristic styles of their masters, and the derivative nature of their work was often recognisable. Piracy, however, the theft by copying of the ideas of others, was an altogether different practice from the traditional training by imitation. Such theft of designs was in fact promoted by the changing nature of 'art' in the period under discussion. When the fame of individual artists became valued above the collective responsibility of a workshop under the guidance of a master, piracy and forgery became widespread. It is well known that Claude Lorrain, the seventeenth-century landscape painter, for fear that his paintings should be extensively faked, made a catalogue of his paintings, a Liber Veritatis, in order to prevent imitations of his work from fetching high prices on the market. Piracy in commercial production also caused serious loss to the party who had originally invented the pattern. This was especially the case when the designs were of short currency due to seasonality and the fickleness of fashion. The textile industries probably provide the most notable example of this. Imitation of others' successful designs was a convenient practice for the manufacturer newly entered into business, for he could thus avoid altogether the cost of designing, and he could expect an immediate profit without risking speculation on the taste or the fashion of the market. Large-scale manufacturers who specialised in products for the lower and middle classes could take advantage of machine production by

printing pirated patterns on cheaper cloths. The prevalence of this practice led some manufacturers and merchants to seek the protection of copyright. In this chapter I shall discuss the way in which industrialisation encouraged piracy, and the debate about copyright to which it gave rise. While the legislation on copyright which ensued was of limited significance in the history of design, the records of the debate itself are most illuminating of contemporary attitudes towards certain aspects of the process of industrialisation.

Industrialisation and piracy

The protection of the property rights of the designer originated in the first age of that machine production which enabled manufacturers to produce a large number of goods for a mass market. Such protection should be distinguished from the exclusive monopolies which protected the royal chartered manufactures and the incorporated guilds and companies. I have already discussed some of the effects of technological change on the production of designs. As has been seen, many people in the nineteenth century perceived certain problems arising in relation to the production of designs to be crucial issues in the machinery question. One aspect which received the serious attention of contemporaries was the problem of piracy and the law of copyright. In 1839 a group of manufacturers, chiefly of the textile industries, petitioned the House of Commons for a copyright law, and a Select Committee was instituted to investigate the extent to which piracy was practised and to assess the need for such legislation. In this section I shall discuss the relationship between industrialisation and the problems of piracy, so far as this is revealed by the debate among the

manufacturers who sat on this Select Committee. The resulting legislation will be discussed in a later chapter.

Let us look first at the reasons why the extension of copyright was felt to be necessary. Emmerson Tennent, M.P. for Dublin, who introduced the ultimately successful bill and who was a strenuous supporter of design copyright, explained why longer protection was important to the inventor of a design:

> And whilst designing, which is altogether a mental process, has not been facilitated to the original procedure by any mechanical inventions, the discoveries and improvements in machinery and chemistry which have taken place within the same period, have materially accelerated the rapidity with which a copyist can imitate and reproduce his designs... Fifty years ago, when every process was slow, and workmen inexpert, when the use of steam was little known, and Perrotines undreamed of, when engraving was achieved by the laborious instrumentality of the hand and the graving tool, and when mills and electro-magnetism were as yet in the womb of science, it may have been amply sufficient protection to the designer of genius and originality to give him a start of three months in the race of competition with the pirate, who, with his lumbering machinery and toilsome process, would vainly strive to overtake him; but now, when...the ordinary march of centuries has been achieved within a few short years, and when Spence, Jacobi and Palmer have literally taught the copyist to engrave his roller by a flash of lightning, it has become imperative to re-adjust the scale to suit the altered circumstances of the times, as the only means to preserve to the original inventor that protection which the law has promised him.[1]

It is clear that Tennent thought there was a strong connection between industrialisation and piracy. The pirate took advantage of new technological developments to produce another's pattern in a much shorter period than had been possible before. The supporters of copyright extension were unanimous on this subject. Edmund Potter, commenting on the improvement in printing by machinery which had facilitated quick

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1. J.E. Tennent, A Treatise on the Copyright of Designs for Printed Fabrics, with Considerations on the Necessity of its Extension (1841), pp.124-26.

reproduction, said that "they have quickened the production, and thereby given the copyist the advantage of overtaking us so much the sooner".[2] He was confident that "the rapidity of production is of course in his [the copyist's] favour".[3] Salis Schwabe, another pro-copyright calico-printer, expressed the same opinion:

> Of late years the facility of producing goods has been very much increased, while that of designing remains the same. It follows, then, that the pirate who pirates my patterns can overtake me much sooner than he could some years ago, and consequently he has a greater advantage over me than he had at that time, arising from the increased facility of production, and the various improvements that have been made in machinery.[4]

Both printers quoted here were by no means opposed to the development of machinery per se. On the contrary, Potter, for instance, had, as has been seen in Chapter Two, no doubt whatsoever as to the advantages brought by machinery to the improvement of design and to the printing trade in general. He did not consider piracy to be a necessary evil which could not be prevented by legislation. Proper legislation, and the encouragement of art, would eventually produce good designs and contribute to trade. But the chief problem was the Lancashire printers who pirated the works of London printers. In the eighteenth century, according to Tennent, "the printers of London were...the most eminent in the kingdom for the good taste and elaborate finish of their designs". Compared to the London printers, the Lancashire printers' "avowed object" was "cheapness of production, not beauty of design". The Lancashire printers therefore "at once commenced a system of indiscriminate piracy upon the new inventions of their London

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2. Minutes of Evidence taken before the Select Committee on Copyright of Designs, Parliamentary Papers (1840), VI, (hereafter PP 1840), Q.391.

3. ibid., Q.346

4. ibid., Q.230

competitors, and hence the origin of the law of copyright in England".[5] The first copyright law was passed in 1787 as the result of the strong protest of London printers against their Lancashire rivals. William Kilburn, one of the London calico-printers who petitioned Parliament and later gave evidence to the Committee, stated that Lancashire printers pirated his successful patterns and printed them on inferior cloths, thus damaging his sales in the London market.[6] In the 1830s, when the mechanisation of printing had been perfected, piracy became a much more serious threat to the producer of original designs. The expansion of the market for medium and lower range goods necessitated the introduction of machinery which enabled the printer to produce products of the required quality at less cost. The pirate could exploit the new machinery in producing precisely this kind of cloth.

Among the supporters of copyright extension, James Thomson of Clitheroe, was the most indefatigable advocate. He was keenly aware of the results of mechanisation and appreciated the relation of mass production by means of machinery to the practice of piracy. There was a class of prints, he wrote to Robert Peel, "in which PRICE, with a certain relation to quality, and less to style and pattern, is the great consideration". These prints, especially those of the lowest quality employed little labour.

> It is such prints as these which swell the production of our opponents into millions, and enable them individually to surpass in numerical amount of pieces the advocates of Extension of Copyright; whilst in amount of labour,

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5. Tennent, op.cit., p.16.

6. Journal of the House of Commons, XLII (1787), pp.584-85; see also Ada K. Longfield, "William Kilburn and the earliest Copyright Acts for Cotton Printing Designs", Burlington Magazine, XCV (1953).

> wages, number of hands employed, and value, they are greatly below them.[7]

Thomson supplied interesting statistics on this question. (See Tables VI-1 and VI-2 below).

Table VI-1. Pieces Printed and Workers Employed in England in 1839

Names	Pieces Printed in 1839	Workers Employed	Pieces per Head
Ainsworth & Co.	430,000	400	1,075
Schwabe & Co.	310,000	700	443
Thos. Hoyle & Sons.	269,229	693	388
Fort Brothers & Co.	224,971	750	300
Hargreaves & Dugdale	306,629	1,040	295
Edmund Potter & Co.	83,000	380	218
Thomson Brothers & Co.	168,181	980	181
John Lowe & Co.	52,000	300	173
Swaisland & Co.	40,000	260	154

Source: James Thomson, A Letter to the Right Honourable Sir Robert Peel, On Copyright in Original Designs and Patterns for Printing (Clitheroe, 1840) p.36.

Table VI-2. The Relative Number of Workers Required to Produce the Same Number of Pieces of Different Styles

Pieces Annually		Names		Workers
100,000	at	Ainsworth & Co.	employ	100
"	"	Schwabe & Co.	"	226
"	"	T. Hoyle & Sons.	"	258
"	"	Fort Brothers & Co.	"	333
"	"	Hargreaves & Co.	"	339
"	"	E. Potter & Co.	"	457
"	"	Thomson Brothers & Co.	"	553
"	"	John Lowe & Co.	"	577
"	"	Swaisland & Co.	"	650

Source: ibid.

7. James Thomson, A Letter to the Right Honourable Sir Robert Peel, Bart, on Copyright in Original Designs and Patterns for Printing (Clitheroe, 1840), pp.34-35.

In these tables Thomson was making one point very clear. Although he asserted that his intention was not to make any statement "of the amount and kind of production of individual houses with a view to invidious comparison", but to show "the relation between labour and production in this important branch of our national industry", he was undoubtedly aiming his remarks at anti-copyright campaigners who, in simple terms, produced more but employed fewer.[8] His main target was the firm of Ainsworth & Co., whose products were renowned to be of the lowest quality, its workers the lowest paid, and its working conditions the poorest of all textile companies. Thomson informed his reader that "the unfortunate beings who produce this cloth are the most oppressed and degraded of all the labourers of the land...from scanty and precarious employment and the lowest wages, they derive the means of a miserable existence, toiling to-day for the privilege of to-morrow".[9] Indeed, the difference between Ainsworth & Co. and all other manufacturers is striking and instantly recognisable. Even Schwabe, the largest of the supporters of an extension of copyright, produced less than half the number of pieces per head turned out by Ainsworth. Although Thomson did not give exact figures for the other copyists, he estimated that the average production of the opponents of legislation was 600 pieces per head, and that the labour force employed for the production of 100,000 pieces would be 160.[10] Ainsworth & Co. might represent the extreme of this class of printers, but the gap between the figures of the opponents and those of the supporters of copyright control was still very wide. The selection of pro-copyright manufacturers made by Thomson in these

8. ibid., pp.40-41.

9. ibid., p.38.

10. ibid., p.39.

tables was carefully designed to represent different specific features of production: Schwabe & Co. and Hoyle and Sons were the representatives of "the highest class of machine work, embodying a small proportion of hand labour"; Fort, Hargreaves, Potter and Thomson were manufacturers for "the foreign and the highest home market"; J. Lowe & Co. were furniture printers; and Swaisland & Co. were simply one of the finest printing firms of London.[11] As has been shown in Chapter Two, even these pro-copyright manufacturers were tending to increase the number of machines and to reduce their block-printing tables in the course of the expansion of their business (see Table II-3). Yet they seem to have retained their reputations for higher quality prints in their own branches of specialisation.

Thomson's criticism of copyists and of their use of machinery was also directed at Daniel Lee. The latter produced 700,000 pieces annually and boasted that he was the largest calico-printer in the country. When he was asked by the Select Committee in 1840 how many yards of cloth he manufactured in a total of 700,000 pieces, he replied that "I cannot give the yards, I can give the miles; 11,137 miles I make of it".[12] Thomson drily commented in his pamphlet:

> What a picture of the sublime does it present to the mind's eye, to imagine a mighty merchant, such as this, measuring off his wares, not with a vulgar pedlar's yard, but by the instruments of a philosopher - a theodolite, a sextant! What a picture for Fuseli or Martin![13]

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11. ibid., p.40.

12. PP 1840, Q.4404.

13. Daniel Lee, The Policy of Piracy: As a Branch of National Industry, a Source of Commercial Wealth (1840), p.5. This is a satirical pamphlet which was published during the debates on the extension of copyright. Although its author's name was given as Daniel Lee, the latter was the target of criticism in the pamphlet. The present writer assumes that the pamphlet was written by James Thomson, as Thomson published a similar satirical and critical pamphlet attacking James Kershaw, another eminent opponent of copyright extension. Cf. J.Kershaw, Argument made Easy (Clitheroe, 1840). Note the place of publication.

The grandiosity of calico-printers who produced hundreds of thousands of pieces a year and who measured their products by the mile was here ironically associated with contemporary Romantic paintings. (Both Fuseli and John Martin were well known for their grand pictures). For Thomson, the calico-printing business was first and foremost a branch of the arts and sciences and, although he naturally pursued profit, he sometimes sacrificed economic considerations to the employment of painters of Royal Academician class.[14] He was, therefore, not at all happy to see his fellow printers practising these vulgar modes of business. And it is not difficult to see behind his criticism of printers who produced such miles of cloth his view that the mechanisation of printing had much to do with piracy.

Thomson also drew a comparison between the respective labour productivities of France and the United Kingdom. His estimate of labour productivity in the French printing trade was based on the figure for 1827, but since the development of the French calico-printing industry was not as rapid as that of its British counterpart, the comparison with a British figure of later date may not be meaningless. In 1827, "the whole production of the great manufacturing district of Alsace amounted to 527,935 pieces of thirty French ells each, equal to 800,000 pieces of English lengths and widths; and gave employment to 11,248 individuals".[15] The figures for the Alsace trade corresponding to the English ones given in Tables VI-1 and VI-2 are therefore 71 pieces per head, and 1,406 workers for 100,000 pieces, respectively. Of course, it is impossible to conclude from this that the superiority of French design was the

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14. P.L. Payne, British Entrepreneurship in the Nineteenth Century (1974), pp. 36-37.

15. Thomson, op.cit., p.41.

result of more labour-intensive production. The degree of mechanisation was undoubtedly the crucial factor in differences of labour intensity. Nonetheless, in addition to other reasons for the French advance in the production of superior patterns, Thomson was deeply impressed by the fact that the flow of supreme designs from France was produced by the traditional hand-block printing method, and certainly the ratio of workers to numerical output was surprisingly larger than in the British case. The average French output per head, or average labour force employed in the production of 100,000 pieces, were in inverse proportion to the equivalent English figures. Even the finest London printer worked very differently from his average French counterpart.

Another pro-copyright campaigner, Edmund Potter, supplied some interesting statistics which show the relationship between mechanisation and piracy in Lancashire. (See Table VI-3).

Table VI-3. Types of Printing and Lancashire Manufacturers' Attitudes towards the Extension of Copyright. 1840.

	Firms	Machines	Tables*	Tables/Machines
Pro-extension	26	133	3490	26.2
Anti-extension	32	155	2661	17.2
Neutral	4	22	445	20.2
Not known	12	42	840	20.0
Total**	74	352	7436	21.1

Source: PP 1840, Edmund Potter's evidence, Qs.353, 357, 363.

Note: * Handblock-printing.
** Numbers given here as total are not overall figures. Potter gave estimated figures for 1838, which indicated that in that year there was a total of 88 firms in Lancashire and 410 machines, and 8,610 tables were on work. The total number of firms and machinery (including tables), may have been closer to these figures in 1840.

What is clear from this table is that the proportion of tables for handblock-printing employed by pro-extension manufacturers is remarkably higher than that of anti-extension manufacturers. More printing tables means more elaborated designs. The ratio of the number of tables to that of machines shows that pro-copyright manufacturers were more concerned on average with "up-market" goods than were the average Lancashire printers, and anti-copyright printers were concentrated more on machine production than any other groups. (See Table VI-4).

Table VI-4. The relative Proportions of Machines and Printing Tables owned by the Firms included in Table VI-3

	Machines	Tables
Pro-extension	37.8	46.9
Anti-extension	44.0	35.8
Neutral	6.3	6.0
Not known	11.9	11.3
	100	100

Although it is impossible to estimate the actual quality of products from this table, it can be safely assumed from the other evidence that the opponents' products were on the whole of lower quality. Both Thomson's and Potter's statistics provide us with strong confirmation of their claim that the opponents of the extension of copyright, considering their large output, relied more on machine printing for their profit than on more laborious and costly hand-block printing. As I have shown in Chapter Two, those who mechanised their production were not necessarily regarded as pirates. Potter, for instance, was both a

champion of mechanisation and a strong advocate of the extension of copyright. The point here is that a large number of pirates were taking full advantage of the development of machines. Endemic piracy was an integral part of mechanisation: this seems to be the message of the supporters of copyright extension.

The problems of piracy caused by machinery, especially that used for multiplying patterns, were not confined to the calico-printing trade alone. The embroidery industry, which was the main staple in the west of Scotland, Glasgow and Paisley, and in the north of Ireland, was another notable example. In the traditional process, a pattern was printed on the fabric by a block which the embroiderers then worked up with their needles. The system of block-cutting was similar to that used in calico-printing, and was "tedious in getting forward, and also expensive". The cutting of small patterns, such as those for collars, could cost from twenty shillings to ten pounds, and blocks for infants' robes were "as high occasionally as 25 pounds and 30 pounds". While this laborious method and high cost prevailed, piracy was hardly worthwhile. When lithography began to be used for industrial purposes, however, the situation dramatically changed. One Glasgow manufacturer informed Emmerson Tennent in 1840 that

> the introduction of printing by lithography, whilst it was the greatest facility ever given to it, and did immense good by the inexpensive production of novelty, gave also increased facilities to the pirate. The pattern which cut on a block would cost 5l. and take two or three weeks to finish, can by means of lithography be prepared for printing in a few hours, and at a cost of less than as many shillings.[16]

The pirate could obtain a printed cloth from the embroiderers at small expense, and he could make an imitation by simply drawing the pattern on

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16. Tennent, op.cit., p.73.

to the stone. The same informer bitterly complained that the pirate

> is thus saved the exertion of any taste, and the expense of designing, and is enabled to be in the market as soon as the original; and even if he pays the same price for embroidering, which he seldom does, he is enabled to undersell the fair trader.[17]

Here once again is an example of pirates taking advantage of technological invention. The newly introduced medium for the printing process was itself time saving and cost saving for anyone who employed it. But the pirates went far beyond this. They not only saved time and expense in production, but also profited from not spending on the design. The method of piracy was the same in every trade: successful patterns were copied, and imitation produced on inferior cloths to undersell the makers of the original patterns. Advocates of copyright extension, without exception, pointed this out. Their aim was not, however, to discourage mechanisation, but to develop a suitable protection for the manufacturer of original designs. How such protection developed is the subject of the next section.

The history of design copyright legislation

Before any protection was given to ornamental design, industrial property had been protected by the patent system. This was developed in the reign of Elizabeth I: the state encouraged manufacturers by issuing patents of monopoly. The first patent was that granted in 1552 to Henry Smyth, for the privilege of making glass.[18] Thereafter, the number of patents granted to new manufactures and projects rose

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17. ibid.

18. Joan Thirsk, Economic Policy and Projects: the Development of a Consumer Society in Early Modern England (Oxford, 1978), p.34.

continuously, and the range of products so protected became very wide. The situation changed, however, by the end of the sixteenth century. According to Dr Joan Thirsk, "some of the patentees were no longer inventors and skilled craftsmen, but courtiers, merchants, and speculators, who planned to hire the service of such craftsmen, while they themselves shouldered the main financial risk".[19] Though this development was understandable, for many craftsmen were financially less capable of setting up new manufactures or launching new inventions into commercial production, the richer patentees abused their privileges. They started to threaten and to supress competitive enterprises, hiring agents "to poke and pry in all corners of the realm".[20] In 1603 King James "suspended all monopoly grants, pending their scrutiny by King and Council, but he exempted from this order all corporations and companies enjoying monopoly privileges".[21] In 1621 a Bill against monopolies was presented to the House of Commons. The person responsible for this move was the legist Sir Edward Coke, whose reason for criticising monopolies was that "they were against the liberty and freedom of the subject, and therefore against the common law of the realm".[22] Although this Bill did not pass, a similar instrument, the Statute of Monopoly of 1623-24, restricted for four years only the grant of monopoly rights to genuine inventors.[23]

In 1709 the first copyright Act gave protection for literary property,

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19. ibid., p.57.

20. ibid., p.59.

21. ibid., p.99

22. ibid., p.100.

23. ibid. This was only confined to individuals, and towns and corporations could enjoy the privileges of monopoly and continued to do so.

necessitated by the advancement of printing.[24] The Engraving Copyright Act of 1734 was the first to protect any work of art. It was also known as the Hogarth Act after the artist whose printed engravings had been extensively pirated.[25] The Act gave to anyone who invented a design, (whether he or someone else engraved, etched or worked in mezzotint or chiaroscuro), the sole right of printing and selling his print for fourteen years. Although this right was originally confined to artists, and excluded engravers who worked from the original drawings of others, such protection was extended to the latter by an amending Act in 1767.

The first protection of copyright in this country for designs for manufactured goods was given in 1787. The Act (27 Geo. 3. c. 23) was passed to encourage "the arts of designing and printing linens, cottons, calicoes, and muslins, by vesting the properties thereof in the designers and printers for a limited time".[26] By this law, the inventor of an original design was guaranteed "the sole right of printing and reprinting a new and original design for the term of two months".[27] This Act was originally introduced for one year, but was renewed annually until its final, permanent enactment. The term of protection was then extended to three months. These Acts did not have force to Ireland, and applied to linen and cotton fabrics alone. When fabrics composed of animal products such as wool, silk, hair, or a mixture of these materials came

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24. Mary Vitoria, "The Designer and the Law", Design History: Fad or Function? (1978), p. 24. I am grateful to Colston Sanger for drawing my attention to this article.

25. ibid.

26. Longfield, loc.cit., pp. 230-31; W. Spence, Copyright of Design (1847), p.78.

27. Tennent, op.cit., p.18.

to be printed and grew into manufactures of importance, the lack of protection for manufacturers of these materials became a serious problem. In 1839 Lord Sydenham, President of the Board of Trade, introduced two Acts. One (2 Vict. c. 13) gave the same protection of three months' copyright to printed designs on animal substances and extended the provisions of the existing Acts to Ireland. The second Act (2 Vict. c. 17) gave a term of twelve months' security to woven designs on any textile fabric, except lace and cottons, and in addition a system of registration was established for the enrolment and identification of designs.[28]

In England, considerations of intellectual property rarely touched the aesthetic matter until the end of the eighteenth century. Not all the English laws concerning patents of monopoly applied to designs. This is quite different from the French attitude. In France, the mercantilist outlook was still influential in the eighteenth century, and the notion of design copyright was an integral part of this outlook. In 1737 and 1744, legal protection of design was granted to the manufacturers of Lyons, and in 1787 this was further extended. Readers of the Arrêt du Conseil du Roi were told:

> The King having caused to be represented to him in council the memorials and requests of the manufacturers of Tours and Lyons respecting the ATTACKS MADE UPON THEIR PROPERTY, and the general interests of manufacturers by COPYING AND COUNTERFEITING Designs, his Majesty recognised, that the superiority which the silk manufacturers of this kingdom had acquired, was principally owing to the inventions, correctness, and good taste of Designs; that the emulation which animated the manufacturers and designers would be destroyed if they were not assured of gathering the reward of their works; that the certainty of being in accordance with the rights of property, had maintained until that time the kind of manufacture (silk), and had obtained for it the preference in FOREIGN COUNTRIES...:[29]

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28. ibid., pp. 18-19; Spence, op.cit., pp.78-80.

29. George Brace, Observations on Extension of Protection of Copyright of Designs with a View to Improvement of British Taste (1842), p.5.

Although this protection was confined to a certain type of manufactures, (Lyons had for long enjoyed special protection for the royal silk manufactures), the expressed understanding of the importance of design to the national industry is remarkable. It is hardly surprising that British manufacturers in the nineteenth century, especially those with high artistic aims, demanded an equivalent protection of design to that provided in France. The French, and also to some extent the Germans, were well aware of the importance of the encouragement of art in industry, and in addition to the artistic education of the manufacturing population, the protection of artistic invention by means of design copyright was given a rightful place in the national policies. It was this French example that some British manufacturers and merchants wished to imitate in order to secure their own interests.

When Lord Sydenham presented his Bills, he proposed to the calico-printers that if printers would submit their patterns for registration they could have the same twelve months' copyright as other fabric manufacturers. But the calico-printers on the whole were reluctant to accept this proposal, mainly on two grounds. First, by the end of the 1830s the production of printed calico had become so extensive, compared with woven textiles, that printers were "apprehensive of the expense of registering each design at the high rate of fees then contemplated". Secondly, the system of registration seemed to them objectionable, for the deposits were to be open to public inspection.[30] The printers decided to wait "till the operation of the registration system could be fairly tested, and its objections, so far as practicable, removed".[31]

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30. Tennent, op.cit., p.19.

31. ibid.

This produced an awkward problem, however, which the calico-printers soon recognised. According to the law as it stood, there might be copyright for three months' duration on a design if printed, and twelve months' if woven or otherwise manufactured. This discrepancy of nine months was a serious disadvantage to the printers, and the additional fact that printed designs were more easily imitated than woven ones naturally led many printers to demand the longer term of copyright. The Design Copyright Act (2 Vict. c. 17) created a problem for those wishing to register their designs. The main objection was that the term of copyright granted was too short, being for three or twelve months only. When a copyright was infringed the resort to legal action to recover the damage incurred to the original producer generally took longer than the period of protection, and was therefore ineffective.

Before Lord Sydenham's Bill became law, a certain group of calico-printers, engravers, print-dealers, and drapers of Manchester had sent a petition in criticism of the Bill to the House of Commons.[32] Indeed, as has already been made clear, manufacturers were divided in the discussion over copyright design, and this disagreement became much more evident when the new Bill for the extension of the term of copyright was proposed. In January, 1840, James Emmerson Tennent introduced a Bill for the extension of the term of copyright from three to twelve months (for printed calicoes), and the House of Commons gave leave "to bring in a Bill to extend the term of Copyright in Designs on woven Fabrics".[33] Tennent and O'Connell were ordered to prepare and bring in this Bill. An objection was voiced by Labouchere, who felt that the enlargement of the term in the first instance was too great. Sir Robert Peel proposed

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32. Journal of the House of Commons, XCIII (1837-1838), p.316.

33. ibid., XCV (1840), p.20.

"to refer the whole subject to a Select Committee of the House of Commons", and this suggestion was adopted.[34] The enquiries of the Committee lasted from 20 February to 8 July, 1840.

A great number of petitions were sent in to the House from Manchester, Glasgow, London, the West Riding towns, Norwich and other places, urging that the Bill be made law. The response of the Manchester calico-printers was particularly well organised: a few weeks after Tennent and O'Connell received their commission, James Thomson and five other printers presented petitions, soon to be followed by nine more petitions from the same town, in addition one from London, one from Glasgow, two from Dublin, and one from Belfast.[35] Still more manufacturers sent in petitions during the sessions of the Select Committee. They came not from calico-printers alone, but also from weavers of wool textiles and silks. There were also petitions against the Bill, but these were sporadic, and until March, 1841, an influential group of manufacturers was less well organised than those in favour of the Bill. Immediately after the bill was presented, however, the Manchester Guardian observed the existence of a sharp division among manufacturers and merchants of the town:

> This bill is likely to meet with considerable opposition from a portion of the calico printers, who contend, that the existing term of three months is a sufficient protection to the authors of new patterns.[36]

The opponents of copyright extension had strong supporters among a section of M.P.s, including Mark Philips who represented Manchester. But the proceedings of the Select Committee were characterised by a

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34. Spence, op.cit., p.80.

35. Journal of the House of Commons, XCV (1840), pp.53, 62.

36. Manchester Guardian, 12 February 1840.

strong inclination to favour the supporters of extension; Tennent, as chairman, directed searching questions to anti-extension manufacturers and merchants which were very effective in exposing the immoral practices of piracy and its economic implications.

The Select Committee finally resolved in July, 1840, "That it is the opinion of this committee that it is expedient to extend copyright of design".[37] Although a substantial number of petitions opposing the Bill were submitted to the House of Commons early in 1841,[38] these came too late and the Bill eventually became law, in two parts, in 1842 and 1843. The first Act (5 & 6 Vict. c. 100) was the Ornamental Designs Act, or the Copyright of Designs Act 1842, which classified manufactured goods into thirteen classes and granted various terms of copyright to the design of these. (See Table VI-5 below). The Act did not fully meet the demands of the calico-printers, but it at least extended the period of protection from three months to nine. In order to obtain protection, a design had to be registered according to the category of material to which it was applied. As W. Spence observed, "it is not the design which is the subject of copyright, but the application thereof to the articles of manufacture".[39] The second Act was called the Non-ornamental Designs Act, or the Designs Copyright Act 1843, and was concerned with the provision of an extended period of protection for the utilitarian or functional products of what is now called "industrial design".

According to Dr Mary Vitoria, "by 1843 our system of modern design registration had become established in more or less its modern form".[40]

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37. Spence, op.cit., p.80.

38. Journal of the House of Commons, XCVI (1841), pp.87, 92, 94.

39. Spence, op.cit., p.82.

40. Vitoria, loc.cit., p.25.

Table VI-5. The Classification of Manufactured Goods Under the Copyright of Designs Act 1842

Class	Duration
1. Articles of manufacture composed wholly or chiefly of any metal or mixed metals.	3 years
2. Articles of manufacture composed wholly or chiefly of wood.	3 years
3. Articles of manufacture composed wholly or chiefly of glass.	3 years
4. Articles of manufacture composed wholly or chiefly of earthen ware.	3 years
5. Paper hangings.	3 years
6. Carpets.	3 years
7. Shawls, if the design be applied solely by printing or by any other process by which colours are or may hereafter be produced upon tissue or textile fabrics.	9 months
8. Shawls not comprised in class 7.	3 years
9. Yarn, thread, or warp, if the design be applied by printing, or by any other process by which colours are or may be hereafter be produced.	9 months
10. Woven fabrics, composed of linen, cotton, wool, silk, or hair, or of any two or more of such materials, if the design be applied by printing, or by any other process by which colours are or may hereafter be produced upon tissue or textile fabrics; excepting the articles included in class 11.	9 months
11. Woven fabrics, composed of linen, cotton, wool, silk, or hair, or of any two or more of such materials, if the design be applied by printing, or by any other process by which colours are or may hereafter be produced upon tissue or textile fabrics being or coming within the description technically called furnitures, and the repeat of the design whereof shall be more than twelve inches by eight inches.	3 years
12. Woven fabrics, not comprised in any preceding class.	12 months
13. Lace, and any article of manufacture or substance not comprised in any preceding class.	12 months

Subsequent repeals and consolidations were effected by the Patents Designs and Trade Mark Act of 1883, but this is out of our scope. It may be sufficient to mention that this Act removed the distinction between ornamental and useful designs. The effect of the "modern form" of registration is shown in Table VI-6 below. According to the record

Table VI-6. The Number of Designs Registered under the Two Acts of 1842 and 1843

Registration under the Act 2 & 3 Vict. c. 13 and 2 & 3 Vict.c.17.		Registration under the Act 5 & 6 Vict. c. 100.	
Year	No.	Year	No.
1839 (from July)	154	1842 (from September)	1,953
1840	352	1843	10,118
1841	495	1844	10,635
1842 (till August)	420	1845	8,609
		1846	7,122
		1847 (until September)	6,395

Source: Public Record Office, BT1, 467, 3296/47.

of the Board of Trade, a great proportion of designs registered under the old Acts were not ornamental but "Inventions of Machines or useful contrivances", whereas under the new Act all designs were ornamental.[41] Therefore the increase in the number of ornamental designs registered under the new Act was even greater than appears. The impact of the new Act was indeed remarkable. Nevertheless the proportion of registered designs among the total of designs on the market must have been

41. Public Record Office, BT1, 467, 3296/47.

Table VI-7. The Number of Ornamental Designs Registered under the Copyright Designs Act

	Metal	Wood	Glass	Earthen-ware	Paper-hangings	Carpet	Shawls (Printed)	Shawls (Woven)	Yarn (Printed)	Printed Fabrics	Woven Fabrics & Printed Furniture	Woven Fabrics	Miscellaneous	Total
1839*	54	2	4	1	78	1	-	-	-	-	-	12	2	154
1840	149	11	12	3	105	27	-	-	-	-	-	29	16	352
1841	228	14	6	11	52	114	-	-	-	-	-	34	36	495
1842	315	24	14	16	179	200	1	6	1	1,488	20	67	42	2,373
1843	215	37	7	30	241	280	113	93	52	7,815	83	649	503	10,118
1844	198	21	4	67	341	348	240	115	13	8,360	84	467	377	10,635
1845	175	10	23	48	502	339	167	128	-	6,531	83	499	104	8,609
1846	143	11	29	60	333	321	127	78	1	5,507	82	312	122	7,126
1847	137	9	36	69	404	267	133	104	4	7,101	99	357	90	8,810

Source: Henry Cole's evidence in the Select Committee on the Management of the School of Design. PP 1849, XVIII, pp.176-79.

Note: * from July

naturally very small. The main reason for this is that manufacturers registered only "up-market" designs which were the constant targets of piracy.

In 1849 Henry Cole supplied more detailed statistics of registered designs. (See Table VI-7). It is at once clear that the readiest response to the extension of copyright in 1842 was shown by textile manufacturers, especially those of printed fabrics. The extension gave them a confidence and assurance in the protection of their designs, even though they had to pay fees for registration which varied from one shilling to three pounds. The sudden increase of items in the miscellaneous category is largely accounted for by application from lace manufacturers.

Even after the passing of the Design Copyright Act in 1842, some branches of manufactures expressed dissatisfaction with the length of copyright granted to their products. In 1850 Halifax manufacturers of damasks presented a memorial to the Board of Trade requesting the extension of the term of copyright in their case from twelve months to three years.[42] This memorial signed by fifteen leading damask manufacturers of Halifax, asserted the importance of a trade that employed "artists at high rate of remuneration in the production of new designs", and used "large quantities of silk, cotton, and wool".[43] They maintained that the shortcomings of the law would lead to serious injury in the perennial competition with French and other Continental manufacturers. They referred to the French system which granted copyright to the designer for the whole period of his lifetime. Above all, they stressed the injustice

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42. ibid., BT1, 476, 40/50 (15).

43. ibid.

of the existing legislation with regard to manufactures of similar character. Whereas carpet designs were granted three years' protection, printed shawls and woven furniture fabrics were secured for only nine months and twelve months, respectively. The memorialists argued that the distinction between printed and woven shawls was "very proper", the "cost of producing patterns in the loom being necessarily greater than that of printing the same".[44] Hoadley and Pride of Halifax, interviewed by the Journal of Design, which supported the amendment of the Act for Copyright of Design, reported on the state of piracy as follows:

> A manufacturer in our business produces a pattern, and uncertain whether it will suit the trade or not, at first sets perhaps one loom to work, and then having introduced it to the trade if he finds it successful, he will set a large number to work. This takes considerable time; he perhaps is at full work upon it only four to six months, for as the expiration of the term approaches the merchant ceases buying the pattern knowing that in a short time the legally piratical manufacturer will bring out the same pattern in a lower quality of cloth.[45]

The damask manufacturers' request was granted by the Board of Trade which extended their copyright to three years.

A similar extension was granted in 1851 when printers of shawls from Crayford (Kent) and London asked the Board of Trade to extend their copyright from nine months to three years.[46] They explained that shawl printing had been an infant trade when the copyright law of 1842 was laid down, but had since become an extensive manufacturing industry. They claimed that the cost of designing printed shawls was much larger than that of furnitures, paperhangings, and the like, and that, on view of the nature of business, it was obvious that the length of copyright

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44. ibid.

45. Journal of Design and Manufacture, II, no. 12 (1850), pp.215-16.

46. Public Record Office, BT1, 483, 820/51.

granted to the industry was far from sufficient to encourage producers of highly artistic designs. They submitted that

> the period during which printed shawls are salable is only three Months in each year, and that upon an average it is not possible to produce more than from three hundred to four hundred of one pattern in this time; and that therefore, from the limited duration of the Copyright therein (only nine months) your petitioners are compelled to allot the large expenses of producing such printed shawls....to the detriment of the Consumer.[47]

Copyright and artistic originality

Quite apart from the economic implications of copyright, the debate on piracy raised the very interesting aesthetic notion of "originality" in commercial design. This arose from an enquiry into what was an "original design" and what was not; and to what degree one could safely distinguish an original from a copy. Both opponents and supporters of copyright brought their business experience to the discussion, and the result is very informative on the manufacturers' attitudes towards design production. Generally speaking, the opponents of copyright were unclear on this issue, as on others. When asked what was understood in the trade by the term "copy", Daniel Lee, a leading opponent, replied that

> I cannot tell what is meant by "copy"; that is one great difficulty; I do not know what "copy" means exactly, a facsimile is a copy, and an imitation is a copy; I have the authority of Johnson for that, who is a very good authority as to the meaning of the word "copy".[48]

Supporters of the extension of copyright, on the other hand, provided more helpful definitions of an "original" and a "copy". James Thomson

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47. ibid.

48. PP 1840, Q.4490.

pointed out to R.L. Sheil, the Vice-President of the Board of Trade, that there were confusions on the part of Thomson's opponents in the question of what should be protected by the copyright law. Thomson distinguished a pattern from a style, and argued that the former should be the subject of copyright and not the latter.

> A number of patterns, all agreeing in some one general character, but differing in the individual forms, or in the detail, constitute a style. STYLES differ from each other like styles of higher art - as Gothic does from Grecian for example...Styles derive their general character, either from form or colouring. Form may be varied sufficiently from the original type to avoid, or evade copyright, without departing from the style. Colouring as a character of style or pattern, can never be made the subject of copyright. COPYRIGHT protects individual forms or patterns only, and not styles. Thus COPYRIGHT in patterns, the bugbear of piracy and the aversion of political economists, through erroneous and imperfect knowledge of the facts, leaves free and unfettered the whole domain of taste and fancy in patterns for printing.[49]

J.E. Tennent argued that if calico-printers wanted to compete in the market with a successful design, they would, when the term of copyright was extended, direct artists to make them "an imitation of it in style, not identical in pattern". He was confident that

> a successful idea, by stimulating imitation instead of copying, will tend to generate numerous new styles, where there was originally but one; and thereby not only give a new spur to originality and invention, but create a new demand, increased employment, and higher remuneration for artists and engravers.[50]

Most manufacturers, opponents and supporters of copyright alike, considered the imitation of an existing style to be an original work of design. John Brooks, a Manchester calico-printer and anti-extension

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49. James Thomson, A Letter to the Vice-President of the Board of Trade, on Protection to Original Designs and Patterns, printed upon Woven Fabrics (Clitheroe, 1840), pp.8-9.

50. Tennent, op.cit., p.90.

lobbyist, described how his designer obtained patterns for him:

> I have a drawer in London...His business is to go from the City to the west-end to look through the windows and to imitate patterns; to take a little bit from one and from another, and make it into a pattern; and then I, as a calico printer, will say that that is a new pattern.[51]

Some M.P.s were worried about this kind of design being called "original" and "new", but they had to understand that in the trade this was a common practice. Edmund Potter was asked, rather sarcastically, by an M.P. sitting on the 1840 Select Committee "whether, in various patterns upon this card which you have produced, you have taken ideas from other designs, or are they all things entirely emanating from your own fertile imagination".[52] He had to reply that he kept as much to his own idea as possible for the sake of originality, but that was impossible for him to answer the question. The notion of "originality" in fine art, promoted by Sir Joshua Reynolds in the eighteenth century, was by the 1840s already an established one in the fine art world, and "mere" imitation was by now not as highly regarded as previously.

M.P.s tried to apply the notion of "originality" in fine art to commercial products. "Originality" or "new" patterns in manufacturing, however, did not necessarily require artistic invention but represented rather a commercially successful "novelty" that could lead the fashion of the day or that would sell. There were not many "original" designs, in the normal sense, at all. As one calico-printer told the Committee, there were in the 1830s only a few so-called "original" patterns in the trade: "original" in the concept of the design on the cloth and in achieving entirely "new" visual effects.[53] For the trade, however, which had to produce "new" patterns twice a year, according to the

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51. PP 1840, Q.698.

52. ibid., Q.1522.

53. William Ross's evidence. ibid., Q.5649.

seasons, the notion of originality and novelty was naturally different from that of the fine art world. The ephemerality of this aspect of production was appreciated by those concerned with copyright legislation and hence the terms of ornamental design copyright were much shorter than those of other copyrights or patents.

Copyright and Free Trade

Arguments about copyright design were linked with the free trade movement. Britain was already by the 1840s a much industrialised country, and the economic policy of the government favoured free trade rather than a protectionist approach, especially with regard to manufacturing industry. Although this policy was much debated even in the middle of the nineteenth century, the shift to free trade was ummistakable. The prevalent view on the export of machinery, for instance, protectionist in 1824, shifted to free trade in 1841.[54] Both opponents and supporters of copyright introduced the philosophy of free trade into the discussion. Especially among Manchester manufacturers and merchants, a laissez-faire philosophy was vigorously advocated in the nineteenth century, and it should be borne in mind that the Anti-Corn Law campaign was a very important issue among them at the very time of the copyright controversy. Copyists whose products were mostly of the medium and lower range, intended for overseas markets, strongly defended their practice of piracy on the ground that it was in the national interest not to restrict copying, in order the better to compete with foreign countries. This argument indeed persuaded some M.P.s to support the

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54. Maxine Berg, The Machinery Question and the Making of Political Economy 1815-1848 (Cambridge, 1980), chapter 9.

case of the copyists.[55] On the other hand, the pro-copyright camp also insisted upon free competition in design. What kind of "free trade" did each group envisage, and what were the differences between them? No opinion was ever held unanimously by the supporters of free trade causes. In the Anti-Corn Law League, according to Asa Briggs, there were also often "inconsistent and contradictory" arguments.[56] By the term "free trade", each interested party intended its own interpretations. The debate on copyright involved free traders on both sides, and reflected their varying attitudes to the wider issue.

The opinions of the opponents of copyright are explicitly expressed in a petition sent by Lancashire calico-printers and merchants.[57] They explained their fear of the injury threatened to both their home and foreign trade. They also expressed their concern at the obscurity of the procedure for registering designs. But they expressed strongest feeling with regard to state intervention:

> Your petitioners, who constitute a very considerable majority of those engaged in the trade, in Manchester and its district, cannot refrain from expressing surprise, that any further interference with their trade should be attempted; seeing that the opinion of parliament, against such interference, was unequivocally expressed by the rejection of bills introduced in the session of 1820 and 1837-8, and by the special exemption of cottons, calicoes, and muslins, from the operation of the act passed in the last session of parliament, for securing the property in designs, for articles of manufacture...[58]

The same feeling of apprehension was shown when the Government School of

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55. For example, Mark Philips, M.P. for Manchester, was one of the M.P.s who opposed the extension of copyright. See below, p. 263.

56. Asa Briggs, The Age of Improvement (1959), p.315.

57. "To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled", quoted full in James Thomson, A Letter to Peel, Appendix III.

58. ibid., p.58. [My italics].

Design was founded in the Manchester area. Local producers wanted, if possible, to do without government intervention into their affairs. They warned, moreover that the copyright bill would only benefit the foreigner:

> the proposed bill, if passed into a law, would greatly injure the export trade of your petitioners, inasmuch as, in seasons of great demand for printed goods, foreign orders for patterns are frequently received, which could not be executed in time for the market, if the exclusive right of printing contemplated by the bill were granted; and such orders would, therefore, not only be lost to the trade of this country, but would be carried to other countries, where the designs could be copied; and the print so copied would meet the original protected print in the foreign market.[59]

Mark Philips was one of the M.P.s who was persuaded to oppose the bill. He was M.P. for Manchester and was concerned with the possible results of the copyright bill. He sat as a member of the Select Committee on the Copyright of Designs and formed his own opinion from the evidence supplied by manufacturers and merchants of Manchester. On the day following the last session of the Select Committee, he made a speech in the House of Commons in opposition to the proposed bill. He emphasised the significance of foreign competition and expressed the view that any legislation "should be done with a full knowledge of the progress of foreign competition during the past time, and the attempt at approximating to its progress during the future".[60] Then he somewhat blindly followed the arguments put by the anti-copyright campaigners. He conceded Emmerson Tennent the injustice of his opinion that French designs were far superior to British. But he went on to say that

> One of the primary effects of the extension of copyright in designs would be to increase the price of the design.

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59. ibid., p.59.

60. Morning Post, 10 February 1841.

> Now, was it not a certain contingency that in such a case the manufacturers would prefer to go to French designs, which would cost them nothing, because unprotected by copyright, than to English designs rendered so dear...[61]

This statement was soon criticised and it was pointed out to him that English printers paid the large sums annually for French designs. One critic told Philips that he was certain that the party whose views Philips supported knew nothing of this practice. Original designs were worth the money, the critic said. He lamented this ignorance in the trade:

> They cannot be produced from English artists at any cost. How is this to be reversed? Not surely by adopting the opinions of the opponents of copyright, that these things are not worth protecting; or by sneering at liberality in their production. How English art could be more discouraged, then by all our best printers deriving their supplies of design from Paris, I am at a loss to determine.[62]

The fear of possible disadvantages in foreign competition was voiced in the Select Committee when the opponents of copyright gave evidence. The Committee was told that many houses relied on copying for their foreign trade, though the witness added that he did not think the copying was very considerable. Daniel Lee without hesitation asserted that it was advantageous to copy for the foreign market:

> I think we should experience great injury in England by not being permitted to copy, while foreigners would be allowed to copy; and, although they do not copy as much now, still I think the advantage they would derive from it would be so great an inducement to them, that if the proposed alteration of the law were made, I think it would be a decided trade with them to copy our best prints, knowing that we could not copy them, and to pour them into the markets which we now supply.[63]

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61. ibid.

62. Edmund Potter, A Letter to Mark Philips, Esq. M.P. in Reply to his Speech in the House of Commons, February 9th, 1841, on the Designs Copyright Bill (Manchester, 1841), p.11.

63. PP 1840, Q.4525.

The opponents of copyright argued that the public would be "best served by competition", and that monopoly would inevitably lead to higher prices and "lessen the competition for designs, and therefore lessen the quality required...and will, in fact, injure the trade very seriously".[64]

The free trade argument put forward by the opponents of copyright extension was severely criticised by the pro-copyright lobby. James Thomson wrote in his satirical pamphlet on Daniel Lee, the prominent copyist and anti-copyright calico-printer, "I ask the reader to...compare the manly and generous sentiment of the fair trader with the brazen and shameless avowal of the 'free trader', or rather, as Mr. Cobden calls it, the 'free booter'".[65] The Art-Union also, when the Emmerson Tennent Bill had passed into law, expressed the opinion that a distinction should be established between the real free trade philosophy and the mere disguise of piracy:

> The exact question then is, whether the production of thought for the benefit of society deprives the producer of all right of property in the results of his mental labour, and transfers the right to that host of free-booters, calling themselves free traders, who love "to reap where they have not sown, and to gather where they have not strawed". This convenient phrase, "free trade", has been for ages a genteel expression for open robbery; the buccaneers called themselves "free traders" in the last century, and the slave dealers have adopted the same designation in the present.[66]

The supporters of copyright actively engaged in promoting their cause by the publication of pamphlets. Tennent, Thomson, Potter, George Brace, and Nassau Senior were among those criticised piracy by this medium. Senior, Brace, and Tennent, however, had no direct connection with the

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64. Evidence of Kershaw, ibid., Q.3731.

65. Daniel Lee, op.cit., p.89.

66. Art-Union, IV, no.40 (1842), p.95.

printing business. Tennent was M.P. for Dublin, Brace was an assistant to Tennent, and Senior was a Whig economist.

While the debate on the extension of copyright of designs was going on, Senior reprinted a pamphlet from the Report of the Royal Commission on Hand-Loom Weaving, on which he sat in 1837. He and his co-authors, S. Jones Loyd and W.E. Hickson, started their enquiries for that commission before the inauguration of the Select Committee on Design Copyright, and the drafting of their report coincided with the Select Committee. This coincidence might have been expected to stimulate the commissioners to consider the question of design in their report on handloom-weavers. Senior's view expressed in this pamphlet was that "the repeal of the Corn Laws would help to reduce the cost of consumer goods for the weavers. Furthermore, the foreign demand for cloth could be improved by measures to develop better fabric design".[67] And it was with the latter case that he was concerned in the copyright debates. He stressed the importance of the protection of designs and of designers to the improvement of standards:

> It is impossible...to give importance to the profession of a pattern designer, unless the pattern which he is to design be made valuable. Nor can considerable temporary value be given to a pattern in which there is no property, or any permanent value to one in which there is no permanent property.[68]

He condemned the system of piracy as "fraudulent and...mischievous" and summarised the copyists' arguments against the extension of copyright in three points: they claimed that the protection of design would lead to monopoly and to higher priced commodities; protected designs in the

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67. Berg, op.cit., p.239.

68. Nassau W. Senior, Samuel Jones Loyd, William E. Hickson, and John Leslie, From the Report of the Commissioners on Hand-Loom Weaving, on Improvement of Designs and Patterns, and Extension of Copyright (1841), p.16.

home market would be copied abroad, and give foreign copyists the advantages of monopoly; and copying was profitable to the copyists.[69] Senior dismissed all three arguments as groundless or insignificant. In respect of the first he had confidence in the laissez-faire philosophy and believed that "manufacturers may be trusted with the management of their own affairs". There was no reason to presume that "men would continue to injure their own trade by excessive charges". The second argument of his opponents was also easily dismissed by the evidence, "which shows the inferiority of British to foreign designs". Therefore, Senior asserted,

> While that inferiority continues, we can have nothing to fear from their imitation. If, on the other hand, an extension of copyright should in time enable us to rival the French in taste, such an improvement would be cheaply purchased by the inconvenience, such as it might be, of our becoming the imitated, instead of the imitators.[70]

The third argument was simply disposed with the remark that it "does not deserve serious refutation. Every other sort of robbery might be defended as profitable to the robber".[71]

The supporters of copyright offered alternative concepts of competition and protection. James Thomson, for instance, explained to Sir Robert Peel, in his published letter, that "Experience teaches that the surest means of producing a cheap supply of any thing, is by COMPETITION, whenever it can be excited; and that when the demand is for excellence, one of the means of attaining it, is by COMPETITION also".[72] He argued that copyright was a fundamental necessity for

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69. ibid., p.37.

70. ibid.

71. ibid.

72. Thomson, A Letter to Peel, p.3.

securing this kind of competition. A sufficient period of copyright would, "by placing all the printers of the country on the same level, and starting them fairly in the same race, without favour or privilege, or advantage to any", introduced competition "both to the public and the trade at large".[73] The message is very clear. Competition in designs between producers would result in higher standards of design per se, and would ultimately satisfy both the public at home and the foreign markets. In order that competition be fair, piracy ought to be stopped by the grant of a right of property to inventors for a limited period. Thomson went so far as to suggest that his opponents' claim that copyright was injurious to foreign trade was based on a false assumption:

> Copyright in Designs...has in fact no more to do with foreign competition than with the growing of cotton or the manufacture of iron and brass. It is a question purely between two classes of manufacturers, one of which seeks to hide its piracy and injustice behind the skreen [sic.] of its foreign trade, - three-fourths of which would lose nothing of its value whatever sort of design were put upon it.[74]

Thomson was here repeating his criticism of large-scale manufacturers who produced only middle and lower range goods for export. He maintained that these calico-printers did not consider the value of good designs and claimed to justify their practice of piracy as a part of free trade. They accused pro-copyright campaigners of trying to obtain monopolies. But in this case, they were in a minority among political economists of the day.

A distinction was commonly drawn by economists, from the eighteenth

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73. ibid.

74. ibid., p.50.

century onwards, between monopoly and the protection of property.[75] The opponents of copyright in general showed their ignorance in this matter, creating what Emmerson Tennent ironically called "the school of piratical-economy...building its tenets on the practice of the pirates of Manchester and Glasgow".[76] It may not be irrelevant to survey briefly the notions of the right of property as a form of copyright and patent held by various economists and politicians. It was upon their arguments that both copyists and protectionists relied to support their claims.

Adam Smith took copyright for granted, and did not give a specific opinion on the subject in the Wealth of Nations. He only referred to copyright when he discussed certain cases in which some sort of monopoly could be given temporarily to tradesmen. Smith wrote:

> When a company of merchants undertake at their own risk and expense to establish a new trade with some remote and barbarous nation, it may not be unreasonable to incorporate them into a joint-stock company, and to grant them in case of their success a monopoly of the trade for a certain number of years. It is the easiest and most natural way in which a State can recompense them for hazarding a dangerous and expensive experiment, of which the public is afterwards to reap the benefit. A temporary monopoly of this kind may be vindicated upon the same principles upon which a like monopoly of a new machine is granted to its inventor, and that of a new book to its author.[77]

The editors of the most recent edition of the Wealth of Nations point out that Smith, while describing the copyright of books in Lectures on Jurisprudence, rejected exclusive privileges as generally detrimental but

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75. ibid. General discussions of patents and related questions in the the late eighteenth and nineteenth centuries can be found in Machlup and Penrose, "The Patent Controversy in the Nineteenth Century", Journal of Economic History, X (1950).

76. Tennent, op.cit., pp.17-18.

77. Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations (R.H. Campbell and A.S. Skinner eds., Oxford, 1979), p.754.

allowed that these could be defended on the ground of equity.[78] Smith wrote:

> For if the legislature should appoint pecuniary rewards for the inventors of new machines, etc., they would hardly ever be so precisely proportioned to the merit of the invention as this is. For here, if the invention be good and such as is profitable to mankind, he will probably make a fortune by it; but if it be of no value he will also reap no benefit.[79]

The same logic was employed to defend the copyright of authorship of books.

Between 1793 and 1795, Jeremy Bentham prepared a treatise entitled Manual of Political Economy, in which he discussed the patent system. In it he considered the relationship between economic policies and trades and set out his criticisms of governmental intervention in the market economy. He saw mercantilist protectionism as harmful to the development of the economy. On the granting of patents to inventors, however, his argument was slightly different. Although patent and copyright were kinds of monopoly, Bentham defended them as important incentives to economic development. His reasoning is extremely important, since he adopted a new approach to the question. The editor of the modern edition of the Manual writes of Bentham's discussion of patent and copyright: "An inventor himself, he speaks on the subject with considerable warmth and in a way certain to carry conviction".[80] Bentham's originality in his discussion of patents lay in his distinction between labour, as a mere bodily act, and skill. According to him, "the skill or mental power displayed in the exercise of the bodily act", is "the property that the benefit derivable from it...may and naturally will be reaped by all persons concerned in any of the business to which

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78. ibid., n.69.

79. ibid.

80. Jeremy Bentham, Manual of Political Economy (1793-1795), in W. Stark (ed.), Jeremy Bentham's Writings, Vol.I (1952), p.53.

such skill is capable of being applied",[81] On the other hand, "mere labour...cannot be copied without equal labour", and of mere labour "no one...can have the benefit but the particular individual at whose expense...it is exerted".[82] Bentham saw that skill could not be obtained without lengthy labour and large expense, and thought it reasonable for an inventor to enjoy the fruit of such labour and expense. An inventor should expect satisfaction for his own labour, and this ought to be guaranteed by the law:

> A patent considered as a recompense for the encrease given to the general stock of wealth by an invention, as a recompense for industry and genius and ingenuity, is proportionate and essentially just. No other mode of recompense can merit the one or the other epithet.[83]

Although he admitted that the patent system was, in law, "exactly the same thing" as monopolies, he considered it in its political effects, and in its economic consequences, to be the exact opposite. The effects of a patent would, he argued, "cause that to be produced which had it not been for this security given to the fruits of industry, would not have been produced: and thence...cause [inventors] to produce the thing, who, had it not been for the invention thus brought to light, could never have produced it".[84]

J.R. McCulloch reviewed the patent system in the context of the public interest as well as that of the inventors'. His belief was that some protection of technological invention should be given to encourage inventors to produce excellent original work and at the same time to

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81. ibid., p.260.

82. ibid.

83. ibid., p.263.

84. ibid., p.264.

regard their inventions as the objects of public interest:

> Were their patents refused, the inducement to make discoveries would in many cases be very much weakened; at the same time...it would plainly be for the interest of every one who made a discovery to endeavour if possible to conceal it. And notwithstanding the difficulties in the way of concealment, they are not insuperable; and it is believed that several important inventions have been lost from the secret dying with their authors.[85]

John Stuart Mill was a faithful disciple of Adam Smith on the advantage of patents, but Mill refined the other's argument. Mill valued intellectual labour as one of the most important productive elements in society. He wrote in his Principles of Political Ecohomy that when one considered

> not individual acts, and the notions by which they are determined, but national and universal results, intellectual speculation must be looked upon as a most influential part of the productive labour of society, and the portion of its resources employed in carrying on and remunarating such labour as a highly productive part of its expenditure.[86]

He shared Smith's criticism of monopoly, but, also like Smith, he thought the condemnation of monopolies should not be extended to patents, "by which the originator of an improved process is permitted to enjoy, for a limited period, the exclusive privilege of using his own improvement".[87] The inventor's service ought to be compensated by "postponing a part of the increased cheapness which the public owe to the inventor". This was not to make the commodity dear for his benefit.

> That he ought to be both compensated and rewarded for it, will not be denied, and also that if all were at once allowed to avail themselves of his ingenuity, without having shared the labours or the expenses which he had to

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85. J.R. M'Culloch, The Principles of Political Economy (4th ed., 1849), p.303.

86. J.S. Mill, Principles of Political Economy (1848), Vol. 1, p.53.

87. ibid., Vol. 2., p.517.

> incur in bringing his idea into a practical shape, either such expenses and labours would be undergone by nobody except very opulent and very public-spirited persons, or the State must put a value on the service rendered by an inventor, and make him a pecuniary grant. This has been done without inconvenience in cases of very conspicuous public benefit; but in general, an exclusive privilege of temporary duration is preferable, because it leaves nothing to any one's discretions being found useful, and the greater the usefulness, the greater the reward; and, because it is paid by the very persons to whom the service is rendered - the consumers of the commodity.[88]

The view held by influential economists with regard to patents and copyright was, thus, very clear. Their authoritative support for the protection of inventors and authors weighed heavily with the lawyers involved in the nineteenth-century debate on copyright. The attitude of these important economic theorists was a significant factor in the success of the campaign for the extension of copyright legislation.

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88. ibid.

CHAPTER SEVEN

DESIGN AND THE MARKET: (2) THE MARKETING OF DESIGN

Introduction: Fashion and Economic History

"Fashion is accorded a lowly place by economic historians when they account for the rise of the cloth industries and the changing direction of their trade".[1] Thus Dr. Joan Thirsk begins her article on the English stocking-knitting industry between 1500 and 1700. She is, moreover, absolutely correct in pointing out the significant role of "the tyranny of fashion".[2] Almost all economic historians of the textile industries have been aware of this, but they mention it only in passing, as something economic history cannot deal with. Instead, they turn their attention to more concrete and "sterner economic explanations",[3] and abstain from serious discussion of "fashion", or for that matter, of "design". The subject of this chapter is the importance of design in the marketing activities of manufacturer and merchant.

Before broaching the discussion, however, it may be appropriate here to state a premise of this chapter: that it is possible to treat "fashion" and "design" in terms of economic history. Although Dr. Thirsk's

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1. Joan Thirsk, "The Fantastical Folly of Fashion: The English Stocking Knitting Industry, 1500-1700", in N. B. Harte and K. G. Ponting (eds.), Textile History and Economic History (Manchester, 1973), p. 50.

2. ibid.

3. ibid.

attempt to draw economic historians' attention to fashion is welcome, she does not fully explain the mechanisms by which fashion was interwoven into economic history. What she does suggest is that fashion played an important role in the creation of new industries such as stocking-knitting and the New Draperies. Fashion has a significance for the economic historian because of the way in which it acted as an incentive for the transformation of peasant industry into an industry on a national and even international scale. But her research does not reveal the day-to-day business of producers and merchants who had to handle "the tyranny of fashion", although admittedly in the period she discusses there is a problem of limited documentation.[4] Professor D. C. Coleman offers a slightly different approach to fashion.[5] He distinguishes two causes of textile growth in the period between 1450 and 1750: first, a labour-intensive putting-out system in rural areas, which made it possible to lower the cost of production and consequently to reduce prices in real terms; and secondly, the ability of the industry continually to develop "new products". It is with the latter that we are concerned here. Coleman argues that these new products

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4. E. Robinson's article on Matthew Boulton is one of a few attempts by economic historians to explore the relationship between marketing and fashion based on business correspondence: E. Robinson, "Eighteenth-century Commerce and fashion: Matthew Boulton's Marketing Techniques" Econ. Hist. Rev. 2nd ser., V (1963-64).

5. D. C. Coleman, "Textile Growth", in Harte and Ponting, op.cit. See also the same author's article, "An Innovation and its Diffusion: the 'New Draperies'", Econ. Hist. Rev., 2nd. ser., XXII (1969).

> were simply new fabrics, new designs, different colours, different finishes; changes in yarn, in weaves, in patterns. They were, in essence, mutations; and most of them were continually disseminated by imitation...More and more the market - influenced increasingly by shifts in fashion as more substitutes became available - dominated production. Textile manufacture provides the supreme example of the pre-industrial revolution multi-product industry; and, moreover, of a consumer-orientated industry, effecting little or no change for centuries in the basic techniques of its main production process but frequently changing, in an almost infinite variety of small ways, the combination of inputs which determined the look, feel, finish, colour, pattern or weight of the final product - and by this route sometimes, though not necessarily, also affecting its cost and profitability.[6]

While Dr. Thirsk treats fashion as a "tyranny" and argues that frame knitters' survival "depended always on their ability to retaliate with a new design, or to tap a new market patronised by a different class of purchasers",[7] Professor Coleman's view is that it was precisely this characteristic of the textile trades that enabled them to grow so remarkably without much fundamental technological change. In fact, the two explanations are complementary. Moreover, these characteristics of textile manufacture remained unchanged in the nineteenth century. By then they were reinforced by new technologies and work organisations which had increased output dramatically. The expansion of markets forced the manufacturer to produce goods with more diversified and specialised finishes, and at the same time the intention of different types of products called for new markets. As shall be seen later, producers and sellers of textile manufactures frequently expressed their concern with this dilemma in business correspondence.

To the pressure upon manufactures of growing markets, which required a continuous expansion of production, was added the forceful demand of

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6. Coleman, "Textile Growth", p. 9.

7. Thirsk, op.cit., p. 73.

fashion. Indeed, the increased output of new patterns of itself fostered the growth not only of a more numerous but also of a discerning consumer market. Mass production made middle class purchasers aware of new choices in consumption, and promoted the development of "fashion-consciousness". Manufacturers responded in turn by the creation of marketing technique, especially with regard to medium-range goods. Although it continued to be thought very difficult to predict demand, manufacturers and merchants tried to manipulate the taste of consumers by the production of appealing "novelties". As will be seen, fashion was to be the creation of producers rather than of consumers.

Novelty

Manufacturers, who were aware of the significance of fashion were concerned not simply to imitate, for example, French patterns, but in addition to give them a novel flavour. "Novelty" became a very important feature in the development of the textile industry. J. E. Tennent summarised this tendency:

> In the production of patterns for printed calicoes, novelty of conception, and constant variety of effect, are of equal importance with elegance and beauty of execution; and...a perpetual succession of designs is indispensable in order to meet the passion for novelty which prevails, not only in the home market, but in every country to which we export calicoes.[8]

The pursuit of "novelty" was such that the conscientious manufacturer found it alarming. James Thomson wrote to the Vice-President of the Board of Trade that "NOVELTY, the handmaid of FASHION, and sometimes

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8. J. E. Tennent, A Treatise on the Copyright of Designs for Printed Fabrics (1841), p. 24.

the enemy of TASTE, enjoys but a short and fleeting existence - it is of its very essence, quickly to fade and pass away".[9] Yet so long as consumers sought new patterns, as increasingly they did, the majority of manufacturers would shape their business to the production of continually changing "novelties". Daniel Lee, a large calico-printer and dealer, described the extent to which the trade was under this pressure of novelty; it was so great that a printer was "seldom able to sell the same design a second time to the same individual".[10] Of course, the production of a succession of fine patterns was not denied to anyone working in the trade. It was novelty for the sake of novelty[11] which Thomson and others condemned. The Journal of Design, for example, was firmly with Thomson when it stated:

> There is a morbid craving in the public mind for novelty as mere novelty, without regard to intrinsic goodness; and all manufacturers, in the present mischievous race for competition, are driven to pander to it. It is not sufficient that each manufacturer produces a few patterns of the best sort every season, they must be generated by the score and by the hundreds. We know that one of our first potters brought to town last year upwards of a thousand patterns! There are upwards of six thousand patterns for calico-printing registered annually, and this we estimate to be only a third of the number produced. ...One of the best cotton-printers told us that the creation of new patterns was an endless stream. The very instant his hundred new patterns were out he began to engrave others. His designers were working like mill-horses.[12]

This novelty fever, or to use Joan Thirsk's words "the tyranny of fashion", prevailed, according to many witnesses, mainly in the foreign markets. J. E. Tennent pointed out that novelty was the constant pursuit chiefly

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9. J. Thomson, A Letter to the Vice-President of the Board of Trade, on Protection to Original Designs and Patterns, Printed upon Woven Fabrics (Clitheroe, 1840), p. 21.

10. Tennent, op.cit., p. 24.

11. Thomson, op.cit., p. 21.

12. Journal of Design and Manufacture, I, (1849), p. 4.

of those manufacturers engaged in the production of "medium goods, and those for export".[13] We shall discuss this point later when we shall be looking at the growth of overseas trade in connection with manufacturers' financial arrangements and their sales strategy. It is appropriate here, however, to stress that the intrinsic value of "novelty" was promoted rather by manufacturers and merchants than by consumers. Or it might be more precise to argue that it was the merchants who were responsible for maintaining this "tyranny of fashion". F. D. Klingender is again helpful to the enquiry:

> Already in the second half of the eighteenth century the real arbiter of taste was no longer the designer or even the manufacturer, but the salesman, whose business it was both to sense every fluctuation in the public mood and, if possible, to anticipate change and to motivate fashion by a ceaseless flow of "novelties".[14]

Unfortunately Klingender did not pursue the thesis further than this general statement, and it is necessary to develop and modify his assertion. As shall be seen his point is, generally speaking, remarkably accurate. The implication of Tennent's observation is that the preoccupation of manufacturers with the production of novel medium goods for export was the result of merchants' creation of new fashions in the market rather than of the demands of consumers. This attitude of merchants was closely connected to an aggressive policy of marketing. If merchants felt pressurised by the need to produce new goods, this was largely created and accelerated by their own marketing strategy. In luxury goods, fashions tended to last longer, and therefore less pressure was felt to manufacture novelties. But it was by the production of

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13. Tennent, op.cit., p. 24.

14. F. D. Klingender, Art and the Industrial Revolution (1947, reprinted in 1972, edited and revised by Arthur Elton), p. 40.

medium-range goods for exportation that Britain rose to become a leading commercial nation.

The bigger the market became, the more varied the taste. Producers had to possess a clear idea of the distinctive tastes which characterised different markets. Goods had to be despatched in time for the season as well as in accordance with the specifications sent by foreign and home agents. In such activities, the merchant was required to exercise judgment not only upon economic matters, but also concerning matters of taste. This was especially true in the textile trade, which was so sensitive to changing fashions. The successful expansion of the markets for the produce of textile industries has hitherto been exampled by such factors as specialisation in the production of medium and lower range goods. The role of entrepreneurial skill in marketing these goods, especially in overseas markets, has also been examined by some economic historians. In the section which follows, the latter aspect is considered in connection with the marketing of design.

The Merchant and the Growth of the Market

If textile growth was, as Professor Coleman argues, largely caused by the tailoring of products to specific markets, it was merchants who made this inter-relationship possible. Merchants played a crucial role in marketing. Yet they have only recently received the attention of historians. Economic historians had previously been more concerned with production than with the market. Now, however, interest is being shown in the merchant, and especially in his role in capital formation. The seminal work in this new field is R. G. Wilson's study of Leeds merchants; while on cotton

printing, S. D. Chapman has published some important articles.[15] These recent studies point out that the cloth trade came in the nineteenth century to be dominated by a class of merchants distinct from those who had held sway in the eighteenth century. Although the main purpose of this chapter is to analyse the day-to-day business of merchants in terms of their response to fashion, it is useful as well as important to understand their activities in general. The change in marketing, in combination with the technological changes, which took place around the end of the eighteenth century resulted in a revolutionary expansion of foreign markets.

i) Wool textiles[16]

In the eighteenth century, the output of the Yorkshire wool textile industry was retailed predominantly by Yorkshire merchants, notably by those of Leeds, who exported cloths and stuffs to Southern Europe and to the Americas, especially the United States. The Yorkshire industry relied heavily on foreign markets for the bulk of its sales. This foreign trade continued to be important until the third quarter of the nineteenth century, at which date about two-thirds of the Yorkshire output went

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15. See, for instance, R. G. Wilson, Gentlemen Merchants: the Merchant Community in Leeds 1700-1830 (Manchester, 1971); S. D. Chapman, "Financial Restraints on the Growth of Firms in the Cotton Industry, 1790-1850", Econ. Hist. Rev., 2nd ser., XXXII (1979).

16. The following description of the development and the structure of the West Riding wool textile industry is, unless otherwise mentioned, based on J. James, History of the Worsted Manufacture in England, from the Earliest Times (1857); R. G. Wilson, op.cit.; Patricia Hudson, "The Genesis of Industrial Capital in the West Riding Wool Textile Industry c1770-1850", unpublished D Phil thesis, University of York (1981); E. M. Sigsworth, Black Dyke Mills: A History (Liverpool, 1958); D. T. Jenkins, The West Riding Wool Textile Industry 1770-1835 (Edington, 1975).

abroad. However, the structure of the industry and of merchandising in the district underwent a significant change between the late eighteenth and the mid-nineteenth centuries. The most obvious feature of this change was the mechanisation of the industry, which in turn led successful clothiers to merchandise their own products. Apart from external factors such as the wars against America and France, this change can be explained as the transition from domestic to factory production.[17] The eighteenth century merchants of the West Riding were mostly descended from Tudor yeomen or small landed families, and their business was conducted in the traditional style, through the cloth halls. The development of the factory system, however, increased output and the necessity of marketing the new products forced the manufacturer to create his own initiative against severe competition, and to dispense with the halls and the middlemen. The old mercantile establishments could not, or dared not, adjust themselves to the new development. According to R. G. Wilson, four main factors prevented the old merchants from making the adjustment to this new style of business. First, while after 1793 trade with America grew in relative importance, merchants who had specialised in European markets could not take advantage of this to expand their businesses. Secondly, new manufacturers tried to outplace merchants in all markets by price-cutting and by offering extended credit facilities. Thirdly, "fancy" cloths and light worsted replaced the broad cloths in which the Leeds merchants specialised. Lastly, the economic and social attitudes of the older merchant classes could not readily be adjusted to the new developments.[18]

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17. See, for instance, P. Hudson, "Proto-Industrialisation: the Case of the West Riding Wool Textile Industry in the 18th and early 19th Centuries", History Workshop Journal, 12 (Autumn, 1981).

18. Wilson, op.cit., pp. 115-16.

The importance of American markets in this context was particularly striking: by 1800 North America alone took 40% of British wool textile exports, and an even higher proportion (more than half) of the Yorkshire trade was directed to the Americas. This trade was mainly conducted by the consignment system: merchants consigned their goods for sale to their agents or to branch houses or commission houses in America.[19] The period between 1815 and the 1830s saw new developments in the wool textile trade. The decline of wool prices, both foreign and domestic, centralisation and mechanisation, and severe competition, especially in cheaper cloths, reduced the prices of finished articles. In addition to the fall of prices, the only notable feature of the Yorkshire cloth trade in this period was the prevalence of the business practice known as the "Bradford Principles". This policy was to expand "sales aggressively at low unit prices relying on a rapid and large turnover to ensure high overall profit".[20] Bradford manufacturer-merchants thereby came to dominate the trade, ousting the merchants of Leeds.

A number of developments reflected the advent of these new marketing principles. The speculative system of consignment was characteristic of the new approach. So, too, was the attempt to realise quick returns by mass sales at low unit profit, and the consequent development of the auction system, whereby goods produced in quantity were sold at whatever price they would fetch. These methods were employed especially in such distant markets as those of America. By the early nineteenth century, the domestic and oversea markets were developing along distinct lines: the home market, which took around 40% of West Riding cloths, did not have

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19. Hudson, "The Genesis of Industrial Capital", p. 345.

20. ibid., p. 352.

auction sales and cut-throat price competition, for the products made for this market were less homogeneous, and the trade continued to be conducted on the traditional personal basis.[21]

Between the 1830s and 1850 another significant change took place in Yorkshire. The American market, though still the most important, declined in relation to the previous period (taking 30% by value of exports, compared with 40% in the preceding decades). The advantage of specialisation in particular products for particular markets was beginning to be felt among manufacturers. The domestic and European markets were still the major destinations of high quality and fancy cloths, whereas cheaper worsted stuffs were being sent to American markets. This period also witnessed the emergence of a new class of merchants. Among these were numerous foreign merchants who became residents in Britain.[22] As the consignment system declined in importance, trade was conducted increasingly by agents in direct contact with their parent houses.[23]

The structural changes which took place in the wool textile industry in the West Riding were complex. There were considerable differences between the woollen and worsted trades. The worsted industry completed the transition from a domestic to a factory system much earlier than the woollen industry: by 1820, worsted spinning had become a factory occupation; the power-loom, introduced in the mid-1820s, soon became a dominant feature; and from the 1830s the combing process was successfully mechanised, driving out the hand combers. Woollen manufacturing, meanwhile, was

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21. ibid., p. 364.

22. ibid., p. 368.

23. ibid., p. 369.

slow to make a similar transition, especially in weaving. This difference was also a geographical one: the rapid growth of worsted was exemplified by Bradford, which became the "worstedpolis" of England and stole the merchandising of worsted cloths and stuffs from Leeds, which itself had a reputation for specialising in woollens.

The success of worsteds in Yorkshire was promoted by the following causes: a) the relatively early transition from a domestic to a factory system, in conjunction with rapid mechanisation; b) aggressive merchandising by Bradford merchants; and c) the variety of goods which could be adapted to changing fashions. Edward Collinson listed about thirty different goods produced in the West Riding in 1854. They were: "Lastings, Crapes, Serge, Orleans, Cassinetts, Twills, Dobbies, French Figures, Figured and Embroidered Alpacas, Parisians, Damasks, Camlets, Merinos, Challis, Mousseline-de-laines, Cobourgs, Paremattas, Shalloons, Duroys, Taminets, Khybereen, Poplins, Calimancoes, Bombazeens, Figures Satteens, Cunicas, Mohairs, Fancy Waistcoatings, &c."[24] Many of these were mixed fabrics, containing wool and cotton or silk. Such mixtures added to the wide variety of fabrics that could not be produced.

ii) Calico-printing[25]

The cotton industry experienced a similar development to the wool textile industry with respect to finance and marketing. Towards the end of the eighteenth century, manufacturers began to appropriate to themselves the function of merchants, intending to find new markets abroad. According to

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24. Edward Collinson, The History of the Worsted Trade, and Historical Sketch of Bradford (Bradford, 1854), pp. 80-81.

25. The following paragraphs are based on the accounts of S.D.Chapman, op.cit.; S.J.Chapman, The Lancashire Cotton Industry (Manchester, 1904); Edward Baines, History of the Cotton Manufacture in Great Britain (1835); M.M.Edwards, The Growth of the British Cotton Trade, 1780-1815 (Manchester, 1967); J.H.Clapham, An Economic History of Modern Britain (Cambridge, 1926).

William Radcliffe, by 1800 "all the great merchants were manufacturers with scarcely an exception".[26] The old markets such as Europe could only absorb a limited proportion of the vastly increased output. Manufacturers were therefore pressed to explore new markets, for they could not stop production. Once the basic machinery of production had been set up, manufacturers were less concerned to add to their fixed assets than to increase their working capital. It is estimated that working capital requirements were about three times as much as that of the fixed capital, and the clearance of goods and stocks within a reasonable period was necessary to keep business healthy. Another factor which made manufacturers extend their normal functions of business to include merchandising was the limited terms of credit available to them. The allowance of twelve months', or occasionally two years' credit offered by merchants in London and other major towns, became ever shorter, and by the 1790s three to six months became standard. The manufacturer felt the necessity of lightening this burden of short credit terms, and ventured into the merchandising business by himself.[27]

The consignment system was as extensive in the cotton industry in the early nineteenth century as in the wool textile industry, as S. J. Chapman explained:

> The number of small manufacturers, without capital or a merchant patron, was on the increase; and the system of marketing by consigning their goods, which meant the accumulation of risks upon the producer instead of on the dealer, naturally spread when competition among producers was keen, until it was brought to an end by its ravages among those manufacturers who resorted to it.[28]

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26. William Radcliffe, Origins of Power Loom Weaving (Stockport , 1828), p. 131.

27. S. D. Chapman, op.cit., p. 52.

28. S. J. Chapman, op.cit., p. 136.

Small manufacturers were liable to exploitation by the so-called "slaughter-houses" of dealers. Manufacturers commonly sent their goods to dealers at Liverpool and London to be sold at the best price obtainable. Dealers made advances to the manufacturers offering one-third to two-thirds of the value of the goods consigned, and frequently nothing more was paid. Dealers would even demand the return of a proportion of the advance if goods did not realise the expected price. A manufacturer wishing to escape this system, and to retail his own products, would be assisted both by a large scale of production and by a distinctive range of products. Even a small-scale manufacturer could operate independently, if his goods were sufficiently out of the ordinary. But, in any case, such a merchant needed to be familiar with the market at which he aimed.[29]

The era of the merchant-manufacturers, however, was brief. Already by the end of the Napoleonic Wars it had become obvious that recurrent financial and commercial crises produced problems of liquidity. The older generation of merchants, after about 1815, were weakened by the financial strain of selling goods in a dispersed market. At this period, a new marketing system emerged. Financing and marketing, which had been the combined function of some merchants of the preceding generation, were now separated. Acceptance houses, or merchant banks, emerged as specialists in financing for export; while commission agents now provided market expertise. The former, a small group of London oversea merchants, became increasingly powerful, and the latter, who were permanently resident abroad, supplied detailed information regarding the markets.[30] By the 1850s, about 1,500 British commission agents were operating throughout

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29. ibid., pp. 138-39.

30. S. D. Chapman, op.cit., p. 54.

the world, and many continental agents were engaged upon similar business. The manufacturer was now reliant upon such men as these for the foreign distribution of his products. This relationship brought pressure upon the manufacturer to produce the widest possible range of goods, in shapes, sizes and designs, to satisfy the middle-men, who were concerned to offer a comprehensive choice of goods. The manufacturer was now constantly in receipt of directions from wholesale merchants and their agents abroad directing him to produce particular patterns, of stipulated qualities, for specified markets.[31]

Marketing and the Selection of Patterns

One of the significant changes brought about by the industrial revolution in the wool textile trade was the decline of the cloth halls and the rise of a new system of marketing. Cloth halls had for long been an essential meeting place for clothiers and merchants wishing to transact business. In Yorkshire, especially, the hall was a crucial institution: there woollen goods were mostly produced by small-scale independent clothiers and journeymen with limited capital (composing tools and materials), who took their cloth weekly to the nearest cloth hall. Whereas in the woollen trades of the West Country and East Anglia large-scale clothiers practised the putting-out system, while retaining control of the sale of the products to London merchants and factors at Blackwell Hall, the small-scale clothier of Yorkshire, who at best produced two pieces a week, relied entirely on the cloth hall to which merchants came from Leeds and Wakefield. In

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31. P. L. Payne, British Entrepreneurship in the Nineteenth Century (1974), p. 43.

Halifax, the cloth hall was recorded as early as 1572 (although the present building, the magnificent Piece Hall, was erected in 1779). It was in the eighteenth century, however, that the cloth hall began to play a central role in the cloth trade of the West Riding, as Herbert Heaton's study of the Leeds White Cloth Hall shows.[32] R. G. Wilson argues that the supremacy of the Yorkshire cloth industry in the eighteenth century was based largely on the activities of local merchants (primarily those of Leeds and Wakefield), for whom "cloth was their life, their sole interest".[33] The advantage of their location was the facility of the closest contact with those who produced the cloth. Their weekly visits to neighbouring cloth halls were their chief business. Among contemporary descriptions of proceedings in the cloth halls, Defoe's account of the Leeds Coloured Cloth Market is perhaps one of the most famous:

> Some of them [the merchants] have their foreign Letters of Orders, with Patterns seal'd on them, in Rows, in their Hands; and with those they match Colours, holding them to the Cloths as they think they agree...[34]

As we shall see, this mode of business remained essentially unaltered after the decline of the cloth halls. Merchants continued to use orders with patterns attached to guide them in their purchases. But the significant change was that they no longer attended the halls, and orders were instead directed to the clothiers by postal letters.

Before the early nineteenth century, Blackwell Hall in London played a central role in retailing the woollen manufacturers of the West Country, which relied entirely on London factors and merchants. Factors acted

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32. H. Heaton, "The Leeds White Cloth Hall", Thoresby Society, XXII (Leeds, 1915).

33. R. G. Wilson, "The Supremacy of the Yorkshire Cloth Industry in the Eighteenth Century", in Harte and Ponting, op.cit., p. 241.

34. Daniel Defoe, A Tour Thro' the Whole Island of Great Britain (ed. by G. D. H. Cole, 1927), p. 612.

primarily as commission agents, handling money and cloth, with the support of bankers and financiers.[35] Towards the end of the eighteenth century, London factors extended their activities to deal with woollen and worsted manufactures in Yorkshire. A firm of London factors, Hanson and Mills, which has been examined by Conrad Gill, was one of those which tried to extend its business to include North Country cloth. Hanson and Mills's method of dealing in northern cloth differed from that of its main business. Instead of receiving goods from clothiers, the firm secured orders in London through half a dozen firms of middlemen in Yorkshire.[36] Patricia Hudson argues that merchants and factors in London were, in many cases, more than just commission agents for the cloth manufacturing districts. They also financed the purchasing, storage and sale of the cloth.[37]

The decline of the cloth halls was caused by several factors. First, some merchants began to manufacture cloth themselves. Secondly, large clothiers who had accumulated sufficient capital and expanded their businesses started to trade on their own behalf. Thirdly, there developed a system of working to the order of merchants and factors.[38] At the same time new ranges of widely diversified goods, especially of fancy cloths, became increasingly prominent staples of the West Riding. These undermined the traditional production of broad cloth in the region. The history of the White Cloth Hall in Leeds shows this very clearly. By the beginning of the nineteenth century, the manufacture by white clothiers of undyed fabrics was breaking down, and many clothiers began to make

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35. Conrad Gill, "Blackwell Hall Factors, 1795-1799", Econ. Hist. Rev., 2nd ser., VI (1954), p. 274.

36. ibid., p. 276

37. Hudson, "The Genesis of Industrial Capital", p. 336.

38. Heaton, loc.cit., p. 168.

fancy goods, mixed cloths, and other new varieties of fabrics. The White Cloth Hall traditionally forbade clothiers to sell these products in the Mixed Hall or anywhere else, but was compelled, under increasing pressure from its users, to make provision for these pieces manufactured by the white clothiers. In 1806, the sale of fancy cloths was permitted, and by 1828 the trustees of the White Cloth Hall further extended the accommodation provided for coloured cloths.[39]

The Huddersfield Cloth Hall experienced a similar development. Among the West Riding towns, Huddersfield had the highest reputation for fancy cloths. J. Aiken noted in 1795 that the high quality cloth of Huddersfield was "as high as the super fines of the West of England". He also pointed out that the Huddersfield trade "comprises a large share of the clothing trade of Yorkshire".[40] Manufacturers in Huddersfield were quick to adapt their production to the change in fashion in the 1820s to lighter and more colourful materials, and they were no less prompt to employ the Jacquard looms when they were introduced into the West Riding in the 1830s. Fancy cloths were woven with Spanish wool and the new mill-spun cotton warp, sent from Manchester. Crump and Ghorbal considered the growth of this fancy trade to be one of the main reasons for the decline of the Cloth Hall in Huddersfield:

> The merchant, and particularly the merchant-manufacturer, began to find it [the Cloth Hall] less indispensable. He preferred to give orders for what he wanted instead of buying what he saw; or he found it an advantage to show his cloth to his customers in a private warehouse. This was especially true in the fancy trade where novelty and design counted for much and privacy was essential.[41]

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39. ibid., pp. 160-61.

40. J. Aiken, A Description of the Country from 30 to 40 Miles around Manchester (1795), p. 554.

41. W. P. Crump and Gertrude Ghorbal, History of the Huddersfield Woollen Industry (Huddersfield, 1935; reprinted 1967), p. 102.

Crump and Ghorbal found that, in 1822, 102 manufacturers of fancy goods attended the Huddersfield market, but that none used the Cloth Hall. As they remarked, "the fancy trade was breaking with the old traditions in this as in other respects".[42]

As far as design was concerned, the market and the cloth hall had functioned as galleries where small clothiers could learn of recent patterns produced by the more fashion-conscious large clothiers. An example is John Rishworth of Keighley, who was said to have started his business with a small capital. "It was his custom to carry four or half a dozen pieces on his back to Halifax market", where "frequently...if he saw anything new, he would take a drawing of it on the spot, and when he got home introduce it into his own goods".[43] This method of spreading new designs became less prominent alongside the decline of the cloth hall. According to Heaton, the new system of working to order for merchants and factors, was increasingly adopted:

> Buyers were giving out samples or specifications direct to the manufacturers, instead of resorting to the Cloth Market, and so small clothiers were becoming more and more dependent upon the commercial class.[44]

Clothiers felt this new dependence not only in financial matters but in designing also. The selection of patterns for production was usually made in two ways: a) by the manufacturer's own judgment, and b) by the merchant's or agent's order. Even when the manufacturer chose a pattern from his designer or pattern collector, he normally submitted

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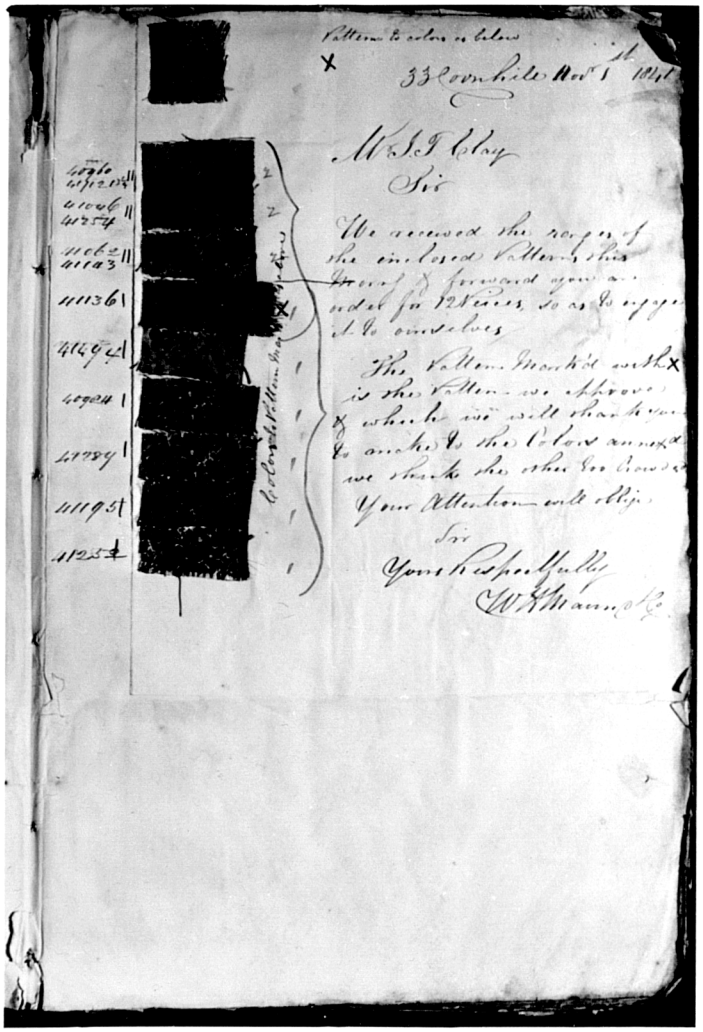
42. ibid., p. 108.

43. John Hodgson, Textile Manufactures and Other Industries in Keighley (Keighley, 1879), p. 145.

44. Heaton, loc.cit., p. 168.

Figure VII-1. Letter from London Agents to J.T.Clay (1)



his choice to the merchant, who then stated his own preference, making suggestions as to further alterations in colour and style. W. H. Maund & Co. of London, for instance, wrote to J. T. Clay in 1841:

> We received the range of the enclosed Patterns this morning & forward you an order for 12 Pieces, so as to engage it to our selves. The Pattern Marke'd with X is the Pattern we approve & which we will thank you to make to the Colors annexd we think the other too Crowded.[45] (See also Figure VII-1).

The manufacturer was naturally expected by the merchant to produce new patterns for the new season. For instance, S & T Kesteven of London were anxious to have new patterns, but were disappointed by the samples sent by J. T. Clay in June 1839. They asked the latter to send newer cloths: "the other patterns you sent were not novel enough to enduce us to select from them. We think you have something newer".[46] The merchant eagerly looked for fresh patterns and urged the manufacturer to waste no time in the production of novelties. East, East & Landon wrote in 1842, "We trust your earnest attention is engaged in producing Novelties for the winter, they must be entirely new & different altogether from what have been out, for we are convinced that the old style of shawl will not do".[47] Sometimes a request came for patterns of a certain style: S & T Kesteven demanded "we want something more à la Française".[48]

When a merchant approved a pattern sent from a manufacturer and thought that it was likely to sell, he would try to secure the monopoly of using the pattern. This was called "engaging the pattern", and once a design

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45. W. H. Maund to J. T. Clay, 1 Nov. 1841, J. T. Clay & Co., Business Letters (Central Public Library, Archive Department, Halifax) CLA: 19

46. S & T Kesteven to Clay, 29 June 1839, CLA: 24.

47. East, East & Landon to Clay, 9 April 1842, CLA: 47.

48. Kesteven to Clay, 13 June 1841, CLA: 25.

was engaged to a particular merchant, it would have been a breach of contract on the part of a manufacturer to sell it to others. W. H. Maund and Co. wrote to J. T. Clay in 1842 that

> We herewith send you an order for such colors as we approve which we shall feel obliged if you will give your best attention & make us lps /piece/ to ea /each/ Patterns, we should like to engage the Pattern but would prefer waiting a little to see what colors are most approved amongst our connexion.
> 49

The manufacturer who sold patterns already engaged to other merchants would lose the confidence of his customers. In 1847 East, Landon & Holland ordered from J. T. Clay goods of his design. They incidentally warned him that "of course any patterns we send you in this way, both these & those sent yesterday, we consider strictly our own, & that no other house should have them...[50] Clay added to this letter his own note: "style to be engaged to them".[51] The merchant who engaged patterns in this way could offer exclusive goods to his customers. The unauthorised sale of engaged patterns to other shops did, however, occur from time to time. Thus S & T Kesteven wrote to Clay in 1837 that "we observe our engaged Jackaurd /sic/ patterns in other houses".[52] Clarkson & Turner of London, retailers of a superior class of chintz furnishings engaged patterns from Swainson & Co., printers. The number of patterns thus engaged was "not less than 30, and frequently 80 or 100".[53] In this instance the retailers were most anxious to obtain original designs

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49. Maund to Clay, 12 Dec. 1842, CLA: 19.

50. East, Landon & Holland, 15 June 1847, CLA: 49.

51. ibid.

52. Kesteven to Clay, 8 May 1837, CLA: 23.

53. Minutes of Evidence taken before the Select Committee on the Copyright of Designs, Parliamentary Papers (1840), VI (hereafter PP 1840), Q. 2160.

exclusive to themselves, for their customers included the nobility and gentry who were most particular about their purchases.[54]

The manufacturer would visit his merchants and factors in London with new patterns before the season commenced. It was more convenient for the buyer to see newly-produced cloth in their shops than to travel to the North. Barber, House & Davis, a firm of London factors, wrote in 1846 to J. T. Clay:

> Please to inform us when we may expect to see you in London, with your new spring patterns, or should you be in London shortly upon other Business /we/ should like to see you having a pattern, /which/ we think you can make for us, for next spring.[55]

J. T. Clay, when he visited his customers in London, jotted down memoranda which included not only suggestions for patterns but also technical advice on how to put them into effect. His notebook, entitled "Customers' Ideas', contains the suggestions and requirements of his customers. The pages relating to a "London Journey" made in November, 1844, in preparation for the spring season, included a number of suggestions from customers who

> want all Goods made so that they wont shrink. Complained that we were too late up for the season. Want some new pattern in rich white silk figured Cashmere - they also want some new patterns in Cashmeres - white - Buff - Drab and other light grounds for spring trade - ...Would take 50 ps /pieces/ of the Cotton wp /warp/ Woollen on condition they were engaged to them.[56]

The manufacturer could learn a great deal from his journeys to London, where he could gain first-hand knowledge of current fashions, the latest news from Paris, Lyons, and other Continental cities, and the kinds of

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54. ibid. Q. 2081

55. Barber House & Davis to Clay, 29 July 1846, CLA: 65.

56. Customers' Ideas 1844-47, 8 Nov. 1844, CLA: 70.

business in which his customers specialised. He could also, if he was an ambitious entrepreneur, broaden his range of products by studying shop-windows in the fashionable quarters of London. This was especially true of the manufacturer who did not employ his own designers in London; he had to be his own designer, and in a sense was the arbiter of the taste of his products.

The influence of French patterns on the wool textile manufacturer and merchant was formidable. Fashion-conscious and enterprising manufacturers and merchants not only kept agents in France, but also crossed the Channel themselves to see the latest fashions in Paris and Lyons. E. M. Sigsworth has described Messrs Foster of Black Dyke Mills who occasionally visited Paris in the 1860s in order to discover new patterns produced by French designers. A friend of the Fosters, J. C. Hart of a French merchant house in Paris and Lyons, regularly sent them news of fashion and samples of new patterns, and the Fosters relied heavily on him when preparing for a new season. Sigsworth quotes from their correspondence:

> Enclosed you will find samples...also patterns of all our new piece goods in your class, besides a new assortment of new styles in Silk Goods from which you may get ideas. You ought to make your <u>fortune</u> at Railway speed now that printed goods are entirely out of fashion here, flounced robes are very much fashionable and will continue to be so...[57]

When Hart left for the United States, the Fosters decided to go to Paris to study the fashions for themselves. They visited the shop of a designer who worked for such manufacturers as Salts, Tootal Broadhurst and Ackroyds, all of them renowned for their high quality patterns.[58]

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57. Sigsworth, <u>op.cit.</u>, p. 326.

58. <u>ibid.</u>, p. 327.

But it was merchants, even more than manufacturers, who kept foreign correspondents as a source of information. There is abundant evidence of merchants who were receiving French samples. (See Figures VII-2 and 3). Once a merchant liked a particular pattern, he would send a sample to the manufacturer for it to be copied. Bidgood & Jones, for example, wrote to Clay: "Please copy the enclosed immediately they are french just recd and let us see a range of d/ar/k rich colorings /as/ soon as possible".[59] They were naturally afraid of their patterns being pre-empted and asked Clay to be "sure to preserve the patn and send it back again".[60] Another merchant who wrote to Clay was "glad you like the French Patterns we sent you", and requested that the pattern should be engaged to him.[61] A merchant would send to a manufacturer not only patterns that the merchant liked but also others which he cared for less. Kennerley & Sang of London, for instance, wrote in 1840: "We enclose 2 patterns of Shawls French...but we do not think much of them, we thought you would like to see what was going..."[62] And a month later they wrote to Clay that "We are in no hurry for the French Shawls but we think both patterns worth your notice for the advanced Autumn trade".[63]

Agents were sensitive about the quality of the goods they ordered. It was especially the case when the patterns were of the French style, as these normally attracted a good sale. An agent would insist that a manufacturer imitated as closely as possible the quality of original

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59. Bidgood & Jones to Clay, 5 July 1842, CLA: 32.

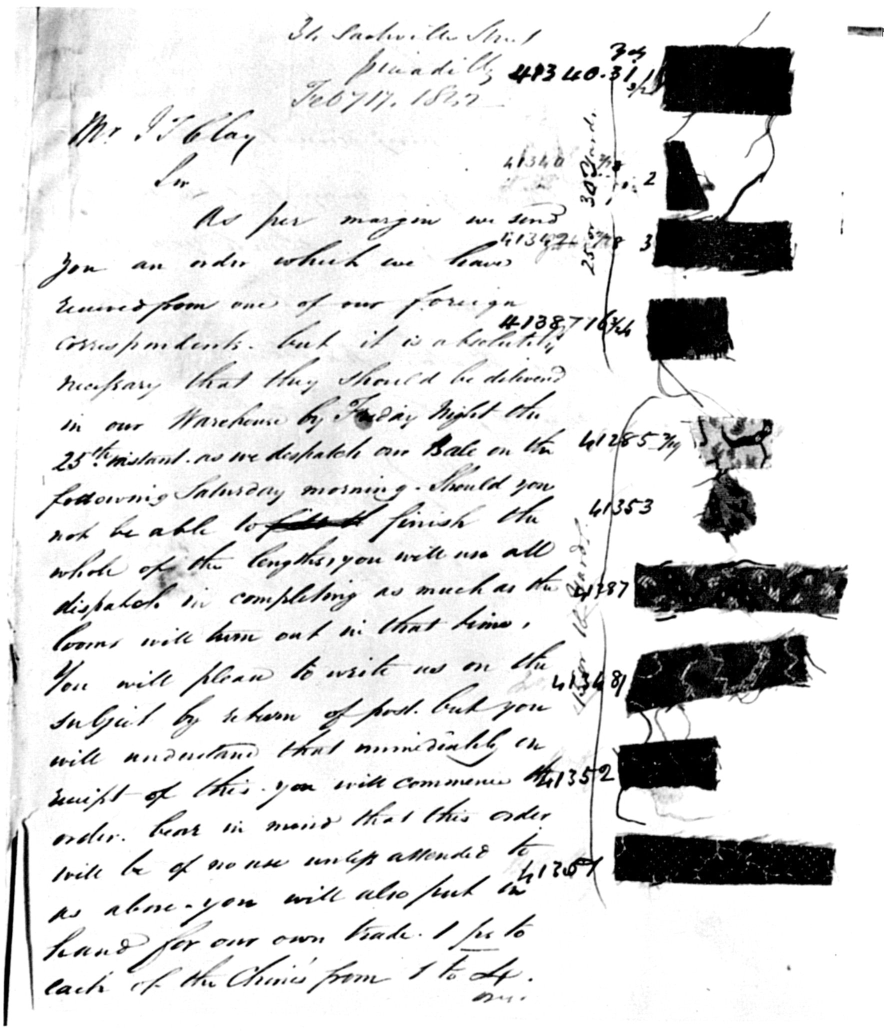
60. ibid.

61. Maund to Clay, 12 Dec. 1842, CLA: 19.

62. Kennerley & Sons to Clay, 18 March 1840, CLA: 38.

63. ibid., 25 April 1840, CLA: 38.

Figure VII-3. Letter from London Agents to J.T.Clay (3)


34 Sackville Street
Piccadilly
Feb 17. 18[illegible]

Mr J.T. Clay

Sir

As per margin we send you an order which we have received from one of our foreign correspondents. but it is absolutely necessary that they should be delivered in our Warehouse by Friday Night the 25th instant. as we despatch our Bale on the following Saturday morning. Should you not be able to ~~fill it~~ finish the whole of the lengths, you will use all dispatch in completing as much as the looms will turn out in that time. You will please to write us on the subject by return of post. but you will understand that immediately on receipt of this you will commence order. bear in mind that this order will be of no use unless attended to as above. you will also put in hand for our own trade. 1 ps to each of the Chinés from 1 to 4.

41340-31
41340
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French designs. Bidgood & Jones advised Clay, when the expected quality of French imitations was unobtainable, that "they are not quite equal in richness to the french ones (and it is very desirable they should be)".[64] The merchants seem to have been well acquainted with the processes of weaving, and they could write to the manufacturer with suggestions for possible improvements:

> The patn in appearance comes pretty near the french, their cord is rounder than yours, which I think may be on account of the yarn forming the cord being harder twisted...[65]

Agents continually expressed confidence in their own taste in their correspondence with manufacturers. They sometimes gave very detailed directions to manufacturers to produce as nearly as possible their own requirements. W. Barber, for example, wrote to Clay:

> I have inclosed you 2 of the French Patt again, which I think looks better, they appear rather looser on the face, and the figure is triffle larger if you look into it, and a very little press on it, no doubt you will be able to make the piece, near to the French pattn, if you observe the 2 small pattn you will find the contrast in the colors much better, there's more Blk and darker Green, which showes the figure much better, and throws up the white...[66]

The popular style called "French pattern" was not necessarily produced in that country. It was, rather à la francais in spirit and in taste. John W. Gabriel, showing the shrewd eye for new design characteristic of his kind, wrote in a letter of enquiry to Clay:

> The enclosed french pattern is being manufactured by an English house & if it should be yourself & you could send me a price of it by the very first conveyance with patterns of your other colorings I shall be obliged.[67]

Cloth merchants did not scruple to deceive customers in foreign

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64. Bidgood & Jones to Clay, 12 June 1841, CLA: 31.

65. ibid., 14 Dec. 1842, CLA: 32.

66. W. Barber to Clay, 6 July [ ], CLA: 63.

67. J. W. Gabriel to Clay, 18 Oct. 1844, CLA: 61.

markets by attaching misleading names to their cloths. A letter sent by William Lupton, a Leeds merchant, to John and James Pogue of Philadelphia in 1832 is of great interest in this context. J & J Pogue had, apparently, ordered the words "London Superfine" be printed on the cloth they had ordered, and upon receipt they queried the charge. Lupton explained his bill for the marking of goods:

> With respect to the charge of £9-14-11 to which you have alluded we can only state that that expence was incurred in consequence of your directions...however large you may consider the amount we can only repeat that it is the exact sum charged to us by our own engravers & we do not believe we could get it done far less.[68]

Now, "Superfine" was the best kind of broad cloth manufactured in the West Country and merchandised by London factors and merchants since the eighteenth century, and "cloths of this quality were in great demand".[69] Perhaps Lupton's American colleagues intended by printing "London Superfine" on their Yorkshire cloths, to mislead their customers and to increase their prices.[70] In such an arrangement the central role of the merchant was once more apparent.

Seasonality

"The tyranny of fashion" was intensified twice a year, at the commencement of the spring and autumn seasons. Preparation, however, began

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68. Lupton to John & James Pogue, 14 March 1832, William Lupton Correspondence (Brotherton Library, University of Leeds), Vol. 19.

69. Gill, loc.cit., p. 269.

70. The Huddersfield manufacturers had been making "superfine" since the eighteenth century. See Crump and Ghorbal, op.cit., pp. 74, 91.

several months ahead of each season. Agents and factors would write to manufacturers, when one season was at hand, with regard to that which was to follow.

The designing process, therefore, although affected by the seasonal cycle, especially in the putting-on and engraving departments, continued throughout the year. Designers produced patterns almost every week, although not all the designs went into production. One calico-printer gave evidence that

> There is no month in the year in which we do not produce a considerable number of new patterns, of course more in the spring and autumn; but having a great variety of markets to prepare for, we produce them week by week and month by month, so as constantly to have something new to offer to our customers.[71]

In some branches of calico-printing, seasonality did not prevail to the same extent as the production of garments. The demand for printed handkerchiefs and furnishings and certain luxury goods was constant. One Kent printer, whose chief business was silk printing but who had also been for some years in the business of printing calico, declared in 1840:

> We have no particular rule in our fancy trade; we endeavour to keep the men employed all the yeararound; we are not like the great Manchester houses, who had particular days and particular seasons, our pattern is cut and printed at once.[72]

This printer, Augustus Applegath, was renowned for his high quality, elaborate block prints. His testimony suggests that he had regular customers for whom he printed exclusively. The importance of fashion in such a case was not related to heavy seasonal demands, but to the specific requirements of private customers. But for the large-scale manufacturers,

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71. PP 1840, Q. 3652.

72. ibid., Q. 2996.

fashion was less predictable, and systematic organisation of marketing was necessary.

The stocking of goods for the spring season began with the new year. W. H. Maund & Co. wrote to Clay that they wanted to receive goods by January, "as our Travellers leave at that time on their first Spring Journey".[73] Bidgood & Jones, writing on 4 January, urged their manufacturers to

> Please send up any spring goods of ours that you have ready and large patterns...of the others as soon as you possibly can. You must give us a better variety of coloring of the pattern recd this morning.[74]

In preceding months business could be quiet, as William Lupton wrote to his agent in Italy in a letter of 19 December:

> We are sorry to hear that business is dull with you, it has been the case here for two or three weeks past, but it is always so with us at this season of the year & we hope shortly to have a revival, when our Spring demand commences.[75]

The merchant, however, would typically have placed his spring orders even before this date. Kesteven & Sons made it clear, when writing to Clay on 5 October, 1836, that they did not want a repeat of the previous year's loss which had been caused by the late delivery of goods.

> We have enclosed two styles we wish you to try a pattern range for next Spring. The design must be considerably reduced, in fact reduced as much as possible to retain the effects. The last pattern produced to our design was most admirably worked...if it had been finished sooner /it/ would have sold much better.[76]

The firm also complained that Clay had supplied only a scant variety of goods in comparison with other houses.

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73. Maund to Clay, undated, CLA: 19.

74. Bidgood & Jones to Clay, 4 Jan. 1841, CLA: 30-1.

75. Lupton to Cde Binard of Leghorn, 19 Dec. 1831, Lupton, Vol. 19.

76. Kesteven to Clay, 5 Oct. 1836, CLA: 23.

Business continued to be active during the season itself. One merchant house wrote on 16 May, in forwarding patterns for the autumn season, that they wanted more goods immediately for the current spring season. They exhorted their manufacturer to "send us the ranges as soon as possible as the Season is advancing".[77]

June and December were generally regarded as slack periods, being sandwiched between the main seasons. There were, however, exceptions. On 25 June 1831, William Lupton wrote to his agent in Scotland:

> We may here remark that we never felt less inclined to send out goods that are ordered than we do at this present time - the Country dealers appear to have got the impression that goods are falling, we presume from the idea that this is generally a dull season of the year; they are however much mistaken. Goods are continually becoming scarcer & there has scarcely at any time been known a brisker demand than there is now.[78]

One month prior to this letter, Lupton wrote to his Naples agents that "the advance of Wools in this country since July last year has been so very great - the demand for cloths has been more extensive for some months past than it was ever known to be before",[79] and he was also very optimistic about the autumn trade. But this prolongation of the season was unusual. As the same merchant's letter of December in the same year (quoted above p.301) shows, the autumn trade was commonly followed by a lull.

The autumn season started in July and lasted till October, but its peak was in August and September. It was necessary that goods for early sale should be the middle of July. One merchant wrote impatiently to

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77. Maund to Clay, 16 May 1843, CLA: 19.

78. Lupton to John Stewart of Glasgow, 25 June 1831, Lupton, Vol. 19.

79. Lupton to Fr. Trabuchi & Muck, 12 May 1831, Lupton, Vol. 19.

his manufacturer, in a letter of 1 August, that "it is getting very late, we ought to have the goods of this substance in Stock by this time".[80] When the autumn season was drawing to a close, agents, as in spring, were anxious to receive fresh supplies of cloths which would sell easily. The same merchant urged on 26 September:

> Pray do all you can to supply us with a few short lengths, send the next two or three parcels by the Railway Company, the carriers keep them about too long.[81]

In the calico-printing trade, too, seasonality was one of the most significant factors for manufacturers and merchants. Salis Schwabe, a calico-printer who specialised in light goods, stated that he generally began work "in the Month of June" and then proceeded throughout July and August "in preparing my designs and drawing them, and then giving them out to engravers".[82] Since most manufacturers were producing goods not only for home but also for foreign markets, the exhibition of goods for the spring season necessarily started as early as September. (This was one of the main reasons why the extension of design copyright was sought by leading printers who produced original patterns.) It was typical for a firm which exported goods principally to Mexico and the West Indies to start delivery in September, "to meet the Christmas market".[83] Schwabe, who exported some of his products to South America, had his first exhibition in October. The spring season in the home market commenced in February,[84] and the taking of orders became brisk in January.[85] This season lasted

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80. Bidgood & Jones to Clay, 1 Aug. 1840, CLA: 30-1.

81. ibid., 26 Sep. 1840, CLA: 30-1.

82. PP 1840, Q. 92.

83. ibid., Q. 3241.

84. ibid., Q. 97.

85. ibid., Qs. 99, 101.

for six months until July, when business slackened. During the season, when certain patterns proved successful, the manufacturer would press hard on printers to meet the demand.

Thus it is apparent that both manufacturers and merchants needed to be highly sensitive to changes in the market. Their concern with fashion, however, did not necessarily raise the standard of British design. On the contrary, mere business interest to create novelties accelerated further the serious degradation of design already caused by industrialisation. It is perhaps appropriate to end this chapter with John Ruskin's lecture to art and design students and manufacturers of Bradford in 1859:

> And you must remember always that your business, as manufacturers, is to form the market, as much as supply it. If, in short-sighted and reckless eagerness for wealth, you catch at every humour of the populace as it shapes itself into monetary demand - if, in jealous rivalry with neighbouring States, or with other producers, you try to attract attention by singularities, novelties, and gaudiness - to make every design and advertisement, and pilfer every idea of a successful neighbour's, that you may insidiously imitate it, or pompously eclipse - no good design will ever be possible to you, or perceived by you. You may, by accident, snatch the market; or, by energy, command it; you may obtain the confidence of the public, and cause the ruin of opponent houses; or you may, with equal justice of fortune, be ruined by them. But whatever happens to you, this, at least, is certain, that the whole of your life will have been spent in corrupting public taste and encouraging public extravagance. Every preference you have won by gaudiness must have been based on the purchaser's vanity; every demand you have created by novelty has fostered in the consumer a habit of discontent; and when you retire into inactive life, you may, as a subject of consolation for your declining years, reflect that precisely according to the extent of your past operations, your life has been successful in retarding the arts, tarnishing the virtues, and confusing the manners of your country.[86]

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86. John Ruskin, "Modern Manufacture and Design", in The Two Paths (1904 ed.), pp. 129-31.

CONCLUSION

There is no denying that the Great Exhibition of 1851 was one of the culminating events of Victorian Britain, which showed off to the world the products of "arts , industries and commerce". Its social and cultural effects were so paramount that it is said to have shaped the taste of the Victorians for the rest of the century and even well into the twentieth century. Not only the exhibits at the Crystal Palace, but also the ways in which people participated in the event came to be regarded as typical of the Victorians. Klingender called it "the enterprise that summed up the whole epoch".[1] This colossal show was, however, not a revolution; rather it reinforced and exposed already existing trends in arts and manufactures. The Victorians in the second half of the nineteenth century did not dramatically differ in outlook from the pre-Exhibition generations. If anything new came out of the Exhibition, it was a reaction against such high Victorian show pieces. But the roots of the "vulgar" taste characterised by the Exhibition were much deeper than the specimens exhibited under the glass. It is hoped that this study has made it clear that many problems expressed at and after the Great Exhibition had their origins in a much earlier period. It is also hoped that the foregoing discussion has indicated a neglected area to social and economic historians, who seem to have been reluctant to tackle the important questions arising from the relation between art and industry.

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1. F. D. Klingender, Art and Industrial Revolution (1972 ed.), p.142.

This thesis has mainly focused on the supply side of industries: designers, other workmen in the production of design, manufacturers and merchants. Some of the most crucial questions concerning art and industry in the second quarter of the nineteenth century such as the aesthetic aspect of the machinery question, the artistic education of the workers, design copyright laws and the problems faced by manufacturer and merchant in the marketing of consumer goods have been discussed in detail. It has been pointed out that, in this period, the consequences of the industrial revolution for art and design were realised as a new and serious problem for producers and sellers of consumer goods. Technological developments, and the division of labour in the production of design, caused a lamentable regression of the standard of design in the textile industry. Mechanisation rendered useless the traditional skills of workers, who were further separated from their former crafts in narrow, specialist branches. The skills that had once united artistic creation and mechanical execution were now performed by separate workers. It has also been argued that this segregation of skilled and unskilled or of artistic and mechanical workers can be traced in the language of skill, and that some contemporaries were well aware of this problem. Emphasis has also been placed on the great desire of workers themselves to regain the skills of which they had been deprived. Art education has thus been examined as an important part of technical education, a view-point which has hardly been considered by historians before. Likewise, the history of industrial exhibitions has been discussed in the context of the machinery question.

The stress has also been laid on the fact that the failure of British industries to produce designs of a high standard came not only from industrialisation itself, but also from manufacturers' and merchants'

business activities in the expansion of their markets at home and abroad. Strongly backed by a high degree of industrialisation, they could, with their cheap machine-made consumer goods, compete successfully, especially in the world market. Their target was the market of low and medium-range goods, in which they had few forceful competitors. High quality designs were unnecessary in this market, and manufacturers and merchants were content with imitations and adulterations of the successful patterns of other foreign and domestic manufacturers. This is, however, by no means to suggest that they were careless of the patterns they produced and sold. On the contrary, as the last chapter has sought to demonstrate, they were immensely conscious of fashion. As has been pointed out, however, their prime motive was to sell goods in great quantities, not to create good designs. Moreover, manufacturers and merchants, the latter in particular, believed themselves to be the ultimate judges of design, the arbiters of taste. These qualities of self-confident manufacturers and merchants have been analysed in the context of industrial exhibitions, of design copyright legislation and of their every-day conduct of business.

It may be appropriate to conclude this study with the reflection that British industrialisation and commercial expansion in the early nineteenth century cast both art and industry in new forms. Art became, on the one hand, a socially elevated branch of skill, while, on the other, in the context of manufactures and commerce, it became a subordinate adjunct. Workers who were engaged in the artistic department of industry were thus doubly deprived of their identity. They suffered a degraded status and condition as servants to the "fine" artist and to their employer. Some recognised their loss, and tried to regain their former status against the strong current of industrialisation and commercialisation. In the second quarter of the nineteenth century, this struggle, that, in

Morris's phrase, of "useful work versus useless toil" became a national issue. The foundation of the later development of the aesthetic criticism of society by such people as William Morris was laid in this period.

This study has examined these and tried to demonstrate the importance of arts in the socio-economic life of early nineteenth-century people. It has also sought to suggest the type of enquiries that future social historians of industrial design might develop when considering the crucial questions of art and industry.

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