

CATALOGUE OF THE PAPERS OF PROFESSOR SIR
WILLIAM BOYD DAWKINS IN THE JOHN RYLANDS
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INTRODUCTION*

According to a recent study, 'the history of the rise of geology over the past 200 years can, through British eyes at least, be seen to comprise two different but closely interconnected strands'.¹ The first relates more to Natural History and looks toward the scientific or 'pure' front. The second connects with mining and the search for raw materials and is slanted towards the industrial or 'applied' horizon. In contemplating these two strands of geological history it is interesting to note that it is the scientific branch of geology that has traditionally brought fame and fortune. In the nineteenth century it was the Victorian 'gentleman' geologist who enjoyed the greatest respect and power. Some became national figures, as their work on rock strata, geological surveys and minerals was found useful in the drive for 'imperial' expansion. These were the men who filled museums with their geological specimens, engaged in the most prominent controversies of the day, wrote books and articles and left papers – and naturally won prestige, influence and honours.² These protagonists of scientific geology have also been the chief interest of historians. This is despite the fact that the growth of

* We are grateful to Jack Morrell (Bradford University) and Hugh Torrens (Keele University) for providing references for this paper.

¹ H.S. Torrens, 'Hawking history: a vital future for geology's past', *Modern Geology*, 13 (1988), 83–93.

² Torrens (above) cites the case of Sir Roderick Murchison, who was publicly hailed as 'King of Siluria' and was escorted to his grave by no less than the Prime Minister. See also Roy Porter, 'Gentlemen and geology: the emergence of a scientific career, 1660–1920', *Historical Journal*, 21 (1978), 809–36.

the geological sciences in the nineteenth century had an important impact on the development of the country's mining and raw materials industries.

What are the reasons for this bias? Some might argue that it only reflects a long-standing British repugnance to all things industrial or 'applied', that is also shared to an unconscious extent by historians of science.³ On the other hand, it may simply be due to the nature of the source material available for historians, who themselves have always had a preference for print and manuscripts. Given that 'gentlemen' geologists left plenty of the latter, it should therefore be no surprise that historians have concentrated on the scientific side of the subject. Geologists who dirtied their hands in industry, who did not cram museums with fossils and rock specimens, who often left few papers, and did not always report their findings in journals and newspapers have fared less well. Thus historians have been led to perpetuate the snobberies of the old geological hierarchy and also to give a one-sided impression of the rise of the science.

These issues are encapsulated by a look at the career and the manuscript papers of Professor Sir William Boyd Dawkins (1837–1929). A well-known and often controversial figure in his day, Dawkins was the first professor of Geology at Manchester University and the curator of Natural History at Manchester Museum. An examination of his distinguished career from the printed sources seems to suggest that he was another primarily academic geologist, palaeontologist and antiquarian – a professor, who, though not averse to advising on water supply, mining and tunnelling projects, was happiest when he was cave-hunting or classifying fossil collections in Manchester Museum.⁴

Dawkins's career in geology began at Jesus College, Oxford, with a first class degree in Natural Sciences and the encouragement of the professor of Geology, John Phillips (1800–74). In 1861 Dawkins became the first recipient of the Burdett-Coutts scholarship, recently founded at Oxford to promote the study of geology. During 1861–69 he was a member of the Geological Survey of Great Britain and became a junior colleague of T.H. Huxley (1825–95) at the Royal School of Mines in Jermyn Street, London. For eight years he mapped parts of Kent and the Thames Valley, which furthered his interest in mammalian remains in the river gravels. His interests in this field had begun with the excavation of a hyaena den at Wookey Hole, near Wells, Somerset, which launched him into a lifetime's interest in

³ The classic treatment of English ambivalence to industrial life is Martin J. Wiener, *English culture and the decline of the industrial spirit, 1850–1980* (Cambridge: Cambridge U.P., 1981).

⁴ See *Dictionary of National Biography 1922–30* (London: Oxford U.P., 1937), 250 1; *Manchester Faces and Places*, 4 (10 February 1893), 68–70; *Research*, 9 (1 March 1889), 152–3; *Quarterly Journal Geological Society of London*, 85 (1929), lix lx.

extinct mammalia and also a lifelong link with that county. This led to the publication of numerous memoirs and papers, dealing with subjects as diverse as the dentition of the woolly rhinoceros and the origins of the cave lion. His election to the Fellowship of the Royal Society in 1867 was a recognition of this work.

In 1869, on Huxley's recommendation, he was appointed curator of the old Manchester Museum in Peter Street (on the site of the present Y.M.C.A. building) and energetically began the difficult task of cataloguing and sorting its rather moribund collections. He later arranged their removal and eventual incorporation into the new Victoria University (founded at Owens College in 1880). In 1872 Dawkins had become the first lecturer in Geology at Owens at a salary of £140 plus two-thirds of the student fees. Geology was thus split from the Natural History department of William C. Williamson (1816–95), a sign that the University – in particular powerful members of the Senate such as Henry Roscoe – recognized that such disciplines were becoming too specialized for a single individual.⁵ Dawkins was appointed professor in 1874 and occupied the chair until his retirement in 1908, though he continued his connection with the Manchester Museum.

Dawkins's reputation for his related work on natural history was still growing, particularly for his researches on English fossil mammals and early man. In 1875–78, for example, he made further excavations in caves in the Creswell Crags, near Worksop, on the border of Derbyshire. He also travelled widely in Europe, Australia and America. Besides his lecturing and prolific output of papers, he wrote two books: *Cave hunting* (London: Macmillan, 1874) and *Early man in Britain and his place in the tertiary period* (London: Macmillan, 1880). He also collaborated with W. Ayshford Sandford on the multi-volume *British pleistocene mammalia* (London: Palaeontographical Society, 1866–).

Gradually, Dawkins's career assumed that of the Victorian man of letters. He was a founder and first president of the Lancashire and Cheshire Antiquarian Society; a member and past president of the Manchester Geological and Mining Society;⁶ and honorary member of the Isle of Man Natural History and Antiquarian Society. Professional honours came his way – the Geological Society of London awarded him the Lyell medal in 1889 and the Prestwich medal in 1918 – and national recognition followed in 1918 with a knighthood. In politics he was a Unionist and held office in the Manchester Conservative and Unionist Association and in 1918 became the president of the Manchester University Constitutional Association. For some

⁵ Robert H. Kargon, *Science in Victorian Manchester: enterprise and expertise* (Manchester: Manchester U.P., 1977), 194.

⁶ Kenneth Wood, *Rich seams: Manchester Geological and Mining Society 1838–1938* (Warrington: Institution of Mining Engineers, 1987), 65–8.

twenty-five years he was also a J.P. He lived with his family in increasing comfort in Fallowfield and then later at Richmond Lodge in Bowdon, Cheshire, surrounded by his collections of books, antique furniture and cloisonée enamels.⁷

These facts are available in the standard biographical and obituary sources. However, from about 1870 Dawkins also had another career as one of the country's first university-based consultant geologists – a career that led to an important involvement in some of the major engineering schemes of the day. Dawkins was credited with the discovery of the Kent coalfield in 1890. These facts are less well covered, if they are mentioned at all, in the printed sources.

Boyd Dawkins lived in an era (which some might argue is still with us) when industry was seen as not quite a fit subject for a professor of Geology. When he retired in 1908 the *Geological Magazine*, in its series of articles on 'Eminent Living Geologists', lauded him as 'an attractive and inspiring teacher' and paid tribute to his work at the Museum, the organization of which was 'the direct outcome of its first Curator'.⁸ However, the article never once mentioned his industrial work! Years later, in Dawkins's obituary notice, the *Geological Magazine* made some amends, though it noted that when in the 1870s Dawkins decided to concentrate on 'applied geology' his geological colleagues 'deplored the decision'.⁹ Similarly, other obituaries mentioned his engineering geology only in passing, concentrating instead on his spelaeological interests. For example, his student and later confidant Sir Arthur S. Woodward, in the *Proceedings of the Royal Society*, spent over two pages discussing his friend's fossil work, but only a brief paragraph on his industrial career.¹⁰

Recent studies of Dawkins have again stressed his work as a palaeontologist and fostered a rather antiquarian image of a 'cave-hunter'¹¹ – an image reinforced by museum presentations of his work. Buxton Museum, located in an area where Dawkins conducted many of his cave expeditions, has a room dedicated to the great man (and to his student Wilfrid Jackson), where visitors can contemplate his study, books and personal memorabilia and can follow his career on a wall-mounted display. In the Museum information on Dawkins's industrial career scarcely intrudes; and the fact that Dawkins's

⁷ Dawkins was married twice: first, in 1866 to Frances née Evans (d.1921), by whom he had a daughter, Ella Selina (d.1969); secondly, in 1922 to Mary née Poole.

⁸ 'Eminent living geologists: William Boyd Dawkins', *Geological Magazine*, n.s., 6 (1909), 529–34.

⁹ *Geological Magazine*, 66 (1929), 142.

¹⁰ A.S. Woodward, 'Sir William Boyd Dawkins (1837–1929)', *Proceedings of Royal Society*, B 107 (1931), xxiii–xxvi.

¹¹ M.J. Bishop (ed.), *Cave hunters: biographical sketches of Sir William Boyd Dawkins and Dr J. Wilfrid Jackson* (Buxton: Derbyshire Museum Service, 1982). Typically, the most recent discussion of Dawkins's work concerns palaeontology. See Frank Spencer, *Pitldown: a scientific forgery* (Oxford: Oxford U.P., 1990).

geological research might have had an impact on the country's economy is thought hardly worth consideration.

Such publications and exhibitions, however, are based on only a partial collection of manuscripts and artefacts. This is despite the fact that Dawkins's career might appear to be extremely well-documented. He bequeathed a large quantity of personal papers, his library and fossils to the town of Buxton, where they are now held at the Museum.¹² Jesus College (Oxford) also holds letters chronicling his friendships with the historians E.A. Freeman and J.R. Green;¹³ Manchester Museum has a large collection of fossil notebooks and diaries; and Oxford University Museum has important manuscripts on Somerset caves. Other material is lodged at the Bodleian Library, Oxford, the Geological Society of London, Queen's College, Oxford, and Wells Museum, Somerset. Yet these materials relate almost exclusively to Dawkins's research into fossils and early man, leaving a large part of his career uncharted.¹⁴

In 1990, however, Edgar Morton & Partners, a firm of consulting engineering geologists in Altrincham, Cheshire, deposited a large, unsorted collection of Dawkins's papers with the University of Manchester. The collection had been retained by Edgar Morton (1897–1973), a former associate of Dawkins, who became an expert in hydrogeology. The papers had then been passed to his sister, Catherine Morton. The material has been catalogued by the authors at the Research Institute of the John Rylands Library, Deansgate, Manchester.¹⁵

This voluminous collection (over fifty archive boxes) documents the missing half of Dawkins's career, since it relates largely to his work as a consultant geologist. As such, it complements the other major Dawkins collections in the U.K. The archive shows the extensive nature of Dawkins's consulting practice in engineering geology from about 1870 to the 1920s (though it also adds to our knowledge of his palaeontology). It contains personal letters, consultancy reports, geo-

¹² M.J. Bishop, 'The Dawkins-Jackson Archive at Buxton Museum', in D.J. Briggs, *Peak District and Northern Dukeries field guide* (Quaternary Research Association, 1985), 70–6; M.J. Bishop, 'A guide to archives on Somerset geology and archaeology in the Dawkins and Jackson Papers at Buxton Museum', *Proceedings University Bristol Speleological Society*, 18 (1988), 306–13. See generally Gavin D.R. Bridson *et al* (eds.), *Natural history manuscript resources in the British Isles* (London: Mansell, 1980).

¹³ Leslie Stephen, *Letters of John Richard Green* (London: Macmillan, 1901); William R.W. Stephens, *The life and letters of Edward A. Freeman*, 2 vols. (London: Macmillan, 1895).

¹⁴ The institution which does have material relating to Dawkins's economic geology – Manchester Museum – has not yet catalogued it.

¹⁵ The material (including the papers of Edgar Morton himself) was passed to David Procter (senior lecturer in Engineering at Manchester University) through the good offices of Bill Isherwood and John Scriven of Edgar Morton & Partners. A selection of Dawkins's geological specimens was retained by the Engineering Department. In compiling the catalogue we were helped by David Procter, John Scriven, D.A. Rees (Jesus College, Oxford), Lesley-Ann Kerr (Wells Museum), Steven Tomlinson (Bodleian Library), H.P. Powell (Oxford University Museum, Geological Collections), Helen Powell (Queen's College, Oxford) and Philip Clayton (Buxton Museum).

logical sections and notes (many in Dawkins's own hand), printed evidence to official committees, company prospectuses, maps, and press cuttings. There are reports and letters from fellow geologists, such as William Whitaker, Henry Godwin-Austen and Robert Etheridge, and from leading industrialists such as Sir Edward Watkin and Sir Myles Fenton.

Above all, the collection illuminates Dawkins's involvement with economic geology. For example, a major section of the archive deals with Dawkins's work with water supply projects for various government and municipal authorities. He advised on problems of London water supply, the siting of reservoirs, especially in the north-west, and the development of sewage and power facilities. Dawkins's many case-studies on hydrogeology support the assertion of the *Manchester Guardian* that 'he was more often engaged as an expert witness in the Law Courts than any other geologist of his day'.¹⁶ Other documents in the collection relate to a particularly topical matter – the construction of a Channel Tunnel – for which Dawkins was scientific adviser in the early 1880s. His reports on the feasibility of the Tunnel project survive in the John Rylands collection. The cross-Channel link, of course, proved abortive: however, it led directly to the work that brought Boyd Dawkins his greatest renown as an engineering geologist – his involvement with the Kent coalfield in the period c. 1882–1912. Dawkins's suggestion – in a holograph report that is extant in the archive – that the Channel tunnelling companies utilize their shafts at Dover to drill for coal proved inspired. The result in 1890 was the discovery of the Kent Coalfield, the commercial development of which gave further scope for Boyd Dawkins's talents.¹⁷

Such projects, however, were only part of Dawkins's activities as an industrial consultant. His expertise was sought on such diverse problems as the Humber Tunnel, compensation over Cheshire brine pumping subsidence, fluor spar mining, Derbyshire oil prospecting, and damage caused to the environment by mining. Nor did he confine his attention to Britain. He consulted for diamond mining firms in South Africa, oil shale prospectors in Australia, and Carrara marble quarries in Italy.

These manuscripts will enable a fuller and more accurate portrait of Boyd Dawkins to be drawn in the future. It will be clear from even a preliminary examination of the catalogue that his consulting work was central to his career after the 1870s, even though his published output gives the impression that industrial work was only a sideline. Indeed, it is quite likely that such commissions proved far more lucrative to Dawkins than his relatively poorly-paid university post, even though money can hardly have been Dawkins's primary motivation. His

¹⁶ *Manchester Guardian*, 16 January 1929.

¹⁷ G. Tweedale, 'Geology and industrial consultancy: Sir William Boyd Dawkins (1837–1929) and the Kent Coalfield', *British Journal for the History of Science*, 24 (1991), 435–51.

freelancing appears to have stemmed from a mixture of motives – an outlet for his remarkable energy, a desire for prestige, and perhaps above all a desire to make geology the handmaid of industry. Hence, Dawkins's commitment in the last years of his professorship to providing courses for mining and mining engineers and to expanding his department to give more time to the 'practical side of geology, which looks more toward Mining and Civil Engineering'.¹⁸ At the turn of the century this desire to forge closer links with industry was shared by other scientists at Manchester University, such as Sir Henry Roscoe, Sir Arthur Schuster and Robert S. Hutton.¹⁹

This collection is thus rich in source material for the history of geology, economic and business history, hydrogeology, and the interplay between the universities and British industry. Now that linkages between the universities and industry are fashionable again, Dawkins's energetic efforts on behalf of the industrial community give his career a modern look and increase the relevance of the John Rylands collection. With such extensive archive materials – perhaps the largest body of documents for any one nineteenth-century geologist – scholars have an excellent opportunity to provide a more convincing and up-to-date picture of Boyd Dawkins's place in the history of geology.

¹⁸ *Report of Council to Court of Governors* (Manchester, 1906), 196.

¹⁹ The papers of Sir Arthur Schuster (1851–1934) and Sir Henry E. Roscoe (1833–1915) have also been catalogued at the Research Institute of the John Rylands Library. So too have the papers of R.S. Hutton (1876–1970), appointed by Schuster as the country's first lecturer in Electro-Chemistry in 1900. See G. Tweedale, 'The beginnings of electro-metallurgy in Britain: a note on the career of Robert S. Hutton (1876–1970)', *Historical Metallurgy*, 25 (1992), 71–7.

CATALOGUE

SERIES 1. PERSONAL CORRESPONDENCE, PAPERS, AND RELATED DOCUMENTS

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APPENDIX: MANUSCRIPT MATERIAL OF SIR W. BOYD DAWKINS AT OTHER LOCATIONS IN THE U.K.

NAME INDEX

JRL WBD SERIES 1. PERSONAL CORRESPONDENCE, PAPERS, AND RELATED DOCUMENTS

- 1a File of obituary and biographical notices.
- 1b File inc. Derbyshire Record Office handlist of WBD material (now at Buxton Museum); articles on WBD archives by Bishop *et al.*
- 2 Notes and letters (2) from E.W. Moseley (?) re. fossils in the Oxford Museum, 17 March 1885.
- 3 Letter from W. Davies re. sending fossils from British Museum to Manchester, 4 April 1885.
- 4 Letter from Mr Hicks re. disposal of fossil collection from Bryn-Asaph, 5 August 1885.
- 5 Letter from E.B. Luxmoore re. fossil specimens, 16 August 1887.
- 6 Letter from Mr Gunley (?) re. fossil specimens, 29 September 1897.
- 7a Letters from T. Hardy re. Lake District rocks and geology, 4 April 1888.
- 7b Letter from City Surveyor re. Oxford Rd Sewer, 31 January 1888.
- 8 Letter from James Woolley & Sons, re. quotes for apparatus, 16 April 1888.
- 9 Letter from M. Stirrup re. visit to Clifton, 17 October 1888.
- 10 Letter from J. Jones re. fossils found during mining on Isle of Man (?), 23 November 1888.
- 11 Letter from Professor Knight re. spar samples from Furness iron mines, 15 December 1888.
- 12 Letter from Mr Williams re. new fossil excavations, 26 February 1889.
- 13 Letter from M.S. Valentine, Virginia, U.S.A., re. negroes in the southern states, 4 April 1889.
- 14 Letter from M.B. Gardner re. his return to London 28 June 1889; letter from Wortley Mineral Estate Offices wishing to employ Mr Gardner, 15 October 1889.
- 15 Letter from C.H. Read re. Waddies in Queensland, 22 July 1889.
- 16 Letter from Mr Wright, 27 August 1889; letters (5) from Mr Millet, September 1889; 3 sheets of WBD's notes re. fossils in Deep Dale caves, Buxton.
- 17 Letter from O.W. Jeffs re. fossils and geological photos; list of Jeffs's photos, 7 November 1889.
- 18 Letter from ? re. anthropology, 27 January 1890.
- 19 Letters (2) and borehole section from Aqueous Works and Diamond Rock Boring Committee requesting work, 4 July 1890, 3 April 1894.
- 20 Letter from A.C. Nicolson re. fossil shells, 2 February 1891.

- 12 BULLETIN JOHN RYLANDS LIBRARY
- 21 Letter from W. Brooks re. fossils from Scotland, 4 February 1891.
- 22 Letter and 3 lists of fossils from Mr Buckman, 27 February 1891.
- 23 Letter from C. Carus-Wilson re. WBD's lecture on S.E. Coal, 28 September 1891.
- 24 Letter from H. Jones re. pottery fragments, 18 October 1893.
- 25 Letter from S. Lawrence re. skull found at Mortlake, 17 October 1893.
- 26a Letter from C.C. Greenwell, re. loan of WBD's fossil and coal collection, 26 February 1898.
- 26b Letter from Dunn Bros to WBD re. chemical and mineral matters, 4 August 1900.
- 27 Letter from C. Leigh re. waterproof cloth with five samples, 8 July 1903.
- 28 Letters (2) from H. Rumby (?) re. coked coal; photo of carving found by the above; photo of excavation, 23 February 1904; March 1904.
- 29 Letter from W. Bowden re. bones, 28 October 1906.
- 30 Letter from W.F. Petrie re. teaching matters, 7 October 1907.
- 31 Letter from W. Charlton re. his coin collection, 4 December 1907.
- 32 Letter from F.A. Bather at British Museum re. examination honours at Manchester, 31 March 1908.
- 33 Letter from J.H. Cooke re. use of Geological Laboratory by Stockport Technical School, 3 April 1908.
- 34 Letter from H. Hall re. coal sample, 27 January 1909.
- 35 Letter from B.R.S. Lord of Merthyr Naturalists' Society re. bones etc., 30 January 1909.
- 36 Letters (3) from Geological Survey of India, re. specimens, lectures etc., 4, 26, 27 April 1909.
- 37 Letter from S.N. Reynolds from University College, Bristol, re. skulls, bones, etc., 16 April 1909.
- 38 Letter from W.G. Smith re. geological finds, 19 April 1909; postcard from Smith re. leopard's tooth, 21 April 1909.
- 39 Letter from G. Wild re. Derbyshire fossils, n.d.
- 40 Letter from J. Hardy re. bull's skull with label, n.d.
- 41 Printed syllabuses of WBD's lectures: Geology, undated; Nature Studies, 1907; Monday Popular, 1907-08.
- 42 Articles and off-prints sent to WBD: for e.g., fossil plants, marine fauna, boring for water.
- 43/44 Files of ephemera.
- 45 Miscellaneous notes and calculations, etc, by WBD.
- 46 Miscellaneous geological photographs (3).

JRL/WBD SERIES 2. PROJECTS, REPORTS, LETTERS, MAPS

A. Water Supply

This series relates to WBD's work as a consultant for various government and municipal authorities (and occasionally private parties), when he was requested to provide consultancy on water supply. The following folders vary in size, but most contain a substantial mixture of WBD's notes and correspondence; proofs of WBD's evidence; maps, diagrams and sections; printed local and parliamentary papers; and reprints and cuttings.

- 1 London. This is by far the largest collection of material and has been filed chronologically. It includes:
 - Rennie's Report on Bagshot Water Supply, 1850.
 - Metropolis Water Bill, Minutes of Evidence, 1852.
 - New River Co. diagrams of discharge, 1858–95.
 - Estimate for Works . . . for . . . New River and East London Water Works Companies, 1867.
 - Pumping Centres, 1870.
 - Hampstead Rd Well, 1878.
 - Grays (Essex) Water, 1878. (2 folders)
 - Colne Valley, 1878.
 - Notes, letters re. Percolation and Rainfall in Lea Valley, 1878+.
 - Miscellaneous notes re. Metropolitan Water, c. 1878. (2 folders).
 - Metropolitan Water. Supplementary Report by Robert Mylne, 1879.
 - Victoria Dock Extension, 1879.
 - Letters and notes re. St Pancras Well, 1891.
 - New River Co., 1891–92.
 - WBD's miscellaneous notes, 1891, and n.d.
 - East London Water, 1892.
 - Lambeth Water, 1892.
 - WBD's Report on Metropolis Water, 1892.
 - WBD 'Report on the Question of the Further Supply of Water by the New River Co.', 1892.
 - Statement of Southwark & Vauxhall Water Co., 1892.
 - Croydon, 1896. (2 folders)
 - WBD New River notes, 1896.
 - New River Co., 1896, including proof by WBD.
 - New River Co. Bill. Minutes and Proceedings, 1896, including proof by WBD.
 - New River Co. Herts County Council Petition, 1896.
 - New River Co. Bill. 'Petitions Against the Bill'. Bound vol.
 - WBD, Report on saturated chalk, 1896.

- Southwark & Vauxhall Water Bill, 1896, including proof by WBD. (2 folders)
- Brede Valley Water Scheme, 1897.
- WBD Statement on sites for reservoirs in S. Wales proposed by London County Council, 1898.
- Cuttings, notes and letters relating to East End Water Famine, 1898.
- Welsh Sites, 1898.
- WBD Report on Barnet District Gas and Water Co., 1901.
- Metropolis Water Act, Court of Arbitration, etc, 1892.
- Miscellaneous rainfall tables, c. 1897.
- Metropolis Water. New River Co. First proof by WBD, 1903.
- Shrinkage of the Thames and Lea. Miscellaneous reports, 1903.
- Plans and descriptive statement of the works of the New River Co., 1903. Bound vol.
- Miscellaneous reprints collected by WBD.
- WBD's draft proofs, n.d.
- Metropolitan Water. Miscellaneous notes on rainfall, water levels, chemical analyses, various dates.
- Notes on East London Water Works, n.d.
- Miscellaneous maps re. Metropolitan Water.
- 2 West Houghton Reservoir, 1875–76.
- 3 Liverpool Water and boreholes at Bootle, 1876–78.
- 4 West Gloucester Water Bill, 1884–89.
- 5 Maidstone Water, 1885.
- 6 Bristol Water Bill, 1887–88.
- 7 Staffordshire Potteries Water Bill, 1887–88.
- 8 Normahurst Well, Battle Water, 1887.
- 9 Oldham Water, 1889–94.
- 10 Rugeley Water, 1891.
- 11 Kent District, mainly Eynesford & Keston, 1892 (?), but including reports, 1898.
- 12 Birmingham Water Bill, 1892.
- 13 Guernsey Water, 1893.
- 14 Worthing Corporation, 1893.
- 15 Hull-Newington Water, 1893.
- 16 New Hey Data, 1894.
- 17 Midhurst Water, 1894.
- 18a Wheelton Tunnel/Thirlmere (P. Todd/Manchester arbitration), 1895.
- 18b Whitby Water Report, 1895.
- 19 Dewsbury, Barnsley Reservoir, 1895.
- 20 South Wingfield Water, 1895–97.
- 21 Birkenhead Water, 1895.
- 22 Bollington Water, 1896.

- 23 Ystrad, 1896, Gas and Water.
24 Coventry Water, 1896.
25 Eastbourne Water, 1896–1926.
26 Nottingham/Newark, 1897.
27 Great Western Railway v. Newport, re. water supply, 1897.
28 Charing Cross Water, 1897.
29 Worthing Water, 1897.
30 Woodford Water for Great Central Railway, 1897–98.
31 Fylde Water.
32 Newhaven & Seaford Water, 1898.
33 Rhondda, 1898.
34a/b Folkestone Water, 1898.
35 Wey Valley and Haslemere Gas, 1898.
36 Tynemouth Water, 1898.
37 Matlock Water, 1898.
38 Clevedon Water, 1898–1900.
39 Carlisle Water, 1907.
40 Highland Water, 1899.
41 Menstone Water, 1899.
42 Derwent Valley Water (involving Derby, Sheffield, Leicester, Derwent Valley), 1899–1901.
43 Nene Valley, 1899.
44 South Essex, 1900.
45 Wetherby Water (opposition of City of Leeds to Bill), 1900.
46 Rolleston, 1900.
47 Leicester-Beaumont Leys Sewage Works (opposition of Sir Robert Tempest), 1900–01.
48a/d Exmouth Water Bill, 1900–01; supply report, 1908.
49 Newton-le-Willows, 1901.
50 Leeds, 1901.
51a/b Wolverhampton Water, 1901–02; 1915 Bill.
52 Skipton, 1902.
53 Little Hadham Well, 1902.
54 Stoke Mandeville, 1902.
55 Wigan, 1902.
56 Tees Valley Water, 1903; Tees Valley Water (Grasholme Trench), 1905.
57 Knighton Aqueduct, Birmingham, 1903.
58 Bedford Water, 1903–04.
59 Orsett Sewage, West Thurrock, 1904.
60 Middlewich Water, 1904.
61 Selby, 1904.
62 Southport Water, 1904–05, 1907.
63 Great Yarmouth, 1906–07.
64 Bolton Water (Hulton Arbitration), 1905–06.
65 Swanage Water, 1906.
66 Portsmouth Water Bill, 1906.

- 67 Sutton Water, 1906.
- 68 Broadstairs Water, 1907.
- 69 Burnley, 1907.
- 70 Walton-le-Dale, 1907.
- 71 Clayton Vale, 1909. Water for Stuart Street Power Station.
- 72 Lincoln Water Bill, 1908.
- 73 South Staffordshire Water Bill, 1909.
- 74 Worksop Water, 1909.
- 75 Oldham, 1909.
- 76 Cambridge Water Bill, 1910.
- 77 Manchester Corporation. Heaton Park Reservoir, 1911.
(File also includes earlier material on Manchester reservoirs collected by WBD).
- 78 Felixstowe and Walton Water Bill, 1911.
- 79 Dawlish Water, 1912.
- 80 Rochdale, 1914.
- 81 Winsford Water, 1914.
- 82 Pilsworth, 1914.
- 83 Northwich Water, 1914.
- 84a/b Weston-Super-Mare Water, 1914.
- 85 Swadlincote and Ashby-de-la-Zouch, 1915.
- 86 Abbots Bromley, Staffs, 1915.
- 87 Yeadon Water, 1916.
- 88 Manchester Corporation – Haweswater Scheme, 1919.
- 89 St Helens, 1919–20.
- 90 Rotherham Water, 1919–21.
- 91 Devizes Well, 1921.
- 92 Richmond Well, 1921.
- 93 Hastings – Additional Water, 1926.

B. *Channel Tunnel and Kent Coalfield*

- 1 WBD's original notes on the Channel Tunnel, 1882.
- 2 WBD's draft Report on the geology of the Channel Tunnel, 15 pp. 'sent on 21 August 1882'.
- 3 Channel Tunnel: correspondence relating to samples, Folkestone, 1882.
- 4 Letters and notes labelled French Tunnel/Col. Beaumont, 1882–83.
- 5 Report of the Joint Select Committee . . . on the Channel Tunnel; together with the Proceedings of the Committee, Minutes of Evidence and Appendix, 1883. 574 pp.
- 6 French Report on the Channel Tunnel: 'Association du Chemin de Fer Sous-Marin entre La France et l'Angleterre', 1886 (?).

- 7 Channel Tunnel: water analysis by Harry Baker, 1886.
- 8 2 sectional geological drawings (in a roll) of borings at Shakespeare Cliff: (i) Channel Tunnel trial boring, 27 September 1889; (ii) Coal boring, 2 July 1891.
- 9 Letter from Arthur Fell re. Channel Tunnel, 24 November 1919.
- 10 Memorandum on the present aspect of the Channel Tunnel question by Francis Brady, F.A. Pigou and WBD, n.d.
- 11 WBD: memo on the proposed Channel Tunnel, n.d.
- 12 Channel Tunnel: reprints and cuttings.
- 13 File of correspondence. Including:
- 5 letters from J. Shaw, 1 telegram, re. South Eastern Railway hiring WBD to supervise coal borings, March 1886.
 - 2 letters from Mather & Platt re. estimates for borings, April 1886.
 - 1 letter from Sir E. Watkin; 1 letter from M.S. & L. Railway re. water samples from Channel Tunnel boring, April 1886.
 - Letter from Mr M. Stirrup re. Franco-Belgian coal exploration, May 1886.
 - Letter from J. Shaw re. meeting at bore site, May 1886.
 - Letters from C. Chapman of Broughton Works re. boring a well at Dover, May 1886.
 - Letter from Francis Brady re. WBD's sketch of Dover coast.
 - Letter from Mr Whitaker wishing WBD success with the boring, July 1886.
 - Letter from Sir E. Watkin re. personal matters, boring, July 1886.
 - Letter from Mr Whitaker re. his paper on Kent borings, December 1886.
 - Letter from Sir M. Fenton re. Channel Tunnel Board meeting, January 1887.
 - Letter from Mr Whitaker re. WBD's exclusion from Brady's announcement of discovery of coal, March 1890.
- 14 WBD's data on Dover boring, 1886; cutting re. discovery of water-bearing greensand layers near London.
- 15 Draft of WBD's report to Sir E. Watkin of the S.E.R. re. advisability of searching for coal; letter from W. Taylor to Watkin re. beginning the search for coal, 1886.
- 16 File of correspondence. Including:
- Letter from Mr Ross of M.S. & L. Railway re. Watkin's visit with specimens, July 1887.
 - 4 telegrams re. visit by WBD, Brady and Fenton to the Tunnel boring, July 1887.
 - Letter from Fenton re. Channel Tunnel visit, July 1887.

- Telegram from Watkin requesting progress report, September 1887.
- Letter from Mr Holt re. paper on Tunnel in German, September 1887.
- 2 letters, 1 telegram, from G.F. Kendall re. progress in borings, December 1887.
- Letter from Mr Holt telling WBD that Watkin has received Brady's report, December 1887.
- Letter from Watkin re. meeting, December 1887.
- 17 WBD's notes; copy of letter from Brady to Watkin re. proximity of coal to boring, July 1887.
- 18 File of correspondence. Including:
 - 2 letters from Mr Sheath and Mr Rose re. WBD's attendance at Col. Hozier's lectures, February 1888.
 - 2 letters from Mr Sheath re. settlement of WBD's account with Channel Tunnel Co, June 1888.
 - Letter from WBD to Watkin re. questions at British Association and in Parliament, September 1888.
 - Letter from Watkin re. meeting WBD, September 1888.
 - Letter from Brady re. progress at coal boring, October 1888.
 - Letter from Sir M. Fenton enclosing report, September 1889.
- 19 File of correspondence. Including:
 - Letter from Sir M. Fenton re. visit to boring, September 1889.
 - 3 letters from Brady re. meetings, boring progress, etc., September–October 1889.
 - Letter from deputy manager of S.E.R. re. return of Sir Myles Fenton, September 1889.
 - Letter from Mr Holt re. message from Watkin to WBD, November 1889.
- 20 WBD's notes, letters (and Brady) to Watkin re. progress of coal borings at Dover, 1890–92; report of chemistry and paelaeontology of sample (by WBD?); letter and cutting from James Day of Coal Search Syndicate, December 1891.
- 21 5 letters from Fenton and the S.E.R. re. progress of borings, 1892–3.
- 22 File of correspondence, inc:
 - Letter from Brady re. Dover boring core samples, January 1891.
 - Letter from Mr Sheath of Tunnel Co. re. samples for exhibition, January 1892.
 - Letter from Brady re. specimens, February 1892.
 - 2 letters from Col. Foster re. pamphlets for French engineer, June 1892.
 - Letter from Mr Whitaker re. Kent Coal Prospectus, June 1892.

- 23 File of correspondence, inc:
– 4 letters from the S.E.R. re. formation of a new colliery company; 2 letters from WBD to Watkin re. this and other matters, 1893–94.
– 2 letters from WBD to Mr Hudlestone; letter from Hudlestone to WBD re. his omission of work of WBD and Watkin from his address, 1894.
– Letter from Fenton re. Brady's report, 1893.
– Letter from WBD and memo for Watkin re. role of Ecclesiastical Commission, 1893.
- 24 Draft of lecture by WBD on discovery of Kent coal, n.d.
- 25 File of correspondence. Including:
– 5 letters re. WBD's Kent Coal paper from Fenton, Whitaker, etc., 1884.
– Letter from Whitaker re. boring, Hudlestone's address, 1893.
– 2 letters from Mr Sheath of Tunnel Co. re. boring, company administration, etc., 1894.
- 26 Notes and memoranda from WBD to Kent Coal Exploration Co. re. further exploration, 1897; correspondence with Arthur Burr, H.H. Godwin-Austen re. further boring near Guildford, 1897.
- 27 Notes from Penhurst re. boring; weekly strata reports, 1897–99.
- 28 Reports, notes, etc., re. Pluckey bore-hole, 1897–1903.
- 29 Reports, cuttings, etc, sent to WBD re. coal near Calais, 1898–99.
- 30 WBD's notes, draft and printed reports to Kent Coal Exploration Co., 1898.
- 31 Mr Griffith's report, 1898; WBD's rough notes on Shakespeare Cliff boring, 1898.
- 32 Weekly data for boring at Ottinge, 1898–99.
- 33 Correspondence, reports, cuttings, etc., re. progress of boring at Brabourne, 1898–99.
- 34 Notes, weekly data, on boring at Old Soar, 1898–99.
- 35 WBD's notes; weekly data for boring at Hothfield, 1898–99.
- 36 WBD's notes; weekly data for boring at Ropersole, 1898–99.
- 37 Cuttings and letter from Mr Cousins re. recovery of Ropersole boring, 1899.
- 38 Letters (16) from engineers James Newton and Mr Cousins to WBD re. progress of Ropersole boring, 1899–1900.
- 39 Correspondence, WBD's draft reports on best sites for new trial shaft, 1899.
- 40 Reports to Kent Coal Exploration Co., 1899.
- 41 Notes, WBD's draft letters, correspondence expressing support, cuttings, etc., re. the Brady controversy, 1890–99. (Brady was the on-site engineer during the initial boring on

- the Kent coalfield and attempted to claim credit for the discovery of the coalfield.)
- 42 Printed reports by French on progress at Dover, M. Fumar and M. Fontaine, 1900.
- 43 WBD's reports on coal under various Kent properties, 1900.
- 44 WBD's notes on boring at Netherfield, Sussex – possible extension of S.E. coalfield, 1900.
- 45 Cuttings of court case: Kent Coal Exploration v. V. Browne-Martin, 1902.
- 46 File of correspondence. Including:
- 4 letters from WBD to Arthur Burr of Kent Coal Concessions re. report and shares, 1903.
 - Letter from WBD (?) to ? re. coal shafts, 1903.
- 47 Draft report of WBD re. Kent Coal Concessions, 1903.
- 48 Report by ? re. incident at the shaft and the need for financial protection, 1904.
- 49 Letter and tracing re. Kent Coal sections from Mr J.S. James, 1905.
- 50 Prospectus, cuttings, letter from Arthur Burr re. formation of Shepherdswell and Ewell Collieries (Kent) Ltd, 1905.
- 51 Draft report of WBD on Sondage Syndicate; 3 letters from WBD to Arthur Burr and letter from solicitors to WBD re. Sondage Syndicate; letter from WBD to Burr re. sections, 1905.
- 52 WBD notes, data, etc., re. boring at Waldershare, 1905–07.
- 53 WBD's and engineers' reports, notes, etc., re. boring at Fredville, 1905–09.
- 54 File of correspondence. Including:
- 15 letters from Burr; letter from WBD, re. new borings and discovery, 1906.
 - 3 letters from Malcolm Burr re. boring progress, 1906.
 - 2 letters from G. Hewlett of Kent Coal Concessions re. WBD's account, appointment, etc., 1906.
 - 2 letters from H.A. Johnson re. progress at coalfield, 1906.
 - Letter from Mr Wreford to WBD re. expenses, 1906.
 - Letter from Tapp, Jones Ltd re. Mr Jones's illness, 1906.
 - Letter from Mr Cholmeley & Co. re. Waldershare boring, 1906.
 - Letter from Mr G. Hollingworth re. water in borehole, 1906.
- 55 Memo by WBD on additional bore sites, 1906.
- 56 WBD's reports for Kent Coal Concessions, 1906.
- 57 Cuttings re. 1906 discoveries.
- 58 Data for Goodnestone boring, 1906–07.
- 59 Draft report by WBD re. proposed colliery at Waldershare, 1907; draft letter by WBD re. mineral rights, boring data for Kent Coal Concessions Co., 1907.

- 60 Report on coal measures at Olford, 1907.
- 61 Correspondence re. boring agreement between WBD and Mr Underwood, 1907.
- 62 Letters from Kent Coal Concessions Co. re. history of Brady's borings; report to shareholders, 1907.
- 63 Draft letter by WBD to Arthur Burr re. continuing boring problems, 1907.
- 64 Report to Kent Coal Concessions re. Waldershare & Fredville borings, 1907.
- 65 Draft of WBD's account with Kent Coal Concessions Co., 1907.
- 66 File of correspondence. Including:
- Letter from G. Hollingworth; letter from WBD to Hollingworth re. French coal data, 1907.
 - Letter from WBD to Arthur Burr re. consulting Hollingworth on Waldershare, 1907.
 - 4 letters from WBD to Kent Coal Concessions re. his work for them; Memo of Agreement between WBD and Kent Coal Concessions, 1907.
 - 4 letters from solicitors re. WBD, Kent Coal Concessions and his resignation, 1907.
 - Letter from Kent Coal Concessions' solicitors re. publishing ban, 1907.
 - 4 letters from Mr Winstanley re. visit to Fredville boring, 1907.
 - Letter from Bristol Museum re. coal information, 1907.
 - 2 letters from Lille University re. coal samples, 1907.
 - Letter from A. Burr re. need for finances, 1907.
- 67 File of correspondence. Including:
- 8 letters, 5 telegrams, postcard, from A. Burr re. borings and finances, 1907.
 - Letter from Kent Coal Concessions re. board meeting, 1907.
 - 2 letters from H.A. Johnson re. Burr's progress, 1907.
- 68 Letter from A. Burr (?) re. boring progress, 1908.
- 69 Memo of WBD's defence v. Kent Coal Concessions Co. (re. to cost of borings begun in 1906), 1908.
- 70 Letter from solicitors to WBD re. writ of Kent Coal Concessions v. WBD, 1909.
- 71 File of correspondence re. Medway Coal Exploration Syndicate Ltd, 1911.
- 72 File of correspondence, including letter from Mr Morley-Davies re. Geological Society Meeting; letter from WBD to Mr Belinfante (?) re. reading of WBD's paper on Kent Coal.
- 73 Proof of Royal Society paper on range of S.E. Coalfield by WBD, 1912.
- 74 WBD MS on 'South Eastern Coalfield', for publication by

- Manchester Geological & Mining Society, sent 25 October 1912.
- 75 File marked 'Notes as to Bibliography of Borings – my Paper 1912'.
- 76 File marked 'Southeastern Field Sections 1913'.
- 77 WBD note on French researches in geology, 1913.
- 78 Miscellaneous geological maps, n.d.
- 79 Press cuttings on WBD and Kent Coal.
- 80 Kent Coal: prospectuses and printed company literature, including *inter alia*, c. 1895–1910:
- Kent Coal Companies: 'Letter by a Shareholder'.
 - Edgar M. Brandon, 'Kent Coal Exposé'.
 - Veritas, 'The Kent Coalfield and the Kent Coal Companies with a history of the developments and the present situation'.
 - Kent Coal Concessions Ltd: investment lists, prospectuses.
- 81 Miscellaneous material, including *inter alia*: notes from Kent Coal workings; data from various London and Kent borings; data for Robert Etheridge, n.d.; tracing of coalfield, n.d.
- 82 Box of offprints, press cuttings collected by WBD on Kent Coal. Mostly technical proceedings, both English and Continental, including many pre-1890 by Prestwich, Brady, Lapworth, etc.

C. Arbitration and Court Cases

- 1 WBD's evidence, court proceedings, map, correspondence re. Mr Hicks, Revd Westerman, Mr Partington, & Mr Mercer v. Mr Olive, 1880.
- 2 WBD's notes re. City of Glasgow v. Farie, 1885.
- 3 Evidence, correspondence re. Grand Junction Water Works v. Sir Henry Knight, 1887.
- 4 Notes, WBD's evidence, geological reports, re. Mr Vernon v. Darlston Coal Co., 1889.
- 5a–e Proceedings Monk & Newell v. Liverpool Corporation, 1890–91, including:
- Statement of Claim Proceedings Days 1–2.
 - Proceedings Days 3–6.
 - Proceedings Days 7–10.
 - Proceedings Days 11–14; WBD's geological evidence on Day 13.
 - Proceedings Days 15–16; G.F. Deacon's reply.
- 6a–c Lord Hothfield v. Bradford Corporation, 1894. Including:
- WBD's notes, tracings, sections, correspondence.
 - Evidence, reports, proofs, of WBD and others etc.
- 7 Correspondence, WBD's notes re. Hastings Corporation v. Taylor, 1897.

- 8 WBD's notes re. Newful Corporation, 1897.
- 9 Correspondence, WBD's notes, evidence re. Kibble v. Chipping Norton U.D.C., 1900.
- 10 Correspondence, WBD's notes, proceedings re. Great Western Railway v. Blades, 1901.
- 11 Correspondence, WBD's notes, proceedings re. North British Railway v. Turner's Ltd. 1902-03.
- 12 Correspondence, WBD's notes, proceedings re. Lever Ltd v. Liverpool Corporation, 1904.
- 13a-b Proceedings, evidence, etc, re. Manchester Corporation v. New Moss Colliery, 1904-05.
- 14 Cutting re. Hobart v. Southend-on-Sea Corporation, 1906.
- 15 WBD's notes, proofs, etc, re. Salt Union v. Brunner Mond Co., 1906.
- 16a-h Correspondence, proceedings, WBD's notes, samples, photos, re. Great Western Railway v. Carpella Clay Co, 1907-08.
- 17a-b Notes, correspondence, bore journals, plans, proceedings, WBD's evidence re. Caledonian Railway v. Glenboig Union Fire Clay Co. Ltd, 1908.
- 18 WBD's notes and report re. Allison English v. Birtley Iron Co., 1920.
- 19 Leeds Corporation v. Lord Masham (Colsterdale Reservoir), n.d.

D. Miscellaneous Projects and Other Coalfields

- 1a-b Proposed Humber Tunnel project, including WBD's working notes; correspondence; geological sections; rough drafts of WBD's reports; map of Hull; notes on borings. 1882-83.
- 2a WBD's notes and map re. borings made near Bovey Tracey, 1884.
- 2b Derwentwater Copper, Lead, Zinc & Ore Co. Ltd, 1891.
- 2c WBD's outline report on minerals of M.S. & L. Railway Extension, 1892.
- 2d Freehand report of Park Yates and Manchester Ship Canal, 1891.
- 2e Data on levels of wells re. Adlington village, etc., 1892.
- 3a-i Cheshire Brine Pumping Works, 1892-c. 1913. Including:
- Correspondence; WBD's draft reports on Northwich and Riversdale Salt; Northwich Salt Co. share application form; Mr De Rance's report on Northwich, 1892-93.
 - Correspondence, evidence and notes re. Inquiry and Subsidence Bill, 1892-93.
 - Cuttings, reports, notes, evidence, correspondence re. Brine Compensation Bill, 1893-95.
 - WBD's notes on brine shafts/borings; notes, evidence, etc., for brine pumping compensation, House of Lords, 1896.

- WBD's reports re. Brunner Mond's water disposal at Halford Hall, 1908–09.
- Correspondence and map re. WBD's site valuation of salt works for H.N. Morris Ltd, 1913.
- Material on brine pumping collected by WBD.
- Geological sections and diagrams showing salt under Cheshire.
- WBD's notes and geological sections, maps, etc.
- 4a Notes, correspondence, etc., re. Donisthorpe Colliery, 1896.
- 4b Letter and data for boring at Sissinghurst from R.E. Middleton, 1896.
- 5 WBD's notes, correspondence, re. Ranfurly Mining Co., Dungannon, Ireland, 1897–98.
- 6 Extracts of board meetings of Hastings & St Leonards Ice & Cold Storage Co. Ltd, 1898–1913; court case judgment, 1917.
- 7 Letter asking WBD's advice on Edison's mining techniques; collection of articles by Edison; WBD's memorandum, 1898.
- 8 Correspondence between WBD and Dukinfield Collieries Ltd, re. cost of Peacock Mine, 1900.
- 9 Correspondence, WBD's notes, re. possibility of finding coal under Mr A. Boud's property at Culcheth, 1900.
- 10 WBD's Parliamentary Evidence, re. Solent Tunnel–South Western & Isle of Wight Junction Railway, 1901.
- 11 WBD's report re. additional water supply for Burr's Bleach Works, 1902.
- 12 Committee Reports, WBD's proof, map, re. lunatic asylum at Whalley, 1902–04.
- 13a Correspondence and draft of WBD's report re. coal under St Francis Monastery, Gorton, 1903.
- 13b Wilwr (Halkyn) Drainage Scheme, 1904, including bills, reports, proofs, evidence of WBD.
- 13c Misc Derbyshire projects: Edale, Buxton, Mam Tor, Millersdale, Sparrow Pit, *c.* 1906–14.
- 14 WBD's notes and collected articles on Bristol, Somerset and S. Wales coal, *c.* 1906–07.
- 15 Blueprints and notes re. boring at Bursleigh Bridge by Mather & Platt, 1907.
- 16 Cuttings, accounts, correspondence, articles by WBD, re. building of art gallery and library on Infirmary site in Manchester, 1910.
- 17 Correspondence, WBD's evidence re. fluorspar mining at Ashover, 1910–11.
- 18a Correspondence, map, WBD's evidence re. Hoylake & West Kirby Urban District Council Cemetery site, 1913.
- 18b Letter re. British Dyes, 1918.

- 18c WBD report for War Office on the site of the Victoria and Albert Works, Northwich, 1918.
- 19 Notes, cuttings, articles, collected by WBD re. search for oil in England, especially Derbyshire, 1919–23.
- 20 Correspondence, WBD's notes, re. water under Burgess's Dairy, Manchester, 1920.
- 21 Correspondence, map, WBD's notes & report re. water supply for Haigh Dye Works, Wigan, 1923.
- 22 WBD's notes re. Clifton Tunnel fault, n.d.
- 23 Miscellaneous articles on coal collected by WBD. Including:
 – Map of British coalfields.
 – Coal tables.
 – Report on coal for N. & E. Lancs and Ireland.
- 24 Miscellaneous undated files. Including:
 – Data on Croborough (Sussex) boring.
 – Geology map of Ringley.
 – Report on Anderton Hall Asylum.
 – Sections of Clay pit and reservoir (Glasgow Corporation).
 – File marked 'Materials for Making Map'.

E. *Isle of Man*

- 1 Letters (7) from Mr Savage re. anthropology and natural history of the Isle of Man, 25 October 1884–1 April 1886, including letter dated 24 September 1885 with 5 photos of Manx crosses; letter dated 1 April 1886 with photo of ancient stone.
- 2 Letter from Mr Barney re. routine matters, 5 November 1883.
- 3 Letters (5) from S. Walpole, re. WBD visit to Isle of Man; articles on natural history, tours of antiquities, 25 September 1884–27 October 1885.
- 4 Letters (2) from ? re. Manx urn, with photo, 27 January 1885, 24 February 1885.
- 5 Letter from W.H. Rowe re. mineral samples from Isle of Man, 7 February 1888.
- 6 Letter and notes from B. Hobson re. geology of Scarlet Point, Isle of Man, 5 August 1888.
- 7 Letter from P.M.C. Kermode of Isle of Man Natural History and Antiquarian Society, re. Irish elk remains, 20 January 1890.
- 8 Letter (copy) from WBD to Craine Bros re. borings at Point of Ayre, 12 June 1893.
- 9 Letter (copy) from WBD to unidentified correspondent re. brine pumping at Isle of Man, 16 July 1890.
- 10 Letter from Mr Kneen re. salt and brine on the Isle of Man, 21 July 1893.
- 11 Letters (2) from G.W. Lamplugh re. sandstone near Peel, 16

- August 1894, re. borings, 12 November 1899; and 1 letter (copy) on the reverse of the above from WBD to Lamplugh re. Cumbrian geology, 15 November 1899.
- 12 Letter from Mr Gell re. his promotion, 29 November 1897.
- 13 Letter from ? re. shells, 13 December 1901.
- 14 Letter from F.R.C. Reed of Woodwardian Museum, Cambridge, re. Manx fossils, 19 April 1902.
- 15 Letter and sketch map from J.H. Bailey re. Mr Lamplugh's map, 8 August 1903.
- 16 Draft letter from WBD to ?, re. damage caused by mining on the Isle of Man, n.d.
- 17 Assorted correspondence to Parson Savage, 14 January 1884–9 February 1884, re. antiquities, natural history of the Isle of Man. Letters (13) to Savage from various correspondents.
- 18a–j Ten folders of assorted working papers of WBD. Including:
- Notebook on Isle of Man, 19 July 1889.
 - Loose notes and sketches on geology.
 - Notes on Permian Sandstone and Conglomerate of Peel.
 - Notes on basement beds, Peel.
 - Drafts of WBD's articles on Isle of Man.
 - Notes on borings.
 - Memo (draft letter) on antiquities of the Isle of Man, 21 September 1885.
- 19 Notes on Manx language and the Bible by Parson Savage/Mr Lamplugh (?), acquired by WBD, n.d.
- 20 Printed syllabuses on WBD's courses on Isle of Man geology.
- 21 'The Isle of Man in Prehistoric Times' – lecture by WBD; newspaper cutting, n.d.
- 22 Publications by WBD on Isle of Man. Including:
- 'On the geology of the Isle of Man', *Transactions Manchester Geological Society* (1894), 2 parts.
 - 'On the geology of the Isle of Man', British Association (1896).
 - 'The carboniferous limestone . . . of the North Isle of Man', n.d.
 - Cuttings from *Manchester Examiner and Times*, 9 August 1896. Article on 'The geology of the Isle of Man', from a correspondent (WBD?).
- 23 Photographs of Isle of Man geological features, 1901.
- 24a–c Offprints and cuttings on the Isle of Man collected by WBD.

F. Overseas

- 1 WBD correspondence, maps, etc re. Britannia Diamond Co, South Africa, 1881–82.
- 2 Correspondence, geographical sections, prospectus, etc, re.

- WBD's work for the Carrara Marble Quarries Syndicate. WBD was a consultant for the company, prospecting into marble reserves at the quarries, *c.* 1898–1900.
- 3 Australian papers. Articles (2) re. water in Queensland, 1893, 1895. Letters (2) re. oil and brown coal, Trobe Valley Syndicate, Victoria, 1909.
 - 4 Report and notes re. water supply for Taltal Railway Co., Peru (?), South America, 1909.
 - 5 Reports and correspondence re. coal borings in Rio Buze, Mozambique, 1910.
 - 6a–d Correspondence, prospectuses, annual reports, maps, notes re. New Rand Co., South Africa. The files mostly concern business matters of the company, with WBD corresponding with A.R. Sawyer, the engineer on the project. There are a number of letters from Sawyer and copies of his geological publications. WBD's relationship with the company is unclear: he probably acted as a consultant and may also have been interested in buying shares.

G. Maps

The following collection includes maps, sections, tracings, plans, etc., that are too large to fit in the general series. It should be noted that many of the maps and sections relate directly to the projects listed above.

- Sub-series 1. London Water Supply Maps, including O.S. maps for New River Co., Croydon Water, etc.
- Sub-series 2. Kent, including map for Maidstone Water, 1885 (see Series A); O.S. maps for Kent Coal (see Section B), etc.
- Sub-series 3. Continent (France and Belgium), including commercial and geological maps, probably used for Kent Coal exploration.
- Sub-series 4. Somerset, including fairly complete series of O.S. maps.
- Sub-series 5. Lancashire, including O.S. maps for Manchester Corporation v. New Moss Colliery (see Section C).
- Sub-series 6. Yorkshire, including O.S. maps for Derwent Valley Water Scheme.
- Sub-series 7. Miscellaneous, including folder of maps and sections re. Royal Coal Commission, 1871; geological map of India; map and section of Birtley, 1920; map of Snowden; cross sections from L.N.W. Railway & Portland Cement Co., 1906; Allt Glas Canal sections.

The following maps are in rolls and are listed alphabetically:

- Batley Water, 1918: 4 O.S. maps, with attached letter to WBD. (see Section A – Dewsbury)
- Birkenhead Water: large O.S. map, 1905. (see Section A)

- Bristol Water, 1897: tracing of borehole. (see Section A)
- Bristol Water (Severn Tunnel): large sectional map.
- Broadstairs Water: map, 1907. (see Section A)
- Buxton Urban District Council Waterworks, Stanley Moor Reservoir:
2 large maps.
- Cardiganshire: 1 O.S. map.
- Carpella Clay: O.S. maps and sections. (see Section C)
- Derbyshire: 4 O.S. maps re. Ashover fluorspar, 1910. (see Section D)
- Dewsbury, Batley & Heckmondwike Reservoir: maps, tracings. (see
Section A)
- East Mines (coalfield?) map, Milburn and Lord Downe area.
- Ebbw Vale Water: large bundle of tracings.
- Eccleshill Colliery Half-Yard Mine.
- Goole Water Supply, 1899: 1 large O.S. map.
- G.W.R. v. Blades: clay map. (see Section C)
- Hastings: map and tracing. (see Sections A and C)
- Huddersfield Water (Butterley Reservoir): large plan, n.d.
- Humber Tunnel Project: large number of maps, sections, including 3
maps of Grimsby, 1 O.S. map, c. 1882, tracing of River Humber,
etc. (see Section D)
- Kent Coal: 3 tracings and accompanying letters re. equipment (pumps
etc.), 1898.
- London Water: New River Co. (3 geological sections near Erith); 2
tracings of sections of the Thames, including some data sheets on
wells. (see Section A)
- London Water: New River Co. (1 map).
- London Water: 2 O.S. maps of Essex.
- Liverpool Corporation Water Works: 2 plans of River Weaver. (see
Section A)
- Manchester Corporation: geological section of borehole in High St.
(see Section A)
- Manchester Reservoirs: sections and O.S. maps. (see Section A)
- Norfolk: 6 O.S. maps.
- Preston Water: plan and tracing, 1909.
- Lancaster County Plan: large map marked Rawtenstall Water, 1899.
- Southport Water: tracing of Springfield borehole. (see Section A)
- Wakefield Water, 1894: large map.
- Wheelton Tunnel: several geological sections. (see Section A)
- Yorkshire: map of dales.
- Ystrad and Rhondda: 4 O.S. maps. (see Section A)

JRL/WBD/SERIES 3. PUBLICATIONS

The John Rylands Library collection contains about thirty reprints of WBD's scholarly publications and newspaper articles, mostly relating to the Kent Coalfield. It has not been thought necessary to list them here: Dawkins wrote nearly 200 publications, so these items are only

the tip of the iceberg. For a fuller list of Boyd Dawkins's publications, see M.J. Bishop (ed.), *The cave hunters* (1982) – although Bishop notes that his own listing is 'by no means complete'.

APPENDIX: MANUSCRIPT MATERIAL OF SIR WILLIAM BOYD DAWKINS AT OTHER LOCATIONS IN THE U.K.

Bodleian Library, Oxford: miscellaneous letters addressed to him, 1880–1917, including *inter alia*: letter to H.W. Acland, 1863; letter to A.B. Shepherd, 1881; letter to Joseph Prestwich, 1882; letter to J.L. Myers, 1912; letters to WBD from L. Fisher, K. Hamada, William Hunt, W.H. St John Hope, Isaac Taylor, F. York Powell; letters to Lady WBD from R.C. Bosanquet, R.M. Burrows.

Buxton Museum: A collection of personal papers (see handlist in Series 1/1b), including testimonials in favour of his candidacy for the professorship of Geology at Oxford University, 1874; cuttings and offprints collected by WBD on archaeological, geological and anthropological subjects, 1868–86, 3 vols; notes re. Pleistocene mammalia, 1872; scrapbooks of reviews of his *Cave hunting* and *Early man in Britain*; 'The arrival of man in Britain in the Pleistocene age', MS of Huxley lecture, 1910; report on the Dover Coalfield, 1891; 'On the place of the museum in the education of the people', typescript, 1925; 'The making of the Manchester Museum', n.d.; 'The discovery of a sea monster on the shores of Mozambique', typescript, 1920s; 'The range of the giant cuttle fishes in the oceans', typescript, 1920s. In addition the collection includes an extensive series of articles, reprints, etc., of his own publications and those of others on his special interests; correspondence, 1868–1928 and n.d., including letters from Thomas G. Bonney, Marcellin Boule, Henri E.P. Breuil, Edward Freeman, Sir Henry H. Howarth, Sir Arthur Keith, Albert C. Seward, William J. Solas and Sir Arthur S. Woodward. There is also a selection of personal photographs, fossils and artefacts. Buxton Museum has a Boyd Dawkins room (dedicated to both Dawkins and his student Wilfrid Jackson) which in period style (c. 1910) displays his library, pictures and memorabilia.

Geological Society of London: drawings of fossil implements.

Jesus College, Oxford:

(i) 2 boxes containing letters from the historian E.A. Freeman to WBD, 136 items in the first (1866–80), 116 in the second (1881–92). Some of the letters are printed in W.R.W. Stephens, *Life and letters of Edward Freeman* (1895), 2 vols.

(ii) 2 bound volumes of the letters of the historian J.R. Green to WBD: vol. 1 (1859–62); vol. 2 (1863–67). Many of these letters are printed, whole or in part, in Leslie Stephen, *Letters of John Richard Green* (1901).

(iii) 5 bound vols of typescript copies of Green's correspondence, including typescripts of letters to WBD, possibly prepared for Stephens's volume. Also similar typescripts of 31 letters of Green to WBD (1862–75).

(iv) Letter of T.H. Huxley to WBD (1894), together with a letter from Lady WBD to Sir Edward Poulton of Jesus College (1931). (Relates to the debate on evolution between Huxley and Bishop Wilberforce at the meeting of the British Association for the Advancement of Science held in Oxford, 1860).

(v) Correspondence of Mrs J.R. Green with WBD and others.

Manchester Museum, Oxford Rd, Manchester: Collection of over 80 pocket diaries, notebooks, sketchbooks, pocket guides and atlases, c. 1864–1911; 4 photo albums; and a complete set of reprints, including copies of WBD's books. There are also 4 large folders of unsorted material from Manchester University Geology Department, some relating to his work as consultant geologist.

Oxford University Museum: WBD letters (42) to John Phillips, Professor of Geology at Oxford, 1861–71 (Hope Library); J. Parker and WBD Somerset cave documents (Geological Department of Museum), mostly c. 1863. For listings, see Series 1/1b.

The Queen's College, Oxford: letters (4) to WBD from A.H. Sayce (1845–1933), 1924–26 (MS 540), concerning largely personal matters; and letters (60) written to Lady WBD.

Wells Museum, Somerset: diary of his exploration of the hyaena den at Wookey Hole, 1859.

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Figure 1: Professor Sir William Boyd Dawkins.

5

That the Coal-Measures will be struck in this district, is rendered greater by the discovery of a large mass of bituminous mineral in a fissure in the chalk to the north of Dover, that has probably a Mr. John Austin, Esq., sent, in his evidence before the Coal Commission, been derived from the Coal Measures below.

6

Imputations of Boring are proved ~~the~~ ~~coal~~ ~~fields~~ a discovery of vast importance will be made. If on the other hand, rocks older than the Coal Measures be struck, they will offer a basis for further borings by private individuals, which will ultimately result in the discovery of these Coal fields, and cause an economic revolution, as great in South-Eastern England, as great as that which has been

Figure 2: A page from Dawkins's report to Sir Edward Watkin, 1886, recommending that the Channel Tunnel workings be utilized for a boring to test for coal at Dover. Dawkins's suggestion led to the discovery of the Kent Coalfield in 1890.



Star and Garter Hotel.

Richmond Hill S.W.
17 July 1896

My dear Arthur Dawkins
 I am glad to hear you
 that the honey has been
 done made a good start
 about 200ft in 2 days
 I bought today the
 'not one clear is
 said, my candlestone
 with them sheets?
 bought one and
 Arthur will send you
 as usual
 I am here for a fortnight

may be checked a
 for some in the
 he can know
 please you will
 Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday
 Mr Dawkins

Figure 3: Letter to Dawkins from Arthur Burr, 17 July 1896. Burr was a speculator involved with the commercial development of the Kent Coalfield.

The List of Subscriptions opens on **FRIDAY**, the 22nd day of **FEBRUARY**, 1907, and will close on **MONDAY**, the 25th day of **FEBRUARY**, 1907.

This Prospectus has been filed with the Registrar of Joint Stock Companies in accordance with the Companies Act, 1900.

KENT COAL CONCESSIONS, LIMITED.

(ESTABLISHED 1904.)

Incorporated under the Companies Acts, 1862 to 1900.

Issue of 35,000 Cumulative Ten per cent. Preference
Shares of £1 each at par,

PAYABLE :—

2s. on Application.

3s. on Allotment.

5s. on 15th March, 1907.

10s. on 15th May, 1907.

PROSPECTUS with PLAN

AND

REPORTS by the Company's Geological Consultant, Dr. W. BOYD DAWKINS,
F.R.S., and Consulting Engineer, GEO. H. HOLLINGWORTH, F.G.S.,
Member of the Council of the Institute of Mining Engineers, &c., &c.

Figure 4: Prospectus of Kent Coal Concessions, 1907, showing Dawkins as geological consultant.