

Industrialization and Production: A Bibliographic Survey

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Résumé

Les historiens du textile ont bien naturellement concentré leur attention sur les régions et époques qui ont connu les changements les plus spectaculaires : les Flandres au moyen âge, Leyde au XVII^e siècle, la vallée de la Loire au XVIII^e, le Lancashire et le Yorkshire à l'époque de la révolution industrielle, laissant de côté les régions en déclin et les périodes de stagnation. Il faudrait s'intéresser davantage à d'autres époques, en particulier au début de l'époque moderne et au XX^e siècle, ainsi qu'à d'autres centres textiles importants qui ne viennent pas spontanément à l'esprit, par exemple Londres, Dublin et la Saxe.

La recherche pourra s'avérer plus fructueuse si on l'axe sur des thèmes majeurs. Certains de ces thèmes, tels le capital, la proto-industrialisation et l'évolution démographique, ont été abondamment exploités en milieu universitaire, mais d'autres ont été relativement négligés, par exemple l'entrepreneuriat, les débouchés et le travail. L'orientation la plus prometteuse peut-être serait la recherche en équipe qu'on pourrait qualifier de «interthématique», c'est-à-dire où l'on recouperait la mode et l'évolution industrielle, le travail et la technologie ainsi que l'impérialisme et les débouchés, et où l'on ferait des comparaisons à l'échelle internationale.

Les matériaux nécessaires à la recherche sont là, quoique certaines archives soient d'un abord trop difficile, voire inaccessibles, pour des chercheurs étudiants. La documentation comprend des inventaires pour fins d'assurance, des registres d'audience, des données recueillies par les recenseurs officiels, des archives d'entreprise, des archives bancaires et des registres d'état civil. Pour les périodes récentes, les témoignages oraux, les machines et les artefacts conservés dans les musées sont des sources sous-exploitées.

Abstract

Textile historians have not unnaturally focused on the regions and periods of most dramatic change—Flanders in the Middle Ages, Leiden in the seventeenth century, the Loire Valley in the eighteenth century, Lancashire and Yorkshire in the Industrial Revolution—neglecting declining regions and periods of stagnation. More attention needs to be given to other periods, particularly the early modern period and the twentieth century, and the less obvious but important textile centres; for example, London, Dublin and Saxony.

Research may prove to be more fruitful if directed towards major themes. A few of these, such as capital, proto-industrialization, demographic change, have been the subject of some intense academic work, but others have been relatively neglected, including entrepreneurship, markets and labour. Perhaps the most promising area may be based on team work and called 'cross-themes'; that is, fashion and industrial change, labour and technology, imperialism and markets, and international comparisons.

Materials exist for this research, though some archives are too difficult or inaccessible for research students. They include insurance inventories, court records, census enumerators' returns, business records, bank archives and legal registers. For recent periods oral testimony, museum artifacts and machinery offer a neglected field of opportunity.

Though textile history has a recognized tradition of scholarship on both sides of the Atlantic, it is an area of study that shades off easily into other disciplines and interests: industrial economics, sociology, demography, anthropology, museum studies and the history of technology, to mention only the most obvious. My problem in venturing on this survey has, therefore, been to recognize proper limits. After some thought I have decided to avoid definitions and concentrate on what is most valuable in our inheritance and most interesting in recent and future work. Regular references to source materials will show the practical possibilities for future research. To make my material digestible, I have broken it down into four sections.

Regional and Industrial Studies

The principal focus of research in Europe and North America has been on the industrial town and region. There are several fairly obvious reasons for this. The area is one that the researcher can cope with in terms of travel and quantity of materials; there have been traditionally strong regional loyalties, not least of which have been within the universities, and the region was often more or less coincident with the national industry, such as Lancashire with cotton, Lyons with silk, Norfolk with the new draperies, etc. This has been given renewed academic respectability by Sidney Pollard's identification of the process of industrialization as essentially a regional process.

Consequently most of the major British textile regions have been more or less well covered—Lancashire, Yorkshire, East Anglia, the West Country, East Midlands, Devon and so forth. A very sound academic tradition was established with A.P. Wadsworth and Julia Mann's *The Cotton Trade and Industrial Lancashire* (Manchester, 1931) and has continued down to Pat Hudson's *The Genesis of Industrial Capital...the West Riding Wool Textile Industry* (Cambridge, 1986). It builds on the solid nineteenth century foundation manifest in works like Edward Baines' *History of the Cotton Manufacture* (1833), John James' *History of the Worsted Manufacture* (1857), and William Felkin's *History of the Hosiery and Lace Manufactures* (1867), as well as a fairly prolific Victorian literature on invention, innovation and trade.

In much the same way, and inspired by similar Victorian traditions, American historians originally focused on the major New England textile centres but with rather more

emphasis on the factory colony than on regional economic development. The best items have recently been listed and annotated by Clare Sheridan, Merrimack's Librarian, in "Textile Manufacturing in American History: A Bibliography," *Textile History* 18 (1987). The factory colony lead to an early interest in some themes, notably social structure and relations.

There are syntheses of the large bibliography on British cotton in the eighteenth and nineteenth centuries in S.D. Chapman, *Cotton in the Industrial Revolution*, 2d ed., (London, and D.A. Farnie, *The English Cotton Industry and the World Market 1815-96* (Oxford, 1979), and on wool in D.T. Jenkins and K.G. Ponting, *The British Wool Textile Industry 1770-1914* (Manchester, 1982). Silk has been Natalie Rothstein's subject for thirty years, while linen has been worked on for some years by Negley Harte of University College, London. Neville Bartlett's *Carpeting the Millions* offers a useful survey of Britain's carpet industry since the eighteenth century, while Clifford Gulvin has written the story of *The Scottish Hosiery and Knitwear Industry 1680-1980* (Edinburgh, 1984). I have a contract with Manchester University Press to complete a study on hosiery and knitwear in the twentieth century. Unfortunately there is nothing in the pipeline on lace, textile printing, dyeing or machine building despite excellent materials being available, especially the Platt records in the Lancashire Record Office. My impression is that Americans have been rather less interested in synthesizing industrial studies, at any rate in the last two generations. There is, however, a very strong bibliography to build on, and there are several important works, notably Caroline Ware's *Early New England Cotton Manufacture* (Boston, 1931) and Cole and Williamson's *American Carpet Manufacture* (1941).

Scholarly enterprise has left some conspicuous gaps and thinly-covered areas. The most obvious are the great cities, London and New York, which because of their size and complexity threaten to overwhelm the most ambitious researchers. The cities were, of course, major centres of production as well as distribution. Work is proceeding on a number of sectors, particularly Natalie Rothstein of the Victoria and Albert Museum on silk, and Beverly Lemire, University of New Brunswick, and John Styles, Bristol University, on London court records. There is a good bibliography on London textile printers. Turning to the smaller neglected centres, David Dickson of Trinity

College, Dublin, is working on eighteenth century Dublin merchants, but the excellent notarial registers give scope for a much bigger study which would cover textile printing and the fashion industries. The eighteenth century fire insurance policies offer great scope for much more research in London and most other British centres.

Time Periods

The Industrial Revolution has long been the favourite period of British economic and social historians. Again, there are some fairly obvious reasons. Historians, though they seldom admit it, tend to focus on their country's periods of greatest achievement or eminence, no doubt

not excuse the neglect of the period since World War I, on which there is an increasingly abundant documentary evidence, as well as what may be secured from oral testimony. Some possibilities are indicated by D.C. Coleman's *Courtaulds. An Economic and Social History*, 3 vols. (Oxford, 1969–1980) which is based on the firm's abundant archives relating to the artificial silk industry and to diversification in the 1960s. Courtaulds also has an important American component in the form of the American Viscose Corporation.

Recent history requires the researcher's willingness and facility to go out and meet present and retired leaders of industry and suffer the frustration of being cut off from vital

► **Fig. 1**
 "The Art of Stocking-
 Frame-Work Knitting,"
 from *Universal*
Magazine, 1750.



encouraged by their readership and publishers. Moreover, readable scripts are most abundant and accessible in the seventeenth and eighteenth centuries. Consequently the mediaeval period has only a handful of devotees, while there is relatively little work being done in the early modern period and even less on the twentieth century. British university faculties are focused on the period from the Industrial Revolution because of their gearing to social sciences, where there is limited interest in earlier periods. This does

evidence for reasons of what is politely referred to as "business confidence." In reality the reason is as often connected with business embarrassment. The most scandalous case occurred some thirty years ago when Coats Paton, now Coats Viyella, refused to sanction the publication of a doctoral thesis by Jock Hunter on the Glasgow-based multi-national thread-manufacturing enterprise J.&P. Coats. In the last five years there has been a dramatic improvement in Coats' attitude, and *A History of J.&P. Coats*, vol. 1 covering the years

1830–1896, is to be published soon. Volume 2, covering the years 1896–1960, may follow.

Certainly my own experience in researching the development of British hosiery and knitwear since the 1960s has not been very reassuring in this respect. Charlotte Erickson's *British Industrialists: Steel and Hosiery 1850–1950* (Cambridge, 1959) depicts hosiery as the archetypal industry of small-scale family firms. In setting out to discover what has happened in the last generation, in a period of takeovers by international conglomerates (Courtaulds, Coats Paton, and the Dawson Group) and growing meritocracy, I was impressed that the industry is rather less secretive than it used to be. Industrialists are often friendly if approached with acceptable credentials, but "hard" information is still difficult to elicit. Gradual penetration of the in-group enables the academic researcher to discern the key developments, interpret the trade journals and identify the most informative people for interviewing, but this is emphatically not an area for young or inexperienced researchers.

In recent years North American universities seem to have lost some of their earlier interest in textile history, at any rate of their own continent, while the museums, though increasingly staffed by people with higher degree qualifications, have not shown so much interest in twentieth century America. One exception that shows exciting possibilities is Claudia Kidwell and Margaret Christman's *Suiting Everyone: The Democratization of Clothing in America* (Smithsonian, 1974). Other research results for the same theme are shown in Maggie Walsh's article "The Democratization of Fashion: Women's Dress Pattern Industry," *Journal of American History* 66 (1979). The archives of the great departmental stores and wholesalers must open up a major area for research, although discussion of those possibilities is best left under the rubric "consumers and artifacts."

An exception must obviously be made in the case of William Lazonick of Harvard University who, in a string of recent publications on the decline of the British cotton industry in this century, has focused on structural rigidities. He identified some of the constraints that prevented the industry changing the horizontally segregated, highly specialized and competitive structure inherited from last century to vertically integrated forms of enterprise. He passed somewhat cursorily over the earlier attempt to reorganize, or "rationalize," the industry by

the Bank of England, but this has now been the subject of an excellent doctoral dissertation by J.H. Bamberg, part of which is summarized in an article in *Textile History* 19 (1988). The vertical restructuring of the United States industry since the 1960s is the subject of a Harvard Ph.D. thesis by Steven Cobrin, but there seems to be no recent study on the migration of the textile industry to the South.

Biographies and Business Histories

With biography and business history, we might appear to be on firmer ground again. Certainly there is a long tradition of writing in this genre, particularly in the United States where management schools took an early hold and where business leaders have been characteristically less retiring than in Europe. The Victorian hagiography provides no secure foundation on which to build but has left a pile of material on which to draw. Among the most frequently quoted on the British side are Robert Owen's autobiography (1857), French's *Life and Times of Samuel Crompton* (1860), Hodder's *Life of Samuel Morley* (1887) and the privately published memoir *Sir Jacob Behrens 1806–1889* (1925). On the American side we have a comparable selection of inventors, manufacturers and merchants. George White's *Memoir of Samuel Slater* (Philadelphia, 1836) and Robert Winthrop's *Memoir of Nathan Appleton* (Boston, 1861) stand out.

Business history and biography began in earnest on both sides of the Atlantic in the 1920s. George Unwin's *Samuel Oldknow and the Arkwrights* (1924) generated much interest in Manchester, Leeds and Liverpool, leading to valuable contributions like Fitton and Wadsworth's *The Strutts and the Arkwrights* (Manchester, 1957), Eric Sigsworth's *Black Dyke Mills* (Liverpool, 1958) and W.G. Rimmer's *Marshalls of Leeds, Flax Spinners* (Cambridge, 1966). Serge Chassagne and I tried our hands on the first comparative study, *European Textile Printers in the Eighteenth Century: A Study of Peel and Oberkampf* (London, 1981). The tradition was followed in Mary Rose's *The Greggs of Quarry Bank Mill* (Cambridge, 1986) and the late R.S. Fitton's *The Arkwrights: Spinners of Fortune* (Manchester, 1989), but it now appears to be running out.

Evidently some of the best work has been done in this area, but it is disappointing to see how much is concentrated on the Industrial Revolution. It is fair, however, to add that Marguerite Duprée's painstaking work has now resulted in *Lancashire and Whitehall*

(Manchester, 1987), a two-volume edition of the diaries of Sir Raymond Streat, who was Secretary of the Manchester Chamber of Commerce from 1920 to 1940 and Chairman of the Cotton Board from 1940 to 1957. The prime importance of his diary is that it illuminates the world of industrial diplomacy, government-industry relations and, more generally, a quarter century of the Lancashire cotton trade in decay. *The Dictionary of Business Biography*, 5 vols. (1984-6) offers another approach to recent developments. It contains seventy-five entries for textile manufacturers who were eminent during the last century (1850-1950) including several previously obscure entrepreneurs. Twenty-five of the seventy-five entries are for the cotton industry and fourteen for the woolen; the rest are dispersed among a variety of textile activities. *A Scottish Dictionary of Business Biography* is also forthcoming. Such pioneer work illuminates the way for further research but there seems to be little more in the wings despite the deposit in Manchester Public Library of important business records like those of Tootals. However, the present state of knowledge is being surveyed by twenty to thirty authors in the forthcoming *Cambridge History of Western Textiles*.

Led by enthusiasts at Harvard, and with business archives suffering less destruction than in Europe, the Americans have been particularly prominent in this area. Some of the studies cover sectors of the industry absent from British bibliographies, especially machine building as is the case with G.S. Gibb on *The Saco-Lowell Shops* (Cambridge, Mass., 1950) and R.T. Navin in *The Whitin Machine Works* (Cambridge, Mass., 1950). Despite the industry leaving New England, high quality research has been maintained with books like Jonathan Prude's *The Coming of the Industrial Order* (Cambridge, 1983), Barbara Tucker's *Samuel Slater and the Origins of the American Textile Industry* (Cornell, 1984), and most recently Robert Dalzell's *Enterprising Elite: The Boston Associates and the World They Made* (Cambridge, 1987). The Lowell conferences are now the main platform for such research.

Themes

It is when we turn to themes that the variations in scholarly coverage become most striking. Studies of regions, national industries, and firms have laid the necessary foundations for understanding, but we need to pursue themes to bring out the full significance of our subject

matter. It will be easiest to take some of the principal themes in turn.

Proto-Industrialization

Franklin Mendels' concept, developed from his doctoral thesis on the Flanders cloth industry, generated much interest and new research in Europe. See F. Mendels, "Proto-Industrialization: The First Phase of the Process of Industrialization," *Journal of Economic History* 32 (1972). A team of young scholars headed by Maxine Berg of Warwick University, Pat Hudson from Liverpool University and Mike Sonenscher of Cambridge University is still active in the area. Their *Manufacture in Town and Country Before the Factory* (Cambridge 1983) is a collection of essays illustrating wide interests. Although the group's seminars focus increasingly on Continental Europe, there must be possibilities of tie-ups here with whatever North American activity may exist. William Reddy, author of *The Rise of Market Culture* (Cambridge, 1984) and other trans-Atlantic visitors have given papers at the seminars.

However, this is not to suggest that research possibilities in Britain have dried up. As more of the census enumerators' returns become available under the hundred years rule, it becomes possible to trace the transition from domestic to factory production in regions and industries of later development; for example, East Midlands (hosiery and lace) and Macclesfield and Coventry (silk). Further substance can be added from the minutes of evidence of numerous Parliamentary enquiries, from the study of vernacular architecture, from business records and other local materials. Details of capital and payroll will not equal those contained in the United States Census of Manufactures for the nineteenth century but still represent an important source little exploited except for demographic exercises. Meanwhile a number of American scholars have called into question the prevalence and extent of home textile manufacture in the eighteenth century colonies in a way that indirectly reopens the issue of the dominance of British textiles. There must be room for some collaborative research here, making use of excellent mercantile records in North America as well as the records of colonial administration in the United Kingdom.

Capital

Most European research reflects the intense interest in W.W. Rostow's theories of eco-

conomic development a generation ago which suggested an increase of fixed capital investment from five to ten per cent of a gross national product was necessary to power a "take-off" into industrial revolution. Refer, for instance, to W.W. Rostow, *How it All Began: Origins of the Modern Economy* (London, 1975). Much patient work on cotton and wool was undertaken, sometimes making use of rather dubious sources. The results have recently been summarized in Charles H. Feinstein and Sidney Pollard, eds., *Studies in Capital Formation in the United Kingdom 1750-1920* (Oxford, 1988) which has chapters on cotton and wool. My own view as one of the researchers is that the actual data produced are less interesting than the identification of the numbers, types and costs of different mills and the evolution of scale. There is probably little scope for further productive research on this subject in Britain but plenty of opportunities in North America to plot the pace of change by chronicling the numbers and varieties of cotton, wool, linen and silk mills, the development of mill sites and changes of use of buildings and water power locations.

On the development of working capital, North America has produced perhaps the best eighteenth century study in Jacob Price's *Capital and Credit in British Overseas Trade, The View from the Chesapeake 1700-1776* (Harvard, 1980). The Americans seem to have preserved their mercantile records much better than the Europeans, and there is obvious scope to extend Price's work to New England and the southern ports of Charleston, Savannah and New Orleans, etc. In the early factory age it seems that British scholars have taken the lead with the aid of some good banking and business records. Stanley Chapman's "Financial Restraints on the Growth of Firms in the Cotton Industry 1790-1850," *Economic History Review*, 2d ser., 32 (1979), based on Bank of England letterbooks, threw down a challenge to which a full response was made in Pat Hudson's *Genesis of Industrial Capital*, already referred to. Writers of American business histories have noticed the same phenomenon, but it has only been taken as a theme in Glenn Porter and Harold Livesay's *Merchants and Manufacturers* (Baltimore, 1971) which takes its case studies from industries other than textiles.

Structure of Industry

Until recently research in Europe and America focused on big capitalism. The intention was

to illustrate the magnitude of change in the industrial revolution. Records of the industrial giants were generally more accessible and made satisfactory theses and books in their own right. Work on Parliamentary records and on capital formation in Britain has served to show that in cotton, and wool, "small to middling" firms were more typical. See especially V.A.C. Gattrell, *Economic History Review* 30 (1977). It has recently been left to North American scholarship, however, to stress the contrasts. Philip Scranton's *Proprietary Capitalism. The Textile Manufacture at Philadelphia 1800-1835* (Cambridge, 1983) contrasts the prolific small-scale enterprise of his chosen region with the much more familiar big-scale capitalism of New England at the period. Dr. Scranton's book has been well received and suggests the possibility of further research on the same theme, perhaps exploiting the Dun & Bradstreet credit registers at the Baker Library at Harvard. This uniquely valuable source would enable any researcher to examine small-scale enterprise in any other town or region of the United States and Canada from mid-century to the 1880s, and to make precise comparisons with and between areas.

International comparisons will bring out the similarities and contrasts of large-scale enterprise even further. Some of you may like to examine the book that Chassagne and I wrote on *Peel and Oberkampf* as a starting point. It may come as a surprise to notice that a lot of use of American mercantile records is made in that work. But much the most ambitious and successful recent research is Farnie and Yonekawa's "The Emergence of the Large Firm in the Cotton Spinning Industries of the World, 1883-1938," *Textile History* 19 (1988). Despite the stimulus of Al Chandler and Mira Wilkins, multi-national and trans-national companies in textiles remain obscure. Promising materials are now available in Britain with the deposit of the business records of Courtaulds, Tootals, C.P.A., Coats and other groups in corporate or public archives, and in Canada with the numerous boxes of evidence collected for the Royal Commission on Textiles (1936), now in the National Archives in Ottawa.

Entrepreneurship

Research in recent years has raised several issues in connection with this theme. Perhaps the most important is the quality of leadership. Biography and business history have inevitably concentrated on the vanguard of the industry but what of the overall quality? P.L. Payne's *British Entrepreneurship in the*

Nineteenth Century (1974) has questioned whether the British Industrial Revolution was so prolific in entrepreneurial talent as has been assumed, while Charlotte Erickson's *British Industrialists, Steel and Hosiery 1850-1950* (1959) revealed some of the limitations of traditional family business in textiles. L.G. Sandberg's pioneer article "American Rings and English Mules" in *Quarterly Journal of Economics* 83 (1969) raised the issue of economic rationality later pursued by Lazonick in his "Factor Costs and the Diffusion of Ring Spinning in Britain", *Quarterly Journal of Economics* 96 (1981). The increasing availability of credit registers (Dun & Bradstreet) and bank assessments indicates a rich seam for further work here.

The role of ethnic minorities in the textile trade and manufacture cannot be said to be a new theme—the role of the Huguenots has been celebrated for years—but other groups such as the Jews, Greeks and Americans in Britain have received little attention. I indicated some approaches in my article in "The International Houses," *Journal of European Economic History* 6 (1977), but I stopped short of trying to calculate the actual contribution of such groups to British trade in the Industrial Revolution. However, in a more recent paper an estimate was made to the effect that German traders were responsible for as much as two-

thirds of the capital involved in exporting cotton in the early nineteenth century. There is room for a book on Scottish merchants in North America, who often seem to have dominated Trade, from New Orleans and Charleston in the south to the Maritime Provinces in the north.

Marketing

Merchants and wholesalers have received very little attention compared with manufacturers. The only good study of an eighteenth century merchant community in Britain is still Richard Wilson's *Gentleman Merchants. The Merchant Community in Leeds 1700-1830* (Manchester, 1971). American scholarship has been better served, no doubt because of the extensive archives available, but the same rich source has much to reveal on British commerce and entrepreneurs. Thomas Doerflinger's *A Vigorous Spirit of Enterprise. Merchants and Economic Development in Revolutionary Philadelphia* (Williamsburg, 1986), is impressive in its provision of almost as much information about the British export of textiles as American import of them. Similar research could easily be mounted for Boston, New York, Charleston and other great ports of the American seaboard. In Britain, London, Bristol and Liverpool are obvious targets. A lot has been written on the latter's cotton trade at one time or another, but it has never been pulled together.

In the nineteenth century, merchants appear to slip out of the historians' sights altogether; for instance, Farnie's *English Cotton Industry and the World Market 1815-96* focuses almost exclusively on manufacturing, though the author has since turned to a study of Manchester's most important Victorian merchant, John Rylands. It is a grave error to see merchants and manufacturers as quite distinct functionaries, bearing in mind that since the eighteenth century mercantile capital has been invested in production. If there is a limitation to Wilson's book, *Gentleman Merchants*, it must be that he failed to identify the investment of Leeds merchants in cotton mills and generalized from wool. Because of the total destruction of Wood Street during the blitz on the City of London, British historians have some excuse for focusing on subjects with more archival materials, but Americans have none. A path has been trod in chapter seven of Caroline Ware, *The Early New England Cotton Manufacture* (New York, 1966) and in the marketing chapters of some of the cotton mill histories, but these do not offer a direct focus on the subject.

► **Fig. 2**

An exception to a lack of research on twentieth-century textile history is Kidwell and Christman's *Suiting Everyone: The Democratization of Fashion which examines clothing such as this man's two-piece wool suit made in Toronto in 1953.* (Courtesy Royal Ontario Museum, ROM 959.220.1, gift of Mr. William D. Holford)

