

ART. XIV. – *Carlisle Spedding (1695-1755), Engineer, Inventor and Architect.*

By J. V. BECKETT.

. . . . to his uncommon abilities, assiduous application, and intrepid conduct may almost wholly be attributed the success of those valuable works He was early initiated into the practice of mechanical philosophy [and] heartily joining theory and practice, wholly applied his talents to serve the real purposes of life and business and with so much industry, steadiness and ingenuity, that perhaps he scarce left his equal in all respects behind him.

Newcastle Journal, 16 August 1755

THUS did an obituarist eulogize Carlisle Spedding, principal colliery steward to Sir William Lowther of Whitehaven, and one of the foremost mining engineers of his generation; a man who applied his fertile mind to resolving some of the acute technological problems with which the growing coal industry was constantly being confronted. But he was also much more: an inventor, an architect, and in his own right a businessman. Yet of this remarkable character we possess only a shadowy picture. No documents of his own survive apart from his will, copies of letters he wrote in the 1750s to the Newcastle viewer William Brown, an account of his health in 1738,¹ and an array of papers preserved in the Lonsdale MSS. These latter are mainly in the form of reports about Spedding's work contained in letters written by his brother John to Sir James Lowther (1673-1755), the west Cumberland colliery entrepreneur.² From these disparate sources it is possible to put together only a brief and altogether inadequate account of the life and activities of this fascinating man. His accomplishments alone would justify a full biography, but in the absence of any greater body of documentation the present study attempts to provide a brief, and doubtless incomplete insight into his life and activities.

Carlisle Spedding was born on 10 September 1695, the youngest of the four sons of Edward Spedding, a Westmorland man who moved to west Cumberland in 1687. Spedding was one of the many migrants attracted to the west coast by the opportunities available in the expanding port of Whitehaven, and he leased a farm at Akebank from Sir John Lowther (1642-1706). However, Carlisle Spedding's early years cannot have been easy ones. In October 1696 his father was reputed to be heavily in arrears for his farm rent, and a bad farmer into the bargain. As a result of help from a relative, John Gale, who was then Lowther's colliery steward, he was appointed porter and tidewaiter in the Whitehaven customhouse in 1700. Even so, at his death in 1706 he left an inventory of just £8. 5s., and debts of £17.³ Many years later, in 1737, John Spedding was to recall the family's plight at this time:⁴

I am sorry he [Carlisle Spedding] should show the least impatience or discontent under his present situation which through the good providence of God Almighty is much better than could have been hoped for under the circumstances we were set in 32 years ago.

Whether Edward Spedding could afford an education for his youngest son is not known, and the most that Carlisle is likely to have received was basic training at the school established in Whitehaven by Sir John Lowther. In 1700 Carlisle's eldest brother John (1685-1757) was taken on as a domestic servant by Lowther, while George and Lancelot, Edward Spedding's second and third sons, were apprenticed to sea.⁵ A similar career

was intended for Carlisle, but by a curious twist of fate his pathway was blocked. One of John Spedding's first tasks for Lowther was to check on the activities of John Gale, and in 1707 he exposed a catalogue of double-dealing and embezzlement. Gale was dismissed and Spedding replaced him. Perhaps not surprisingly, when in 1710 John Spedding "intended to have put [Carlisle] to sea with some of Mr Gale's sons", he found "none of them being willing to do it for this year". As a result, he petitioned James Lowther, who had succeeded his father in 1706, to employ Carlisle "to assist about the business of the collieries". The request was granted.⁶

In the years that followed Carlisle Spedding rose to become second in authority on the estate, subordinate only to his brother John. From about 1730 until his death he was effectively in charge of all the colliery interests. Lowther treated the Spedding brothers astutely. He expected their full support in promoting his various interests in the northwest, in return for which he allowed them to pursue independent business enterprises and he looked after the interests of their families. Consequently the brothers found it worthwhile remaining in his service, even though Carlisle had the opportunity of seeking his fortune elsewhere in the early 1720s when he was almost tempted away by an offer of managing a Newcomen engine then under construction (see below). Once he had been persuaded to stay, he devoted himself to Lowther's interests and the wide variety of duties that he was expected to perform. In a general sense he had to act as if in full agreement with Lowther's business decisions and activities in Whitehaven. An example of what this meant in practice was contained in a letter of Lowther's to John Spedding in September 1723, in which he included a long list of instructions regarding his attitude to the coal trade. John Spedding was expected to reflect these views in his conversations in Whitehaven, and he was also told that "you will direct your brother how to talk".⁷ The following year Lowther was considering abandoning his west Cumberland concerns and moving to the Ayrshire coalfield. To give some authenticity to his intentions the brothers were instructed to put their houses on the market, as if in preparation for moving to Scotland.⁸ Other tasks were more specific. In 1721 and 1752 for example Carlisle Spedding was acting as an election agent on behalf of Lowther,⁹ and for many years he was one of Sir James' seven nominees on the twenty-one man Whitehaven Board of Harbour Trustees. He was also a trustee of the small harbour at Parton in the 1720s, and when proposals were put forward for a Workington board in 1732 Lowther hoped to have Spedding as one of its members.¹⁰

Carlisle Spedding's main concern, however, was the collieries, and it was here that he was trained from about 1710. According to one account he was sent by Lowther to Newcastle where, under an assumed name he worked in the mines, acting as an industrial spy. His identity only came to light when:¹¹

he was unfortunately burnt by the fulminating damp there, which used to be so injurious in the collieries at Newcastle; when this happened a message was sent to Newcastle to procure the best medical assistance possible for Mr Spedding, then known there by the name of Dan, in order to recover him. The extraordinary attention paid to a person in the apparent situation of Mr Spedding, by such eminent medical practitioners, led to a discovery of Mr Spedding's identity: he therefore when recovered returned to Whitehaven, but fortunately not before he had, in a great measure, accomplished the ends of his mission.

No evidence survives in the Lowther papers from which this extraordinary tale can be documented, and it may well be apocryphal. What is not in doubt is that Spedding's

entry into Lowther service proved to be fortuitous because of the extraordinary talent that he possessed for dealing with practical problems. The Newcomen steam engine, which was to help transform the mining industry in the eighteenth century, was introduced into the west Midlands in 1712. The fifth of its type was erected at Whitehaven four years later.¹² At this early stage of development the engines were subject to considerable teething troubles, and the proprietors of the patent appointed an engineer, Peter Walker, to superintend it working. Carlisle Spedding appears to have worked with Walker from the beginning, and he was certainly left in charge when Walker was away supervising the erection of other engines. According to John Spedding, writing in February 1720, "in all the time our engine has bin at work there is nobody that can undertake the management or is the least capable of putting any thing to rights when out of order except P. Walker and my brother".¹³ A year later the engine proprietors approached Carlisle Spedding with an offer of alternative employment because "he understands the engine very well and has made some improvements upon it". Lowther regarded it as being worthwhile raising his salary to retain his services.¹⁴ Not only was Spedding paid more, he was gradually given greater responsibilities. In the early 1720s he was put in charge of the smaller collieries, at Parton, a mile or so north of Whitehaven, Dearham, near Workington, and Scalegill, south-east of Whitehaven. When his brother was away from Whitehaven on business Carlisle was expected to take charge of all colliery affairs.¹⁵ He was employed by other coal owners to comment on their resources, and in 1724 Lowther sent him to Saltcoats, in Ayrshire, to inspect the collieries. His report was favourable, which put Lowther in mind to negotiate for them, but only if Carlisle was prepared to go to Scotland as manager. Lowther was ready to reward him for such service with a salary of £60, rather more than John Spedding was receiving for managing the Whitehaven interests.¹⁶ In the end the scheme fell through when Lowther failed to reach an agreement with the Saltcoats proprietor. From about 1730, by which time John Spedding had effectively taken over as estate steward, Carlisle was in charge of all Lowther's colliery interests.

Carlisle Spedding's most critical contribution was in the field of technological development. The Newcomen patent proprietors had not been slow to recognize Spedding's potential, and thereafter Lowther made sure that conditions in Whitehaven were such that he was not tempted away. His practical inventiveness warranted this careful concern. The introduction of the Newcomen engine was of primary importance for the draining of mines, partly at least because it facilitated the working of coal at lower levels. Such considerations were important in west Cumberland because transport costs multiplied in proportion to the distance coal had to travel, in this particular case to the quayside for transport to Ireland where the majority of Lowther's trade lay. The success of the Newcomen engine was therefore vital, and it was Lowther's good fortune that Spedding proved to be adept at correcting faults as they arose. Three more engines were introduced during the 1730s, and Spedding found a means in 1740 of harnessing two of them to work together. He also had ideas for further improvements to efficiency, but did not have sufficient resources to carry through the necessary experiments.¹⁷ Furthermore, the capacity of the Newcomen engines was restricted by the forces of gravity, and to drain the lower levels of a pit it was necessary to raise the water to a level at which the engine could operate. Spedding was working on this problem in 1724 when Lowther found that pumps of the variety he was designing were already on sale in London. He

sent one to Whitehaven where Spedding found a number of faults and produced his own modified version.¹⁸

Deeper mining was not only hampered by drainage difficulties, but also by the technical problems of sinking to greater depths, and the related ventilation hazards. In December 1721 Spedding wrote to inform Lowther of "new contrivances under ground",¹⁹ and during the 1730s he made a number of critical breakthroughs. The particular scheme which most taxed his powers of ingenuity, and which was almost certainly undertaken at his instigation, was the sinking of a pit in Saltom bay to the south of Whitehaven: it was, in John Spedding's words, "a great undertaking", and "perhaps the boldest thing that ever was undertaken".²⁰ The plan was to mine out beneath the sea, which in itself posed some apparently intractable problems, but although all the details have not survived the pit was sunk to a depth of eighty fathoms. Later Spedding was to master the techniques of going even deeper, to 120 fathoms in a pit sunk early in the 1750s.²¹ At Saltom Spedding quickly ran up against the problem of how to clear the inflammable gases found in the mines. "Fire-damp" as these were known, damaged the face workers' health, and could be set alight by a naked flame. If the gases were allowed to build up the end result could be an explosion. To counteract the problem Spedding invented the steel mill. This machine emitted sparks, giving sufficient light for men to work by, without igniting the gas. Spedding also made a number of improvements aimed at providing better general ventilation of the mines, including the introduction of underground air doors and boarded partitions. These schemes helped to alleviate the problems without solving them, and Spedding looked to science for more permanent remedies. On his behalf in 1733 Lowther had an experiment carried out before the Royal Society in order to elicit help from the Fellows regarding likely solutions to the inflammable gas problems. A paper that he wrote to accompany the experiment was later published in the *Philosophical Transactions* under Lowther's name.²² From 1737 Spedding combined his practical inventiveness with the scientific skills of Dr William Brownrigg, who had returned to Whitehaven after training at Leyden. As a result of their subsequent work the two men came to understand more about the theoretical problems and to perfect some of the innovations. Indeed when Brownrigg finally published some of the findings in 1766 he was awarded the Royal Society's Copley Medal for the best original publication of the year.²³ Spedding also kept in close touch with William Brown, the Tyneside viewer. They exchanged information on technological improvements and paid each other mutual visits to keep abreast of developments on their respective coalfields.²⁴

Spedding did not restrict his inventiveness merely to the collieries. In 1725 he produced a scheme for arching the stonework at the foot of a new pier under construction at Parton, although this was eventually rejected on the grounds of expense. In the early 1750s, by improving the braking system of wagons used for moving coal from the pithead to the harbour, he made it feasible to construct a wagonway from Lowther's second Whitehaven colliery, Whingill, to the quayside. He also suggested a scheme for using the "fire damp" to light the streets of Whitehaven, by piping it from the pits.²⁵ But perhaps his most unexpected contribution to local life was to act as the architect for the town's third church, which he designed and built in 1752-53. Admittedly the plan was probably copied from one of the town's other churches, Holy Trinity, but this was still a remarkable achievement for a man with no known formal education in planning and

design. He told William Brown in July 1752 that "I am pretty much engaged the time I have to spare being employed about building a new church to be called St James' ". By November of that year it was "almost covered", and the following July he was "hurried" to try to finish it in time for the planned consecration on St James' day.²⁶ His son was to be the first minister.

Spedding's critical role in the development of the Whitehaven collieries largely explains Lowther's willingness to raise his salary in 1721 rather than lose his services to the Newcomen engine proprietors. Even so, the question of why he remained in Whitehaven rather than seeking his fortune elsewhere is an intriguing one. At the time of his marriage in 1716 Spedding was earning just £17 a year, a sum which was raised to £25 at the instigation of his brother in 1720.²⁷ However, the following year he was offered a salary of £50 by the Newcomen engine patent proprietors to manage an engine which was then being built. Lowther offered to raise his salary to £30. Spedding turned this down, but then accepted £35. His salary was again raised shortly afterwards (probably in 1730 when he succeeded his brother as colliery steward) but only to £50, at which it remained until Lowther's death. Sir William Lowther, who succeeded Sir James in January 1755, immediately raised Spedding's salary to £150, and it is perhaps not surprising that he found his new master "a good human gentleman . . . just what we could wish for".²⁸ This, coupled with his frequent ill-health as a result of his activities in the mines (see below), begs the question of why Spedding accepted his lot?

The answer reveals a good deal about the relationship Spedding enjoyed with Lowther. In the first place his official salary was not necessarily all that he received. Lowther told John Spedding in 1736 that "I have not bin wanting to give him some earnest from time to time that I am desirous to do what can be reasonably expected, and I take him to be a man of good temper and able to judge what is competent". What this meant became clear the following year. Lowther missed his usual summer visit to Whitehaven. As a result he informed John Spedding that he normally gave Carlisle "20 guineas . . . at my leaving the country". In view of his exertions in a colliery accident that summer this sum was to be increased to £50. Lowther also left him £500 in his will.²⁹ More significant, however, were three other factors: Lowther's concern for Spedding's health; his help for Spedding's family; and the facilities he allowed him for pursuing personal business interests. The result of these was that Spedding could continue his work in the mines, and at the same time create for himself a modestly satisfactory financial position, which he could not have foreseen in the family's financial straits when Edward Spedding died.

In his day to day activities Spedding was almost constantly exposed to danger. Despite his efforts to counter the effects of poisonous gas, underground explosions were frequent and accidents not uncommon. The colliers were reluctant to return to the coal face unless they could see that the colliery steward had sufficient confidence that conditions had returned to normal to lead them there. In 1730 an explosion had created such terror that, according to John Spedding, "my brother is forced to be continually among them". Six years later the gases ignited and Spedding gathered 100 men to help fight the fire. After sixteen hours at the pit he was so exhausted that he had to be carried home. An explosion at Corporal pit the following year killed twenty-three workmen, and it was Spedding's task to be first into the pit again for the resumption of work.³⁰ Such activity took a heavy toll of his health. In February 1723 he had been ill since catching a cold at Christmas. He was again unwell in November 1729 as a result of over-exposure to the poisonous

atmosphere. Lowther, aware of Spedding's value, asked for a full account of his symptoms to be sent to him in London, so that he could set the case before Sir Hans Sloane, one of the foremost physicians of the day and a personal friend.³¹ On this occasion Spedding recovered before such action was necessary, but the atmosphere again affected his health in 1733 and 1734. On the latter occasion John Spedding commented to Lowther that "all his illnesses (in which he is held pretty much alike) seem to proceed from the effects of the damp air underground". Lowther consulted an eminent London physician (probably Sloane), who recommended that Spedding take with him into the pits a small bottle of "assafoetida and vinegar mixed together", to smell occasionally.³² His activities at the time of the 1737 disaster again left him ill. Lowther wanted Dr William Brownrigg to carry out a full investigation of his symptoms so that he could solicit Sloane's advice. He also declared his willingness to find someone to relieve Spedding of the need to expose himself underground quite so frequently: "I shall grudge no expense to save both him and his son from exposing themselves one quarter part so much as they have done". Again Spedding recovered before Brownrigg made an analysis,³³ but when he was ill again the following January Brownrigg wrote a full case history of his condition.

Brownrigg's study gives an insight into the type of man Carlisle Spedding was.³⁴ He described him as "a man of forty, robust, of intelligent appearance, sanguine temperament, from boyhood employed at the coalmines, and director of works, from the stifling exhalations whereof he had been affected by serious and persistent ailments. Indeed, on one occasion, prostrated by these lethal gases he was brought to the verge of death from consumption". Spedding had not fully recovered from his exertions the previous summer, but at the same time he had not been particularly careful about himself. His present illness had begun on January 2nd:

when he walked in the tunnels the distance of a mile, he came at length to a place where the water was obstructed by rubbish and he passed this place, casting himself, hot and covered with sweat, up to the chest in the water, nor in that freezing temperature did he change his soaking clothes for an hour; he was affected for two weeks after that with intermittent pains, weariness and other symptoms of having caught cold.

Within a fortnight Spedding was seriously ill and Brownrigg was in more or less constant attention for ten days before he recovered. It was not until the end of February that he attained full health again. He was ill again in November 1738, "in a most dangerous condition", as a result of exposure to the underground atmosphere. Further reports of his poor health reached Lowther in August 1739 – when he had broken a leg – and February 1740, but nothing further until he was reported to be very ill in December 1744.³⁵ In 1750 some dirt got into his eye whilst he was underground, and troubled him for the remaining years of his life. He told William Brown in 1750 that he could "scarce see to read what I am writing", and three years later he had "great trouble in my eye". He was still troubled by the affliction in June 1755.³⁶

Lowther's concern for his employees' families was probably genuine since he had none of his own, but it was also a means of retaining their loyalty. Carlisle Spedding married Sarah Towerson, the daughter of a ship's captain, in 1716.³⁷ They had three sons (of whom one died in infancy) and two daughters. According to John Spedding, in his letters to Lowther, his sister-in-law was not an easy person to get along with, and Carlisle comes across as distinctly henpecked. She was averse to the idea of moving to Ayrshire in 1725,

and John Spedding described her in 1736 as “a gossiping body . . . she and I have very little correspondence”. At times when her husband’s life was endangered she complained “that his family is not in a better condition”.³⁸ Possibly her reluctance to move was a major reason why Carlisle Spedding did not attempt to seek his fortune elsewhere. Be that as it may, Lowther took particular care of Spedding’s two sons that lived into manhood. James Spedding (1720-88)³⁹ was fully employed in the pits by 1737, at a salary of £20 a year. After a minor crisis in August that year when Carlisle threatened to take him away rather than continue to expose him to danger, he worked closely with the colliery engineer George Richardson, just as his father had once worked with Peter Walker. James Spedding only narrowly escaped when Richardson was killed in an explosion in 1738. Such was his position by 1755 that Sir William Lowther raised his salary to £100. He eventually succeeded his father as colliery steward, and, in 1757, his uncle as estate steward, uniting the two posts for the first time.⁴⁰ Thomas, Carlisle Spedding’s younger son, was of a different bent. Lowther took a particular interest in his welfare from the time he was appointed godfather in 1723 – perhaps an attempt to bind Carlisle Spedding more firmly to the Lowther interest after his near defection two years earlier. In 1739 Lowther went to some trouble to secure Thomas’s admission to Trinity College, Dublin, and he helped him financially with £20 a year. Thomas was in Dublin by October 1739, and in 1744 Carlisle Spedding hoped to keep him there a further two years in order to take an M.A. In January 1745, on the death of Mr Brisco, who held the livings of Holy Trinity, Whitehaven, and Distington, in plurality, Carlisle hoped that Lowther would not forget that Thomas would soon be taking holy orders. Since he was still too young to qualify, Lowther offered the positions to Mr Sewell, on condition that he resigned Distington eighteen months later to Thomas Spedding. Finally, it was agreed that Thomas should be the first minister of the church built by his father, St James’s, after its consecration in 1753.⁴¹

Lowther helped to ensure his employees’ loyalty by enabling them to cultivate business interests of their own, alongside the work that they did for him. Carlisle Spedding made good use of his resources, despite the apparent slenderness of his income. In December 1718 he requested the right to buy from Lowther a piece of ground adjacent to Holy Trinity church in Whitehaven. Lowther allowed him seven years to buy off the rent. Two years later he bought out the freehold of his house in Irish Street for £55, and in 1725 he purchased the freehold of a house in Scotch Street for £18.⁴² In 1737 Lowther was unable to secure Spedding a lucrative sinecure place in the Whitehaven customhouse, but he looked favourably on a company established that year by the Spedding brothers and their sons (both named James). The ‘Timber and Brewery’ company, as it came to be known, began as a shipbuilding enterprise in which the Speddings were partnered by local shipwright Thomas Patrickson and others. Part of the capital was raised in 1737 by borrowing £630 from Lowther, a sum still outstanding in 1755. The demand for shipping in the growing port of Whitehaven was sufficient to ensure that the business quickly expanded, and additional premises were leased in 1745 and 1753. The company also began a brewery in 1743, taking advantage of cheap grain supplies brought to Whitehaven by Lowther.⁴³ This was Carlisle Spedding’s most permanent concern, but by no means his only one. In 1740 he and John Spedding leased the glass-making premises in Whitehaven from Lowther, after the collapse of the town’s Glasshouse company. They apparently manufactured bottles for a year, and were later reputed to have made a profit

of £1,200-£1,400. Carlisle Spedding also leased from Lowther a windmill in 1741, for 150 years at a rent of £1. 10s. a year. Quite what he did with this is not clear, but in 1748 he gave up the lease, only a month before the mill was blown down. At his death he still had his interest in the Timber and Brewery Company and also held a mortgage of a small estate near the town.⁴⁴

Carlisle Spedding apparently enjoyed his job, at least if the lack of concern for his personal welfare is any yardstick to go by,⁴⁵ and this, together with his local business interests, and the patronage dispensed by Lowther to his family, all helped to keep him rooted in Whitehaven, when financial rewards might have been greater elsewhere. Certainly Sir William Lowther's decision to treble his official salary in 1755 suggests that he might not have been over-rewarded for his services. Overall, however, Spedding was by no means badly off. In terms of status he was recognized locally as a "gentleman",⁴⁶ and financially he was sufficiently well off to be able to leave bequests in his will of £350 each to his two daughters, £20 to his eldest son, and a £30 annuity to his wife, to be paid from his effects in the Timber and Brewery Company. In addition, his will mentioned two silver cups, a silver coffee pot and waiter, a watch, two pews in St James's church, bills, bonds, ready money and interest on his stock in the company, besides "my set of drawing instruments", left specifically to his son James. He was modestly wealthy, and when James purchased a small estate at Summergrove, one and a half miles south-east of Whitehaven, in 1761, the family took its first steps towards the lesser landed gentry.⁴⁷ By then, however, Carlisle Spedding's life had been claimed by the work to which he had committed himself; in the words of his obituarist:⁴⁸

We hear from Whitehaven that last week died there unspeakably regretted Mr Carlisle Spedding, principal engineer to Sir William Lowther, Bart. His lamented death was occasioned by an explosion of foul air in the coal mines, commonly called Fire Damp, an accident that frequently attends working in these subterranean caverns and which many times before had greatly endangered Mr Spedding's life in his bold endeavours to preserve the colliery from imminent destruction No wonder then, as the loss is so great, the death of Mr Carlisle Spedding should be so vastly and generally deplored.

Notes and References

- ¹ Lancashire R.O. Will of Carlisle Spedding, 1755. North of England Institute of Mining and Mechanical Engineers, Newcastle, William Brown's Letter Books (hereafter Brown LB). Carlisle Library, Brownrigg's Case Book, 1737-42.
- ² Cumbria Record Office, Carlisle. D/Lons/W John Spedding to Sir James Lowther and *vice versa* (hereafter Spedding to Lowther and *vice versa*). John Spedding was colliery steward 1707-30, and estate steward 1730-57. He wrote every post to Lowther, who lived for most of the autumn, winter and spring in London. Lowther replied as frequently, and most of his letters have survived. Spedding's drafts are extant until 1746. Although it is clear that Carlisle Spedding wrote occasionally to Lowther, none of his letters has survived. For an account of west Cumberland's economic development under Sir John and Sir James Lowther see J. V. Beckett, *Coal and Tobacco* (Cambridge, 1981).
- ³ C.R.O., Carlisle D/Lons/W William Gilpin to Sir John Lowther, 31 Oct. 1696, Cash Account Book, 1692/3-99, 28 July 1697. *Calendars of Treasury Books*, xv, 275, 376, xx, 564. Lancashire R.O. Will of Edward Spedding, 1706.
- ⁴ Spedding to Lowther, 12 June 1737.
- ⁵ C.R.O., Carlisle D/Lons/W Miscellaneous Correspondence, bundle 25, W. Smith to Sir John Lowther, 18 Apr. 1700; Spedding letter book, John Spedding to Samuel Harrison, 17 Mar. 1710; Colliery Account Book 1714-17, 30 June 1715.

- ⁶ C.R.O., Carlisle D/Lons/W James Lowther to William Gilpin, 15 Apr. 1710; Spedding to Lowther, 21 Apr. 1710.
- ⁷ Lowther to Spedding, 21 Sept. 1723.
- ⁸ Lowther to Spedding, 21 Mar. 1724.
- ⁹ Spedding to Lowther, 23 Apr. 1721. C.R.O. Carlisle D/Lec/170 T. Jefferson to T. Elder, 22 Oct. 1752.
- ¹⁰ C.R.O., Carlisle D/Lons/W Minutes of the Whitehaven Harbour Trustees; Lowther to Spedding, 13 May 1725, 15 Jan 1732.
- ¹¹ Hutchinson, ii, 69.
- ¹² The Newcomen engines at Whitehaven are fully described in J. S. Allen, 'The 1715 and other Newcomen Engines at Whitehaven, Cumberland', *Trans. Newcomen Soc.*, xlv, 1972-3, pp. 237-68, and J. V. Beckett, 'Newcomen Engines at Whitehaven, Cumberland, 1727-1740', *Ante*, xlix, 1977-78, pp. 149-52.
- ¹³ C.R.O., Carlisle D/Lons/W Colliery Account Book 1714-17, 14 Aug. 1717; Spedding to Lowther 30 Mar. 1718, 5 Feb. 1720.
- ¹⁴ Spedding to Lowther, 1, 5, 17 Mar. 1721, Lowther to Spedding 25 Mar. 1721.
- ¹⁵ Lowther to Spedding, 11 Apr., 15 Aug. 1723. C.R.O. D/Lons/W Estate Memoranda Papers, bundle 29.
- ¹⁶ Spedding to Lowther, 23 Jan. 1723, 12 May 1725. Lowther to Spedding, 4, 18 May 1725.
- ¹⁷ Spedding to Lowther, 30 Aug. 1732, 13 Jan. 1740. *Philosophical Transactions*, xlix, 1756, 534-5.
- ¹⁸ Spedding to Lowther, 31 Jan., 9 Feb. 1724; Lowther to Spedding, 11 Feb. 1724, 1 Jan. 1726.
- ¹⁹ Lowther to Spedding, 19 Dec. 1721.
- ²⁰ Spedding to Lowther, 8 Mar. 1730, 25 Oct. 1732. Lowther's willingness to invest capital in this pioneer project – nearly £1,800 before any coal was raised and over £4,000 in total between 1729 and 1732 – is an indication of his confidence in Spedding's ability, Beckett, *Coal and Tobacco*, p. 76.
- ²¹ An account of Spedding's activities is to be found in the MSS History of Whitehaven collieries by R. W. Moore, in C.R.O., Carlisle D/Lons/W Brown LB, Carlisle Spedding to William Brown, 25 Oct. 1750
- ²² Lowther to Spedding, 23 Jan. 1733. *Philosophical Transactions*, xxxviii, 1733-4, pp. 109-13. This appears to have been a shortened version of the account included by Moore in his MSS History.
- ²³ J. V. Beckett, 'Dr William Brownrigg, F.R.S.: Physician, Chemist and Country Gentleman', *Notes and Records of the Royal Society of London*, 31, 1977, pp. 256-9.
- ²⁴ C.R.O., Carlisle D/Lons/W MSS History of Whitehaven Collieries, fos. 106ff, 22 Sept. 1742. Brown LB, Spedding to Brown, 18 Jan., 4 May 1750, Brown to Spedding, 24 Jan., 10 July 1751.
- ²⁵ Spedding to Lowther, 10 Nov. 1725. M. J. T. Lewis, *Early Wooden Railways*, (1970), p. 200, J. E. Weeks, *A Poetical Prospect of Workington and Whitehaven* (Whitehaven, 1752), p. 17. Lowther to Spedding, 27 Sept. 1750. R. L. Galloway, *Annals of Coal Mining and the Coal Trade* (1898), i, 349.
- ²⁶ Brown LB, Spedding to Brown, 7 July, 22 Nov. 1752, 23 July 1753. An account of the church can be found in D. P. Sewell, *History Notes on St James's Church, Whitehaven* (Whitehaven, 1972).
- ²⁷ C.R.O., Carlisle D/Lons/W Colliery Account Books, 1714-17, March 1715. Spedding to Lowther, 28 Apr., 11 May 1720. From the letters it appears that part of Spedding's salary was paid by the patent proprietors.
- ²⁸ Spedding to Lowther, 1, 5, 17 Mar. 1721. Lowther to Spedding 25 Mar. 1721. C.R.O. D/Lons/W Colliery Accounts, Midsummer 1742. Brown LB, Spedding to Brown, 15 June 1755.
- ²⁹ Lowther to Spedding, 31 Jan. 1736, 19 Aug. 1737.
- ³⁰ Spedding to Lowther, 24 Apr. 1730, 25 Jan. 1736, 10 Aug. 1737.
- ³¹ Spedding to Lowther, 27 Feb. 1723, 28, 30 Nov., 10, 12 Dec. 1729. Lowther to Spedding, 6 Dec. 1729.
- ³² Spedding to Lowther, 3 Jan. 1733, 3, 6, 8 Nov. 1734. Lowther to Spedding, 9, 12 Nov. 14 Dec. 1734. The smelling concoction was similar to that used by "Those that go among People that have the Plague".
- ³³ Lowther to Spedding, 16, 18, 19, 27 Aug. 1737. Spedding to Lowther, 21, 24 Aug., 4 Sept. 1737.
- ³⁴ Carlisle Library, Brownrigg's Case Book, 1737-42. I should like to thank Dr Audrey Eccles for providing a translation of this case, which Brownrigg recorded in Latin.
- ³⁵ Lowther to Spedding 28 Feb., 28 Nov. 1738, Spedding to Lowther, 6 Feb. 1740, 5 Dec. 1744, and to Sir Thomas Lowther, January 1739 (among the letters to Lowther), C.R.O., Carlisle D/Lons/W Miscellaneous Correspondence, bundle 39, Sir Thomas Lowther to Sir James Lowther, 30 Aug. 1739.
- ³⁶ Brown LB, Spedding to Brown, 25 Oct. 1750, 23 July 1753, 15 June 1755.
- ³⁷ J. C. D. Spedding, *The Spedding Family* (Dublin 1909), p. 42. C.R.O., Carlisle D/Lons/W Whitehaven Papers, 88.
- ³⁸ Lowther to Spedding, 18 May 1725, 31 Jan. 1736, Spedding to Lowther, 4 Feb. 1736.
- ³⁹ The Spedding brothers may have named their sons in honour of their patrons. Both called their first son John and a later son James, while John Spedding named his second son Lowther. Even Thomas, for

Carlisle's younger son, could have been in honour of Lowther's close relative and possible heir, Sir Thomas Lowther.

- ⁴⁰ Lowther to Spedding, 7 June 1737, Spedding to Lowther, 10 Aug. 1737, 29 Nov. 1738. I. Fletcher "The Archaeology of the West Cumberland Coal Trade", CW1, iii, 1876-7 (1878), p. 289.
- ⁴¹ Lowther to Spedding, 15 Jan. 1723. C.R.O., Carlisle D/Lons/W Colliery Accounts, Lady Day 1722/3, 26 Jan. 1723. Lowther to Spedding, 20 Mar., 28 Apr. 1739, Spedding to Lowther, 17 Oct. 1739, 19 Sept. 1744, 23 Jan., 24 Apr., 5 May 1745. Brown LB, Spedding to Brown, 7 July 1752.
- ⁴² C.R.O., Carlisle D/Lons/W James Lowther to William Gilpin 13 Dec. 1718, 3 Feb. 1719; Cash Books 1720-1722/3, 18 Aug. 1720, 1722-25, 18 Dec. 1725.
- ⁴³ Lowther to Spedding, 7 June 1737, 8 Nov. 1753, Spedding to Lowther, 6 July 1743. Beckett, *Coal and Tobacco*, pp. 149-50, 153.
- ⁴⁴ *Ibid.*, p. 139. Lowther to Spedding 3 Nov., 22 Dec. 1748. C.R.O., Carlisle D/Lons/W Book of leases, f. 179; Estate Ledger 1737-58, f. 93. Lancashire R.O. Will of Carlisle Spedding, 1755.
- ⁴⁵ According to John Spedding (to Lowther 10 Aug. 1737), "I have told him over and over that you do not expect he should run such risks . . . he says if he had not been there and were not always with them upon such occasions they are so unskilful or foolhardy that many more of them would have been destroyed, and he cannot keep back, though he know it is destruction to his health to be long in the bad air".
- ⁴⁶ C.R.O., Carlisle D/Lons/W Minutes of the Whitehaven Harbour Trustees, 4 Oct. 1746.
- ⁴⁷ Lancashire R. O. Will of Carlisle Spedding, 1755. Spedding, *The Spedding Family*, p. 99.
- ⁴⁸ *Newcastle Journal*, 16 Aug. 1755.