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INDUSTRIAL REVOLUTION IN THE EIGHTEENTH CENTURY	INDUSTRIAL REVOLUTION IN THE EIGHTEENTH CENTURY
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## The Bedford Series of Economic Handbooks

- I. THE INDUSTRIAL REVOLUTION IN THE EIGHTEENTH CENTURY by PAUL MANTOUX
- 2. CAPITAL AND FINANCE IN THE AGE OF THE RENAISSANCE. A STUDY OF THE FUGGERS AND THEIR CON-NECTIONS by RICHARD EHRENBERG

# THE INDUSTRIAL REVOLUTION IN THE EIGHTEENTH CENTURY

AN OUTLINE OF THE BEGINNINGS
OF THE MODERN FACTORY
SYSTEM IN ENGLAN

by
PAUL MANTOUX

Revised Edition translated by MARJORIE VERNON



JONATHAN CAPE
THIRTY BEDFORD SQUARE
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<sup>&</sup>lt;sup>1</sup> Considerable progress has been made already in this direction: on documents concerning the woollen trade, consult H. Heaton, Yorkshire Woollen and Worsted Industries (Preface); on Samuel Crompton's letters, see G. W. Daniels, Early English Cotton Industry, pp. 166 and foll.; on the Oldknow records at Mellor, G. Unwin, A. Holme and G. Taylor, Samuel Oldknow and the Arkwrights, pp. v to xvi; the

exceptional interest. Town records, as well as Quarter Session Books, documents in the solicitors' offices and other legal papers can supply valuable information. Some aspects of the social conditions can be studied in the Home Office Papers. England offers no equivalent to the quantity of documents produced by the centralized bureaucracy of the old French monarchy, but possesses instead a wealth of parliamentary documents (petitions, reports, etc.) which have often been made use of in this book.

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Same observation.

Parliamentary Register (1743-1802). 88 vols., London, 1775-1803. Reports of Parliamentary Debates, taken from newspapers and periodicals. More complete than the following collection.

W. Cobbett. Parliamentary History of England from the Norman

Conquest to the Year 1803. 36 vols., London, 1806.

Hansard's Parliamentary Debates, 1st series (1803-12). 22 vols., London, 1804-13.

Reports from the Committees of the House of Commons from 1715 to 1801. 16 vols., London, 1803.

General Index to the Reports from the Committees of the House of Commons (1715-1801), London, 1803.

General Index to the Reports from Select Committees of the House of Commons from 1801 to 1852. London, 1852. Among the Committee Reports published separately, the following must be mentioned:

Report from the Committee to whom the Petition of the Cotton Spinners in and adjoining to the County of Lancaster . . . was referred. 1780.

Report from the Committee to whom the Petitions from the Woolcombers, complaining of certain Machines constructed for the Combing of Wool, were referred. 1794.

Report from the Select Committee appointed to take into consideration the Means of promoting the Cultivation and Improvement of the Waste, Uninclosed, and Unproductive Lands of the Kingdom, 1795.

Second Report from the Committee, etc. 1797.

Report from the Select Committee appointed to consider of the most effectual Means of facilitating under the Authority of Parliament the Inclosure and Improvement of the Waste, Uninclosed and Unproductive Lands. 1800. (This report prepared the General Inclosure Act.)

Reports from the Committee appointed to consider of the present high.

Price of Provisions. (Six reports.) 1800.

Report from the Committee to whom the Petitions from several Master and Journeyman Weavers . . . were referred. 1800.

Report on the Improvement of the Port of London. 1801.

Reports from the Select Committee appointed to consider of the Standing Orders relating to Bills of Inclosure, so far as regards the setting out or the altering of Public Roads. 1801.

Reports from the Committee appointed to consider of the present high Prices of Provisions. (Seven reports.) 1801.

Report from the Select Committee on the Petitions of Persons concerned in the Woollen Trade and Manufactures in the Counties of Somerset, Wilts and Gloucester. 1803.

Report from the Select Committee on the Petition of Merchants and Manufacturers concerned in the Woollen Manufacture in the County of York and Town of Halifax. 1803.

Report from the Select Committee on the Petitions of the Manufacturers of Woollan Cloth in the County of York, 1803

of Woollen Cloth in the County of York. 1803.

Minutes of the Evidence taken before the Committee to whom the several Petitions presented to the House in this Session relating to the Act of the 39th and 40th Year of His present Majesty for settling Disputes between Masters and Workmen engaged in the Cotton Manufacture' were referred. 1803.

Minutes of the Evidence taken before the Select Committee to whom the Petitions of the Journeymen Callico Printers and others working in

that Trade . . . were referred. 1804.

Report from the Committee to whom it was referred to examine into the Matter of the Minutes of Evidence respecting the Callico Printers. 1806.

Report from the Select Committee appointed to consider the State of the Woollen Manufacture in England. 1806. (A general survey of the woollen trade both from the social and economic points of view.)

Report from the Select Committee to whom the Petition of Edmund Cartwright, Clerk, D.D., respecting a Machine for Weaving, was referred.

1808.

Report from the Select Committee to whom the Petition of Richard Ainsworth, of Bolton, Manufacturer, and also the Petition of several Journeymen Cotton Weavers, resident in England, was severally referred. 1808.

- Report from the Select Committee to whom the Petition of several Journeymen Cotton Weavers resident in England, and also the Petition of the Cotton Manufacturers and Operative Cotton Weavers in Scotland, were severally referred. 1809.
- Report from the Committee of Secrecy on the Disturbances in the Northern Counties. 1812.
- Report from the Committee to whom the several Petitions presented to this House, respecting the Apprentice Laws of the Kingdom, were referred. 1813.
- Report of the Minutes of Evidence before the Select Committee appointed to inquire into the State of the Children employed in the Manufactory of the United Kingdom. 1816. (Very important for the history of factory legislation, as well as the three following reports.)
- Reports from the Select Committee on Artizans and Machinery. 1824.
- Report from the Select Committee to whom the Bill to regulate the Labour of Children in Mills and Factories of the United Kingdom was referred. 1831–32.
- Report from the Committee appointed to inquire into the present State of Agriculture. 1833.
- Reports from the Central Board of His Majesty's Commissioners . . . as to the Employment of Children in Factories. 1833.
- Report from the Central Board of His Majesty's Commissioners appointed to Inquire into the Administration and Practical Operation of the Poor Laws. 1834.
- Reports from the Select Committee on Hand Loom Weavers' petitions. 1835.
- Reports of Commissioners and Assistant-Commissioners on the Condition of the Hand-loom Weavers. 1839-41.
- Statutes at large from Magna Charta to 41 Geo. III. 14 vols., London, 1786-1801.
- Statutes at large of the United Kingdom of Great Britain and Ireland, from 41 Geo. III (1801) to 25 Victoria (1862). 26 vols. London, 1862.
- 4. Selections illustrating economic or social history.
- F. W. Galton, Select Documents illustrating the History of Trade Unionism (I—The Tailoring Trade). London, 1896.
- B. Rand, Selections illustrating Economic History since the Seven Years' War. 1903.
- A. Bland, P. Brown and R. H. Tawney, English Economic History: Select Documents. London, 1915.

#### II. CONTEMPORANEOUS INFORMATION

#### A. DESCRIPTIVE BOOKS

- J. Aikin, A Description of the Country from thirty to forty Miles round Manchester. London, 1795.
- J. Aston, A Picture of Manchester. Manchester. 1804.
- J. Campbell, A Political Survey of Britain, being a Series of Reflections on the Situation, Lands, Inhabitants, Revenues, Colonies and Commerce of this Island. 4 vols., London, 1774.
- J. Chamberlayne, Magnae Britanniae Notitia, or, the present State of Great Britain. London, 1708 (several editions between 1708 and 1750).
- D. Defoe, A Tour through the whole Island of Great Britain, divided into Circuits or Journeys. 3 vols., London, 1724-27.
- Id., revised by S. Richardson. 4 vols., 1742.
- The Manchester Guide, or, a Useful Pocket Companion, containing a Brief Historical Account of the Towns of Manchester and Salford. Manchester. 1804.
- W. Marshall, Rural Economy of Yorkshire. 2 vols. London, 1788.
- J. Mawe, The Mineralogy of Derbyshire, with a Description of the most interesting Mines in the North of England, in Scotland, and in Wales. London, 1801.
- New and Accurate Description of the present Great Roads and the Principal Cross Roads of Great Britain. (With map.) London, 1756.
- [J. Ogden] A Description of Manchester, with a succinct History of its former original Monuments, Factories, etc., by a Native of the Town. Manchester, 1783. (Re-published in 1887 under the title Manchester a Hundred Years Ago.)
- R. Pilkington, A View of the present State of Derbyshire. 2 vols., Derby, 1789.
- To such descriptive books should be added the Agricultural Surveys written by the correspondents of the Board of Agriculture.' They were published in two series (1793–95 and 1802–16). The title of each survey is A General View of the Agriculture in the County of . . . A shorter edition was compiled by William Marshall from 1808 to 1817:
- W. Marshall, Review and complete Abstract of the Reports of the Board of Agriculture from the Northern Departments of England. London, 1808.
- Id., from the Western Departments. London, 1810.
- Id., from the Eastern Departments. London, 1812.
- Id., from the Midland Departments. London, 1815.
- Id., from the Southern Departments. London, 1817.

#### B. TRAVELS

- B. Faujas de St. Fond, Voyage en Angleterre, en Écosse et aux Îles Hébrides. 2 vols., Paris, 1797.
- G. Forster, Voyage philosophique et pittoresque en Angleterre et en France, fait en 1790 par Georges Forster, un des compagnons de Cook. Paris, an iv (1796).
- P. Nemnich, Beschreibung einer im Sommer 1799 von Hamburg nach und durch England geschehenen Reise. Tübingen, 1800.
- Erik T. Svedenstjerna, Resa igenom en del af England och Skotland, åren 1802 och 1803. Stockholm, 1804.
- Id. (German translation), Reise durch einem Theil von England und Schottland, in den Jahren 1802 und 1803. Marburg, 1811.
- Tournée faite en 1788 dans la Grande-Bretagne par un Français parlant la langue anglaise. Paris, 1790.
- F. A. Wendeborn, Beiträge zur Kenntniss von Grossbritannien. 2 vols. Lemgo, 1780.
- Id. (translated by the author), A View of England towards the Close of the Eighteenth Century. 2 vols., London, 1791.
- Arthur Young, A Six Weeks' Tour through the Southern Counties of England and Wales. London, 1768.
- Id., A Six Months' Tour through the North of England. 4 vols., 1770.
- Id., The Farmer's Tour through the East of England. 4 vols., 1771.
- Id., A Tour in Ireland, with General Observations on the Present State of that Kingdom. 2 vols., 1786.
- Id., Travels in France, Italy and Spain, during the years 1787-1788 and 1789. 2 vols., 1790.

#### C. TECHNICAL TREATISES AND MEMOIRS

- J. Beckmann, Beiträge zur Geschichte der Erfindungen. 5 vols., Leipzig, 1782–1800.
- R. Bonnard, 'Mémoire sur les Procédés employés en Angleterre pour le Traitement du Fer par le Moyen de la Houille', Journal des Mines, XVII, 245-96. Paris, 1805.
- The Callico Printer's Assistant. London, 1790.
- J. T. Desaguliers, A Course of Mechanical and Experimental Philosophy. 2 vols., London, 1729-1744.
- B. Huntsman, Historique de l'Invention de l'Acier fondu. Paris, 1888.
- J. Harris, Lexicon Technicum, or an Universal English Dictionary of all the Arts and Sciences. 2 vols., London, 1704-10.
- G. Jars, Voyages Métallurgiques, ou Recherches et Observations sur les Mines et Forges de Fer, la Fabrication de l'Acier, etc. 3 vols., Lyons, 1774.

J. Robison, The Articles Steam and Steam-Engine written for the Encyclorædia Britannica (with notes by James Watt). Edinburgh, 1818.

E. Swedenborg, Regnum Subterraneum sive Minerale: de Ferro (Sweden-

borg's Works, Vol. III). Dresden and Leipzig, 1734.

S. Switzer, An Introduction to a General System of Hudrostaticks and Hydraulicks, Philosophical and Practical. 2 vols., London, 1729. (Contains descriptions, with plates, of Savery's and Newcomen's engines.)

A Treatise upon Coal Mines, London, 1769.

Interesting information on the technique of trades before and during the industrial revolution can be found in the Encyclopædias published in England and France between 1760 and 1815:

Encyclopédie, ou Dictionnaire raisonné des Sciences, des Arts et des Métiers. 28 vols., Paris, 1762-72. (The volumes of plates deserve a particular study: see art. 'Draperie,' Forge,' 'Laines,' 'Mines,' 'Soie,' etc.)

Encyclopédie Méthodique, par une Société de Gens de Lettres. 301 vols., Paris, 1782-1832. See the volumes on 'Manufactures,' by Roland de

la Platière (1785).

Encyclopædia Britannica, Edinburgh, 1st edition, 1788, and 4th edition, 1805. See in the 4th ed. the articles on 'Cotton,' 'Iron,' 'Steam,' etc.

Societies' publications can supply also much useful information on the inventions, and the state of agriculture or of industry in different periods:

Philosophical Transactions of the Royal Society, London, 1665 and foll.

(containing many papers on mechanical inventions).

Annals of Agriculture and other Useful Arts (edited by the Board of Agriculture). 40 vols., Bury St. Edmunds, 1790-1804.

Memoirs of the Literary and Philosophical Society of Manchester. 1st series, 5 vols. Warrington, 1785-1802; 2nd series, Manchester, 1805 and foll.

Transactions of the Society for the Encouragement of Arts, Manufactures and Commerce. 1st series, London, 1761 and foll. 2nd series, 1783 and foll.

#### D. NEWSPAPERS AND PERIODICALS

Annual Register (from 1732). Birmingham Gazette (from 1741). Derby Mercury (from 1754). Gentleman's Magazine (from 1731). Historical Register (1714-38). Leeds Mercury, 1st series 1718-55; 2nd series from 1767. Manchester Gazette, 1730-60. Manchester Mercury, 1762-1830.

# III. CONTEMPORANEOUS LITERATURE ON ECONOMIC SUBJECTS

The most important collections of pamphlets on economic subjects are in the British Museum Library and in the Library of Political Science (at the London School of Economics, where the collection formed by Prof. Foxwell is now kept).

#### A. GENERAL LITERATURE, COMMERCE, COMMUNICATIONS

- A. Yarranton, England's Improvement on Sea and Land. London (1st part, 1677; 2nd part, 1681).
- Considerations upon the East India Trade. London, 1701.
- A Short Essay upon Trade in General, by a Lover of his Country. London, 1740.
- Considerations on Taxes, as they are supposed to affect the Price of Labour in our Manufactures. London, 1764.
- R. Bentley. A View of the Advantages of Inland Navigation, with a Plan of the Navigable Canal intended for a Communication between the Ports of Liverpool and Hull. Newcastle-under-Lyme, 1766.
- R. Whitworth, The Advantages of Inland Navigation. London, 1766.
- M. Postlethwayte, Universal Dictionary of Trade and Commerce. 2nd ed., London, 1766.
- H. Homer, An Inquiry into the Means of preserving and improving the Public Roads of this Kingdom. Oxford, 1767.
- La Richesse de l'Angleterre. Vienna, 1773.
- The History of Inland Navigations, particularly those of the Duke of Bridgewater. London, 1776.
- Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations. 2 vols., London, 1776.
- Arthur Young, Political Arithmetic, containing Observations on the Present State of Great Britain and the Principles of her Policy in the Encouragement of Agriculture. London (1st part, 1774; 2nd part, 1779).
- James Anderson, Observations on the Means of Promoting a Spirit of National Industry. Edinburgh, 1777.
- The Outlines of a Plan for establishing a United Company of British Manufacturers. London, 1798.
- W. Tatham, The Political Economy of Inland Navigation, Irrigation and Drainage. London, 1799.
- Publicola, Reflections on the General Utility of Inland Navigation to the Commercial and Landed Interests. London, 1800.
- G. Chalmers, An Estimate of the Comparative Strength of Great Britain during the present and four preceding Reigns. London, 1804.

- A certain number of rare pamphlets have been reprinted in the Select Collection of Early English Tracts on Commerce, ed. by Mac-Culloch, London, 1856.
  - B. AGRICULTURE, ENCLOSURES, PRICE OF PROVISIONS
- E. Laurence, The Duty of a Steward to his Lord. London, 1727.
- Jethro Tull, The New Horse Hoeing Husbandry, or an Essay on the Principles of Tillage and Vegetation. London, 1731.
- J. Cowper, An Essay proving that Enclosing Commons and Common Field Lands is contrary to the Interest of the Nation. London, 1732.
- A Method humbly proposed to the Consideration of the Honourable the Members of both Houses of Parliament, by an English Woollen Manufacturer. London, 1744.
- H. Homer, An Essay upon the Nature and Method of ascertaining the Specific Shares of Proprietors upon the Inclosures of Common Fields. Oxford, 1767.
- N. Forster, Inquiry into the Causes of the Present High Prices of Provisions. London, 1767.
- A. Young, The Farmer's Letters to the People of England. London, 1767.
- Id., Rural Œconomy. London, 1770.
- The Advantages and Disadvantages of inclosing Waste Lands and Open Fields impartially Stated and Considered, by a Country Gentleman. London, 1772.
- An Inquiry into the Connection between the present high Price of Provisions and the Size of Farms, by a Farmer (J. Arbuthnot?). London, 1773.
- A. Young, Observations on the present State of the Waste Lands of Great Britain. London, 1773.
- An Inquiry into the Advantages and Disadvantages resulting from Bills of Enclosure. London, 1780.
- Observations on a Pamphlet entitled 'An Inquiry into the Advantages, etc.' London, 1781.
- A Political Inquiry into the Consequences of inclosing Waste Lands and the Causes of the present high Price of Butcher's Meat, being the Sentiment of a Society of Farmers in . . . shire. London, 1785.
- J. Howlett, Inquiry into the Influence of Enclosures upon the Population of England. London, 1786.
- Cursory Remarks on Inclosures, showing the Pernicious and Destructive Consequences of inclosing Common Fields, by a Country Farmer. London, 1786.
- T. Stone, Suggestions for rendering the Inclosure of Common Fields and Waste Lands a Source of Population and Riches. London, 1787.

- J. Howlett, Enclosures a Cause of Improved Agriculture, of Plenty and Cheapness of Provisions, of Population, and of both Private and National Wealth. London, 1787.
- David Davies, The Case of the Labourers in Husbandry. London, 1795. T. Wright, A Short Address to the Public on the Monopoly of Small Farms. London, 1795.
- Sir G. O. Paul, Observations on the General Enclosure Bill. London, 1800
   J. S. Girdler, Observations on the permicious Consequences of Forestalling Regratting and Ingrossing. London, 1800.
- A. Young, An Inquiry into the Propriety of applying wastes to the Maintenance and Support of the Poor. London, 1802.
- Id., On the Size of Farms (in Georgical Essays, edited by G. Hunter Vol. IV, Essay xxvii.) York, 1803.
- General Report on Inclosures, drawn up by Order of the Board of Agriculture. London, 1808. [Edited by Sir John Sinclair. Important reliable descriptions.]

#### C. POPULATION AND PAUPERISM

- Gregory King, Natural and Political Observations upon the State an Condition of England (1696). Publ. by G. Chalmers, Estimate of th Comparative Strength of Great Britain. London, 1804.
- D. Defoe, Giving Alms no Charity, and employing the Poor a Grievance to the Nation. London, 1704.
- H. Fielding, An Inquiry into the Causes of the late Increase of Robber London, 1751.
- Id., A Proposal for making an Effectual Provision for the Poor. London 1753.
- Reasons for the late Increase of the Poor Rates, or a Comparative View of the Prices of Labour and Provisions. London, 1777.
- W. Eden, Four Letters to the Earl of Carlisle (3rd ed.). London, 1780.
- R. Price, Essay on the Population of England from the Revolution to tipresent Time. London, 1780.
- J. Howlett, An Examination of Dr. Price's Essay on the Population England and Wales and the Doctrine of the increased Population this Kingdom, established by Facts. Maidstone, 1781.
- W. Wales, Inquiry into the State of Population of England and Wale London, 1781.
- Uncertainty of the present Population of this Kingdom. London, 178 T. Gilbert, Considerations on the Bills for the better Relief and Emplo
- ment of the Poor. London, 1787.

  J. Howlett, The Insufficiency of the Causes to which the Increase of t

- T. Percival, Observations on the State of Population in Manchester 1775–1789. Manchester, 1789.
- A Letter to Sir T. C. Bunbury, bart., on the Poor Rates, by a Gentleman of Suffolk. London, 1795.
- Sir F. M. Eden, The State of the Poor (3rd vol.). London, 1797.
- R. Malthus, An Essay on the Principle of Population as it affects the future Improvement of Society. London, 1798.
- Sir F. M. Eden, An Estimate of the Number of Inhabitants in Great Britain and Ireland. London, 1800.

#### D. TEXTILE TRADES

- L. Roberts, The Treasure of Traffike, or, A Discourse on Forraigne Trade. London, 1641.
- J. Haynes, A View of the present State of the Clothing Trade in England, its Decay and Remedies. London, 1706.
- Id., Provision for the Poor, or, a View of the decayed State of the Woollen Manufacture. London, 1715.
- A brief State of the Printed Callicoes, Woollen and Silk Manufactures [by D. Defoe?]. London, 1719.
- A brief State of the Question between Printed and Painted Callicoes, and the Woollen and Silk Manufactures. London, 1719.
- Brief Answer to a brief State of the Printed Callicoes, etc. [by W. Asgill].

  London, 1719.
- The Just Complaints of the Poor Weavers truly represented. London, 1719.
- The Weavers' Pretences examined. London, 1719.
- The Weavers' True Case. London, 1720.
- Observations on Wool and the Woollen Manufacture, by a Manufacturer of Northamptonshire. London, 1739.
  - An Essay on Riots [on the Weavers' riots in Wiltshire]. London, 1739. The Case between the Clothiers and the Weavers. London, 1739.
  - John Smith, Chronicon rusticum-commerciale, or, Memoirs of Wool, Woollen Manufacture and Trade, particularly in England. 2 vols., London, 1747. [Contains extracts from rare pamphlets on the Woollen Manufacture.]
  - Timothy Shuttle, The Worsted Small Ware Weavers' Apology, together with all their Articles, which either concern their Society or Trade.

    Manchester, 1756. [The only copy in existence is kept in the Manchester Free Reference Library, No. 28,266.]
- J. Dyer, The Fleece, a Poem in four Books. London, 1757.
- The Petitions and Memorial of the Manufacturers and Printers of Silks, Linens, Callicoes, Fustians and Stuffs, in and near Manchester in the County of Lancaster. Manchester, 1778.

R. March, A Treatise on Silk, Wool, Worsted, and Cotton. London, 1779. Thoughts on the Use of Machines in the Cotton Manufacture, addressed to the Working People in that Manufacture and to the Poor in General, by a Friend of the Poor. Manchester, 1780. [According to W. Radcliffe the author was a county magistrate named Dorning Rasbotham.]

Sir John Dalrymple, The Question considered, whether Wool should be allowed to be exported when the Price is low at Home on paying a Duty

to the Public. London, 1781.

Considerations upon the present State of the Wool Trade, by a Gentleman resident on his Estate in Lincolnshire. London, 1781.

[G. Chalmers] The Propriety of allowing a Qualified Exportation of Wool discussed historically. (London, 1782.)

N. Forster, Answer to Sir John Dalrymple's Pamphlet upon the Exportation of Wool. Colchester, 1782.

The Contrast, or, a Comparison between our Woollen, Linen, Cotton and Silk Manufactures. London, 1782.

Plain Reasons addressed to the People of Great Britain against the intended Petition to Parliament for Leave to export Wool. Leeds, 1782.

A Letter to the Landed Gentlemen and Graziers of Lincolnshire, by a Friend and a Neighbour. Cambridge, 1782.

A short View of the Proceedings of the several Committees and Meetings held in Consequence of the intended Petition to Parliament from the County of Lincoln for a limited Exportation of Wool. London, 1782.

The Case of Richard Arkwright and Co., in relation to Mr. Arkwright's Invention of an Engine for Spinning Cotton etc. into Yarn, stating his Reasons for applying to Parliament for an Act to secure his Right in such Invention. London, 1782.

A Short Essay written for the Service of the Proprietors of Cotton Mills

and the Persons employed in them. London, 1784.

John Wright, An Address to the Members of both Houses of Parliament on the late Tax laid on Fustian and other Cotton Goods. Warrington, 1785. Manufacturers improper Subject of Taxation. London, 1785.

Patrick Colquhoun, The Case of the Cotton Printers of Great Britain. London, 1785.

A Report of the Receipts and Disbursements of the Committee of the Fustian Trade. Manchester, 1786.

A Letter showing the Necessity to amend the Laws concerning the Woollen Manufacture. Ipswich, 1787.

A humble Petition of the Poor Spinners of the Town and County of Leicester, 1787.

An Important Crisis in the Callico and Muslin Manufacture of Great Britain explained. [Very scarce: Manchester Free Reference Library, No. 3622.]

The Question of Wool truly Stated. London, 1788.

Patrick Colquhoun, An Account of Facts relating to the Rise and Progress of the Cotton Manufacture in Great Britain. London, 1789.

Wool encouraged without Exportation, or Practical Observations on Wool and the Woollen Manufacture, by a Wiltshire Clothier. London, 1791.

W. Edenson, A Letter to the Spinners and Manufacturers of Cotton Wool upon the present Situation of the Market. London, 1792.

H. Dundas, The Cotton Manufacture of this Country. London, 1793.

Articles, Rules, Orders and Regulations made and to be observed by and between the Friendly Associated Cotton Spinners within the township of Manchester, etc. Manchester, 1795.

A Letter to the Inhabitants of Manchester on the Exportation of Cotton

Twist. Manchester, 1800.

A Second Letter to the Inhabitants of Manchester on the Exportation of Cotton Twist, by Mercator. Manchester, 1800.

Observations founded upon Facts on the Propriety or Impropriety of exporting Cotton Twist for the Purpose of being manufactured into Cloth by Foreigners. London, 1803.

A View of the Cotton Manufactories in France. Manchester, 1803.

J. Anstie, Observations on the Necessity of introducing improved Machinery into the Woollen Manufacture of the Counties of Wilts, Gloucester and Somerset. London, 1803.

Observations on the Cotton Weavers' Act. Manchester, 1804.

R. Owen, Observations on the Effects of the Manufacturing System, with Hints for the Improvements of those Parts of it which are most injurious to Health and Morals. London, 1815.

#### E. METAL TRADES AND POTTERY

S. Sturtevant, Metallica, or, the Treatise of Metallica, briefly comprehending the Doctrine of diverse new Metallicall Inventions. London, 1612.

J. Rovenzon, A Treatise of Metallica, but not that which was published by Mr. Simon Sturtevant upon his Patent. London, 1613.

Dud Dudley, Metallum Martis, or, Iron Made with Pit Coale, Sea Coale, etc., and with the same Fire to melt and fire imperfect Mettals, and refine perfect Mettals. London, 1665.

Ch. Povey, A Discovery of indirect Practices in the Coal Trade. London,

1700.

T. Savery, The Miner's Friend, or, an Engine to raise Water by Fire described, and the Manner of fixing it in the Mines. London, 1707. The present State of Mr. Wood's Mine Partnership. London, 1729.

A Letter from a Merchant at Whitehaven to an Iron Master in the South of England. London, 1730.

- An Account of Mr. Wood's Iron made with pulverized Ore and Pit Coal.

  London, 1731.
- Beware of Bubbles. London, 1731.
- M. Postlethwayte, Considerations on the Making of Iron with Pit or Peat Coal Fire. London, 1747.
- The State of the Trade and Manufactory of Iron Considered. London, 1750.
- J. Wedgwood, An Address to the Young Inhabitants of the Pottery. New-castle-under-Lyme, 1783.
- Address and Proposals from Sir John Dalrymple, bart., on the Subject of the Coal, Tar and Iron Branches of Trade. Edinburgh, 1784.
- J. Watt, An Answer to the Treasury Paper on the Iron Trade of England and Ireland. London, 1785.
- J. Bramah, A Letter to the Right Hon. Sir James Eyre, Lord Chief Justice of the Common Pleas, on the Case Boulton and Watt between Hornblower and Maberly. London, 1797.
- Boulton and Watt, *Proposals to the Adventurers*. Birmingham, 1800. [Prospectus addressed to mineowners.]

#### IV. WORKS ON SPECIAL SUBJECTS

#### A. HISTORIES OF TRADES AND INDUSTRIES

- A. Andréadès, Essai sur la Fondation et l'Histoire de la Banque d'Angleterre. Paris, 1901.
- M. Archer, A Sketch of the History of the Coal Trade of Northumberland and Durham. London, 1897.
- T. Southcliffe Ashton, Iron and Steel in the Industrial Revolution. Manchester, 1924. [Important: fresh material from original sources.]
- E. Baines, History of the Cotton Manufacture in Great Britain. London, 1835. [Still useful: the author was able to collect evidence from direct witnesses.]
- L. Beck, Geschichte des Eisens in technischer und Kulturgeschichtlicher Beziehung. 4 vols. Brunswick, 1894-8.
- J. Bischoff, Comprehensive History of the Woollen and Worsted Manufactures. 2 vols. London, 1842. [An indifferent compilation, but useful from the bibliographical point of view.]
- S. von Boch, Geschichte der Töpferarbeiter von Staffordshire im XIX<sup>ten</sup>
  Jahrhundert. Stuttgart, 1899. Vol. XXXI of the Münchner volkswirtschaftliche Studien.
- R. Boyd, History of the Coal Trade. London, 1892.
- J. Burnley, *History of Wool and Wool-combing*. London, 1889. [Now partly superseded by more recent and better books.]

- S. Chapman, The Lancashire Cotton Industry, a Study in Economic Development. Manchester, 1904. [Very reliable, and particularly interesting on the organization of the industry and the conditions of labour.]
- A Complete History of the Cotton Trade, including also the Silk, Callico and Hat Manufactures, by a Person Concerned in Trade. Manchester, 1823. [Contains much that is of the nature of direct evidence.]
- J. H. Clapham, 'The Transference of the Worsted Industry from Norfolk to the West Riding,' Economic Journal, XX (1919).
- 'Cotton Spinning Machines and their Inventors,' Quarterly Review, CVII (1860). [A suggestive article.]
- G. W. Daniels, The early English Cotton Industry, with some unpublished Letters of Samuel Crompton. Manchester, 1920. [Very scholarly work.]
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