

BIBLIOGRAPHY

A. MANUSCRIPT SOURCES

(1) THE CHADWICK MANUSCRIPTS

Chadwick kept copies or rough drafts of most of his papers, and these are now deposited in the library of University College, London. Besides letters, memoranda, and drafts of speeches, the collection includes most of his pamphlets and proof sheets of many of the articles he contributed to newspapers and various sanitary and administrative journals.

The papers contain very little material bearing on his early career; there is practically nothing, for example, about his relations with Bentham. From the period of the Factory Commission onwards, however, the serious gaps are few, and the material relating to the sanitary movement and the General Board of Health is particularly full and valuable.

Unless otherwise indicated, all letters and papers quoted in this book are from the collection at University College. The original spelling and punctuation have been preserved.

(2) AT THE PUBLIC RECORD OFFICE

The Ministry of Health papers deposited at the P.R.O. contain:

- (a) Minute Books of the Poor Law Commission (M.H.1), 35 vols., from August 1834 to July 1842.
- (b) Rough Minute Books (M.H.2), 37 vols., from August 1834 to June 1847.
Appendices to Minutes (M.H.3), 3 vols., from 1835 to 1846.
Extracts from Minutes (M.H.4), 2 vols., from July 1839 to December 1841.
- (c) Minutes of Proceedings of the Commissioners for Inquiring into the State of Large Towns (M.H.7), 1 vol., 1843 to 1845.
- (d) Minute Books of the General Board of Health (M.H.5), 12 vols., from 22 November 1848 to 21 February 1856.
Rough Minute Books (M.H.6), 20 vols., from 26 September 1848 to 3 March 1858.

The Minutes of the Poor Law Commission were used by the Webbs. For the defects of these Minutes, see Chadwick's comments in his

evidence to the Select Committee on District Asylums (*P.P.*, 1846, vol. vii, pp. 86-8, 364-75). There seems to be room for a re-examination of these records, with the assistance of the material in the Chadwick MSS., which brings out and illustrates the issues underlying the colourless entries in the Minute Books.

(3) AT COUNTY HALL, WESTMINSTER.

The Record Room at County Hall (Room B.21) holds all the minutes and other papers of the several district Commissions of Sewers, and of the Metropolitan Commission which replaced them in December 1847. The following were found particularly useful:

- (a) "Metropolitan Commission of Sewers. Orders of Court" (i.e. Minutes), vol i, 6 December 1847 to 4 January 1849. Printed. Vol. ii, 10 January 1849 to 4 October 1849. Manuscript. Thirty-one vols. altogether, to 31 December 1855.
- (b) "M.C.S. Minutes of the General Purposes Committee," vols. i-v, from 9 December 1847 to 18 December 1849. Twenty-nine vols. altogether, to 27 November 1855.
- (c) The correspondence, petitions, MS. reports, etc., relating to (a) and (b) are to be found in:
"Original Papers. Court and General Purposes Committee," vols. i-v, from December 1847 to 4 January 1849. The series then continues as "M.C.S. Court Papers," vols vi-lxvii, from 10 January 1849 to 31 December 1855.
- (d) Proceedings of Committees:
"M.C.S. Trial Works Committee. Minutes and Report Book," 1 vol., from 6 March 1849 to 8 October 1849.
"M.C.S. Works Committee. Trial Works Committee. Sewage Manure Committee. Original Papers," 2 vols., from 22 January 1849 to 8 October 1849.
"Metropolitan Sewers. Works Committee. Minutes," 1 vol., from 22 January 1849 to 4 June 1849.
"Ordnance Survey Committee. Minute and Report Book," 1 vol., from 21 March 1849 to 1 August 1849.
"Metropolitan Sewers. Finance Committee. Minutes," 1 vol., from 29 January 1849 to 9 October 1849.
"Minute and Report Book. Bye-laws Committee," 1 vol., from 9 February 1849 to 2 October 1849.
"M.C.S. General Committee. Special Committee Tooting. Bye-laws Committee. Sewage Manure Committee. Ordnance Survey Committee. Original Papers," 1 vol., from January 1849 to July 1849.

"Metropolitan Sewers. Sub-Committee on Disposal of Refuse, 13 February to 8 March 1849. Sewage Manure Committee, 19 March to 8 October 1849," 1 vol.

- (e) Printed papers, reports of surveyors, etc., are contained in:
 "Metropolitan Commission of Sewers. Papers ordered to be printed, 1848-49," 1 vol.
 "M.C.S. Reports, etc., 1849," 2 vols.

(4) MISCELLANEOUS

There are a few letters in the Bentham Manuscripts at University College, London, and in the following collections at the British Museum: Correspondence and papers of the family of Bentham; Letters to Francis Place; Macvey Napier Papers; Correspondence of C. Babbage; Liverpool Papers; Original Letters to Charles Griffin; Non-scientific Correspondence of Sir Richard Owen; Miscellaneous Papers; Peel Papers. Many of these are duplicated in the Chadwick Manuscripts.

At the National Library of Wales:
 The Papers of Nassau Senior.

B. A SELECTION OF THE MORE IMPORTANT
 PAMPHLETS, ARTICLES AND SPEECHES BY
 EDWIN CHADWICK

The following list should be regarded as representative rather than exhaustive, though it probably contains the most valuable of Chadwick's writings. Many others are to be found in the transactions of such bodies as the British Association, the Association for the Promotion of Social Science, the Statistical Society, the Society of Arts, and the Sanitary Institute of Great Britain.

- "Life Assurances," *Westminster Review*, vol. ix, pp. 384-421, February 1828. Reprinted, with additional notes, Charles Knight, London, 1836.
 "Preventive Police," *London Review*, vol. i, pp. 252-308, 1830.
 "Centralization. Public Charities in France," *London Review*, vol. i, pp. 536-65, 1830.
 "Real Incendiaries and Promoters of Crime," *Examiner*, 20 February 1831, pp. 114-16.
 "Taxes on Knowledge," *Westminster Review*, vol. xv, pp. 238-67, July 1831.
 "On the Principles and Progress of the Poor Law Amendment Act," *Edinburgh Review*, vol. lxiii, pp. 487-537, July 1836. Reprinted 1837.

- "On the best modes of representing accurately, by statistical returns, the duration of life, and the pressure and progress of the causes of mortality amongst different classes of the community, and amongst the populations of different districts and countries," *Journal of Statistical Society*, vol. vii, pp. 1-40, April 1844.
 "Papers (by John Roberton, Robert Rawlinson and Edwin Chadwick) read before the Statistical Society of Manchester on the demoralisation and injuries occasioned by the want of proper regulations of labourers engaged in the construction and working of railways, etc.," ed. E.C. Charles Knight, London 1846.
 "Health of Towns. Report of the speeches of Edwin Chadwick, Esq., Dr. Southwood Smith . . . and others at a meeting . . . to promote a subscription in behalf of the widow and children of Dr. J. R. Lynch," Chapman, Elcoate and Co., London, 1847.
 "Sewer Manure," Report to Metropolitan Sewers Commission, 1849.
 "A Letter to the Right Hon. Viscount Palmerston, etc., on the improvement of the sanitary condition of the army at home and in the field," Eyre and Spottiswoode, 1855.
 "On improvements in machinery and in manufacturing processes, as affecting the condition of the labourer," address to Philanthropic Congress at Brussels, *Journal of Society of Arts*, vol. iv, pp. 803-7, 14 November 1856.
 "Address to the electors of Southampton," 1857.
 "The Economical, Social, Educational and Political Importance of Open Competitive Examinations for admission to the public service," to British Association, 1857, *Journal of Statistical Society*, vol. xxi, pp. 18-51, 1858.
 "On the application of sanitary science to the protection of the Indian Army," *Transactions of National Association for the Promotion of Social Science*, 1858, pp. 487-504.
 "The progress of the principle of competitive examination for admission into the public service," to British Association, 1858, *Journal of Statistical Society*, vol. xxii, pp. 44-75, 1859.
 "Results of different principles of legislation and administration in Europe; of competition for the field, as compared with competition within the field of service," *Journal of Statistical Society*, vol. xxii, pp. 381-420, 1859.
 "The chief methods of preparation for legislation especially as applicable to the reform of Parliament," to Society for Promoting the Amendment of the Law, Charles Knight, 1859. Republished in *Fraser's Magazine*, vol. lxxv, pp. 673-90, May 1867.

- "On the Physiological as well as Psychological Limits to mental labour," *Transactions of British Association*, 1860.
- "Public Health," *Transactions of Social Science Association*, 1860, pp. 574-606.
- "Post Office Savings Banks," *Journal of Statistical Society*, vol. xxiv, pp. 519-22, 1861.
- "The subject matters and methods of competitive examinations for the public service," to British Association, 1862, *Journal of Statistical Society*, vol. xxvi, pp. 72-7, 1863.
- "The comparative results of the chief principles of the Poor Law administration in England and Ireland, as compared with that of Scotland," *Transactions of Social Science Association*, 1863, pp. 712-25.
- "The present state of economy and trade," *Transactions of Social Science Association*, 1864, pp. 69-105.
- "The loss of life and property by shipwrecks," *Transactions of Social Science Association*, 1865, pp. 77-101.
- "The Economic Principles of a reform of the legislation and administration for the conveyance of passengers and goods on railways," Longmans, London, 1865.
- "The Government Purchase of Railways," *Journal of Society of Arts*, vol. xiv, pp. 198-207, 9 February 1866.
- "What action, if any, ought the Government to take with regard to railways?" *Transactions of Social Science Association*, 1867, pp. 593-605.
- "University of London Election: Address to members of Convocation. With a letter from J. S. Mill," 1867.
- "On Standing Armies," London, 1868.
- "National Elementary Education. An Address," 1868.
- "Les Unions Ouvrières en Angleterre au point de vue criminelle," Paris, 1868.
- "The election for the Kilmarnock Burghs. Statement in relation thereto," 1868.
- "Movement for International Economy of Military Expenditure," *Journal of Statistical Society*, vol. xxxii, pp. 456-8, 1869.
- "The Military and Naval Force derivable from the introduction of military drill, and gymnastic exercises, as part of a national system of education in all elementary schools," Royal United Service Institution, May 1870.
- "National Education. Letter thereon to the Lord President of the Council," London, 1870.
- "The sanitary and economic advantages of smooth and impermeable street surfaces," *Transactions of Social Science Association*, 1871, pp. 489-501.

- "The chief economical principles for consideration in relation to National as against Standing Armies, as displayed in the present war on the Continent," *Transactions of Social Science Association*, 1870, pp. 500-16.
- "Memorandum on plan and estimate for drainage of Cawnpore," 1871.
- "Lettre sur l'instruction obligatoire en France, adressée par E.C. à M. Mignet," Académie des Sciences Morales et Politiques, Orleans, 17 November 1871.
- "On the jurisprudence of chargeability for sanitary works and for poor rates, police rates, and other branches of local administration," London, 1873.
- "What are the best means of drawing together the interests of the United Kingdom, of India, and of the Colonies?" *Transactions of Social Science Association*, 1874, pp. 850-69.
- "The system of the water supply of the metropolis," *Sanitary Record*, vol. iv, pp. 243-8, 8 April 1876.
- "Address on Public Health," *Transactions of Social Science Association*, 1877, pp. 74-121. Reprinted, Spottiswoode and Co., London, 1877.
- "Sanitary Condition of Aberdeen," *Transactions of Social Science Association*, 1877, pp. 582-91.
- "The Sanitation of a County," *Sanitary Record*, vol. viii, pp. 257-62, 26 April 1878.
- "National Water Supply," *Journal of Society of Arts*, vol. xxvi, pp. 767-774, 5 July 1878.
- "The need of reforms in the administrative organisation of the sanitary service, with special reference to the appointment of Medical Officers of Health," to Sanitary Institute of Great Britain, 1878, *Sanitary Register*, October 1878, pp. 5-19.
- "The Requisite Attributions of a Minister of Health," to International Congress of Hygiene, Paris, 4 August 1878, *Sanitarian*, vol. vii, pp. 59-67, February 1879.
- "Address as President to International Association for the Promotion of Means for Improving the Supplies of Drinking Water to Populations," delivered at Amsterdam, September 1879, G. Norman and Son, London, 1879.
- "On the Norma of sanitation in the school stages of life," *Transactions of Sanitary Institute*, vol. i, pp. 271-9, 1879.
- "Letter from Mr. Edwin Chadwick, on the application of sanitary science to the reduction of infantile mortality among the wage classes in Croydon," *Transactions of Sanitary Institute*, vol. i, pp. 310-14, 1879.

- "Circulation or stagnation: being the translation of a paper by F. O. Ward on the arterial and venous system for the sanitation of towns, with a statement of the progress made since then for its completion by Edwin Chadwick, C.B.," *Transactions of Sanitary Institute*, vol. ii, pp. 259-87, 1880.
- "The Census of 1881," *Journal of Society of Arts*, vol. xxviii, pp. 717-23, 16 July 1880.
- "Employers' Liability for accidents to workpeople," *Fraser's Magazine*, New Series vol. xxiii, pp. 680-92, May 1881.
- "National Education. On the rise and progress of the half-time principle for mixed physical and mental training, as the foundation of a national system of education," Charles Knight and Co., London, 1881.
- "Progress of sanitation: in preventive as compared with that in curativeness," *Transactions of Social Science Association*, 1881, pp. 625-649.
- "The Prevention of Epidemics," to Brighton Health Congress, December 1882, *Sanitary Record*, New Series vol. iii, pp. 270-7, 15 January 1882.
- "Position of Sanitation in England," to Association of Public Sanitary Inspectors, June 1884, *Sanitary Engineering*, vol. viii, pp. 482-5, 13 June 1884.
- "On the evils of disunity in central and local administration, especially with relation to the metropolis, and also on the new centralisation for the people, together with improvements in codification and in legislative procedure," Longmans, London, 1885.
- "Commentaries on the report of the Royal Commission on Metropolitan Sewage Discharge, and on the combined and the separate systems of town drainage," Longmans, London, 1885.
- "Sanitary review of the session," to Association of Public Sanitary Inspectors, May 1885, *Sanitary Engineering*, vol. x, pp. 296-8, 8 May 1885.
- "Ventilation with air from superior couches in place of inferior couches," *Sanitarian*, vol. xv, pp. 11-15, July 1885.
- "Sanitary Sewage and Water Supply," *Transactions of Sanitary Institute*, vol. ix, pp. 343-8, 1887.
- "Sanitary Conditions of Water Supplies," *Transactions of Sanitary Institute*, vol. ix, pp. 348-51, 1887.
- "Elementary Education Question and the Half-time System," Longmans, 1887.
- "Progress of sanitation, civil and military, to the year 1888," to Association of Public Sanitary Inspectors, 1888, *Journal of Society of Arts*, vol. xxvi, pp. 1029-34, 7 September 1888.

- "General History of Principles of Sanitation," Cassell and Co., London, 1889.
- "Present Condition of Sanitary Science," to Association of Public Sanitary Inspectors, *Sanitarian*, vol. xii, pp. 385-95, May 1889.
- "Competitive Examination," London, 1890.

C. OFFICIAL REPORTS DRAFTED WHOLLY OR PARTLY BY CHADWICK

- First Report from Commissioners appointed to collect information . . . relative to employment of children in factories*, 1833, vol. xx, p. 1.
- Second Report*, 1833, vol. xxi, p. 1.
- Supplementary Reports*, 1834, vol. xix, p. 253, vol. xx, p. 1.
- Report from Commissioners for inquiring into the administration and practical operation of the Poor Laws*, 1834, vol. xxvii, p. 1.
- Appendix (A) Parts II, III, IV: "Evidence collected by Edwin Chadwick; Rural Questions," 1834, vol. xxix, p. 1.
- Chadwick's report on London and Berkshire was reprinted in *Extracts from the information received by His Majesty's Commissioners, as to the administration and operation of the Poor Laws*, London, 1833 (pp. 201-339).
- First Report of Commissioners appointed to inquire into the best means of establishing an efficient constabulary force in the counties of England and Wales*, 1839, vol. xix, p. 1.
- Report of the Poor Law Commissioners to the Secretary of State, on an inquiry into the sanitary condition of the labouring population of Great Britain*, 1842, vol. xxvi, p. 1 (House of Lords).
- District Reports*, 1842, vol. xxvii, p. 1 (House of Lords).
- Report on Scotland*, 1842, vol. xxviii, p. 1 (House of Lords).
- Supplementary Report on the result of a special inquiry into the practice of interment in towns*, 1843, vol. xii, p. 395.
- First Report of Commissioners for inquiring into the state of large towns and populous districts*, 1844, vol. xvii, p. 1.
- Second Report*, 1845, vol. xviii, pp. 1, 299.
- First Report of Commissioners appointed to inquire whether any and what special means may be requisite for the improvement of the health of the metropolis*, 1847-8, vol. xxxii, pp. 1, 57.
- Second Report*, 1847-8, vol. xxxii, p. 253.
- Third Report*, 1847-8, vol. xxxii, p. 339.
- The Reports of the General Board of Health are included in Section E below.
- Of the Annual Reports of the Poor Law Commission, Chadwick's

influence is most visible in the First (1835), Fourth (1838) and Fifth (1839).

D. EVIDENCE GIVEN BY CHADWICK BEFORE ROYAL COMMISSIONS AND PARLIAMENTARY COMMITTEES

Select Committee on Metropolitan Police, 1828, vol. vi, p. 1. Chadwick was apparently not summoned as a witness; but the paper at Appendix F, pp. 322-5, is probably his: "Outline of the advantages which would result from extending the circulation of the *Police Gazette*; apprehension of offenders; recovery of stolen property; prevention of crime."

Select Committee on Intoxication among the Labouring Classes, 1834, vol. viii, p. 315; 11 June 1834, pp. 29-40.

Select Committee on the Highways Act, 1837-8, vol. xxiii, p. 325; 5 March 1838, pp. 11-25; 7 March, pp. 34-46.

Select Committee on District Asylums for the Houseless Poor in the Metropolis, 1846, vol. vii, p. 1; 27 February 1846, pp. 86-8; 5 May 1846, pp. 364-75.

Select Committee on Local Acts, 1846, vol. xii, p. 1; 28 May 1846, pp. 21-41.

Select Committee on Railway Labourers, 1846, vol. xiii, p. 411; 16 June 1846, pp. 146-54.

Select Committee on Sewage Manure, 1846, vol. x, p. 535; 26 June 1846, pp. 106-20.

Select Committee on the administration of the Poor Law in the Andover Union, 1846, vol. v, Part I, p. 1; Part II, p. 1; 25 July 1846, pp. 549-68; 28 July, pp. 869-92; 29 July, pp. 893-909; 30 July, pp. 912-26; 927-33, 934-6; 11 August, pp. 1106-7; 15 August pp. 1274-92, 1310-11.

Select Committee on the Law of Settlement, 1847, vol. xi, p. 1, etc. *Fourth Report*, 1847, vol. xi, p. 201; 4 March, 1847, pp. 1-18; 9 March, pp. 18-40; 11 March, pp. 40-63; 16 March, pp. 64-95.

Select Committee (Lords) to consider the subject of Printing Papers for the House of Lords, 1854, vol. xxi, p. 135 (House of Lords); 30 May 1854, pp. 25-30, 35-7.

Papers relating to Re-organisation of Civil Service, 1854-5, vol. xx, p. 1. Chadwick's paper, 1 August 1854, pp. 136-227.

Select Committee on operation of Corrupt Practices Prevention Act, 1854, 1860, vol. x, p. 1; 15 March 1860, pp. 153-67.

Two Papers submitted to Commission (on Popular Education) by Mr. Chadwick, as to half-time teaching and military and naval drill, and on time and cost of popular education on large and small scale, 1862, vol. xliii, p. 1. Further

return, being letter to Mr. Senior, explanatory of former paper, *ibid.*, p. 91.

Select Committee on Metropolitan Local Government, 1866, vol. xiii, p. 171.

Second Report, 1866, vol. xiii, p. 317; 23 July, pp. 223-31.

Select Committee on employment of steam on Tramways, 1877, vol. xvi, p. 445; 22 March 1877, pp. 108-14.

E. PARLIAMENTARY AND DEPARTMENTAL PAPERS

(1) 1831-47: PUBLIC HEALTH, POOR LAW, FACTORY ACT, PRIVATE BILLS

Select Committee on Bill to regulate the labour of children in mines and factories, 1831-2, vol. xv, p. 1.

Instructions from the Central Board of Factory Commissioners to the District and Medical Commissioners, 1833, vol. xxxi, p. 349.

Extracts from Reports made to the Poor Law Commissioners on the subject of the education of the poor, 1833, vol. cccxxiv, p. 657 (House of Lords).

Reports from the Factory Inspectors on the effects of the educational provisions of the Factories Act, 1839, vol. xlii, p. 353.

Select Committee (Lords) on the supply of water to the metropolis, 1840, vol. xxii, p. 715 (House of Lords).

Select Committee on health of towns, 1840, vol. xi, p. 277.

Select Committee on building regulations and the improvement of boroughs, 1842, vol. x, p. 161.

Select Committee on interments in towns, 1842, vol. x, p. 349.

Letters from R. H. Greig and H. Ashworth to E. Chadwick; also, correspondence and return relative to the removal of labourers from agricultural districts to manufacturing districts, 1843, vol. xlv, p. 119.

Select Committee on medical relief to the sick poor, 1844, vol. ix, p. 1. *Second Report*, 1844, vol. ix, p. 31. *Third Report*, 1844, vol. ix, p. 93.

Resolutions relative to Private Bills, 1845, vol. xxxvi, pp. 1, 3.

Instructions to Surveying Officers appointed by the Commissioners of Woods and Forests to institute preliminary inquiries, under 9 & 10 Vict., c. 106, in cases of application for Acts for the formation of cemeteries, 1847, vol. xxxiii, p. 87.

Letters from the Poor Law Commissioners to the Secretary of State respecting the transaction of the business of the Commission, 1847, vol. xlix, p. 1.

(2) 1848-54: REPORTS, RETURNS AND OTHER PAPERS RELATING TO THE GENERAL BOARD OF HEALTH

(a) Administration of Public Health and Nuisances Acts

Report on the measures adopted for the execution of the Nuisances Removal and Diseases Prevention Act, and the Public Health Act, up to July 1849, 1849, vol. xxiv, p. 1.

Minutes of information collected in respect to the drainage of the lands forming the sites of towns, to road drainage, and the facilitation of the drainage of suburban lands, 1852, vol. xix, p. 1.

Minutes of information collected with reference to works for the removal of soil water, or drainage of dwelling-houses and public edifices, and for the sewerage and cleansing of the sites of towns, 1852, vol. xix, p. 307.

Minutes of information collected on the practical application of sewer water and town manures to agricultural production, 1852, vol. xix, p. 133.

Copies of the correspondence between the General Board of Health and the Metropolitan Sanitary Association, on the subject of amendments in the Nuisances Removal Act, 1852, vol. xvii, p. 285 (House of Lords).

Reports on an inquiry relative to prevalence of disease at Croydon, and to plan of sewerage, 1852-3, vol. xcvi, p. 35. Further Reports from Board of Health, ibid., p. 221. Statement of preliminary inquiry, etc., ibid., p. 117.

Minutes of Evidence taken before the Select Committee of the House of Lords on the Bill "to confirm certain Provisional Orders of the General Board of Health for Hertford, Accrington, Bangor and Uxbridge, etc., "1852-3, vol. xxxi, p. 231 (House of Lords).

Report on state of works of drainage and sewerage, etc. (at Croydon) by Thomas Wicksteed, 1854, vol. lxi, p. 347.

Copies of all correspondence, memorials and reports, in reference to the application of the Public Health Act to the township of Barton-upon-Irwell, 1854, vol. lxi, p. 1.

Report on administration of the Public Health Act, and Nuisances Removal and Diseases Prevention Acts, from 1848 to 1854, 1854, vol. xxxv, p. 1.

Details of the receipt and expenditure of the Board, the persons in their employment, the number and names of places from which applications were made, the method of applying the Act, the amounts of the mortgages secured on local rates, the average cost of the works, etc., may be found in the following returns:

1850, vol. xxxiii, p. 335.

1850, vol. xxxiii, p. 591.

1851, vol. xliii, p. 321.

1852, vol. liii, p. 1.

1852-3, vol. xcvi, p. 1.

1854-5, vol. liii, p. 19.

1857 (Sess. 2), vol. xli, p. 3.

1867, vol. lix, p. 141.

Orders in Council for the application of the Public Health Act were published in the *London Gazette*, as were also the Notifications in respect to the Nuisances Removal and Diseases Prevention Act. Specimens of the Provisional Orders are given in *P.P.*, 1850, vol. xx,

p. 321 (House of Lords): "Provisional Orders for the application of the Public Health Act to Stratford-upon-Avon, Dartford, Newport (Mon.), Brecon, Harrow, Derby, Dover, Chelmsford and York."

The collection of Chadwick's pamphlets in the British Museum contains some 140 of the local reports by the Inspectors of the General Board.

(b) *Cholera, 1848-9 and 1853-4*

Report to the Poor Law Commission on the capabilities of the Metropolitan Workhouses for the reception and treatment of cholera cases, 1847-8, vol. li, p. 431.

Report of the General Board of Health on the epidemic cholera of 1848 and 1849, 1850, vol. xxi, p. 3.

Despatches and other documents relating to the outbreak of the cholera in the island of Jamaica, 1851, vol. xxxvi, p. 561.

Memorandum addressed to Viscount Palmerston, Her Majesty's Secretary of State for the Home Department, on behalf of a deputation which waited on him, on 27th February 1854, for the purpose of urging the necessity of preparations against the apprehended return of the cholera, 1854, vol. xix, p. 43 (House of Lords).

Letter from Dr. H. Gavin, Medical Superintending Inspector, General Board of Health, showing benefits resulting from house-to-house visitation in Newcastle, Dundee and Glasgow, 1854, vol. lxi, p. 109.

Report of Commissioners on causes of outbreak of cholera in towns of Newcastle-upon-Tyne, Gateshead and Tynemouth, 1854, vol. xxxv, p. 131.

(c) *Metropolitan Interments Act*

Report on a general scheme for extra-mural sepulture, 1850, vol. xxi, p. 573.

Report to the General Board of Health, by Dr. Sutherland, on the practice of intramural interments in the metropolis, 1850, vol. xxxix, Part I, p. 153 (House of Lords).

Number of interments that have taken place in the churchyard and vaults of the church of St. Margaret's (Westminster), 1840 to 1849, 1850, vol. xxxiii, p. 369.

Report "on the circumstances attending the revolting practices that have been said to occur in the St. Giles's cemetery in the parish of St. Pancras" by H. Austin and R. Rawlinson, 1850, vol. xxxix, Part I, p. 1 (House of Lords).

Report of preliminary proceedings under the Metropolitan Interment Act from 5th August to 31st December 1850, 1851, vol. xxiii, p. 429.

Second Annual Report of the General Board of Health, under sec. 73 of the Metropolitan Interment Act, 1852, vol. xx, p. 97.

Minutes of the Board of Health relating to the Metropolitan Interments Act since August 1850; and correspondence relative to the purchase of cemeteries, and the Abbey Wood Estate, 1852, vol. liii, p. 37.

Expenditure under the Act is shown in the following returns:

1851, vol. xxiii, p. 429.

1852, vol. liii, p. 227.

1852, vol. liii, p. 1.

(d) *Metropolitan Water Supply Bill.*

Report by the General Board of Health on the supply of water to the metropolis, 1850, vol. xxii, p. 1.

Extract Minute from the proceedings of the General Board of Health, 7 February 1850, respecting supply of water to the metropolis by proposed new companies, 1850, vol. xxii, p. 965.

Letter from the General Board of Health to the Secretary of State, dated 5th July 1850, transmitting a Minute of the Board with reference to the River Lea Trust Bill and the New River Company Bill, 1850, vol. xx, p. 351 (House of Lords).

Report on the proposed gathering grounds for the supply of the metropolis from the soft water springs of the Surrey sands, by the Hon. William Napier, 1851, vol. xxiii, p. 61.

Report by Mr. Rammell, an Inspector of the Board of Health, on the soft water springs in the Surrey sands, etc., 1851, vol. xxiii, p. 137.

Report of the Commissioners on the chemical quality of the supply of water to the metropolis, 1851, vol. xxiii, p. 401.

Select Committee on the Metropolis Water Bill, 1851, vol. xv, p. 1.

Select Committee on the Metropolis Water Supply Bill, and the Chelsea Waterworks Bill, 1852, vol. xii, p. 1.

Further minutes of evidence relative to the New River, East London Waterworks, and Lee River Trust Bills, and the Wandle Water and Sewage Bill, 1852, vol. xii, p. 221.

Further minutes of evidence relative to the East London, Southwark and Vauxhall, Grand Junction, West Middlesex and London (Watford) Spring Water Companies' Bills, 1852, vol. xii, p. 561.

Select Committee of the House of Lords on the Metropolitan Water Supply, 1852, vol. xxi, p. 339 (House of Lords).

Return of gaugings, reports and communications in relation to the sources of the soft-water springs in the Surrey or other sands for the supply of the metropolis, received by the General Board of Health since the presentation of their Report on the supply of water to the metropolis, 1852, vol. xxxi, p. 515 (House of Lords).

(e) *Relations with the Metropolitan Commission of Sewers*

Statement transmitted by Mr. John Leslie, to the Secretary of State for the Home Department, complaining of the constitution and administration of the Commission of Westminster Sewers, etc. 1847, vol. lvii, p. 123.

Letter from the Chairman of the Metropolitan Commission of Sewers to the Secretary of State, transmitting a report on the transactions of the Commissioners during the year 1850, 1851, vol. xlviii, p. 75.

Reports of Mr. Bazalgette relating to Pipe and Tunnel Sewers, 1852-3, vol. xcvi, p. 511.

Select Committee on Great London Drainage Bill, 1852-3, vol. xxvi, p. 387.

Reports and Communications by Board of Health to Home Secretary on the drainage of the metropolis, 1854, vol. lxi, p. 113.

Communication from General Board of Health, and reports of Superintending Inspectors, in respect to operation of pipe sewers, 1854-5, vol. xlv, p. 295.

Reports of District Engineers on working of pipe sewers, 1854-5, vol. liii, p. 173.

(f) *Miscellaneous Activities*

Letter, dated 19 March 1849, from the Board of Health to the Treasury on the advantages of printing official reports in the octavo, instead of the folio form, 1849, vol. xlv, p. 21.

Report of the General Board of Health on Quarantine, 1849, vol. xxiv, p. 137.

Report of Dr. Arthur Farre and Mr. Grainger to the General Board of Health, on Thirty-eight metropolitan workhouses, 1850, vol. xxi, p. 737.

Report to the Board of Health in reference to the sanitary condition of Agar Town, St. Pancras, and other parts of the metropolis, 1851, vol. xxiii, p. 1.

Report on a general scheme of extra-mural sepulture for country towns, 1851 vol. xxiii, p. 177.

Second Report on Quarantine: Yellow Fever, 1852, vol. xx, p. 117.

Reports made to the Home Secretary by the Assistant Commissioner of Police on the operation of the Common Lodging-Houses Act, 1851, 1852-3, vol. lxxviii, p. 525; 1854, vol. xxxv, p. 115.

Papers received by Board of Health, exhibiting operation of Common Lodging-Houses Act, 1852-3, vol. lxxviii, p. 553.

Letter from the General Board of Health to the Home Secretary on smoke consumption, 1854, vol. lxi, p. 533.

F. A SELECTION OF BOOKS

(1) *BIOGRAPHIES OF CHADWICK*

The memoir prefixed to *The Health of Nations* (2 vols., 1887), written by Sir Benjamin Ward Richardson from information communicated by Chadwick himself, is the most authoritative source for Chadwick's personal and family history. It is unfortunately brief and very reticent.

The Board of Health is dismissed in one page, and the mildness of the narrative points to the exercise of a strong censorship by Richardson. The survey of Chadwick's works which follows is largely an uncritical précis, but it contains a few comments by Chadwick himself. An abridged version in one volume, *National Health*, was published in 1890.

Richardson's memoir may be compared with the articles in the *North British Review*, vol. xiii, pp. 40-84, 1850 (by Professor Masson), and *The Sanitarian*, vol. v, pp. 176-82, April 1877, both of which incorporate material supplied by Chadwick himself.

Maurice Marston's *Sir Edwin Chadwick* (1925) is a popular account, of little weight, and based largely on Richardson. *Edwin Chadwick and the Early Public Health Movement in England*, by Dorsey D. Jones (University of Iowa Studies in the Social Sciences, vol. ix, No. 3, 1931) is a more scholarly work, but its sources are limited to the more accessible of the printed materials.

Also:

R. A. Lewis, "Edwin Chadwick and the Railway Labourers," *Economic History Review*, Second Series, vol. iii, No. 1, pp. 107-18, 1950.

"Edwin Chadwick and the Administrative Reform Movement, 1854-56," *University of Birmingham Historical Journal*, vol. ii, No. 2, pp. 178-200, 1951.

Portraits of Chadwick are given in Richardson and Marston (both late, æt. c. 70); J. A. Dolmege, *Towards National Health*, 1931, æt. c. 45; and, with B. W. Richardson and Professor R. Owen, "A Scientific Triad," in the *Pictorial World* for 29 May 1890. There is a bust of Chadwick in the library of University College, London.

(2) MEMOIRS AND LETTERS OF CONTEMPORARIES

Since sanitary measures were at the very margin of political interest, very little can be derived from the biographies and printed papers of the leading political figures of the time.

E. Hodder's *Life and Work of the Seventh Earl of Shaftesbury* (1886) contains some valuable extracts from Shaftesbury's diary, but is very discreet on controversial issues. Chadwick had to be restrained by Richardson from bursting into print to attack this book, presumably on account of its omissions and the emphasis it lays on Shaftesbury's work at the Board of Health at the expense of his colleagues.

Dr. Southwood Smith (1899) by the Doctor's granddaughter, C. L. Lewes, is a guileless essay in hero-worship, which regards him as the originator and chief figure in the public health agitation, barely mentioning Chadwick. Though its documentary value is slight, however,

it succeeds in conveying an impression of Southwood Smith's charm of character. See also F. Howell, *Sanitary Reform and Services of Dr. Southwood Smith in connection therewith* (pamphlet, 1855).

For the Earl of Carlisle there is little except the *D.N.B.* article by G. F. Russell Barker and the essay by Harriet Martineau in *Biographical Sketches* (4th ed., 1876).

The Letters, Remains, and Memoirs of Edward Adolphus Seymour, Twelfth Duke of Somerset, K.G., ed. W. H. Mallock and Lady Gwendolen Ramsden (1893), is quite useless, Chadwick and the Board of Health being nowhere mentioned. There is a sketch of Seymour's life in *The Seymour Family*, by A. Audrey Locke (1911).

For G. C. Lewis there are the *Letters*, edited by Sir Gilbert Frankland Lewis (1870), and the essay by W. Bagehot in his *Biographical Studies* (1881). A memoir of George Nicholls, by H. G. Willink, is prefixed to vol. i of the 1898 edition of his *English Poor Law*.

Also:

M. Bowley, *Nassau Senior and Classical Economics*, 1937.

J. Bowring, *Memoirs of Jeremy Bentham*, 1843.

H. Cole, *Fifty Years of Public Work*, 1894.

E. B. de Fonblanque, *Life and Letters of Albany Fonblanque*, 1874.

Mrs. Grote, *The Personal Life of George Grote*, 1873.

M. Greenwood, *The Medical Dictator, and other Biographical Studies*, 1936 (for William Farr).

W. Hale-White, *Great Doctors of the Nineteenth Century*, 1935 (for John Simon and Neil Arnott).

J. L. and B. Hammond, *Lord Shaftesbury*, 1923.

N. A. Humphreys, *Vital Statistics: a memorial volume of selections from the reports and writings of William Farr*, 1885.

R. E. Leader, *Life and Letters of J. A. Roebuck*, 1897.

J. G. Lockhart, *Viscount Halifax, 1839-1885*, 1935 (for Sir Charles Wood).

A. Newsholme, Lecture on William Farr, *Economica*, Nov. 1923.

R. Owen, *Life of Richard Owen*, 1894.

W. Reid, *Memoirs and Correspondence of Lyon Playfair*, 1899.

B. W. Richardson, *Disciples of Æsculapius*, 1900 (for Thomas Wakley and John Snow).

F. Smith, *Life and Work of Sir J. Kay-Shuttleworth*, 1923.

(3) THE PUBLIC HEALTH MOVEMENT

Sir John Simon's *English Sanitary Institutions* (1890) is the fullest and best account, written by an authority who knew and respected the leaders of the movement and very largely shared their theories. *The*

Public Health Agitation, 1833-48, by B. L. Hutchins (1909), reprints a series of lectures delivered at the London School of Economics, and contains short but useful studies of Southwood Smith and Chadwick. *The Story of English Public Health*, by Sir Malcolm Morris (1919), is admittedly based on Simon. A more recent study, *Towards National Health*, by J. A. Dolmege (1931) pushes the story back into earlier centuries.

The work of earlier reformers is described in M. C. Buer, *Health, Wealth, and Population in the early days of the Industrial Revolution*, 1926; M. D. George, *London Life in the Eighteenth Century*, 1925; G. T. Griffith, *Population Problems of the Age of Malthus*, 1926.

Also:

Sir George Newman, *The Rise of Preventive Medicine*, 1932.

The Building of a Nation's Health, 1939.

Health and Social Evolution, 1931.

Sir A. Newsholme, *Elements of Vital Statistics*, 1889 (contains examples of Chadwick's statistical blunders).

Ministry of Health, 1925.

H.M.S.O., *The Story of the General Registry Office* (centenary volume, 1937).

The best introduction to the medical theories of the time is probably given by the two classics of epidemiology, John Snow's *On the Mode of Communication of Cholera*, 1849 (reprint of second edition of 1854, entitled *Snow on Cholera*, New York, 1936) and William Budd's *Typhoid Fever*, 1874 (reprinted, New York, 1931). Southwood Smith's views are stated in his *Philosophy of Health* (1835).

Also:

C. Creighton, *History of Epidemics in Britain*, 1894.

F. H. Garrison, *An Introduction to the History of Medicine*, 1914.

E. W. Goodall, *A Short History of Infectious Epidemic Diseases*, 1934.

M. Greenwood, *Epidemiology, Historical and Experimental*, 1932.

D. J. Guthrie, *History of Medicine*, 1945.

H. H. Scott, *Some Notable Epidemics*, 1934.

H. E. Sigerist, *Man and Medicine*, 1932.

C. Singer, *A Short History of Medicine*, 1928.

H. Zinsser, *Rats, Lice, and History*, 1935.

(4) ADMINISTRATIVE AND ECONOMIC HISTORY

E. Cannan, *History of Local Rates in England*, 1896.

C. T. Carr, *Concerning English Administrative Law*, 1941.

J. H. Clapham, *Economic History of Modern Britain*, 1930.

F. Clifford, *History of Private Bill Legislation*, 1885.

E. W. Cohen, *The Growth of the British Civil Service*, 1941.

S. Dowell, *History of Taxation and Taxes in England from the Earliest Times to the year 1885*, 1888.

H. Finer, *The British Civil Service*, revised edition 1937.

G. L. Gomme, *London in the Reign of Victoria*, 1898.

B. K. Gray, *Philanthropy and the State*, 1908.

H. R. G. Greaves, *The Civil Service in the Changing State*, 1947.

E. Halévy, *History of the English People*, 1924-7.

J. L. and B. Hammond, *Age of the Chartists*, 1930.

B. L. Hutchins and J. A. Harrison, *History of Factory Legislation*, 1911.

H. Jephson, *The Sanitary Evolution of London*, 1907.

H. J. Laski, W. I. Jennings, and W. A. Robson (ed.), *A Century of Municipal Progress*, 1935.

R. Moses, *History of the Civil Service*, 1914.

G. Nicholls, *History of the English Poor Law*, 1854.

A. Redford, *History of Local Government in Manchester*, 1939.

A. H. Robson, *The Education of Children engaged in Industry, 1833-1876*, 1931.

G. Slater, *Poverty and the State*, 1930.

K. Smellie, *A Hundred Years of English Government*, 1937.

F. H. Spencer, *Municipal Origins*, 1911.

S. and B. Webb, *Statutory Authorities*.

English Poor Law History (vols. 4 and 7-9 of *English Local Government*, 1906-29).

W. H. Wickwar, *The Public Services*, 1938.

O. C. Williams, *Historical Development of Private Bill Procedure and Standing Orders in the House of Commons*, vol. i, 1948.

A. Wilson and H. Levy, *Workmen's Compensation*, 1939.

Burial Reform and Funeral Costs, 1938.

G. PAMPHLETS

The great majority of Chadwick's collection of pamphlets, covering all his multifarious interests, poor law, public health, education, police, agriculture, etc., are deposited in the British Museum. They fill 535 volumes, under the Press mark C.T.

Part of Chadwick's library, 274 books and 43 pamphlets, was given to the Manchester Public Libraries in 1891 by his son, Osbert Chadwick.